

URBAN  
GREEN

November 2025

# Tank to Tap

Scaling Heat Pumps for Water Heating in  
New York's Single-Family Homes



**Urban Green Council's** mission is to decarbonize buildings for healthy and resilient communities. We develop cutting edge policy, we educate a broad range of professionals, and we research solutions that drive policy and best practices nationally and globally.

#### **DISCLAIMER**

None of the parties involved in the funding or creation of *Tank to Tap*—including Urban Green Council, its members, and its contractors—assume any liability or responsibility to the user or any third parties for the accuracy, completeness, or use of or reliance on any information contained in the report, or for any injuries, losses, or damages (including, without limitation, equitable relief) arising from such use or reliance. Although the information contained in the report is believed to be reliable and accurate, all materials are provided without warranties of any kind, either express or implied, including but not limited to warranties of the accuracy or completeness of information contained, merchantability, or the fitness of the information for any particular purpose.

As a condition of use, the user pledges not to sue and agrees to waive and release Urban Green Council, its members, and its contractors from any and all claims, demands, and causes of action for any injuries, losses, or damages (including without limitation, equitable relief) that the user may now or hereafter have a right to assert against such parties as a result of the use of, or reliance on, the report.

©2025 Urban Green Council. All rights reserved.

# Contents

## Introduction

PAGE 5

## About residential heat pump water heaters

PAGE 6

## The first step opportunity in New York

PAGE 9

## The cost of heat pump water heaters

PAGE 13

## Moving the market forward

PAGE 16

## Endnotes

PAGE 22

Note: This is a downloadable PDF of the *Tank to Tap* report. For the best viewing experience and to explore the interactive graphics, visit [urbangreencouncil.org/tanktotap](http://urbangreencouncil.org/tanktotap)





status	
Water Heater Mode	Heat Pump
Electric Heat Control	Off
Compressor Relay	On
Evaporator Fan Control	Low Speed
EXV Current Position	60.0%
<div>← status →</div>	

PROFESSIONAL

# Introduction

New Yorkers rely overwhelmingly on fossil fuels to heat the water we use for showers, dishes and laundry. These systems may be hidden in basements, but their impact is clear: they pollute our air and produce 20 percent of the state's residential greenhouse gas emissions. Transitioning to clean, efficient water heating will help New York progress toward its climate goals while creating healthier, safer homes.

Heat pump water heaters are the most effective way to decarbonize water heating in New York's single-family homes. And **650,000 homes** are strong candidates to make the leap to clean, highly efficient electric water heating today.

The market has evolved. Newer generations of this decades-old technology are more efficient, quieter, lower cost and easier to install. The equipment is readily available at local home improvement centers. And policy levers—from all-electric new construction requirements to federal appliance standards—are transforming the industry.

For residents, it's the service that matters—hot water on demand. With the right design, heat pump water heaters meet that demand, often at a lower cost. Behind the faucet, these systems use far less energy than conventional ones, produce no on-site pollution, make homes safer by eliminating flammable fossil fuels, and decrease exposure to dangerous levels of air pollutants like carbon monoxide (CO) and nitrogen oxides (NOX), which are linked to high rates of asthma and cardiovascular illness.

At the same time, heat pump water heaters aren't yet a practical option for every New York home. The biggest barrier is affordability. While the technology uses less energy, it

costs more up front and likely won't mean lower utility bills for residents switching from gas water heaters. Homes without basements or with very high water demands may face installation challenges with current models.

In this report, we examine the state of New York's residential heat pump water heater market and outline the path to scaling clean, efficient, and affordable hot water for single-family homes across the state.

**650,000 New York homes**  
*are well-suited for heat pump water heaters today.*

**20% reduction**  
*Converting all of New York's single-family homes to heat pump water heaters could cut 20 percent of the fossil fuels burned in these homes.*

**2-3x efficiency**  
*Heat pump water heaters are two to three times more efficient than fossil-fuel or conventional electric models.*

# About residential heat pump water heaters

Most homeowners and tenants don’t think about water heaters until they encounter a cold shower or a puddle of water in the basement. But these often-overlooked appliances are responsible for 20 percent of on-site GHG emissions in New York’s residential sector, and play an important role in the state’s path to cleaner and healthier homes.

TABLE 1

**Natural Gas is the most common water-heater fuel in New York state**

Electricity follows as the second-most common fuel

Water heater Fuel	Percent of state-wide dwelling units
Natural Gas	55%
Electricity	23%
Fuel Oil	15%
Propane	6%
Other Fuel	1%

The majority of single-family homes in New York use gas-fired water heaters, while many others use oil and propane (Table 1). Despite being such common appliances, fossil-fuel water heaters come with significant downsides: low efficiency and health risks from emitting dangerous levels of air pollutants like carbon monoxide (CO) and nitrogen oxides (NOX), which are linked to high rates of asthma and cardiovascular illness.<sup>1</sup>

Standard electric water heaters—often called electric resistance heaters—are found in about one-fourth of New York homes.

While they don’t emit on-site pollution, they are only slightly more efficient than the highest performing fossil-fuel models and are expensive to operate in areas with high electricity rates.

## Heat pump water heaters offer a cleaner and far more efficient solution.

Like standard electric water heaters, these products don’t emit pollution, but they are far more efficient than fossil-fuel systems. In fact, they are over three times more efficient

than Energy Star fossil-fuel models. And they typically require only about one-ninth of the power draw of standard electric water heaters, so they can reduce emissions and minimize strain on the grid.

Modern residential heat pump water heaters (HPWHs) have been available and listed by Energy Star for the past 15 years. Now, you can even pick one up at most local home improvement stores. With increasing

availability, nationwide sales have nearly tripled in the past five years!

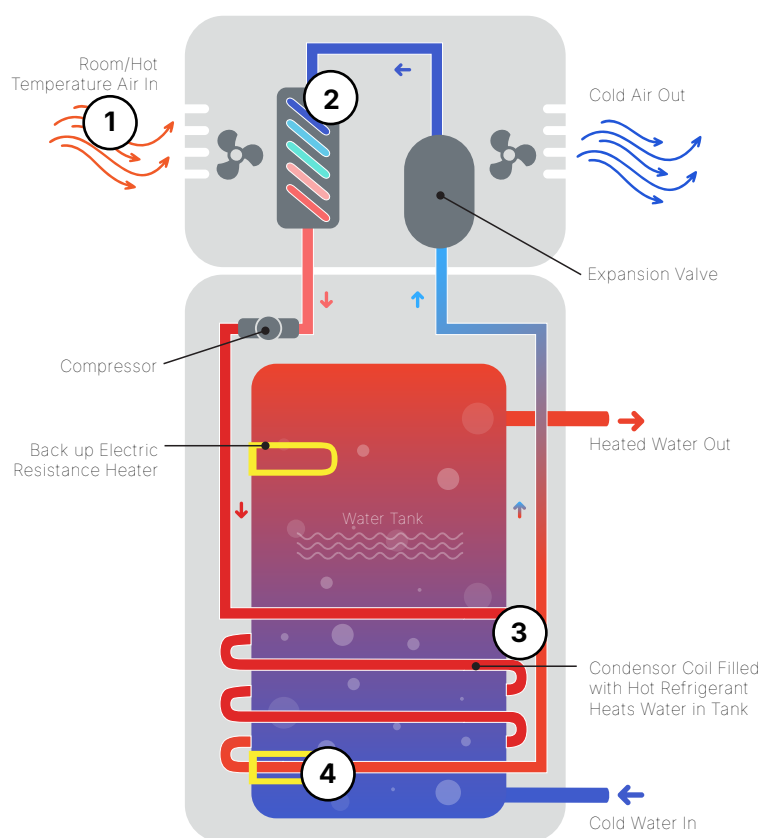
Heat pumps are different from other water heaters because they use the refrigeration cycle to heat water, tapping into the heat in ambient air instead of generating it through combustion.

See Figure 1 below to better understand this technology.

FIGURE 1

### How exactly do heat pump water heaters work?

Heat pump water heaters (HPWH) look similar to traditional water heaters, but they are specially designed to achieve massive efficiency improvements compared to traditional systems. The main reason to utilize heat pump technology for water heating is it captures more heat energy from the ambient air than it uses in electrical energy, or in other words, you get more energy output (heat) than the energy you pay for (electricity). Additionally, this product has a built-in back-up heating source to boost hot water production when necessary.



#### 1. Heat Source

The HPWH unit contains a fan which pulls in ambient air from the room it is in. This ambient air is the heat source for the heat pump, and therefore it is important that the room has a sufficient capacity of air and does not regularly get below 40 degrees.

#### 2. Capturing Heat

Inside the HPWH unit the heat from the ambient air is absorbed by a refrigerant which is contained in a coil. The refrigerant is then pushed through a compressor creating a high-pressure high-temperature gas within the coil.

#### 3. Heating the Water

This coil is wrapped around a water tank in the HPWH unit, and the heat transfers from the hot refrigerant to the water in the tank. Once the refrigerant sheds its heat it is pushed through an expansion valve to cool it down further and be ready to absorb more heat from the ambient air.

#### 4. Backup heat source

HPWH units have multiple electric resistance heating elements that can heat up the water in the tank when the heat pump cannot provide hot water fast enough. These units can also operate in "hybrid mode", where the heat pump and electric resistance components work together to heat the water during times of high demand.



# The First-Step Opportunity in New York

Contractors are installing heat pump water heaters (HPWHs) in homes every day, with more than 190,000 units sold nationwide in 2023—a 35 percent increase from the previous year.<sup>2</sup> In New York, energy savings and generous incentive programs have driven recent installations, but there is significant opportunity for this market to grow: more than **650,000 homes are strong candidates for conversion today**.

To better understand HPWH retrofits, we spoke with more than 15 contractors and industry experts representing each region of New York State and a variety of buildings, from new construction to century-old homes. While individual experiences varied, consistent themes emerged on what makes for a successful HPWH installation in existing single-family homes.

## What did contractors tell us?

Contractors reported high customer satisfaction with HPWHs, but also pointed to **four key factors** that influence which projects succeed across New York's diverse housing stock:

- 1. Basement height constraints:** HPWHs are taller than fossil-fuel or conventional electric tank-type water heaters. Installers cited basement height as one of the first factors in determining retrofit feasibility.
- 2. Potential electrical panel upgrades:** In older homes that haven't been modernized, HPWHs often require larger electric panels (200–400 amps), especially when combined with EV chargers or new electric loads. Existing 100-amp panels are rarely sufficient. This adds cost and complexity. But homes that already have electric water heating (about one-quarter of New York's housing stock) won't require panel upgrades for HPWH systems and should have sufficient capacity.
- 3. Proper installation is essential:** Installation requirements differ from existing water heaters and contractors must ensure sufficient semi-conditioned ambient air supply, properly place the equipment, and set up venting and condensate piping from the unit. Improper setup can lead to inefficiency or failure. While experienced contractors have largely adapted to these new installation requirements, they remain a challenge for newer installers.
- 4. Caution for very high water users:** HPWHs are highly efficient but replenish hot water to the product's storage tank more slowly than comparable gas units (called the recharge or recovery rate). In households with heavy hot water use, HPWHs may struggle to meet demand and frequently switch to electric resistance heating, undercutting efficiency. Contractors must manage customer expectations by recommending staggered water use or sizing up the storage tank.

## Finding the best homes for HPWHs

Scaling heat pump water heaters in New York begins with the homes where installations are most feasible and affordable. With the right building conditions and experienced installers, little stands in the way of achieving a successful retrofit and contractors report quick installs, efficient operation and satisfied customers.

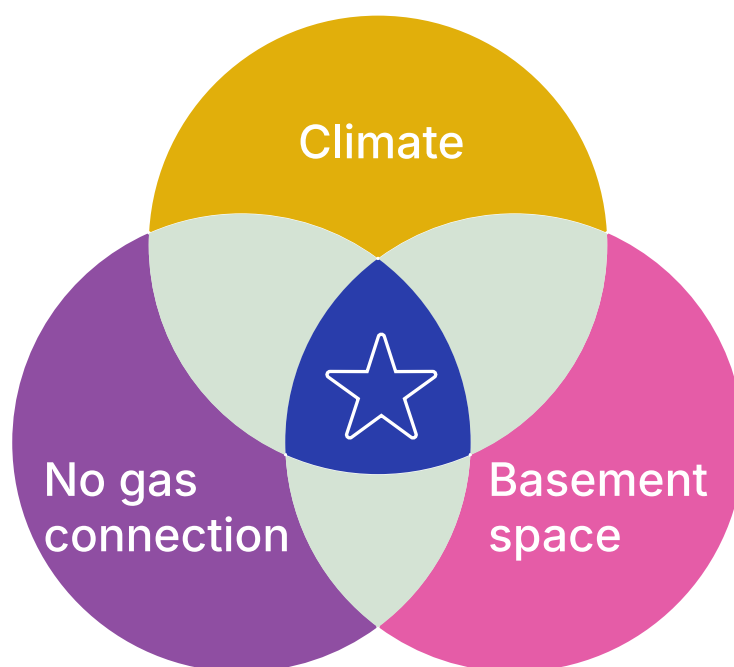
To identify homes that are the best suited for HPWHs, we assessed a combination of physical or structural characteristics, the cost of operating equipment and relevant environmental conditions. Three criteria rise to the top:

1. **Adequate basement space:** HPWHs work by pulling heat from the surrounding air. It's crucial that the temperature in the room where the unit is located remains above 40 degrees Fahrenheit. There should also be one to two feet of clearance above the old

water heater, since HPWHs are often taller than existing tank-type water heaters.

2. **No gas connection:** Despite the greater efficiency of HPWHs, current utility rates in most of New York mean HPWH customers may not save money compared to their existing gas product. Customers who use an electric, oil or propane water heater are more likely to see cost savings from HPWHs.
3. **Outside of New York's coldest climate zone:** Around five percent of New York's homes are in Climate Zone 6, which has average winter low temperatures below 0 degrees. Well-insulated homes in this region can utilize HPWHs, but the risk of insufficient heat for proper HPWH function is higher. Intake water can also be colder, which further reduces equipment efficiency.

FIGURE 2



Using building characteristic data from the New York State Department of Taxation & Finance, we quantified the number of single-family homes that meet these three conditions.<sup>3</sup>

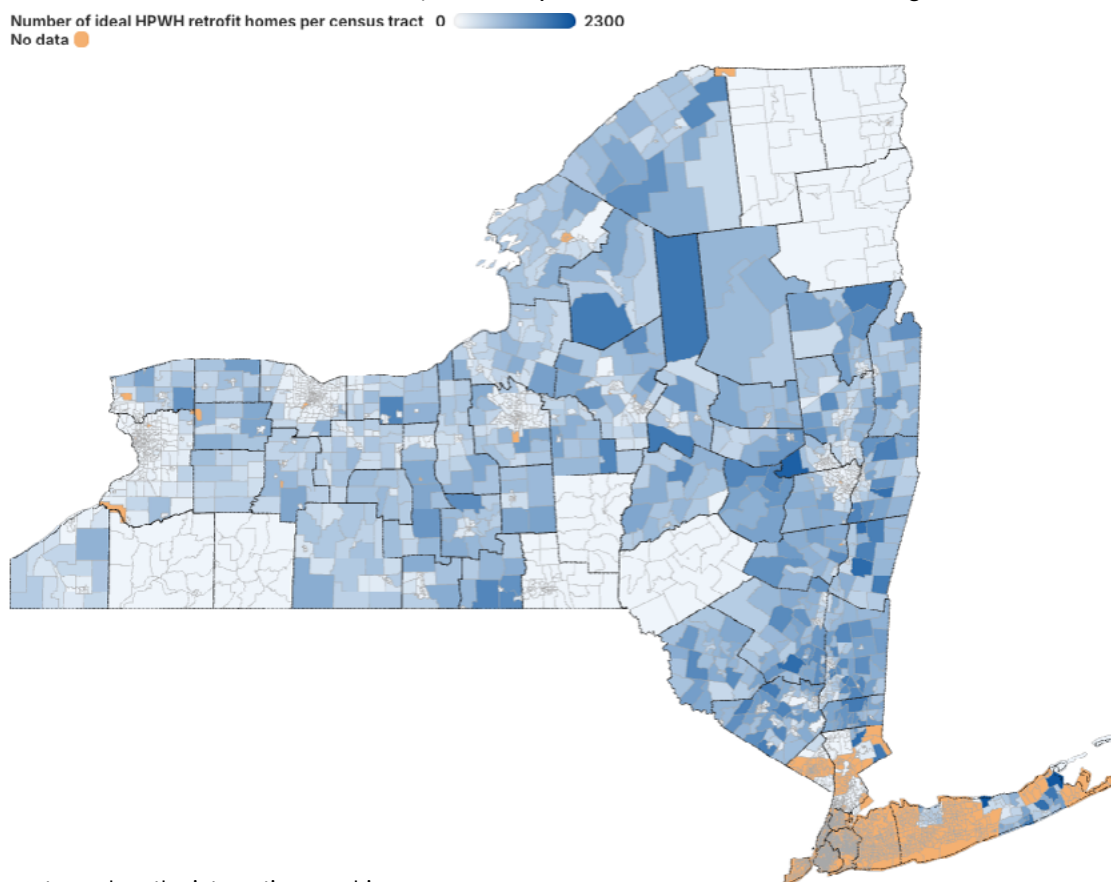
***At least 650,000 homes in New York are ideal candidates for HPWHs, representing around 15 percent of the single-family housing stock.***

Figure 3 shows the number of ideal homes in each New York census tract. These ideal homes are spread across multiple regions in New York with dense clusters in certain census tracts. Unfortunately, we don't have complete data for every census tract in New York. Census tracts in orange on the map indicate missing data, meaning this estimate is conservative.

FIGURE 3

### 650,000 homes ready for Heat Pump Water Heaters in New York

Ideal homes are clustered across the state, with hotspots in the Mid-Hudson and Long Island



[Click here](#) to explore the interactive graphic.

Source: NYS Department of Taxation and Finance Property Assessment and Property Inventory (2024), NYS Climate Impacts Assessment - Projections Methodology Report (2024), [NYS Statewide Tax Parcel Centroid Points \(2024\)](#) • Does not include New York City as it is not included in the Residential Assessment and Property Inventory. Large sections of Nassau, Suffolk, Westchester, and Rockland counties lack sufficient data for this analysis.

### *Long Island: A strong fit but little data*

*There are likely thousands of homes on Long Island that are well-suited for HPWH retrofits. But, these census tracts are shown in orange because there isn't granular building-level data available in this region. We suspect significant potential because:*

- Fifty-five percent of homes on Long Island use fuel oil for heating<sup>4</sup>, which likely means many homes would see utility bill savings from a water heater conversion*
- During interviews, contractors working on Long Island reported installing many HPWHs due to easy-to-navigate utility incentive programs and flexibility around placement of the unit.*



# The cost of heat pump water heaters

The market for heat pump water heaters (HPWHs) in New York State is still developing. Adoption is currently limited by high upfront costs, the availability of incentives and the high cost of electricity. Still, with the right targeting, New York has major opportunities to expand cost-effective HPWH upgrades across the state.

## HPWHs typically cost more up front

HPWH installations are more expensive than a like-for-like replacement: estimates show that a typical HPWH retrofit costs around \$3,400, with about two-thirds of that cost going toward the unit. By comparison, a conventional gas water heater costs around \$2,000 for equipment and installation. Costs can rise further if electrical panel upgrades are needed, with the average electrical upgrade costing almost \$2,000. (Although upgrading a home’s electrical panel is likely an inevitability regardless of HPWH adoption.)

Table 2 is an estimate of the main costs associated with an HPWH installation in New York for a typical single-family home:

TABLE 2

### Cost estimates for a heat pump water heater installation

	Average Cost
Equipment Price	\$2,200
Install Labor	\$1,000
Permitting	\$100
Other upgrades (maintenance, piping)	\$100
Total Cost of HPWH Installation	\$3,400
Electrical Upgrades	\$2,000
Total Cost of HPWH with Electrical Upgrades	\$5,400

Heat pump water heater cost data from regional and national sources (including utility/state incentive programs and field demonstrations) used to estimate equipment, labor, and upgrade costs across New York State.

## Incentives are crucial but uncertain

Several incentive programs in New York help offset the cost of installing a heat pump water heater. Through 2025, most homeowners can claim a \$1,000 rebate for purchasing an Energy Star-listed HPWH product. For low- and moderate-income households, a large proportion of the total unit cost and the electrical panel upgrade is covered through the EmPower+ program.

*Existing incentive programs have been the major driver for HPWH installations in New York.*

*Between 2020 and 2024, New York's Clean Heat Program—the primary energy efficiency and building electrification incentive program offered by New York State utilities—supported more than 12,000 HPWH projects. The Long Island Power Authority supported an additional 1,700 HPWH installations through its own incentives.*

However, incentive uncertainty looms. All federal rebates and tax credits for HPWHs will end after 2025, which will likely impact the level of incentive New York can offer. Many New York utility programs for energy efficiency and electrification are also being redesigned for 2026 to 2029, though regulators have indicated that support for HPWHs will continue. Overall, it seems unlikely that HPWH incentives will become more generous over the next couple of years, and cost will remain a barrier to many homeowners.

### Utility bill savings depend on the existing system

The math is straightforward for homeowners who currently use traditional electric water heaters (around one-quarter of all single-family homes in New York). HPWHs will use up to three times less electricity than a traditional unit and homeowners who make the switch will cut their water heating bill in half, seeing \$200 to \$300 in utility savings each year.<sup>5</sup> Figure 4 compares the efficiency of HPWHs to electric resistance and fossil-fuel water heaters.

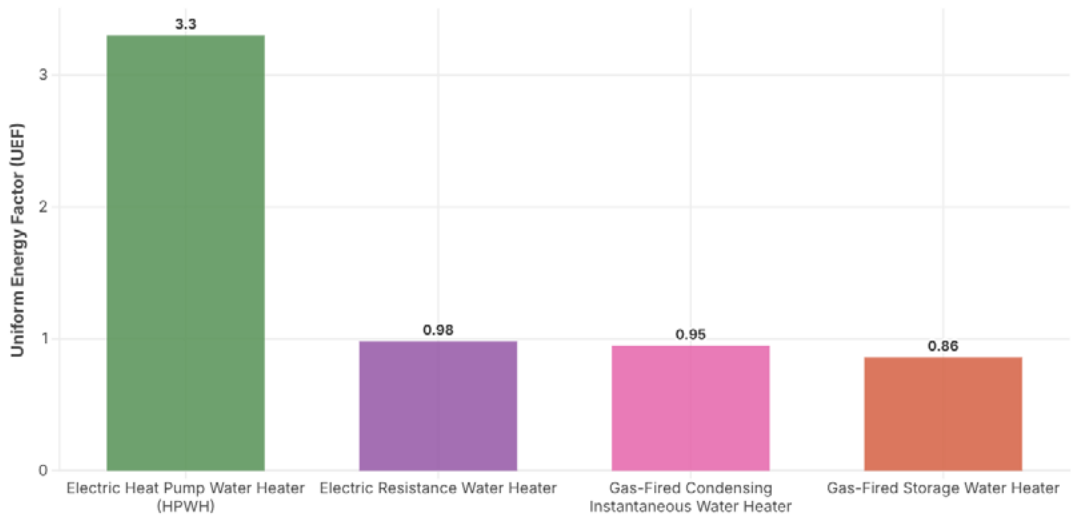
Homeowners using fuel oil or propane for water heating will also see a decrease in their utility bills because the cost of the electricity to power an HPWH will be less than the cost of the oil or propane they currently use. The amount of cost savings will depend on the price each homeowner pays for fuel and electricity, which varies based on location<sup>6</sup>, but these significant savings help homeowners recoup the upfront cost of a HPWH. Table 3 shows the regions in New York with the highest percentage of non-gas water heaters.

Unfortunately, the many New York homes using natural gas for water heating aren't currently likely to see significant cost savings from switching to a heat pump water heater, despite very significant energy savings. That is largely because natural gas is generally much cheaper per unit of energy than electricity, which can be up to 5 times more expensive<sup>7</sup>. Until rate structures change, HPWH retrofits in gas-heated homes will offer environmental and safety benefits, but often not result in lower operating costs.

FIGURE 4

Heat pump water heaters are over three times as efficient as fossil-fuel options

Uniform Energy Factor (UEF) measures the energy efficiency of different water heaters. Non-heat-pump water heaters have a maximum possible UEF of 1, while HPWHs can exceed 1 because they provide more energy than they consume.



Source: [ENERGY STAR Energy Efficient Products, Water Heater Key Product Criteria](#) • UEFs shown represent the minimum standard to achieve ENERGY STAR rating.

TABLE 3

Non-gas water heating is common across much of New York State

Three-quarters of homes in North Country use non-gas water heaters

Region	Percentage of dwelling untis with non-gas water heaters
North Country	74%
Mohawk Valley	62%
Hudson Valley	56%
Southern Tier	55%
Long Island	55%
Capital District	51%
Central New York	41%
Finger Lakes	35%
Western New York	24%
New York City	23%

Source: [NREL ResStock End Use Saving Shapes model \(2024\)](#)

# Moving the market forward

Major policies at the local, state and federal levels are setting the stage for a water heater market transformation in New York, and new policy ideas could push farther and faster in the years ahead. But the push to scale heat pump water heaters (HPWHs) must navigate affordability challenges, close technology gaps and support workforce transition.

Decarbonization laws, efficiency standards, and voluntary incentives are sending strong signals to manufacturers, distributors and contractors on the future growth of the heat pump water heater market. These policies show that New York State is already invested in transitioning to efficient, electric hot water. But the current level of incentives is not sufficient to ensure that most homeowners can affordably make this transition, and without continued action, the momentum built over the last few years could stall.



TABLE 3

**Local, state and federal policies are paving the way for enormous growth of the heat pump water heater market.**

<p><b>New York City</b></p>	<p><b>Local Law 154 (LL154)</b> Began requiring all-electric new construction, including no fossil-fuel water heating in one- to two-family homes, starting in 2024, and all buildings starting in July 2027. Our estimates show <u>2,000-3,000 new buildings</u> are constructed each year in NYC, most of which are one- to two-family homes.</p> <p><b>Local Law 97 (LL97)</b> Sets annual carbon caps on large buildings from 2024 onward. Over time, LL97 will encourage electrification of hot water in the 18,000 existing multifamily buildings covered by the law to meet the limits, and a <u>beneficial electrification credit</u> adds extra incentive for buildings that do so before 2030.</p>
<p><b>New York State</b></p>	<p><b>All-Electric New Buildings Act &amp; the 2025 NYS Energy Conservation Construction Code</b> Together, <u>these laws</u> make New York the first state to require all-electric new construction. Starting in 2026, the State Energy Code will prohibit fossil-fuel water heating equipment in residential buildings up to seven stories, heavily favoring HPWH as the system of choice. To quantify how many new HPWHs that may mean annually, roughly <u>10,000</u> new single family homes were built in NY in 2024, and around <u>1,000 multifamily buildings with 35,000 units</u> are built each year.</p> <p><b>Climate Leadership and Community Protection Act (CLCPA)</b> The law sets ambitious economy-wide targets to drive down carbon emissions statewide. The <u>CLCPA Scoping Plan</u>, while not binding, recommends phasing out fossil fuel domestic hot water replacements in existing buildings starting in 2030.</p> <p><b>Multistate MOU to Accelerate Zero-Emissions Buildings</b> In 2024 <u>New York signed</u> onto a multistate memorandum of understanding (MOU) to accelerate the transition to zero-emissions residential buildings. By signing, New York pledged to target heat pumps to make up 65% of residential-scale heating, air conditioning, and hot water equipment sales by 2030, and 90% by 2040. Along with nine other states and Washington DC, the signatories <u>represent one-third</u> of residential fossil fuel consumption in the US.</p>
<p><b>Federal</b></p>	<p><b>Federal Energy Conservation Standards for Consumer Water Heaters</b> A 2024 Department of Energy Rule set new efficiency standards for electric- and gas-powered water heaters, effectively shifting the electric tank water heater <u>market to heat pumps</u>, rather than electric resistance. There are <u>over 700,000 single-family homes</u> that use electricity for water heating in New York State. In most cases, when those units need replacing, efficient HPWH will take their place.</p>

## *Innovative Model Rule guides future water heating policy*

*In December 2024, the Northeast Status for Coordinated Air Use Management (NESCAUM)—a nonprofit association of state air quality agencies —published a Model Rule to reduce pollution from space and water heaters.*

*The Rule provides a framework for phasing in zero-emissions standards for nitrogen oxides (NOx) and greenhouse gases in new water-heating equipment. It gives policymakers a ready-to-use template to adapt to their own jurisdictions and helps align air quality and climate goals with building decarbonization efforts. For New York, this approach highlights the potential of HPWHs to cut both emissions and health-damaging air pollutants by replacing aging fossil-fuel systems as they reach end-of-life.*

## **From Potential to Practice**

Many of New York's single-family homes are primed for heat pump water heaters, but major challenges lie on the path to transforming the statewide market. The following five actions could address key barriers and help accelerate adoption:

### **1. Target the right homes first**

**Issue:** For more than 650,000 New York homes, heat pump water heaters are a straightforward conversion that will save money on utility bills right away, reduce GHG emissions and improve local air quality. Yet, outreach and incentive programs often don't adequately target these priority homes.

**Recommendation:** Ensure programs and policies target these best-fit homes. Some already do so: for example, federal electric water heater standards only apply to homes with costly electric water heaters. But segmenting incentives by fuel type, space readiness or climate zone (with marketing tailored accordingly) could drive more strategic HPWH deployment. Continued support for low- and moderate-income households remains essential.

### **2. Maintain and expand affordability**

**Issue:** Heat pump water heaters remain more expensive than conventional water heaters, and the federal pullback on incentives could push costs higher and undermine the momentum of the past few years, sacrificing both HPWH installs and clean energy jobs.

**Recommendation:** Maintain current levels of funding for HPWH incentives and contractor training, including plugging any gaps from diminishing federal support. The New York Cap-and-Invest program is a potentially transformative funding source to support HPWHs, but new and creative programs like a "cash-for-clunkers" rebate for old fossil-fuel water heaters would help expand affordability

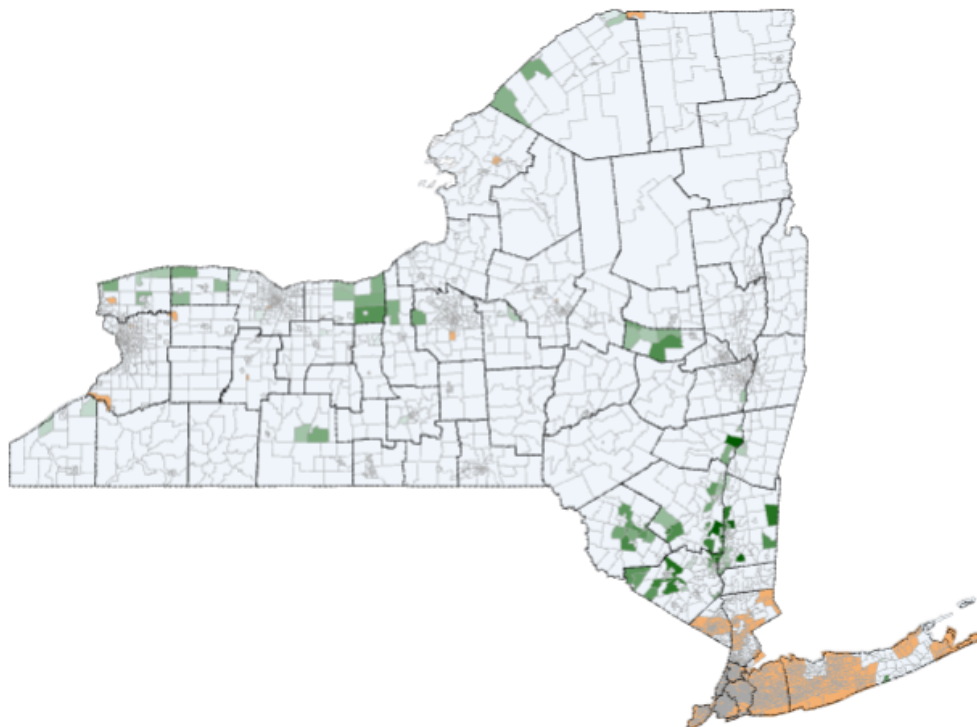
FIGURE 6

### Reaching the right retrofits leads to lower costs and easier installs

For example, 70,000 homes—10 percent of ideal HPWH candidates—are in Disadvantaged Communities (DACs) which receive higher incentives and benefit more from lower utility bills

Number of ideal HPWH retrofit homes per census tract 0 2300  
No Data

Select view: Ideal homes in DAC census tracts



[Click here](#) to explore the interactive graphic.

Source: NYS Department of Taxation and Finance Property Assessment and Property Inventory (2024), NYS Climate Impacts Assessment - Projections Methodology Report (2024), [NYS Statewide Tax Parcel Centroid Points \(2024\)](#), [NYS Disadvantaged Communities \(DAC\)](#) • Does not include New York City as it is not included in the Residential Assessment and Property Inventory. Large sections of Nassau, Suffolk, Westchester, and Rockland counties lack sufficient data for this analysis.

### 3. Minimize risk for contractors and installers

**Issue:** Manufacturer guidance can be uneven, and some contractors and installers are hesitant to offer HPWH because of limited familiarity with the

technology. Installations that don't meet the necessary specifications can lead to a higher failure rate and costly callbacks. Contractors typically bear that financial risk because most warranties don't cover labor costs to replace or repair a unit, even when the failure is due to a manufacturing error.

**Recommendation:** (a) Increase guidance and installer training to optimize installations and minimize unit failures. This includes micro-learning modules, “no-go” field checklists on height, air flow, and spacing, and laminated homeowner guidance for operation.

(b) Build contractor confidence and mitigate the perceived burden of unit failure by making manufacturer-backed labor warranties a condition of program eligibility or creating a statewide failure relief fund for early failures.

#### 4. Foster innovation to close tech gaps

**Issue:** Some homes—such as those without basements or available semi-conditioned space — are simply not good candidates for current HPWHs because of equipment size or other considerations. And some homes with very high hot water demand may benefit from a system with higher capacity.

**Recommendation:** Incentivize innovation for HPWH designs with different configurations and space requirements, emphasizing solutions for homes without basements. Examples include heat pump water heaters with different-shaped storage tanks for lower spaces and new split HPWH systems, which typically have higher capacities and are suitable for the single-family home market.

#### 5. Fill in missing property data on Long Island

**Issue:** Thousands of homes on Long Island are likely a strong fit for HPWH installations, but these census tracts

are not classified as target areas in our research because they lack key building characteristics data. We suspect these homes are great candidates for HPWHs due to the prevalence of fuel oil, geographic location in Climate Zone 4 and reports from contractors on high numbers of HPWH installations in the area. As a result, our research is likely missing a crucial potential success story for this region of the state.

**Recommendation:** The NYS Department of Taxation and Finance should review the data collection and upload process for information collected by assessors on [property assessment report cards](#) to flag and fix missing data. The Office of Real Property Tax Services should seek to fill in any gaps for census tracts that omit key building characteristics, starting with those on Long Island, so that market actors and incentive programs can better target homes most primed for HPWH retrofits.



# Endnotes

1. Indoor air toxin levels taken from the [Northeast Status for Coordinated Air Use Management \(NESCAUM\)](#) recently published [Model Rule](#) for NOx and GHG emissions standards for space and water heaters
2. HPWH sales taken from [Energy Star Market Penetration Report](#), summarizing sales and market share for a range of efficient appliances.
3. NYS Department of Taxation and Finance 2024 Property Assessment and Property Inventory, obtained by FOIL request from the NYS Office of Real Property Tax Services. The dataset aggregates tax data on properties from every municipality beyond NYC, and includes detailed building characteristics like typology, size, construction materials, basement dimensions, utility hookups and more.
4. Census data on [House Heating Fuel](#) shows fuel used for residential heating by region.
5. [NYSERDA recommends](#) HPWHs to residential customers seeking to retrofit existing water heating systems
6. NYSERDA's [average home heating oil prices and dashboard](#), summarizing the average cost of delivered fuels in various regions around New York state.
7. [Average energy prices](#) in the NYC metropolitan area, taken from the U.S. Bureau of Labor Statistics' Northeast Information Office.

Special thanks to [Hot Water Solutions](#) for providing photos used for the cover and on pages 3, 4, 8, 16 and 21.



# Building solutions for climate change

## Tank to Tap

Scaling heat pumps for water heating  
in New York's single-family homes

### Urban Green staff

#### Project leads

Aaron Cole

*Coordinator, Research*

Adam Schiabor

*Associate Director, Research*

#### Project team

Laura Cerón Melo

*Manager, Communications*

Chris Halfnight

*Chief Operating Officer*

Danielle Manley

*Associate Director, Policy*

Sheena McDermott

*Senior Director, Communications & Development*

Jada Shannon

*Associate, Communications*