New York State Clean Heat

Heat Pump Program Manual

Version 1.1

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1. Introduction

1.1 The New York State Clean Heat Statewide Heat Pump Program

Heat pumps are an efficient technology for heating and cooling homes and perform well in cold climates like New York. Electrifying space and water heating and cooling is a key element of New York State's decarbonization strategy. The New York Electric Utilities[1] (the "Utilities" or "Program Administrators") have offered incentives for heat pumps as part of the energy efficiency and building electrification portfolio since 2020. As authorized by the May 2025 New York Public Service Commission Order authorizing the Program for 2026-2030 (the "Non-LMI EE/BE Order")[2], the Program Administrators will run the New York State Clean Heat Statewide Heat Pump Program ("NYS Clean Heat Program" or "Program") from 2026 through 2030 and will offer incentives to residential customers.

The NYS Clean Heat Program offers incentives to support the adoption of heat pumps for space and water heating and cooling, including air source heat pump ("ASHP"), air-to-water heat pump ("AWHP"), heat pump water heater ("HPWH"), and ground source heat pump ("GSHP") systems. The NYS Clean Heat Program also offers training and qualification for Participating Contractors,[3] inspection and oversight processes to drive quality installations, and marketing and education to attract customers. The NYS Clean Heat Program Administrators work collaboratively with the New York State Energy Research and Development Authority ("NYSERDA"), who as specified by the Non-LMI EE/BE Order serves as the program administrator for (1) workforce development; (2) codes and standards; (3) technical assistance; (4) purposeful demonstration pilots; and (5) general consumer awareness and education. The Non-LMI EE/BE Order clarified that the Utilities should be the primary administrators of end-user incentive programs for the non-LMI market segment.

The 2026-2030 period marks a change in the classifications of buildings and customers addressed under the NYS Clean Heat Program name. From 2020-2025, the NYS Clean Heat Program encompassed heat pump and building electrification programs across all customer sectors. In contrast, the Non-LMI EE/BE Order directed that the NYS Clean Heat Program address building electrification, including heat pumps, only for customers in residential one- to four-family homes for 2026-2030. In this context, residential describes buildings with one to four dwelling units.[4] Larger customers, *i.e.*, those in the multifamily and commercial sectors, which includes small businesses and nonprofits, will receive incentives for heat pumps and other building electrification technologies through the Utilities' programs targeting those

[1] The New York Electric Utilities consist of Central Hudson Gas & Electric Corporation ("Central Hudson"), Consolidated Edison Company of New York, Inc. ("Con Edison"), Niagara Mohawk Power Corporation d/b/a National Grid ("National Grid"), New York State Electric & Gas Corporation ("NYSEG"), Orange and Rockland Utilities, Inc. ("Orange & Rockland"), and Rochester Gas and Electric Corporation ("RG&E") (collectively, "Electric Utilities" or "Utilities").

[2] Case 14-M-0094 et al., *Proceeding on Motion of the Commission to Consider a Clean Energy Fund,* Order Authorizing Non-Low- to Moderate-Income Energy Efficiency and Building Electrification Portfolios for 2026-2030 (May 15, 2025) ("Non-LMI EE/BE Order").

[3] See the Glossary in Section 7 for how a Participating Contractor is defined in the context of the NYS Clean Heat Program.

[4] A project serving 1-4 dwelling units in a building with split unit ownership that has 5 or more dwelling units (i.e., typically defined as a "multifamily" building) is eligible for the NYS Clean Heat Program. For availability of utility incentives for heat pump projects in buildings of 5 or more dwelling units in other circumstances, please refer to utility specific EE/BE Program implementation plans (see Case 25-M-0248 for individual filings). See Section 7, Glossary, for definition of "dwelling unit."

sectors.[5]

The Non-LMI EE/BE Order set overall electric budgets and targets for the electric and gas portfolio for each Program Administrator and adopted the Commission's Strategic Framework to categorize EE/BE measures and guide program implementation. The Non-LMI EE/BE Order also set a cap of 50% of the electric portfolio program budget for the building electrification sub-portfolio. Within the building electrification sub-portfolio, Program Administrators have the ability to transfer funds between NYS Clean Heat, which serves residential customers, and programs that serve other sectors.[6]

The NYS Clean Heat Joint Management Committee ("JMC"), composed of the Utility Program Administrators and NYSERDA, is responsible for overseeing the NYS Clean Heat Program, including incentive structure, eligible technologies, and other Program rules. The JMC seeks to be responsive to technology and market developments and to maintain market confidence and stability in the NYS Clean Heat Program. The JMC serves as a central point of contact for industry partners and participants and hosts regular webinars and trainings. In appropriate circumstances, each of the Electric Utilities reserves the right to implement necessary changes on its own. Participating Contractors will be notified electronically of any Program modification or change, and reference documents are publicly available on the NYS Clean Heat Resources webpage.[7]

1.2 Summary Information for NYS Clean Heat Program

The NYS Clean Heat Program Manual includes the following information:

- **Section 2** provides detail on customer and site eligibility, incentive categories and amounts, payment process, and coordination with NYSERDA programs.
- **Section 3** contains technical information about eligible equipment, sizing, and installation.
- **Section 4** outlines the requirements and processes for becoming a Participating Contractor and submitting project applications for the Upstate Utilities[8] and for Con Edison service territory.
- **Section 5** provides an overview of the project inspection, field assessment, and contractor oversight processes.
- **Section 6** includes contact information for the Program Administrators.
- **Section 7** contains a glossary of terms relevant to the NYS Clean Heat Program.

[5] Non-LMI EE/BE Order, p. 33
[6] Non-LMI EE/BE Order, p. 25
[7] https://cleanheat.ny.gov/resources-for-applications/
[8] The Upstate Utilities consist of Central Hudson, National Grid, NYSEG, Orange & Rockland, and RG&E.

2. NYS Clean Heat Program Structure

2.1 Incentives and Customer Eligibility

The NYS Clean Heat Program offers incentives for residential customers pursuing building electrification projects that meet the criteria in this Program Manual.

Incentives are limited to 70% of project costs (except as described in the following sentence). Projects located in Central Hudson territory, or in a Disadvantaged Community ("DAC") and receive DAC-specific incentives, are eligible for incentives up to 85% of project costs.

Existing buildings, including gut renovations, are eligible for incentives for ASHP, AWHP, GSHP, and HPWH. New construction is not eligible to receive incentives for ASHP or AWHP for space heating. New construction is only eligible to receive incentives for GSHP for space heating, GSHP paired with other custom water solutions, heat pump-based solutions for domestic hot water usage, or HPWH incentives.

2.1.1 General Site Eligibility, and Full Load Requirement

In order to be eligible for NYS Clean Heat Program incentives, projects must be performed at an eligible site. Eligible sites are existing 1-4 unit residential buildings or apartment buildings larger than five units, where the project scope covers 1-4 residential dwelling units whose owners do not control the entire building.[9] Each participating residential dwelling unit at eligible sites must be owned or controlled (including through rental agreements) by an electric customer with an active Utility account number that contributes to the System Benefits Charge ("SBC"). [10]

Only projects located in a dwelling unit that has not previously received incentives for full-load electrification from the NYS Clean Heat Program are eligible for incentives. Customers whose dwelling units previously received partial load NYS Clean Heat incentives are eligible to apply for full-load NYS Clean Heat incentives. In general, each dwelling unit must be separately metered[11] and comply with all applicable laws and regulations regarding dwelling units.

New construction buildings are not eligible to receive incentives for ASHP for space heating. Rather, new construction is only eligible to receive incentives for GSHP for space heating, GSHP paired with other custom water solutions, heat pump-based solutions for domestic hot water usage, or HPWH. Gut renovations and existing buildings are eligible for ASHP, AWHP, GSHP, and HPWH incentives.

Only systems that are sized to meet the full heating load of the project scope at the end of the project are eligible for NYS Clean Heat incentives. In the case of a single-family home, the project scope shall be the full building. In the case of a building with 2-4 dwelling units, the project scope shall include only complete apartments[12], and may include the whole building. In buildings with five or more dwelling units, eligible project scopes include one, two, three or four complete apartments. Full load heating systems are defined as a system installed that satisfies at least 100% of the building heating load ("BHL") of the project scope

[9] For utility incentives for building electrification projects in buildings of 5 or more dwelling units, please refer to the utility-specific EE/BE Programs.

[10] Non-LMI EE/BE Order p. 113

[11] Legal individual apartments in buildings with a common master meter are eligible for NYS Clean Heat incentives. Customers and contractors with questions about customer eligibility should contact their Program Administrator.

[12] As used in this Program Manual, "apartment" refers to individual dwelling units in a building with two or more legal dwelling units.

at design conditions with adequate distribution to heat and cool the entire space as discussed in Section 3.2. Systems sized over 120% of the BHL may require additional review and justification.

2.1.2 Incentive Categories

The NYS Clean Heat Program provides incentives under eight categories: five for space heating and three for domestic hot water. Incentive amounts and requirements are specific to each category. Program Administrators choose which of these categories to offer in their territory as detailed in Table 1 below.

The incentive categories are as follows:

Space Heating (and Cooling) Categories

- Category 2 – *ccASHP: Residential Full Load Heating*
- Category 2a — *ccASHP: Residential Full Load Heating with Integrated Controls*
- Category 2b — *ccASHP: Residential Full Load Heating with Decommissioning*
- Category 3 — *GSHP: Residential Full Load Heating*
- Category 4 – *Partial to Full Load*

Water Heating Categories

- *Category 5 – Downstream Domestic Water Heating*
- *Category 5a – Midstream HPWH*
- *Category 5b – GSHP Desuperheater*

Further explanation of each category follows Table 1.

Table 1: Incentive Categories Offered by Each Utility

	Central Hudson	**Con Edison**	**National Grid**	**NYSEG**	**O&R**	**RG&E**
Category 2	Yes	No	Yes	Yes	Yes	Yes
Category 2a	No	Yes	No	No	No	No
Category 2b	Yes	Yes	Yes	Yes	Yes	Yes
Category 3	Yes	Yes	Yes	Yes	Yes	Yes
Category 4	Yes	Yes	Yes	Yes	Yes	Yes
Category 5	Yes	No	Yes	Yes	Yes	Yes
Category 5a	Yes	Yes	Retail only[13]	Yes	Yes	Yes
Category 5b	Yes	No	Yes	Yes	No	Yes

[13] Section 4.3.2 describes this channel.

Space Heating (and Cooling) Categories

Category 2 – ccASHP: Residential Full Load Heating

Projects in Category 2 must install full-load air source heat pump systems as defined in Section 3.2.

Eligible equipment includes cold-climate air-source heat pump ("ccASHP") systems (both mini-split heat pumps and central air-source heat pumps) listed on, or that meet the criteria of, the NEEP Cold Climate Product List, and AWHP listed on the NYS Clean Heat AWHP Eligible Products List (See Section 3.1 for further discussion on eligible technologies). Heat pump systems in Category 2 may be paired with existing fossil fuel heating systems using integrated controls.

Category 2a — ccASHP: Residential Full Load Heating with Integrated Controls

Projects in Category 2a install full-load air source heat pump systems with integrated controls to manage the heat pumps and legacy fossil systems in concert.

Integrated controls units must be attached to existing heating units and operated such that the heat pump serves as the primary source of heat from the combined heat pump and legacy system. Integrated control units attached to new fossil fuel heating units are not eligible for Category 2a. To be eligible for Category 2a incentives, the integrated control system must be listed on the NYS Clean Heat Integrated Controls Qualified Product List located under the Prescriptive (Small Projects) tab on the NYS Clean Heat Resources webpage.[14]

Heat pump equipment that is eligible for Category 2 is eligible for Category 2a.

Category 2b – ccASHP: Residential Full Load Heating with Decommissioning

Projects in Category 2b install eligible heat pumps and decommission their legacy fossil fuel heating system such that the heat pump system is the only system providing space heating over the scope of the project. Inclusion of new fossil fuel equipment is prohibited.

A completed decommissioning checklist must be submitted with the application, available on the NYS Clean Heat Resources webpage.

Heat pump equipment that is eligible for Category 2 is eligible for Category 2b.

Category 3 – GSHP: Residential Full Load Heating

- Each heat pump must meet or exceed the ENERGY STAR Geothermal Heat Pump specification
- Projects must meet 100% of the load at design conditions

GSHP projects may include ASHP or AWHP as an ancillary heating system over a minority area of the project; however, all GSHP systems must provide heating for 80% of square footage of the house. The inclusion of the ASHP or AWHP does not change the prescribed GSHP incentive rate for the project. For example, a GSHP that serves 100% of the load in 80% of a residential house with the remaining 20% fulfilled by ASHP will be eligible for full-load Category 3 incentives. Projects that include ASHP or AWHP must make note of the difference by square footage and heating load in the Manual J (See Section 3.2 for additional information on Manual J).

[14] https://cleanheat.ny.gov/resources-for-applications/

The NYS Clean Heat Program offers incentives for customers in dwelling units that had previously received Category 1 (i.e., partial load) incentives to transition to full load heating. Such customers pursuing an eligible GSHP project will be eligible for the full Category 3 incentive rate based on the location of the project.

For Con Edison customers only, all GSHP projects for existing buildings must include decommissioning of the existing space heating system.

Customers who previously installed a partial-load ASHP system are eligible for the full Category 3 incentive when installing a GSHP system, or a GSHP system in combination with ASHP equipment eligible for Category 2 incentives, that meets the full-load requirements of Section 3.2.

Category 4 – Partial to Full-Load Systems

Projects that add heating load to existing partial-load cold climate air source heat pump systems to reach a full-load system in total are eligible for Category 4 incentives.

- The existing partial load heat pump system and the newly installed system elements must meet the eligibility requirements in Category 2.
- Projects supplementing existing full-load heat pump systems are not eligible for incentives.
- The new equipment must satisfy greater than 50% of the total BHL at design conditions.
- The combination of the existing partial-load cold climate heat pump and the new installation primary heat pump system must meet full load requirements as outlined in Section 3.2.
- Systems sized over 120% of the BHL may require additional review and justification.

Water Heating Categories

To be eligible for incentives from NYS Clean Heat, HPWHs must have a Uniform Energy Factor ("UEF") rating and meet or exceed the ENERGY STAR Residential Water Heater specification.[15]

Category 5 – Downstream Domestic Water Heating

Projects in Category 5 install equipment to provide domestic hot water heating – either a HPWH or as part of a system that supports space and water heating, as in a water-to-water heat pump associated with a GSHP system or certain air-to-water configurations. Incentive applications must be submitted by an installing contractor or customer.

Contractors installing HPWHs are not required to submit a Participating Contractor Application or a Contractor Participation Agreement to be eligible to receive incentives under this program. Contractors installing a HPWH are required to be a NYS Licensed Contractor.

Site owners may install their own qualifying HPWH and apply for an incentive independently. All applicable codes and standards must be followed.

[15] ENERGY STAR Water Heater Key Product Criteria:
https://www.energystar.gov/products/water_heaters/residential_water_heaters_key_product_criteria

Category 5a – Midstream HPWH

Projects in Category 5a install a HPWH with an incentive application submitted by an entity that sold the HPWH, usually a distributor or big box retailer. The Utilities offer incentives to distributors for each qualifying HPWH sale to an eligible customer.

Category 5b – GSHP Desuperheater

Projects in Category 5b are installed as integrated components in an eligible GSHP defined in Section 3.1.4.

2.1.3 Incentive Payment Process

Con Edison customers must work with a Participating Contractor to receive the rebate in the form of an instant discount for ASHP prior to installation. NYS Clean Heat incentives must be identified on an invoice to the customer, with incentive amounts to be paid directly to the Participating Contractor upon Program approval. Projects sold without a rebate on the invoice to the customer are not eligible for incentives. GSHP participating contractors in Con Edison service territory must offer the NYS Clean Heat incentive as an instant discount, or as part of a clearly defined payment plan agreed upon with the customer and shared with Con Edison.

For customers of Upstate Utilities, the Participating Contractor will provide the incentive either in the form of an instant discount prior to Installation or through a check mailed from the Upstate Utilities' Implementation Contractor to the customer or designated third party after the installation. The project incentive amount is required to be passed along to the customer. Participating Contractors and customers may jointly request that the project incentive be paid directly to the customer, or third party, by using the customer acknowledgment form for ASHP, GSHP and HPWH projects for the Upstate Utilities.

2.1.4 Incentive Examples by Building Type

Participating Contractors conducting a project in a single-family home must indicate the building type: attached or detached.

Table 2: Residential Single-Family Building Type Examples

Building Type	Illustrative picture	Description
Single family detached		A building with one dwelling unit that does not share any walls with other conditioned residential buildings.
Single family attached		A building with one dwelling unit that shares at least one wall with another residential building

If a project electrifies individual apartments (dwelling units) in a building with two or more apartments, the project will be eligible for incentives equal to the number of apartments multiplied by the relevant per-apartment rate, up to four apartments.

2.1.5 Weatherized Tier

To manage future electric grid impact, no later than March 1, 2026, the NYS Clean Heat Program will offer higher incentives for projects that qualify for a Weatherized Tier.

2.2 Incentive Amounts

2.2.1 Space Heating Incentives

There are four incentive rates offered for each space heating category, differentiated by projects in single-family homes and apartments and by location in or outside a DAC. These are summarized in the Utility incentive tables in this section.

Projects in DACs are eligible to receive incentives that cover up to 85% of project costs, while incentives for projects outside of DACs are capped at 70% of project costs. Contractors can determine whether a project is in a DAC by searching the address at: https://www.nyserda.ny.gov/ny/Disadvantaged-Communities.

2.2.2 Water Heating Incentives

The NYS Clean Heat Program offers three categories of water heating incentives: Category 5 – Downstream Domestic Water Heating, Category 5a – Midstream HPWH, and Category 5b – GSHP Desuperheater.

Category 5a is a pass-through incentive program with incentives paid on a per-HPWH basis. When a distributor applies for incentives in Category 5a, the incentive includes a customer incentive, a

distributor incentive and a contractor incentive. Distributors *must* provide the noted incentive amount as either a point-of-sale discount or as a credit to the installing contractor's account once payment is received by the Implementation Contractor. When a customer applies for a Category 5a incentive, they are eligible to receive the $/unit amount each Program Administrator designates in Sections 2.3-2.7.

2.2.3 Central Hudson Incentives

Table 3: Central Hudson Space Heating Incentives

	Single Family	Apartment or Single-Family Home <1,000 sq ft
Category 2 – ccASHP: Residential Full Load Heating	$5,000	$3,000
Category 2b – ccASHP: Residential Full Load Heating with Decommissioning	$8,000	$5,000
Category 3 – GSHP: Residential Full Load Heating (Retrofit)	$18,000	$8,000
Category 3 – GSHP: Residential Full Load Heating (New Construction)	$8,000	$4,000
Category 4 – Partial to Full Load	$3,000	$1,000

Table 4: Central Hudson Water Heating Incentives

	$/Unit	Distributor Incentive Amount	Installer Incentive Amount
Category 5 – Downstream Domestic Water Heating	$1,250	N/A	N/A
Category 5a – Midstream HPWH	$1,250	$50	$50
Category 5b – GSHP Desuperheater	$100	N/A	N/A

2.2.4 Con Edison Incentives

Table 5: Con Edison ASHP Space Heating Incentives

	Non-DAC		DAC	
	Single Family Home	**Apartment**	**Single Family Home**	**Apartment**
Category 2a – ccASHP: Residential Full Load Heating with Integrated Controls	$2,500	$1,000	$4,500	$2,000
Category 2b – ccASHP: Residential Full Load Heating with Decommissioning	$8,000	$4,000	$10,000	$5,000
Category 4 – Partial to Full Load[16]	$4,000	$1,500	$4,000	$1,500

Table 6: Residential Whole Building Rate GSHP Incentives

	Non-DAC	DAC
Category 3 – GSHP: Residential Full Load Heating	$30,000	$40,000

The Con Edison incentive rates for Category 3 are whole building rates where the project scope must include all dwelling units in the 1-4 unit building.

Table 7: Con Edison Water Heating Incentives (Category 5a)

	$/Unit	Distributor Incentive Amount	Installer Incentive Amount
Retailer Channel	$1,000	N/A	N/A
Midstream Channel	$1,000	$50	$50

[16] In the Con Edison territory, customers pursuing Category 4 incentives are required to decommission their legacy fossil systems.

2.2.5 National Grid Incentives

Table 8: National Grid Space Heating Incentives

	Non-DAC		DAC	
	Single Family	**Apartment or Single Family Home <1,000 sq ft**	**Single Family**	**Apartment or Single Family Home <1,000 sq ft**
Category 2 – ccASHP: Residential Full Load Heating	$6,000	$3,000	$8,000	$4,000
Category 2b – ccASHP: Residential Full Load Heating with Decommissioning	$10,000	$5,000	$12,000	$6,000
Category 3 – GSHP: Residential Full Load Heating (Retrofit)	$20,000	$10,000	$25,000	$12,500
Category 3 – GSHP: Residential Full Load Heating (New Construction)	$14,000	$7,000	$19,000	$9,500
Category 4 – Partial to Full Load	$4,000	$2,000	$4,000	$2,000

Table 9: National Grid Water Heating Incentives

	$/Unit
Category 5 – Downstream Domestic Water Heating	$1,250
Category 5a – Retail Only Midstream HPWH	$1,250
Category 5b – GSHP Desuperheater	$100

2.2.6 NYSEG/RG&E Incentives

Table 10: NYSEG Space Heating Incentives

	Non-DAC		DAC	
	Single Family	**Apartment or Single Family Home <1,000 sq ft**	**Single Family**	**Apartment or Single Family Home <1,000 sq ft**
Category 2 – ccASHP: Residential Full Load Heating	$6,000	$3,000	$7,000	$4,000
Category 2b – ccASHP: Residential Full Load Heating with Decommissioning	$10,000	$5,000	$11,000	$6,000
Category 3 – GSHP: Residential Full Load Heating (Retrofit)	$17,000	$7,000	$18,000	$8,000
Category 3 – GSHP: Residential Full Load Heating (New Construction)	$10,000	$5,000	$11,000	$6,000
Category 4 – Partial to Full Load	$3,000	$1,000	$3,000	$1,000

Table 11: NYSEG Water Heating Incentives

	$/Unit	**Distributor Incentive Amount**	**Installer Incentive Amount**
Category 5 – Downstream Domestic Water Heating	$1,250	N/A	N/A
Category 5a – Midstream HPWH	$1,250	$50	$50
Category 5b – GSHP Desuperheater	$100	N/A	N/A

Table 12: RG&E Space Heating Incentives

	Non-DAC		DAC	
	Single Family	**Apartment or Single Family Home <1,000 sq ft**	**Single Family**	**Apartment or Single Family Home <1,000 sq ft**
Category 2 – ccASHP: Residential Full Load Heating	$6,000	$3,000	$6,000	$4,000
Category 2b – ccASHP: Residential Full Load Heating with Decommissioning	$10,000	$5,000	$10,000	$6,000
Category 3 – GSHP: Residential Full Load Heating (Retrofit)	$17,000	$7,000	$18,000	$8,000
Category 3 – GSHP: Residential Full Load Heating (New Construction)	$10,000	$5,000	$11,000	$6,000
Category 4 – Partial to Full Load	$3,000	$1,000	$3,000	$1,000

Table 13: RG&E Water Heating Incentives

	$/Unit	**Distributor Incentive Amount**	**Installer Incentive Amount**
Category 5 – Downstream Domestic Water Heating	$1,250	N/A	N/A
Category 5a – Midstream HPWH	$1,250	$50	$50
Category 5b – GSHP Desuperheater	$100	N/A	N/A

2.2.7 Orange & Rockland Incentives

Table 14: Orange & Rockland Space Heating Incentives

	Non-DAC		DAC	
	Single Family	**Apartment or Single Family Home <1,000 sq ft**	**Single Family**	**Apartment or Single Family Home <1,000 sq ft**
Category 2 – ccASHP: Residential Full Load Heating	$5,000	$3,000	$6,000	$4,000
Category 2b – ccASHP: Residential Full Load Heating with Decommissioning	$9,000	$5,500	$10,000	$6,500
Category 3 – GSHP: Residential Full Load Heating (Retrofit)	$14,000	$6,000	$15,000	$7,000
Category 3 – GSHP: Residential Full Load Heating (New Construction)	$7,000	$3,500	$8,000	$4,500
Category 4 – Partial to Full Load	$3,000	$1,000	$3,000	$1,000

Table 15: Orange & Rockland Water Heating Incentives

	$/ Unit	**Distributor Incentive Amount**	**Installer Incentive Amount**
Category 5 – Downstream Domestic Water Heating	$1,250	N/A	N/A
Category 5a – Midstream HPWH	$1,250	$50	$50
Category 5b – GSHP Desuperheater	$100	N/A	N/A

2.3 Modifications to Incentives

In the event of a future reduction in incentives, the Utilities will generally honor the previous higher rate for projects that have a signed customer commitment as of the date of the announcement of the lower incentive rates. To be eligible for such treatment, Participating Contractors must submit signed contracts and additional supporting documentation as required, within two weeks of announcement of reduced incentives.

The Utilities may change the incentive offerings (including but not limited to total incentive amount, timing, recipient, incentive structure, and cap) at any time. Utilities may further limit the number of incentives per Participating Contractor, site owner, site, or meter. Program changes could result in changes to this Program Manual. Notice of changes will be emailed to Participating Contractors and posted on the Contractor Resources webpage.[17] The incentive amount and eligibility for any project will be based on the incentive offering and Program rules that are in effect at the time of application except in cases where alternative incentive rates are being honored as described above. Participating Contractors are prohibited from cancelling submitted incentive applications and re-applying if the new incentive payment results in a higher amount. The Utilities may structure incentive payments differently to accommodate unique situations.

2.4 Coordination with NYSERDA Programs

NYSERDA implements programs to promote the adoption of electric heat pump technologies through its NYS Clean Heat Market Enablement Plan, which was deployed under the 2020 NENY Order.[18] Since 2020, NYSERDA has been testing the most promising strategies, including deploying training resources to contractors through the Clean Heat Connect Network of manufacturers and distributors and conducting statewide data-driven marketing campaigns that increase market awareness, confidence, and demand for heat pump technologies throughout the state. NYSERDA will collaborate with the Electric Utilities on greater direct involvement in partnering with the Clean Heat Connect Network to support strengthening of the heat pump supply chain and communicate information on Utility programs to contractors through the network.

NYSERDA's Clean Heat Connect Network will continue to leverage Heating, Ventilation, and Air Conditioning ("HVAC") manufacturer and distributor partners to disseminate technical tools, business support resources, program information, and contractor engagement activities designed to help build market confidence in building electrification and promote high quality heat pump installations. The Clean Heat Connect Network of heat pump distributors and manufacturers provides insights regarding market pain points for NYSERDA to respond to and facilitates dissemination of business support tools and resources developed by NYSERDA in response to those needs to the broad market via their existing contractor networks. NYSERDA's Clean Heat Connect website is a central, public-facing repository containing easily accessible resources on heat pump sizing, system design, equipment selection, and installation best practices, sales and marketing, rebates and incentives, and more. Clean Heat Connect resources are free and available to all. Content is offered in multiple mediums, including short informational videos, in-depth trainings (virtual, with options to sign up for periodic in-person sessions),

[17] NYS Clean Heat Contractor Resources, https://cleanheat.ny.gov/resources-for-applications/

[18] The 2020 NENY Order directed NYSERDA to "complement utility [heat pump] programs with meaningful market-enabling development of workforce, supply chain, and consumer demand." Case 18-M-0084, In the Matter of a Comprehensive Energy Efficiency Initiative ("NENY Proceeding"), *Order Authorizing Utility Energy Efficiency and Building Electrification Portfolios Through 2025* ("2020 NENY Order") (issued January 16, 2020), p. 4.

concise fact sheets and checklists, comprehensive guidance documents, and interactive tools. Table 16Table 16: Clean Heat Connect Topic Areas with Example Resources summarizes five general topic areas covered by Clean Heat Connect content and provides examples of resources in each area.

Table 16: Clean Heat Connect Topic Areas with Example Resources

Topic Area	**Example Resources**
Sizing and design, installation, and assessment	• Concise reference materials and "refresher" videos on weatherization, proper sizing, the installation process, duct evaluation, electrical capacity assessment, and more • Links to the NEEP sizing tool, plus related videos and how-to guides • *Heat Pump Home Runs* handouts with design strategies for common home types
Regulation and policy	• *Transition to Low Global Warming Potential Refrigerants* fact sheet • *DOE Efficiency Ratings Explained* fact sheet
Sales and marketing	• Marketing guides like *Selling Comfort and Health Concerns* and *Selling Heat Pumps Instead of ACs* • Sales resources like the *Project Pricing Checklist* and customer-facing tools and handouts
Incentives and other support programs	• *IRA – 25C Tax Credit Guide* • *NYS Clean Heat Program Manual* and enrollment instructions • NYSERDA *Workforce Development Guide* and *Green Jobs-Green New York Fact Sheet*
Trainings	• Searchable calendar featuring events and trainings (in-person, live virtual, and pre-recorded)

In support of the Utility-led NYS Clean Heat Program, NYSERDA will also support statewide marketing designed to prioritize getting homes ready for heat pumps with the critical pre-step of weatherization. Marketing assets will build broad consumer awareness, consideration, and confidence in heat pump technologies. NYSERDA messaging will drive to the NYSERDA-led MyEnergy[19] platform which provides educational, benefit-oriented information about the importance of weatherization and clean energy and energy efficiency technologies. NYSERDA's Heat Pump Planner,[20] designed to aid homeowners who are already shopping for a heat pump, is an example of an online resource developed for both homeowners and contractors with links from both the Clean Heat Connect website and MyEnergy leading to the planner.

The MyEnergy platform is an extension of NYSERDA's statewide marketing work – it is a customer-centric experience focused on simplification and engagement over a multi-year journey. In 2026, NYSERDA will launch a Virtual Energy Assessment ("VEA") Program, making customized decision-quality information more broadly accessible to homeowners statewide. VEAs will be linked to MyEnergy and will make

[19] www.myenergy.ny.gov

[20] www.cleanheat.ny.gov/planner

personalized home energy audit information, including recommendations for energy improvements and connections to program offers with 24/7 on demand access. Data collected through VEAs and MyEnergy will help drive targeted marketing to home profiles identified as needing weatherization vs. those that are ready for heat pumps. The centralized MyEnergy site allows residential customers to build a personalized, comprehensive roadmap to electrification, regardless of where they are on their journey, from identifying efficiency gaps to mapping out next steps and discovering incentives, including, as relevant, the NYS Clean Heat incentives.

Utility NYS Clean Heat and NYSERDA incentives cannot be combined towards the cost of the same installed measure. For example, customers cannot receive incentives towards a heat pump installation from both the Utility NYS Clean Heat Program and NYSERDA's EmPower+ program. Additional specific program eligibility requirements may apply to a specific NYSERDA program and shall be made clear in the respective program solicitation, manual, etc.

The Program Administrators and NYSERDA reserve the right to limit total combined funding for any project at any time.

2.5 Green Jobs – Green New York Financing

NYSERDA administers the Green Jobs – Green New York ("GJGNY") Residential Financing Program, which was authorized by Title 9-A of Article 8 of the Public Authorities Law of the State of New York, as amended (known as the Green Jobs – Green New York Act) to finance energy audits and energy efficiency retrofits or improvements, including solar energy and other renewable installations, for the owners of residential one- to four-family buildings ("GJGNY Loan").

The GJGNY Residential Financing Program offers two types of GJGNY Loans, which are unsecured loans up to twenty-five thousand ($25,000) dollars for one- to four-family residential energy efficiency improvements or renewable energy system projects. The Smart Energy Loan ("SEL") requires the customer to make monthly loan payments directly to NYSERDA's loan servicer. The On-Bill Recovery ("OBR") Loan allows customers to repay the GJGNY Loan through an installment charge on a bill from one of the involved electric or gas utilities (Central Hudson, Con Edison, Long Island Power Authority, National Grid - Upstate, New York State Electric and Gas Corporation, Rochester Gas and Electric Corporation, or Orange and Rockland Utilities). The utilities then remit repayments to the loan servicer, who coordinates data communications with each utility.

Complete details of these residential financing options can be found on the NYSERDA Residential Financing Options webpage.[21]

The ability to provide access to GJGNY Loans through the GJGNY Residential Financing Program is reserved exclusively for Participating Contractors, including the NYS Clean Heat Program Participating Contractors. This requires Contractors to execute both a GJGNY Participation Agreement and a participation agreement with NYSERDA's loan originator. At no time may a non-participating subcontractor of a Participating Contractor represent itself as having the ability to access GJGNY Loans. The Participating Contractor shall ensure that the GJGNY Loans are utilized only for the installation of those eligible measures and accessories identified in the supporting documentation submitted to, and satisfactorily approved by, the GJGNY Residential Financing Program. If a Participating Contractor wishes to offer financing other than GJGNY financing, they will need to comply with all applicable NY State and federal laws and regulations

[21] NYSERDA Residential Financing Programs, https://www.nyserda.ny.gov/All-Programs/Residential-Financing-Programs

including NYS Banking Law.

The participation enrollment requirements, roles, and responsibilities of a Participating Contractor offering a GJGNY Loan can be found in the Green Jobs – Green New York Residential Program Manual, hereby incorporated in this Program Manual by reference and located on NYSERDA's Become a Loan-offering Contractor homepage.[22]

[22] NYSERDA Become a Loan-offering Contractor, https://www.nyserda.ny.gov/All-Programs/Programs/Become-a-Contractor/Become-a-Loan-offering-Contractor

3. Equipment Specifications

Projects and Participating Contractors must meet the requirements in this Program Manual for incentive eligibility.

3.1 Eligible Technologies

Eligible technologies are grouped into several major categories:[23]

(1) Air Source Heat Pumps for space heating applications, including:
    a. NEEP-Listed Cold Climate Air-Source Heat Pumps
    b. Air-to-Water Heat Pumps
(2) Ground Source Heat Pumps (including for Ground Source Variable Refrigerant Flow Heat Pumps) for space and water heating applications
(3) Heat Pump Water Heaters for domestic and service water heating applications, including:
    a. Air-to-Water HPWHs
    b. Ground Source Heat Pump Desuperheaters
    c. Dedicated Water-to-Water Heat Pump added to Ground Loop

Heat pump systems used for space heating must be designed for either heating-only operations or both heating and cooling operations; cooling-only systems are not eligible for NYS Clean Heat incentives.

All heat pump systems shall be designed and sized for full-load heating as defined in Section 3.2.

The installation of used or refurbished equipment and components is not permitted under the Program. For GSHP projects installed at new construction sites, all components installed as part of an approved GSHP system must be new. For projects installed at existing sites, the GSHPs must be new and any system subcomponent or subassembly such as controls or ductwork that is replaced shall be replaced by a new subcomponent or subassembly.

Heat pump projects are eligible for incentives when they replace other technologies and fuels (e.g., fuel oil, natural gas, propane, biomass, or electric resistance) in existing buildings. Projects that replace non-ccASHP units or non-Full Load ccASHP systems are also eligible for NYS Clean Heat incentives.

Refer to Section 4 of this Program Manual for project application submission requirements, including when to submit during a project's life cycle and required timeframes for heat pump installation.

3.1.1 Air-Source Heat Pumps

Under the NYS Clean Heat Program, to be eligible for a Program incentive, ASHP systems must either be

[23] The NYS Clean Heat Program during the 2020-2025 period included as eligible certain technologies that are not eligible for NYS Clean Heat for 2026-2030, given the latter focus on residential projects. These technologies included: large commercial unitary heat pumps, packaged terminal heat pumps, single package vertical heat pumps, energy recovery ventilators and heat recovery ventilators paired with heat pumps, heat recovery chillers and heat pump chillers, and heat pump dedicated outdoor air systems. For incentives to support such technologies, please review utility specific energy efficiency and building electrification implementation plans for 2026-2030 (see Case 25-M-0248 for individual filings).

listed on the NEEP ccASHP Product List[24] or meet the criteria established in this Program Manual for equipment that is not covered by the NEEP Product List. All residential AWHP must be on the NYS Clean Heat AWHP Qualified Product List ("QPL").

The heat pump system that is installed must be capable of operating year-round at the design temperatures applicable to the installation address.

3.1.1.1 NEEP-listed Cold Climate ASHPs (ccASHP)

Air Source Heat Pumps listed by NEEP as Cold Climate ("ccASHPs") have cooling capacities less than 65,000 Btu/h and are not contained within the same cabinet as a furnace with rated capacity greater than 225,000 Btu/h.[25] This includes systems classified as central, mini-splits and multi-splits.

Individual heat pumps in the installed system must be listed by NEEP as ccASHPs, tested under AHRI test standard 210/240, powered by single-phase electricity, have cooling capacities <65,000 Btu/h, and may not be installed in the same cabinet as a furnace with heating capacity ≥225,000 Btu/h.

The Participating Contractor shall verify and document the system's operation with the equipment manufacturer's specifications.

3.1.1.2 Air-to-Water Heat Pumps

Air-to-water heat pumps (AWHPs) are a type of ASHP that distributes heat in the form of hot water for hydronic heating systems. AWHPs can be installed to meet some or all of the domestic water heating load. Recognizing that mixed heat pump arrangements may be beneficial, the AWHP equipment can be sized and selected to meet only a portion of the building load if the remainder of the full load is served by an ASHP or a GSHP.[26] The combined unit sizes still must not exceed 120% of the BHL. Projects that combine an AWHP with another heat pump type are eligible for only one Program incentive.

The rating standard for air-to-water heat pump equipment is AHRI 550/590. To be eligible for an incentive the AWHP equipment must be on the NYS Clean Heat AWHP QPL[27] or a list from ENERGY STAR or NEEP, which are in development at the time of publication of this Program Manual.

For any manufacturer that wishes to have their product considered for addition to the NYS Clean Heat AWHP QPL, please email the NYS Clean Heat Program inbox at nyscleanheat@ceadvisors.com.

3.1.2 Ground Source Heat Pumps

Ground loops must comply with applicable state and local laws and International Ground-Source Heat

[24] The current specification is available at https://neep.org/ASHP-Specification. The product list is available at https://ashp.neep.org.

[25] Code of Federal Regulations ("CFR") 10 CFR part 430, Subpart A, § 430.2 Definitions: definition of central air conditioner or central air conditioning heat pump: https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=29d99fa0a367f0166b9cc8528ad29023&mc=true&n=pt10.3.430&r=PART&ty=HTML#se10.3.430_12.

[26] All GSHP systems must provide heating for 80% of square footage of the house.

[27] To be on the QPL, the heating COP at 5°F ambient and 110°F leaving water temperature (A5W110) must be 1.7 or greater. Energy Star is building their "Heat Pump Boiler" specification due to be completed in 2024. Units larger than 72,000 Btu/h or not listed on the QPL will be considered on a case-by-case basis. https://cleanheat.ny.gov/assets/pdf/NYS%20Clean%20Heat%20AWHP%20QPL%20-%20March-1-2024.pdf

Pump Association ("IGSHPA") standards. These standards are available online on the IGSHPA website.[28]

To be eligible for Program incentives, single-phase GSHPs must meet or exceed Geothermal ENERGY STAR specifications.[29,30] These systems must have a closed loop ground heat exchanger circulating a water/antifreeze solution or a direct expansion (DX) ground heat exchanger. Closed-Loop GSHP, including water-to-air and water-to-water systems are tested under ISO 13256-1 and 13256-2 respectively. Direct GeoExchange systems are tested under AHRI 870/871. COP and EER values may be obtained from an AHRI rating certificate to determine eligibility.

Customers or projects participating in Utility Thermal Energy Network ("UTEN") projects are not eligible for incentives in the NYS Clean Heat Program.[31]

- All projects must comply with New York State Department of Environmental Conservation ("DEC") regulations for geothermal well drilling.[32]
- Projects in New York City must comply with NYC Department of Environmental Protection rules concerning drilling and excavation, including insurance requirements.
- Projects must meet all setback requirements enforced by the local Authority Having Jurisdiction ("AHJ").

Closed-Loop Systems

Vertically bored, closed-loop GSHP systems and horizontal loops must be installed at a borehole depth or surface area that is sufficient to provide a minimum entering water temperature to the heat pump of 30°F in heating mode and a maximum entering water temperature to the heat pump of 90°F in cooling mode.

The system must be designed in accordance with manufacturer specifications and installation requirements. Incentive applications must include the file from the horizontal-loop design software showing inputs and system design specifications.

Open-Loop Systems

Open-loop systems are not eligible for residential GSHP incentives.

Direct GeoExchange Systems

Direct geoexchange ground-source heat pumps ("DX GSHP") circulate refrigerant typically through a ground heat exchanger, typically a closed-loop copper pipe system (other GSHP systems utilize plastic

[28] International Ground Source Heat Pump Association, https://igshpa.org/manuals

[29] ENERGY STAR references:
https://www.energystar.gov/products/heating_cooling/heat_pumps_geothermal/key_product_criteria
https://www.energystar.gov/sites/default/files/specs/private/Geothermal_Heat_Pumps_Program_Requirements%20v3.1.pdf
https://www.energystar.gov/productfinder/product/certified-geothermal-heat-pumps/results

[30] Customers interested in installing GSHP with non-ducted terminal units (console and non-console) should contact the Program Administrator for incentive eligibility.

[31] UTEN projects are defined by the New York Department of Public Service in Case 22-M-0429, filing dated December 1, 2023.

[32] NYS DEC guidance for Geothermal Wells Deeper Than 500 Feet, https://www.dec.ny.gov/energy/1748.html, and NYS DEC Well Permitting Requirements, https://dec.ny.gov/environmental-protection/oil-gas/well-owner-and-applicants-information-center/regulated-well-types/geothermal-wells-deeper-than-500-feet

pipes that circulate water or a water-antifreeze mixture that passes through a refrigerant heat exchanger inside the unit). DX GSHPs must meet the following additional requirements:

- DX GSHP system owners must certify that they will undergo an end-of-life decommissioning that includes full refrigerant recovery.
- The refrigerant shall comply with IGSHPA requirements (ANSI/ASHRAE 34) and as of January 1, 2025, meet the limits from Environmental Protection Agency ("EPA") and DEC regarding Global Warming Potential ("GWP")
- A permanent placard must be attached to the heat pump unit, detailing the following:
    - loop field refrigerant content, type, and volume
    - loop location description
    - loop piping material
    - required maintenance schedule on loop field, refrigerant, and heat pump
    - planned decommissioning date and process, consistent with loop field useful life
- DX GSHP systems must also comply with ANSI/CSA/IGSHPA C448.8, "Installation of direct expansion heat pump systems."

DX GSHP systems must conform to requirements of ASHRAE Standard 15-2019.

3.1.2.1 Ground-Source Variable Refrigerant Flow Systems (GSVRFs)

GSVRFs must meet or exceed relevant parameters in the building code. Per NYSECCC, GSVRF under 135,000 Btu/h must meet a minimum EER at 77° entering water temperature (EWT) of 13.4 and a minimum COP at 32F EWT of 3.1

3.1.3 Heat Pump Water Heaters (HPWH)

The Program offers incentives for residential HPWH through either a downstream or Midstream Program discussed in Section 4.3. This Program incentivizes HPWH with a UEF rating, and a current rating ≤24 amps and voltage ≤250 volts[33] that meet or exceed ENERGY STAR Residential Water Heater requirements.[34]

Residential HPWHs are water heater tanks that heat domestic hot water using an onboard air source heat pump that extracts heat from the air in the building surrounding the unit. These products have a UEF rating. They use a secondary electric resistance element as a back-up to ensure that the water temperature meets the desired setpoint during times of high demand. Air source HPWH models come in two versions, integrated and split-system HPWH, and both versions are eligible for incentives under the Program.

3.1.4 Ground Source Desuperheaters and Water-to-Water Heat Pumps (WWHP) for Domestic Hot Water

Ground source systems can reduce DHW energy consumption by two optional methods: 1) Using a GSHP unit with a desuperheater or 2) dedicated water to water heat pump. The latter can be either a separate water-to-water heat pump ("WWHP") added to the ground loop and dedicated to meeting the DHW load, or it can be a single WWHP unit that is sized to meet both the DHW and space heating loads. Desuperheaters are available on most GSHP models. A desuperheater recovers heat from the GSHP's compressor during both cooling and part-load heating mode and transfers it to the DHW tank. Thus, they

[33] 10 CFR 430.2 – Definitions.

[34] See energystar.gov: energystar.gov/products/water_heaters/residential_water_heaters_key_product_criteria

satisfy a portion of the building's annual DHW load. They therefore require some form of supplemental water heating such as an electric resistance element. Desuperheaters are eligible for incentives in Category 5b for select utilities.

Full-load, dedicated DHW WWHPs can either be installed as a priority zone on a GSHP HVAC system, or as a stand-alone system. They are designed to provide all of the building's DHW needs.

A full-load DHW WWHP must meet or exceed ENERGY STAR Geothermal Heat Pump specification requirements.[35] Ground Source WWHP loop requirements for DHW are the same as those for GSHP, described in Section 3.1.

WWHPs for DHW are eligible for incentives through Category 5 when installed by a Participating Contractor.

3.2 System Sizing

Heat pump equipment and any connected distribution system (if applicable) must be properly sized to meet the building heating and cooling load requirements.

To be eligible for incentives, all heat pump systems must be sized in compliance with applicable state and municipal code.[36] Residential heat pumps shall be sized in accordance with ACCA Manual S (2023) based on design loads calculated in accordance with ACCA Manual J (8th Ed., 2016),[37]or an alternative method approved by the AHJ. Program Administrators may perform additional review or request written justification when projects select non-default or otherwise unusual values for load calculations and system sizing.[38, 39]

NYS Clean Heat encourages Participating Contractors to use industry standard guides to facilitate system design among them: ACCA[40] Manual D: Duct Design,[41] ACCA Manual T: Air Distribution,[42] and ACCA Manual B: Test, Adjust and Balance[43] and the NEEP G*uide to Sizing and Selecting Air-Source Heat Pumps in Cold Climates.*[44]

All ASHP installers seeking to become Participating Contractors must provide documentation that they have completed a manufacturer-sponsored ASHP Sizing and Design Training course. Available trainings

[35] ENERGY STAR Program Requirements for Geothermal Heat Pumps. Current link: https://www.energystar.gov/sites/default/files/specs//private/Geothermal_Heat_Pumps_Program_Requirements

[36] ECCCNYS 2016, Section R403.7 and 2016 New York City Energy Conservation Code (NYCECC), Section R403.7. ECCCNYS 2016 and 2016 NYCECC require that systems serving multiple dwelling units, where commercial code is applicable, follow Sections C403 and C404 of the respective codes.

[37] https://www.acca.org/standards/approved-software

[38] 2020 Residential Code of NYS, Section 14, Section M1401.3 Equipment and appliance sizing. Other approved heating and cooling calculation methodologies must be submitted to Program staff showing AHJ sign off.

[39] One alternative sizing methodology resource, Alternate Methodology to Demonstrate Energy Code Compliance: Heat Pump Sized to Meet Heating Design Load, can be found under the Resources page of https://cleanheat.ny.gov/resources-for-applications/.

[40] Air Conditioning Contractors of America

[41] ACCA Manual D: Duct Design: Method used to determine the overall duct layout including the individual duct sizes.

[42] ACCA Manual T: Air Distribution: Method used to determine how to distribute airflow.

[43] ACCA Manual B: Test, Adjust and Balance: Method designed to test and balance HVAC equipment in an order that speeds up and improves the balancing process.

[44] NEEP. "Guide to Sizing and Selecting Air-Source Heat Pumps in Cold Climates." Available at https://neep.org/sites/default/files/Sizing%20%26%20Selecting%20ASHPs%20In%20Cold%20Climates.pdf

are posted on the Clean Heat Connect trainings calendar[45] and updated regularly.

All heat pump systems for full-load space heating shall be designed and sized to satisfy at least 100% of the BHL at design conditions, with the ability to distribute heat adequately across all occupied spaces in the project scope and serve at least 80% of the building's total square footage. Systems with capacities above 120% of BHL may be subject to additional programmatic review. In cases where a building has a higher Building Cooling Load ("BCL") than BHL, the system shall be sized to satisfy full BCL as required by Manual S and relevant municipal or state code.

Residential decommissioning projects in Categories 2b, 3, and 4 may include electric resistance heating not to exceed 10% of BHL.

Equipment sizing shall be determined according to the following requirements:

- Residential equipment sizing shall be based on manufacturers' extended performance tables, engineering documentation, or manufacturer-provided software to determine the equipment capacities at the heating and cooling design temperatures for the location. Sizing shall be conducted in accordance with ACCA Manual S or other code-approved equivalent computational procedure.[35] Sizing shall not be based on nominal size or AHRI rated capacities.
- Each outdoor condensing unit or central system should be sized for the dominant heating or cooling load of its corresponding zone, within the requirements of Manual S. When multiple central systems condition separate zones within a building, each system should be sized for the dominant heating or cooling load of its zone. When one system or outdoor condenser unit conditions multiple zones within a building (e.g., a multi-zone system), the block loads for the entire space conditioned by that system shall be used (which is generally smaller than the sum of the individual zone loads).
- If manufacturer's engineering data or software are not available, the NEEP Cold Climate Air Source Heat Pump List product information sheet may be used for equipment that is NEEP-listed.[46] NEEP data may also be used for scoping equipment choices, but manufacturer's data must be used whenever possible to confirm performance criteria. For NEEP-listed equipment, use the "Advanced Data/System Sizing" tool to determine sizing relative to design load. Project applications shall include the NEEP specification sheet with the corresponding version number of the NEEP equipment requirements, as applicable at the time of installation.
- AHRI certificate for GSHP installations.

In cases where heating is the dominant load and equipment heating capacity is greater than 120% of BHL, or where cooling is the dominant load and equipment cooling capacity is greater than 115% of BCL, a system sizing justification letter is required. This letter is subject to the Program's approval and shall include:

- Explanation for the system oversizing from the Participating Contractor or project design engineer;
- Any applicable information that supports the need for system oversizing.

[45] Clean Heat Connect trainings calendar, https://cleanheatconnect.ny.gov/sizing-and-design-calendar/
[46] Information on performance of qualifying NEEP Cold Climate ASHPs is available at: ASHP (ashp.neep.org).

Outdoor Design Temperatures

Calculation of the BHL shall be at the 99% dry bulb heating design temperature for the most relevant ASHRAE (2021) location. Calculation of the BCL shall be at the 1% dry bulb cooling design temperature for the same ASHRAE location. Design temperature requirements in this Program Manual may be superseded by the local AHJ. In such cases, contractors must provide documentation citing the applicable local requirement. ASHRAE design temperature requirements may also be superseded by manufacturer-specific requirements. In such cases, NYS Clean Heat applicants must provide documentation citing the applicable manufacturer's requirement.

Heating and cooling design temperatures may be found in the Program's Design Temperature Lookup Tool[47] by entering the project zip code. Load calculations must use dry bulb temperatures that are within five degrees (+/-) of the values found in the Design Temperature Lookup Tool.

Indoor Design Temperatures

Indoor design temperatures for heating load calculations shall not exceed 72°F, and for cooling shall not be less than 75°F.

3.3 Equipment Installation

To be eligible for Program incentives, Participating Contractors or their agents must install systems and system components in accordance with manufacturer specifications and installation requirements, and in compliance with all applicable laws, regulations, codes, licensing, and permit requirements including, but not limited to, the United States Environmental Protection Agency ("EPA"), New York State Environmental Quality Review Act, the Statewide Uniform Fire Prevention and Building Code and State Energy Conservation Construction Code, the National Electric Code, Fire Codes, and all applicable state, city, town, or local ordinances and/or permit requirements. Participating Contractors are required to obtain any required permits from the applicable AHJ. Participating Contractors and their agents must also follow best practices for all aspects of installation, including best practices for the appearance of the property upon project completion. The Program Administrators may verify adherence to these requirements and determine incentive eligibility based on its findings.

Outdoor units should be installed above the local snow line. Both the NYS Clean Heat Design Temperature Lookup Tool and the NYS Clean Heat Prescriptive Categories Incentive Calculator found on the Contractor Resources webpage will indicate required snow depths.[48] Systems must be installed to pass all requirements of the Program Administrator Field Inspections and Oversight process detailed in Section 5, and its associated inspection checklists.

3.4 Warranty Requirements

All ASHPs, including AWHP

Each qualified residential and small commercial ASHP receiving an incentive under the Program must include a minimum five (5) year manufacturer's warranty for parts including the compressor.

[47] As available for download on the Contractor Resources webpage, under the Prescriptive (Small Projects) section: https://cleanheat.ny.gov/resources-for-applications/.
[48] https://cleanheat.ny.gov/resources-for-applications/

Full Load Residential Space Heating GSHP Systems

Category 3 *GSHP: Residential Full Load Heating*

For GSHP systems, including desuperheaters and WWHPs, Participating Contractors must transfer to the system owner the manufacturer's/distributor's/dealer's warranty. At a minimum, such warranty must cover all parts and equipment against breakdown or malfunction and the warranty period must be no less than five (5) years. In addition, the warranty will cover the full costs, including labor and repair or replacement of components or systems.

The Participating Contractor must also provide additional warranty coverage that fully covers the labor and design services provided by the Participating Contractor (and any of its subcontractors). The warranty period must be no less than three (3) years. Participating Contractors must present to the site owner any optional extended warranty up to the maximum supported by the manufacturer.

HPWH Systems

Category 5 *Downstream Domestic Water Heating* and Category 5a *Midstream HPWH*

Each air-to-water HPWH system receiving an incentive under the Program must include a minimum ten-year manufacturer's warranty for parts and tank.

3.5 Operation and Maintenance Requirements

Participating Contractors must inform site owners about system operation and maintenance, including on the use of these systems in both heating and cooling modes. A detailed manufacturer's operation handbook as well as a maintenance manual containing information on the major components and a schedule of required system maintenance must be provided by the Participating Contractor.

The manual must include maintenance and testing requirements of antifreeze solutions used on the project. It must include any startup/commissioning documentation for the system(s).

For air-source heat pump installations under incentive Categories 2, 2a, 2b, and 4, the Program requires that Participating Contractors provide site owners with the "Get the Most Out of Your Air Source Heat Pump" tip sheet.[49]

The Program strongly recommends that GSHP systems include a performance monitoring system.

Participating Contractors should strongly encourage system owners to purchase a maintenance agreement.

[49] https://cleanheat.ny.gov/assets/pdf/CHC-ASHP-tips-fs-1-v1_acc.pdf.

4. Participating in the Program

4.1 Become a Participating Contractor

To participate in the NYS Clean Heat Program, ASHP installers, ASHP designers, AWHP installers, GSHP installers, GSHP designers, and GSHP drillers[50] must first become Participating Contractors in the NYS Clean Heat Participating Contractor Network. Contractors who only install HPWH do not need to become Participating Contractors to submit an incentive application on behalf of a customer through the midstream HPWH Program. When a contractor is accepted as a Participating Contractor, they will receive approval notification emails and will be eligible to apply for incentives in the Program.

To become a Participating Contractor, contractors must submit the following completed documents via the NYS Clean Heat Participating Contractor Portal:

- Utility Participating Contractor Agreement
- NYS Participating Contractor Application
- IRS Form W-9
- Certificate of Insurance Policy (minimum $1 million)
- Sector-specific documentation

Participating Contractors must adhere to all applicable laws, regulations, codes, licensing, certification, and permit requirements pertaining to the scope of work. For example, U.S. Environmental Protection Agency (EPA) Clean Air Act Section 608 Technician Certification, specific to the type of equipment installed or serviced including attaching or detaching hoses and gauges to and from an appliance to measure pressure, is required, as prescribed by Federal law. Technicians who maintain, service, repair, or dispose of equipment that could release ozone-depleting refrigerants into the atmosphere must be certified.

For reference, EPA has developed the following 4 types of certifications:

1. For servicing small appliances (Type I)
2. For servicing or disposing of high- or very high-pressure appliances, except small appliances and MVACs (Type II)
3. For servicing or disposing of low-pressure appliances (Type III)
4. For servicing all types of equipment (Universal)

In general, Type 2 or Universal certification is required for residential air conditioning or heat pump equipment and Type 3 or Universal is required for commercial air conditioning or heat pump units. Some refrigerants are exempt from Section 608 requirements. It is the Contractor's responsibility to maintain the appropriate level of certification for the type of equipment being serviced or installed and should reference the law directly to ensure full compliance.[51]

For additional information on the NYS Clean Heat Program Contractor enrollment, visit Enroll and Submit Heat Pump Applications: NYS Clean Heat[52] webpage.

Contractors working in the following segments are required to submit the additional technology or

[50] GSHP Drillers must also be approved by the Electric Utilities through this process to become Participating Drillers, but only participating installers and designers may submit incentive applications.

[51] Additional information on EPA technician certification can be found at https://www.epa.gov/section608/section-608-technician-certification-0

[52] https://cleanheat.ny.gov/enroll-submit-heat-pump-applications/

sectoral specific documentation to enroll.

Table 17: Required Contractor Enrollment Documentation by Role

Sector	Required Documentation
ASHP installer	• ASHP Manufacturer-sponsored Installation Training Certificate (or comparable) • ASHP Manufacturer-sponsored Cold Climate Air Source Heat Pump Sizing and Design Training[53]
ASHP Designer	• An active NYS Professional Engineering license OR active NYS Registered Architect license • ASHP Manufacturer-sponsored Cold Climate Air Source Heat Pump Sizing and Design Training Certificate or comparable proof of training completion documentation
AWHP Installers	• AWHP Manufacturer-sponsored Installation Training Certificate or comparable (e.g., Heatspring's Application of Air-to-Water Heat Pumps for Hydronic Heating and Cooling course[54] or Heatspring's Heat Pump System Design & Installation course[55]) • Attestation that the installer holds, or will hold, all necessary plumbing licenses for their installation locations
GSHP Installer	• A copy of a current (and in good standing) International Ground-Source Heat Pump Association (IGSHPA) accredited installer certificate[56]
GSHP Designer	• A current (and in good standing) IGSHPA accredited installer certificate OR an active Certified GeoExchange Designer ("CGD") certificate from the Association of Energy Engineers ("AEE")/IGSHPA
GSHP Driller (Direct Exchange Ground Source Heat Pump "DX GSHP")	• Training certificate from a DX Ground Source Heat Pump manufacturer (The NY Designated Utilities reserve the right to review the training curriculum provided.) • In addition to requirements listed above, Drillers operating in NYC must provide acknowledgement of the NYC DEP Rules Concerning Drilling and Excavation
GSHP Driller (Vertical Loop Field)	• National Ground Water Association Certified Vertical Closed-Loop Driller (CVCLD) certificate • In addition to requirements listed above, Drillers operating in NYC must provide acknowledgement of the NYC DEP Rules Concerning Drilling and Excavation

All ASHP Participating Contractors are required to take their preferred manufacturer's version of the ASHP Sizing and Design training and submit documentation of completion. A grace period of three months following the effective date allows additional time for compliance with the existing Participating Contractor training requirement. Available trainings are posted on the Clean Heat Connect trainings

[53] A calendar of training options may be found at: https://cleanheatconnect.ny.gov/calendar/
[54] https://www.heatspring.com/courses/application-of-air-to-water-heat-pumps-for-hydronic-heating-cooling
[55] https://www.heatspring.com/courses/heat-pump-system-design-installation#instructors
[56] If IGSHPA adjusts its installer certifications, the NYS Clean Heat Program will adjust appropriately.

calendar[57] and updated regularly.

Only Participating Contractors whose documentation has been approved will have access to the Online Intake Tool.

4.2 Space Heating: Application Requirements and Submitting an Application

This section discusses the application process for submitting applications for space heating projects.

4.2.1 Con Edison Requirements

4.2.1.1 Residential ASHP Contractor Allocations

Every quarter, the Con Edison Clean Heat Program assigns a Contractor Allocation to each active Participating Contractor who requests one and who consistently submits three or more jobs per month through the program. Contractors who are newly enrolled or submit fewer than three jobs per month are placed in a first-come, first-served funding pool, which operates as one large allocation. Contractors in this pool are limited to three projects per month. Once a contractor reaches this cap, they graduate from the funding pool and receive a designated allocation in the following quarter.

Contractor Allocations are refreshed quarterly and are designed to give Participating Contractors more transparency and certainty around incentive availability while helping the Con Edison run the Program effectively. Contractor Allocations enable Con Edison to allocate a fair percentage of available Program funding among high- and low-volume contractors, reserve funding to allow new contractors to enter the Program without delays, and allow room to grow for contractors with a dedicated track record of success.

To create fair allocations, the Program will ask contractors in the ASHP segment to submit forecasts of their monthly activity. ASHP contractors should submit their forecasts for the quantity and value of applications submitted per month based on completed installations. The Program will use each Contractor's forecast as an input along with other factors including historical performance, inspection results, disciplinary status and history, and Program budget availability to create a monthly allocation for each contractor.

Contractors who wish to submit applications above their initial allocation in a given month should reach out to their account manager. At its discretion, Con Edison may increase the allocation for a Participating Contractor in a given month. Con Edison reserves the right to decline to offer incentives for any applications that exceed a Contractor's monthly allocation.

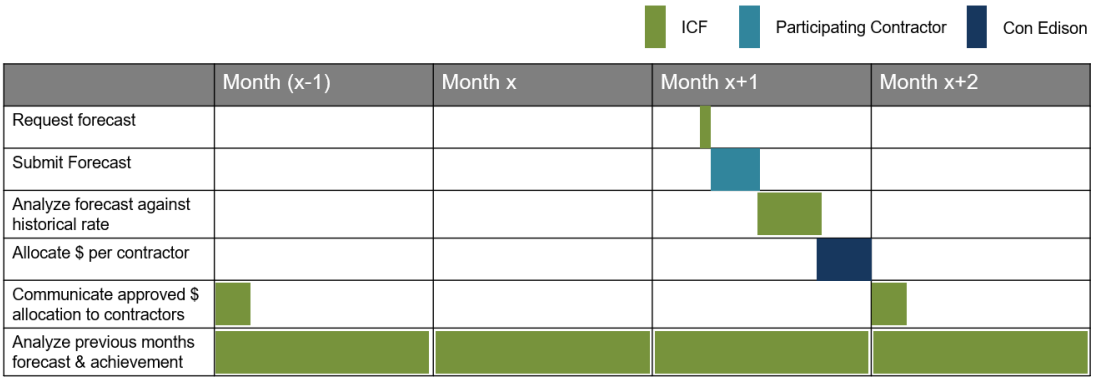
For Con Edison, newly added ASHP contractors will need to submit an allocation request within the quarter they sign up to participate. For Con Edison, contractors must have an allocation before submitting an incentive application.

Con Edison will attempt to communicate contractor allocations in the first week of the final month of the preceding quarter. For example, monthly allocations for the fourth quarter (October, November, and December) will be communicated in early September, the final month of the third quarter. To deliver on this timeline, the Con Edison Program team will ask contractors to submit an allocation request to Participating Contractors in the middle of the second month of the quarter. Contractors' allocation requests will help the Con Edison Program team assign monthly allocations for the subsequent quarter. Additionally, the account management team may follow up with questions regarding allocation requests.

[57] https://cleanheatconnect.ny.gov/calendar/sizinganddesign

The account management team will also follow up regularly during the quarter to see how Participating Contractors are trending against their monthly allocation.

Figure 1: Quarterly Timeline for Allocation Request Forecasts



Monthly allocations awarded to Participating Contractors will be fixed each month and unused allocations will not roll over into that contractor's allocation in subsequent months. Con Edison emails contractors an allocation dashboard report each week so contractors can view their allocations and progress against their allocation.

If an application would cause a Participating Contractor to exceed their monthly allocation, the application will be flagged. The program will then cancel it and allow the contractor to resubmit the application in the following month. Contractors approaching their monthly allocation who still wish to submit projects should reach out to the Residential Program team for permission to increase their allocation.

4.2.1.2 Pre-Installation Application and Eligibility Key

This stage includes the activities that are undertaken while a Participating Contractor contracts with a customer and before the project is installed. For Con Edison GSHP projects, Participating Contractors must submit a pre-installation application and upload a copy of a signed customer contract within 14 days of contract signing. Additionally, for Con Edison GSHP projects in NYC, the Participating Contractor must provide a Certificate of Insurance as per NYC DEP Rules Concerning Drilling and Excavation as part of the pre-installation application.

Con Edison offers a tool for Participating Contractors to verify customer eligibility for NYS Clean Heat incentives. To conduct a look-up, Participating Contractors will need to enter a customer's 11-digit account number or premises address. If the premises is eligible for Clean Heat incentives, the system will provide Contractors with an eligibility key. Premises that have already received full-load NYS Clean Heat incentives are not eligible for additional incentives.

Within 5 business days after a pre-installation application is received, a pre-approval notification is sent to the Participating Contractor via email that confirms eligibility and incentive details, including the estimated incentive amount.

The ASHP pre-installation requires that projects be installed and complete their application for incentives within 90 days of the pre-approval letter from Con Edison.

4.2.1.3 Post-Installation Programmatic Inspections

For ASHP contractors, Con Edison has set a target of conducting a Post-Installation Programmatic Inspection on 10% of projects by Participating Contractor to confirm that the work was conducted in accordance with the incentive application and program requirements. The quantity of inspections performed per Participating Contractor will vary according to the Participating Contractor's performance and disciplinary status. Con Edison will withhold incentive payments for projects selected for Programmatic Inspection until after the inspection is complete and any issues that call for remediation are addressed. Projects not selected for a Programmatic Inspection will be reviewed and processed for payment. All projects may be subject to a Quality Assurance/Quality Control ("QA/QC") Inspection, as described in the Con Edison Clean Heat Quality Policies and Procedures Document. Contractors should inform customers of the possibility of up to two inspections at the time of installation.

4.2.1.4 Decommissioning Documentation

Decommissioning projects require the legacy heating system to be removed, disabled, or disconnected and documented using the appropriate decommissioning checklist. For legacy oil or propane systems, contractors must provide either the oil/propane company/installer license or the licensed plumber's name and license. All other fossil fuel decommissioning requires the licensed plumber's name and license.[58] Participating Contractors must provide the licensed plumber's name and license number on the project application in the Online Intake Tool.

4.2.2 Common Application Process

Participating Contractors submitting applications for incentives for space heating projects will conduct the installation and then submit the Post-Installation Incentive Application for Program consideration. Participating Contractors in the Con Edison service territory must follow the steps for allocations and pre-installation documentation described in Section 4.2.1.

In Con Edison service territory, contractors must submit applications for incentives within 30 days after the installation is complete and the heat pump is operational. In service territory for the Upstate Utilities, it is encouraged that applications be submitted within 30 days of installation, but they are required to be submitted within 60 days.

4.2.2.1 Post-Installation Incentive Application

This stage includes the activities that occur after the Participating Contractor completes installation of the project and submits the final application for incentives and required supporting documentation.

All projects are required to submit the following documents as part of the application:

- **Completed Program application** – Relevant fields and documents are listed below.
- **Cutsheets for System Capacity** – Specific model(s) and product ratings being used in the project must be reflected on the cutsheets.
- **Customer Invoice** – A final invoice must be provided to the Program Administrator clearly showing the costs of the project, separated by labor and materials, with a total and the value of the NYS

[58] Residential decommissioning projects may include electric resistance heating not to exceed 10% of BHL.

Clean Heat incentive clearly labeled as a discount from the Program Administrator. The invoice provided must match documentation provided to the customer.

- **Customer Participation Acknowledgement Form** – Confirmation that customer agrees to terms and conditions and recognizes the incentive payment structure. Customer signatures may be provided electronically.
- **Manual J** – Heating and cooling load calculations must be performed in accordance with ACCA Manual J or other code-approved equivalent computation with appropriate allocation and identification for separate dwelling units,[59] consistent with the requirements of this program. Manual J calculations should be submitted in PDF format, unless otherwise requested.
- **Photo Submission** – Contractors must submit the pictures as required by the application type, including those specified on the Residential Decommissioning Checklist, if applicable. All photos must have time and date stamps. See the Photo Submission Guide[60] for examples of decommissioning photos.
- **Decommissioning Checklist (if applicable) –** Attesting that all decommissioning requirements have been met on site.

The Program will review the application package for all projects to confirm the incentive and savings based on as-built conditions and as-installed costs. All documentation must be complete and accurate before the Program approves the incentive for a project. When an application is incomplete or inaccurate, the Utility will contact the Participating Contractor to request the missing and/or correct information. Participating Contractors have 30 days from the date the Utility or their Implementation Contractor, ICF, notifies them to complete their application, unless otherwise indicated. If the missing and/or incorrect application is not resolved within the specified timeline, including resolution of inspection flags, the application will be cancelled and will not receive an incentive. Rejection or modification of an incentive application is at the Utility's sole discretion.

Contractors are required to deduct the NYS Clean Heat incentive, clearly labeled as a discount from the Utility, from the final invoice to the customer. The Program will pay residential ASHP or GSHP incentives to Participating Contractors, or for utilities that allow incentive assignment, to a recipient the contractor designates, upon incentive approval.

In the case of an instant discount, the Participating Contractor will be reimbursed for an amount not to exceed the instant discount amount provided to the Customer at the time of install, and as documented in the site owner invoice or contract. High volume contractors may apply to receive incentive payments via ACH, so that eligible Participating Contractors can receive incentive payments directly into their bank accounts without the need for paper checks. The minimum threshold to be eligible for ACH are deposits totaling $100,000 annually.

QA/QC Expectations

Through participation in the NYS Clean Heat Residential Program, Participating Contractors will be required to comply with a QA/QC process for the purpose of ensuring quality installations and improving

[59] Other approved heating and cooling calculation methodologies must be submitted to Program staff showing AHJ signoff.

[60] *See*, https://visionelements.customerapplication.com/framework/ny_statewide/ConEdison_Clean_Heat_Photo_Submission_Guide.pdf

Program processes.

In addition to the Program's QA/QC protocols, Participating Contractors are expected to address any of their customers' concerns related to projects incentivized through the Program. If a customer concern is the direct result of a violation of Program rules, the Program may institute disciplinary actions. However, if the customer's concern is not related to a violation of Program rules, the Participating Contractor is expected to work with the customer to come to a resolution without the Program's involvement.

4.3 Domestic Hot Water: Midstream and Downstream HPWH

This section discusses how to apply for incentives for domestic water heating and HPWH in Category 5 – Downstream Domestic Water Heating, Category 5a – Midstream HPWH, and Category 5b – GSHP Desuperheater. Per the descriptions below, Category 5a includes a midstream wholesale channel (Section 4.3.1) and a midstream retail channel (Section 4.3.2); Category 5 refers to the downstream channel (Section 4.3.3).

4.3.1 Midstream Wholesale Channel

NYS Clean Heat offers incentives to distributors for each qualifying HPWH sale to an eligible customer. Distributors are responsible for both passing on the incentive to the installing contractor and/or customer as well as submitting projects to the Program's Implementation Contractor, through the online incentive system at https://nyrebates.com/ for HPWH in the Con Edison territory and https://nyschmidstreamhpwh.com/ for HPWH in Upstate Utility territories.

4.3.1.1 Eligibility

Customer Eligibility: Any non-NYPA active electric customers are eligible to participate.

Distributor Eligibility: Distributors are entities who purchase eligible equipment directly from the manufacturer for resale. To participate, distributors must complete the enrollment documents, including but not limited to the distributor participation agreement form and a W-9 form.

Installer Eligibility: Installers are not required to enroll in the Program and may purchase qualifying equipment from participating distributors for sale at qualifying customer sites.

Quantity Eligibility: Any sales of two (2) or more HPWH units to the same installation address must be pre-approved by the Program Administrator.

4.3.1.2 Process to Participate

Con Edison and the Upstate Utilities use different Implementation Contractors to process applications. As contractors complete the following steps, they should contact the appropriate Implementation Contractor for the service territory in which they are working.

The Program Implementation Contractor for Con Edison is Energy Solutions:
Email: heat-ne@energy-solultion.com
Phone: 1-332-266-4467
The Program Implementation Contractor for the Upstate Utilities is ICF:
Email: nyscleanheat@icf.com
Phone: 844-212-7823

Step 1. Become a Participating Distributor
Interested distributors shall return the enrollment materials including the distributor participation agreement form, which outlines the terms and conditions of the Program, and a completed W9 form to the appropriate utility Implementation Contractor. Interested distributors can contact the appropriate Implementation Contractor to request enrollment materials and an introductory meeting about the Program requirements.

Step 2. Confirm Project Eligibility
The distributor confirms project eligibility by contacting the Program Implementation Contractor. Other tools to assist with determining eligibility may be provided at the time of enrollment.

Step 3. Provide the Incentive
The distributor must provide both the customer and contractor incentive as either a point-of-sale discount or as a credit to the installing contractor. The installing contractor is responsible for installing the equipment and passing on the customer portion of the incentive.

Step 4. Submit the Application
The participating distributor submits the relevant data from the sale through the Energy Solutions online incentive system, https://nyrebates.com/, or the ICF online incentive system https://nyschmidstreamhpwh.com/. This includes but is not limited to the following fields:

- Customer name
- Installation address
- Installation building type
- Sale invoice number
- Previous water heater fuel type (only for existing buildings)
- Equipment manufacturer
- Equipment model number
- Equipment serial number
- Equipment quantity
- Equipment cost per unit
- Contractor name
- Contractor contact information

Step 5. Application Review
The Program Implementation Contractor reviews and processes all applications to determine the eligible incentive amounts and if any questions arise during review, will reach out to the relevant distributor application processing contact.

Step 6. Receive Incentive Reimbursement
The Program Implementation Contractor will pay incentives to distributors for approved incentive applications.

Step 7. Installation Verification
The Program Administrator may select a random selection of customers for an inspection to confirm the installation information reported in the application.

4.3.1.3 QA/QC

Using the site address and contact information that are submitted by the distributor, a random sample of locations will be visited to confirm equipment was installed at the site address.

4.3.2 Midstream Retail Channel

Through the Midstream HPWH Retail Channel, Program Administrators offers incentives directly to customers for each eligible HPWH that they purchase at select retailers.

4.3.2.1 Eligibility

Customer Eligibility: Any non-NYPA active electric customer in the relevant Program Administrator's service territory is eligible to participate.

Retailer Eligibility: Purchase must be made at a participating retailer or online via the participating retailer website.[61]

Quantity Eligibility: Limited to one heat pump water heater rebate per account per calendar year. Any customer purchase of two (2) or more HPWH units to the same installation address must be pre-approved by the Program Administrator.

4.3.2.2 Process to Participate

Step 1. Confirm Eligibility
In the Con Edison service territory, interested customers shall complete the eligibility form by visiting VerifyConEdRebates.com, which outlines the terms and conditions of the Program and confirms customer eligibility. Interested customers can contact Con Edison's Implementation Contractor, Energy Solutions, at heat-ne@energy-solution.com or 1-332-266-4467; customers in the Upstate Utilities' territories should contact ICF at NYSCleanHeat@icf.com or 844-212-7823 to request additional assistance in the process or request additional information about the Program requirements.

For the Upstate Utilities, interested customers shall complete the eligibility verification using the applicable portal per utility listed below.

[61] For the Upstate Utilities, purchases can be made at any Lowe's or Home Depot location corresponding to the applicable utility service territory. For Con Edison, a list of participating retailers can be found at: https://www.coned.com/en/save-money/rebates-incentives-tax-credits/rebates-incentives-tax-credits-for-residential-customers/electric-heating-and-cooling-technology-for-renters-homeowners/swap-your-water-heater-and-save

Table 18. Utility Instant Discount Web Address and Implementation Contractor Information

Utility	Instant Discount Web Address
Central Hudson	https://centralhudsonrebates.com/
Con Edison	https://coned.instant-rebates.com/?utm_source=verifyconedrebatescom&utm_medium=marketing&utm_campaign=hpwh&
National Grid	https://nghpwhrebate.com/
NYSEG	https://nysegrgehpwhrebate.com/
Orange and Rockland	https://oruhpwhrebate.com/
RG&E	https://nysegrgehpwhrebate.com/

Step 2. Receive a Coupon

Customers will receive a coupon via email or text message after completing the eligibility form. The coupon is only valid for the retailer for which it was created.

Coupons generated for a retailer are only redeemable at participating stores within the customers' utility service territory or online from that same retailer.

Step 3. Make a Purchase In-Store or Online

To purchase in-store, the coupon provided to the customer must be scanned in-store at a participating retailer to receive an instant rebate on a qualified HPWH. The coupon can be used at any participating store as long as it is for the same retailer that was selected in the eligibility form. The customer will receive an instant rebate at the point of purchase.

To purchase online, customers must enter the coupon number in the field for Promo Code in their cart and apply the Promo code to the order. The instant rebate will be applied to the order as part of the checkout process.

Step 4. Application Review

The Implementation Contractor reviews and processes all applications to confirm eligibility and works with the participating retailers if any questions arise during review.

Step 5. Installation Verification

The Program Administrator may select a random selection of customers for an inspection to confirm the installation information reported in the application.

4.3.2.3 QA/QC

Using the site address and contact information that are submitted by the retailer, a random sample of locations will be visited to confirm equipment was installed at the site address.

4.3.3 Downstream Channel

Participating Contractors submitting applications for utilities that offer downstream channel incentives for domestic water heating projects will conduct the installation and then submit the Post-Installation Incentive Application for Program consideration. It is encouraged that applications be submitted within 30 days of installation, but they are required to be submitted within 60 days.

Step 1. Confirm Project Eligibility
The contractor confirms project eligibility by contacting the Program Implementation Contractor. Other tools to assist with determining eligibility may be provided at the time of enrollment.

Step 2. Provide the Incentive
Contractors are required to deduct the NYS Clean Heat incentive, clearly labeled as a discount from the Utility, from the final invoice to the customer. The Program will pay residential HPWH incentives to Participating Contractors, or for utilities that allow incentive assignment, to a recipient the contractor designates, upon incentive approval.

Step 3. Submit the Application
The Participating Contractor will submit the relevant data for the installation through the online incentive system at https://nyscleanheatrebates.com/.This includes but is not limited to the following fields:

- Customer name
- Installation address
- Installation building type
- Installation photo submission
- Invoice
- Previous water heater fuel type (only for existing buildings)
- Equipment manufacturer
- Equipment model number
- Equipment serial number
- Equipment quantity
- Equipment cost

All ground source domestic hot water heating technology must be installed and submitted with a qualifying full load GSHP heating system.

Step 4. Application Review
The Program Implementation Contractor reviews and processes all applications to determine the eligible incentive amounts and if any questions arise during review, will reach out to the relevant contractor application processing contact.

Step 5. Receive Incentive Reimbursement
The Program Implementation Contractor will pay incentives to contractors or customers for approved incentive applications.

Step 6. Installation Verification
The Program Administrator may select a random selection of customers for an inspection to confirm the installation information reported in the application.

4.4 Savings Calculations

Program Administrators calculate savings using approaches documented in *The New York Standard Approach for Estimating Energy Savings from Energy Efficiency Programs - Residential, Multi-Family, and Commercial/Industrial,* known as the Technical Resource Manual ("TRM").

4.5 Webinars and Outreach

Contractors and stakeholders are also encouraged to engage with the Program through the Participating Contractors and Industry Partners ("PC&IP") Working Group Series. Starting in May 2021, the JMC began a regularly recurring PC&IP Working Group Series webinar that is open to all industry Program participants. This quarterly webinar is a public forum for stakeholders to introduce topics for discussion for a larger audience and to provide specific Program and project feedback, as well as for the JMC members to share key Program updates and changes. Stakeholders that wish to be included in this quarterly forum or propose topics for discussion can do so by emailing NYSCleanHeat@ceadvisors.com. Details on participation and prior discussions can also be found on the NYS Clean Heat Resources webpage[62] under the "Working Group Series" heading.

While the PC&IP webinars will serve as the primary avenue for Statewide stakeholder engagement, the Utilities also host separate broad and targeted sessions for market participants and stakeholders. The Program Administrators invite market participants to reach out to the Program Administrators directly for specific issues as well.

[62] https://cleanheat.ny.gov/resources-for-applications/

5. Inspections, Oversight, and Participating Contractor Compliance

5.1 Inspections and Field Assessments

The Utilities will maintain program integrity through an Inspection and Field Assessment process, which consists of routine and systematic assessment activities to support quality installations and ensure that Participating Contractors comply with program rules. The processes for Con Edison and the Upstate Utilities are different: Con Edison conducts Programmatic Inspections and QA/QC Inspections, while the Upstate Utilities conduct Field Assessments. Each group maintains a separate document that details the specifics of these processes:

- The Upstate Utilities developed and will maintain the NYS Clean Heat Upstate Quality Policies and Procedures document,[63] which describes protocols for the Field Assessment process and is implemented uniformly by the Upstate Utilities and any representatives administering assessment activities on their behalf. These NYS Clean Heat Field Assessment activities will be supplemented by any utility-specific review or assessment of heat pumps that may be conducted for the purposes of program implementation and measure acquisition for any reason or at any time.
- Con Edison developed and will maintain the Con Edison Clean Heat Quality Policies and Procedures document, which describes protocols for the Programmatic Inspections and QA/QC Inspections.

Under the NYS Clean Heat Program, all ASHPs, AWHPs, GSHPs, HPWHs, system components, and installations must comply with any and all manufacturer installation requirements and applicable laws, regulations, codes, licensing, and permit requirements, and must follow best practices for all aspects of installation, including appearance of the property.[64] These include the New York State Environmental Quality Review Act, the New York State Building Code or New York State Residential Code, New York State Plumbing Code, New York State Mechanical Code, New York State Energy Code, the National Electric Code, Fire Codes, EPA Requirements, and all applicable state, city, town, or local ordinances or permit requirements. In the City of New York, all relevant New York City Codes and NYC Department of Environmental Protection requirements apply.

5.1.1 Summary of Upstate Field Assessment Process

The Field Assessment process has several components including establishment of program standards, comprehensive technology-specific documentation requirements, and site assessments. Such approaches are specific to the heat pump technologies and include review of associated contractor credentials, project-specific calculation methods, approved construction permits, accuracy of provided application data, and site assessments to assure optimal heat pump system performance. The Field Assessment process will employ sampling methods to determine inspection rate.

[63] The NYS Clean Heat Upstate Quality Policies and Procedures document describes guidelines whereby NYS Clean Heat projects are assessed, and outlines process for feedback and corrective action where applicable. https://cleanheat.ny.gov/assets/pdf/Quality-Policies-Procedures.pdf

[64] Aspects such as outdoor condenser location and appearance should be clearly communicated to customers and should comply with any local requirements such as those of homeowners' associations.

Field Assessments will be conducted by qualified independent third-party contractors having associated expertise and using the appropriate comprehensive checklists. The checklists include the criteria established for NYS Clean Heat and for each category of technology supported under the program. Checklists are available on the NYS Clean Heat Resources webpage under Standards and Field Assessments are for the following technologies:[65]

1. Air Source Heat Pumps
2. Air to Water Heat Pumps
3. Ground Source Heat Pumps
4. Heat Pump Water Heaters

The assessor does not inspect projects for purposes of code compliance or enforcement. Following a site assessment, the assessor will produce an Assessment Report that will document all evaluated criteria of the project and identify any nonconformances. If the assessor observes an unsafe condition associated with the installation, the contractor shall immediately inform the Utility, consistent with their contractual obligations, and the Utility will, in conformance with their own standard operating procedures, inform the appropriate authorities and/or conduct a lock-out disabling use of such equipment. Discrepancies identified through the Field Assessment process deemed not to endanger health and safety shall be remedied subject to program implementation rules.

5.1.2 Summary of Con Edison Inspection Process

Con Edison will perform Programmatic Inspections by using standards and quality assurance inspections checklists as a framework and basis to assess projects submitted by a Participating Contractor that Con Edison selects for inspection, including to evaluate the accuracy of heat pump system design, documentation, and the functionality of installations. Con Edison inspection checklists can be found online on the Standards and Field Assessments page of the Contractor Resources webpage. Con Edison will also perform QA/QC inspections to monitor compliance with the rules and requirements of the Program, including as it might relate to secondary reviews of projects that have been subject to Programmatic Inspection, and as it might relate to informing improvements of activities that relate to the Program.

Con Edison will coordinate as closely as practicable with other Utilities regarding contractor performance in order to promote statewide coordination, but Con Edison oversight of the NYS Clean Heat Program in its territory will be independent. In general, Con Edison will usually notify the Upstate Utilities of any action by Con Edison related to the compliance of a Participating Contractor with the rules and requirements of the Program, and Con Edison will also expect to be notified of any action taken by the Upstate Utilities in this regard, but, depending on the totality of the facts and circumstances, disciplinary impacts to a Participating Contractor may or may not be coordinated or the same in all instances of such notifications.

5.2 Photo Assessment for Space Heating Projects

As part of the application process, Participating Contractors may be required to submit photos that document the site conditions both before and after the installation.

The Program Administrator or its representative may request construction photos for the purpose of conducting a photo assessment at any time. Photo documentation shall focus on verifying compliance with program requirements and technical standards related to in-progress work such as loop field

[65] NYS Clean Heat Program Resources for Applications https://cleanheat.ny.gov/resources-for-applications/

installation. Photos must be clear, unaltered, and must meet the specifications outlined in the applicable checklist. Photo documentation scores are taken into consideration, along with Field Assessment scores, when evaluating performance.

The required documentation and photos must be submitted during the application process. Incomplete applications with missing documentation will not be accepted. Photos should be submitted in JPEG format or collated in a report in a word processing file or PDF.

5.3 Contractor Feedback and Training

Participating Contractor performance feedback strengthens the effects of learning and has significant, direct positive effects on performance.

Contractors will be evaluated and provided with performance feedback through the oversight process, including the inspection report; the Program Administrators will develop training and resources to recommend to Participating Contractors for continuous improvement. The Program Administrators will also work with AHJ officials to offer training to increase familiarity with heat pump technologies and enhance the quality of code inspections for these new technologies.

5.4 Contractor Participation Status

Participating Contractors will be classified in one of several status designations according to their standing in the program and the utility service territories in which they participate. Each designation will be subject to limitations or requirements associated with that status. More information on these statuses and their requirements can be found in:

- The NYS Clean Heat Upstate Quality Policies and Procedures (for the Upstate Utilities)
- The NYS Clean Heat Con Edison Quality Policies and Procedures

Participating Contractors may also be assigned a badge based on criteria outlined in each of these documents, which outline the criteria for the NYS Clean Heat badging system. Badge assignments are reviewed on an ongoing basis and can be updated at the discretion of the Program Administrators.

The Program Administrators reserve the right to modify the definition, limitations, and requirements of these designations. A Participating Contractor's progression into and/or through any status designation is determined at the sole discretion of the Program Administrators. The designation or existence of a Participating Contractor in any status category does not relieve or modify the nature or scope of such Participating Contractor's responsibilities to fulfill any of its outstanding obligations under the program including, but not limited to, those obligations owing or relating to system or site owners.

6. Contact Information

NYS Clean Heat Website Information:
Resources for Customers: https://cleanheat.ny.gov
Resources for Contractors: https://cleanheat.ny.gov/resources-for-applications
Contractor Portal: https://nyscleanheatrebates.com/

Submit questions by email to:

Central Hudson:
Ray Cotto
Energy Efficiency Program Manager
85 Civic Center Plaza
Poughkeepsie, NY 12601
Telephone: (845) 486-5750
Email: RCotto@cenhud.com

Con Edison:
Toby Hyde
Section Manager Strategic Engagement
Telephone: (917) 565-6911
Email: hydet@coned.com

National Grid:
George Angevine
Lead Program Manager
300 Erie Blvd. West
Syracuse, NY 13202
Telephone: (845) 490-7140
Email: George.Angevine@nationalgrid.com

NYSEG/RG&E:
Sean Dooley
Program Manager, Conservation and Load Management
180 South Clinton Avenue, Rochester, NY 14604
Telephone: (585) 629-8656
Email: Sean_dooley@rge.com

NYSERDA
Caroline Hazard
Program Manager
Email: Caroline.Hazard@nyserda.ny.gov

Orange & Rockland:
Christopher Trenard
Program Administrator
Telephone: (845) 577-2317
Email: trenardc@oru.com

Statewide Program-Related Inquiries:
nyscleanheat@ceadvisors.com

Statewide Participation- or Project-Related Inquiries:
nyscleanheat@icf.com
844-212-7823

7. Glossary

This glossary provides definitions of key terms used in the NYS Clean Heat Program. Capitalized terms used as defined terms and not defined in this glossary shall be as defined in the main body of the Program Manual or shall be as in common use between the parties.

Air-Conditioning, Heating, and Refrigeration Institute (AHRI): A trade association representing manufacturers of heating, ventilation, air-conditioning, refrigeration, and water heating equipment. AHRI provides the database of equipment performance specifications, which is used in the Program to determine the incentive amount.

Air Source Heat Pump (ASHP): An HVAC system that provides space heating using electricity through vapor-compression refrigeration cycle. An ASHP extracts heat from outdoor air and transfers the extracted heat into the conditioned spaces via various means. ASHPs are also used to provide space cooling by reversing the cycle to extract heat from a building and transferring the heat to the outside air.

Air to Water Heat Pump (AWHP): A type of air source heat pump that transfers extracted heat from outdoors into water which is used as the distribution medium for space heating, and in some cases space cooling (using a reverse cycle process) and domestic hot water.

Btu/h: Unit of thermal power capacity that represents one British Thermal Unit (Btu) of energy transferred per hour.

Building Cooling Load (BCL): Building total sensible and latent heat gain in British Thermal Units per hour (Btu/h). For residential buildings, BCL shall be calculated using ACCA Manual J or another code-approved methodology.[66] Calculation of the building's design cooling load shall be at the 1% dry bulb cooling design temperature for the most relevant ASHRAE 2017 location.

Building Heating Load (BHL): Building heat loss in British Thermal Units per hour (Btu/h). For residential buildings, BHL shall be calculated using ACCA Manual J or another code-approved methodology.[67]

Central ASHP: An ASHP system that is typically sized to provide heating and cooling to the whole building through an air duct distribution system.

Coefficient of performance (COP): COP is the ratio of work or useful energy output of a system versus the work or energy input, measured in the same units. It is a measure of performance often used for electrically-powered heating and cooling equipment, with the higher the system COP corresponding to the more efficient operation.

Clean Heat Project ("Project"): The planning and quality installation of a heat pump system at a customer-owned parcel of real property using common heat pump system components over a given scope at a given time. A single project may serve multiple electric accounts. A single parcel may have multiple projects subject to the discretion of the relevant Electric Utility.

Cold Climate ASHP defined as ccASHP: A heat pump product listed on the Northeast Energy Efficiency Partnership (NEEP) Cold Climate Air Source Heat Pump (ccASHP) Specification and Product List (NEEP

[66] Other approved heating and cooling calculation methodologies must be submitted to Program staff showing AHJ signoff.

[67] Other approved heating and cooling calculation methodologies must be submitted to Program staff showing AHJ signoff.

Product List), or on the NYS Clean Heat AWHP QPL. The current specification and listed eligible units are available at https://neep.org/ASHP-Specification and on the NYS Clean Heat Contractor Resources webpage.

Corrective Action: In the inspection and oversight process, action(s) that must be undertaken by a participant at the direction of the Utility Program Administrator to correct identified nonconformances (i.e., specific deviations or work that fails to meet the established quality standard).

Decommissioning: Existing fossil fuel space heating or domestic hot water (DHW) heating appliance that is retired, disconnected, or removed in a manner that complies with all applicable federal, state, and municipality laws, regulations, and codes and is installed in conjunction with an eligible heat pump system. Residential decommissioning projects may include electric resistance heating not to exceed 10% of BHL. Decommissioning Guidance Checklist available at https://cleanheat.ny.gov/resources-for-applications/. Licensed plumber required for decommissioning projects.

Designer: Individual or company that designs heat pump system. Requirements to be an eligible designer in the Program are described in the Program Manual.

Desuperheater: An optional feature of a GSHP system that takes advantage of waste heat generated by the compressor and transfers the waste heat to a domestic hot water system.

Direct Exchange (DX) GSHP: Direct exchange GSHP systems circulate a refrigerant through a buried, closed-loop copper pipe.

Driller: Individual or entity that drills boreholes to facilitate the construction of GSHP systems. Requirements to be an eligible driller in the NYS Clean Heat Program are described in this Program Manual.

Dwelling Unit: A single unit providing complete independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation. Source: 2020 Energy Conservation Code of NYS Section R202 https://up.codes/viewer/new_york/ny-energy-conservation-code-2020/Section/RE_2/re-definitions#R202

Energy Efficiency Ratio (EER): A measure of how efficiently a cooling system will operate when the outdoor temperature is 95° F. It is calculated by dividing the rated cooling output at 95° F by the watts used by the AC/HP system. A higher EER means the system is more efficient. It is an instantaneous measure of electrical efficiency, unlike SEER (Seasonal Energy Efficiency Rating), which is an averaged value of efficiency. This is a term applied to air conditioning equipment.

Full Load Heating System: A system installed that satisfies at least 100% of total heating load of the designated space at design day conditions. See Section 3.2 for system sizing requirements.

Ground Source Heat Pump (GSHP) System: An HVAC system comprised of one or more heat pumps, ground loops, interior distribution systems and terminal units that enables the air and/or water in buildings to be conditioned by exchanging thermal energy with the ground, ground water, or other natural body of water.

Gut Rehabilitation ("Rehab"): A renovation that removes material down to structural load-bearing beam (as defined by the TRM, v13, effective January 1, 2026.

Heat Pump System: One or more electric heat pump appliances installed in a building to provide partial or full load heating and cooling to the building's conditioned space. The heat pump appliances and associated components may be centrally or separately controlled. In a multifamily building in which a central heating plant serves more than one apartment, the heat pump system must be designed and

installed to provide heating to all of the individual apartments and common areas otherwise served by the central heating plant.

Heat Pump System Heating Capacity: For buildings whose BHL exceeds BCL, the heat pump system heating capacity shall be as small as possible to satisfy BHL, while minimizing oversizing for the cooling function to the extent possible with available equipment.

Heat Pump System Cooling Capacity: The sum of the cooling output of all heat pump appliances in the system, expressed in British Thermal Units per hour (Btu/h), at the cooling design temperature used for the building cooling load (BCL) calculation. For buildings whose BCL exceeds BHL, the heat pump system cooling capacity shall be as small as possible to satisfy BCL, while minimizing oversizing for the heating function to the extent possible with available equipment.

Heat Pump Water Heater (HPWH): HPWHs are water heater tanks that heat domestic hot water or process hot water through the use of an onboard air source heat pump that extracts heat from the air in the building surrounding the unit. They use a secondary electric resistance as a back-up to ensure that the water temperature meets the desired setpoint during times of high demand. Air source HPWH models come in two versions (integrated and split-system HPWH) and both versions are eligible for incentives under the Program.

Implementation Contractor: Vendor under contract with the Electric Utility to support Program implementation. Implementation Contractors may provide support for Participating Contractors, process and review applications for incentives, conduct inspections, and issue incentive payments.

Incentive Category: Grouping in the NYS Clean Heat Program reflecting applicable technology type, system size, customer type, and incentive structure.

Installer: Individual or entity that installs a heat pump system. Requirements to be an eligible installer in the NYS Clean Heat Program are described in the NYS Clean Heat Designated Utilities Program Manual.

Integrated Controls (ICs): Coordinates the heating operation of heat pump (ducted and ductless) systems with ancillary heating systems such as fossil fuel boilers and furnaces. ICs prioritize operation of the heat pump system as the first stage of heat and rely on the ancillary system as backup or second stage of heat. Integrated Controls eligibility document available at https://cleanheat.ny.gov/resources-for-applications/.

International Ground-Source Heat Pump Association (IGSHPA): An association established to advance GSHP technology, which conducts geothermal research and installer training and accreditation.

Mini-Split Heat Pump: A type of ASHP that can circulate refrigerant between an outdoor unit containing a variable capacity compressor and one or more indoor air handlers. Mini-split heat pumps are often referred to as “ductless mini-splits” because they are typically ductless. These units can also be installed with short duct runs that enable single air handlers to serve more than one room at a time.

MMBtu of Annual Energy Savings: Estimation of first-year site energy savings, which accounts for both the decreased fuel and the change in electricity consumed at the site.

Multifamily: A residential building with five or more Dwelling Units.

Nonconformances: In the field assessment inspection process, specific deviations or work that fails to meet the quality standard established for Program requirements, industry standards and quality requirements.

Partial Load Heating System: A partial load heating system is a primary, first stage, heat pump system installed alongside a supplemental, second stage, heating system for the purpose of providing heating.

The supplemental heating system may be either the existing system or a new system. In this type of system, the total heat pump system heating capacity satisfies <90% of the building's design heating load ("BHL") at design conditions.

Participating Contractor: ASHP and GSHP designer and installer that is eligible to apply for and receive incentives under the NYS Clean Heat Program. To become a Participating Contractor, an entity must submit a Participating Contractor Application and a Contractor Participation Agreement for each Electric Utility service territory where work will be performed (available at https://cleanheat.ny.gov/resources-for-applications/). Upon approval, the applicant will receive an approval notification from the Electric Utility and become eligible to apply for incentives in the Program. GSHP drillers must also be approved through this process to become a "Participating Driller," but are not eligible to submit for and receive incentives. Each GSHP installation must be completed by a Participating Driller. Contractors installing only HPWH do not have to be a Participating Contractor to submit an incentive application on behalf of a customer.

Participating Distributor: HPWH distributor that is eligible to offer and receive incentives under the NYS Clean Heat Program. To become a Participating Distributor, an entity must submit a HPWH Distributor Participation Agreement to their Utility Partner. Upon approval, the distributor will become eligible to apply for incentives in the Program.

Incentive Category: Incentive Categories 2, 2a, 2b, 3, 4, 5, 5a, and 5b.

Supplemental Heat: Supplemental heat refers to heating sources that are installed separately from the heat pump, such as legacy fossil fuel-fired systems, but work in tandem with the heat pump to meet the building's heating load.[90]

Utility Thermal Energy Network: UTEN projects are defined by the New York Department of Public Service in Case 22-M-0429, filing dated December 1, 2023.

Appendix 1: Program Requirements for Heating and Cooling Load Calculations

Other Load Calculation Requirements
The following component loads shall NOT be included in load calculations:

- Humidification loads
- Hot water piping distribution losses
- Adiabatic surfaces (surfaces for which there is no heat transfer, such as party walls within the building or between buildings, floors or ceilings between two conditioned spaces
- Duct losses or gains, where indoor equipment is ductless or where ducts are located inside conditioned space. BPI provides distribution efficiency tables that provide guidance regarding duct losses.[68]
- Multiplicative or additive safety factors with no defined source.

Ventilation Loads
Ventilation loads shall be supported by mechanical schedules in new construction or site review for existing construction.

- Ventilation loads shall account for heat recovery by subtracting the recovered energy from the total ventilation load. The final load shall only include the net load the heat pump is required to serve. For example, if the total ventilation heating load is 10,000 Btu/h and the ERV has a sensible effectiveness of 75%, the load calculation for the heat pump should only include the remaining 2,500 Btu/h.
- Intermittent bathroom and kitchen exhaust fans operated by wall switches, short-term delay timers, humidity sensors, or similar "on demand" controls shall not be included in load calculations unless they are part of a dedicated, continuously-operating fresh air ventilation system.

Infiltration Loads
Unless otherwise supported by project-specific blower door testing, heating and cooling infiltration shall be limited by the following:

	Natural ACH heating	Natural ACH cooling
Retrofits	≤0.7	≤0.4
Typical new construction and gut rehab	≤0.3	≤0.17
Passive House	≤0.06	≤0.034

NYS Clean Heat provides guidance on calculating design infiltration based on blower door testing. See Clean Heat Infiltration Guidance[69].

Component areas
Surface areas and geometry of the building and its thermal envelope components used in load

[68] BPI duct efficiency tables: bpi.org/__cms/docs/Guidance%20on%20Estimating%20Distribution%20Efficiency.pdf
[69] http://cleanheat.ny.gov/assets/pdf/infiltration-guidance-for-buildings-at-design-conditions.pdf

calculations must be consistent with architectural plans or actual existing conditions.

- Basements and below-grade spaces must be defined as either conditioned space or unconditioned space, as follows: Conditioned basements typically have exterior walls that are partly or mostly below grade, and a slab floor that is below or partly on grade. Unconditioned basements have a floor between the conditioned space above and the basement below. The basement ceiling, walls, and floor cannot be defined as heat loss components of conditioned space all at the same time. Buildings may have both conditioned and unconditioned basements. For those separate spaces, load calculations must account for the appropriate surfaces.
- Attic kneewall spaces must also be defined as conditioned or unconditioned (vented or unvented). If it is conditioned, the thermal boundary is at the roof; if unconditioned, the thermal boundary includes both the wall between the kneewall and conditioned space and the floor of the kneewall that is above conditioned space.

Component Performance

Enclosure (envelope) component loads shall use R values consistent with final architectural plans for new construction or gut rehab, and verified existing conditions for retrofit.

- All documented energy-efficient features and specifications shall be accounted for when defining construction types and component loads.
- For buildings where insulation levels of the envelope are not accessible for inspection, the following defaults can be used:

Vintage	IECC Climate Zone	Wall, Rim Joist	Ceil-ing	Base-ment wall	Floor	Window U-factor
Pre-war uninsulated masonry	N/A	4	4	4	4.5	see window defaults in table below
Pre-war uninsulated wood frame	N/A	4.5	4	4.5	4.5	
Prior to 1979	N/A	4.8	11	4.5	4.5	
From 1979 through 2002	N/A	11	19	11	19	
NYS: 2002-2008 IECC **(NYC = Zone 4, 2002-2009)**	4 and **NYC**	**13**	**38**	**9**	**19**	**0.45**
	5	13	38	10	21	0.40
	6	18	38	10	21	0.35
NYS: 2008 through 2009 **(NYC = Zone 4, 2009-2011)**	4 and **NYC**	**15**	**38**	**10**	**19**	**0.40**
	5	21	38	10	30	0.35
	6	21	49	10	30	0.35
NYS: 2010 through 2015 **(NYC = Zone 4, 2011-2015)**	4 and **NYC**	13	38	10	19	0.35
	5	20	38	10	30	0.35
	6	20	49	15	30	0.35
NYS: 2016 through 2019	4	20	49	10	19	0.35
	5	20	49	15	30	0.32
	6	25	49	15	30	0.32
NYC: 2016 through 2019	**NYC**	**25**	49	**25**	**30**	**0.32**
NYS: 2020 through present	4	20	49	10	19	0.32
	5	20	49	15	30	0.30

	6	23	49	15	30	0.30
NYC: 2020 through present	**NYC**	**25**	49	**25**	**30**	**0.27**

R-values shown represent minimum values for the whole assembly, including air films. Window U-factors are maximum. If any evidence of additional insulation exists, include that in the load calculations.

- For windows without known U-value and SHGC data, the following defaults may be used:

Window property defaults by vintage and window type

Vintage	Glazing	Frame	Storm	Maximum U-factor Btu/(hr·°F·ft^2)	SHGC
Older, poorly insulated	single	metal	no	1.2	0.75
	single	wood	no	0.71	0.64
Existing, average insulation	double	metal	no	0.87	0.67
	single	wood/ vinyl	yes	0.57	0.56
	double		no		
	double		yes	0.44	0.51
New construction, replacement windows ≥2005	low e: double	wood/ vinyl	no	0.47	0.31
	low e: triple	any	no	0.31	0.21

Use observed physical description of window glazing, frame type, and presence of storm panel to select the appropriate default. Note that window vintage may not match building vintage if windows were previously replaced.