



# Sense's remote assessment drives consumers to reduce residential energy use and improve their homes

**18%** report HVAC or other major system upgrade

In 2022, the New York State Energy and Research Development Authority (NYSERDA) contracted with Sense as part of a competitive solicitation to understand the best practices and benefits of virtual energy assessments. The pilot, which ran through 2024, was designed to help understand how a standardized remote energy audit could both engage consumers and scale the delivery of energy audits. The goal was to enable NYSERDA to scale their traditional in-home program to tens of thousands more residents in an effort to meet New York's ambitious decarbonization goals. Leveraging Sense's high-resolution data, we created a remote assessment for 250 New York residential customers, delivering a comprehensive snap shot of their home's performance – including detailed device information and benchmarks – and recommendations to lower their energy consumption and improve their homes. Consumers embraced the reports, finding new insights about their home's performance as well as energy savings.



# Approach

To maximize impact, Sense recruited existing Sense Home Energy monitor users as well as new homeowners in New York who could potentially benefit from energy efficiency and electrification upgrades. Sense first developed a remote home assessment completed live by phone with a limited number of users in order to test the approach. Sense used these initial customer interviews to validate insights from our data science team and gather additional home information and feedback. This approach was then used to develop automated home assessments through the Sense digital customer experience for the remaining participants to prove that the program could scale.

Sense assessed 250 participant homes across the state of New York and promoted dozens of energy saving measures. Sense data was used to identify inefficient homes, assess the home's energy profile, and find equipment in the home that was ripe for upgrade. Participants were then provided a detailed home assessment report and guided to connect with qualified contractors and take advantage of state and local programs to help offset energy efficiency and electrification upgrade costs.






## Your Home Overview

### Home Summary Details

Home Type	Single Family
Total Square Feet	2000
Year Built	1900s
Basement Type	Partially Finished
Number Of Occupants	4
Heating Type/Fuel	Furnace / Natural Gas
Cooling Type	Central AC
Solar	No



### Your Efficiency Breakdown

Type	Rating	Description
 Cooling	<b>Fair</b>	12 year old Central AC with a 14.5 SEER rating used for primary cooling. Programmable thermostat(s) used for control. High opportunity for improvement.
 Heating	<b>Excellent</b>	12 year old high efficiency Natural Gas Furnace with a 96 AFUE rating used for primary heating
 Water Heater	<b>Fair</b>	Home equipped with a 5 year old Natural gas Tank water heater with a 0.69 UEF rating. High opportunity for improvement.
 Sealing & Insulation	<b>Good</b>	Some air sealing and insulation improvement have been completed. However, there is opportunity for improvement.
 Major Appliances	<b>Fair</b>	Most of major home appliances are not energy efficient. High opportunity for



A key component of the approach was to make the recommendations actionable by connecting customers to additional resources, available funding sources and referring them to appropriate contractors.

Sense also recruited select contractors and provided them with copies of the home assessment reports to help spur action on key recommendations with customers.



## Top Recommendations

Our **top 3** recommendation that will have an immediate impact on improving the comfort of your home and lowering your energy bill.

### 1 Blower Door Test / Air Sealing & Insulation

Have a professional contractor conduct a [Blower Door Test](#) to identify [air sealing and insulation](#) opportunities.

**Why?** Proper sealing and insulating saves an average of 15% on heating and cooling costs. Improve home comfort, reduce noise and stop infiltration of pollen, dust and pests.

Check eligibility for [NYSERDA's Comfort Home](#) and [NationalGrid's Total Home Comfort](#) Programs:

Next Step

### 2 Air-Source Heat Pump

[Air-Source Heat Pumps \(ASHP\)](#) provide highly energy-efficient combined heating & cooling.

**Why?** ASHPs are so efficient they produce 3x more heat energy than consumed electrical energy. Compared to standard systems, heat pumps cut 4,500 lbs of greenhouse gas emissions over the system lifetime.



Your Energy Use provided participants a summary of key areas to investigate energy use and look for savings opportunities in the home.



## Your Energy Usage

### Breaking Down Your Usage TOP CATEGORIES



■ Always On ■ Cooling ■ Refrigeration ■ Lightning

59% of your annual energy bill is spent on these top 4 categories.

### Comparing Your Cooling SUMMER ENERGY USE (KWH)

Your Home

2005 kWh

Efficient Homes In NY

1021 kWh

Based on Sense homes of a similar size in your area

Your total cooling usage last summer was higher than similar efficient Sense homes

# Impact

Sense conducted a participant survey to understand engagement with the process and any actions they took or impacts from receiving the home assessment. Overall, 82% of participants recalled reviewing the report and indicated favorable views of the report's usefulness and high likelihood of recommending the report to friends or family.

A detailed energy analysis was completed using Sense's whole home and device-level data as compared to control groups and historical data. Interestingly, participants that reported a major upgrade had a 9.7% average increase in winter energy consumption compared to the previous year after controlling for weather differences. Other participants and the control group had no significant change. This impact is likely due to increased electrification of space heating, which is a critical component of New York's climate action plan.

One in three respondents indicated they'd taken action as a result of receiving the report.

Here's what they did:

- ✓ 7 installed air-source heat pumps/ductless minisplits and/or heat pump water heaters
- ✓ 23 appliance upgrades, including heat-pump dryers
- ✓ 59 quick fix actions taken
- ✓ 72 low-cost or no-cost behavioral changes
- ✓ 20 comprehensive projects including a blower door test, air or duct sealing projects, adding more insulation, upgrading windows, having an HVAC system tune-up, and/or installing a smart thermostat

# 56%

## Customers

Reviewed their report multiple times

# 6.3%

## Savings

Average energy savings summer of 2023 for engaged participants

# 42%

## Customers

Reported making an effort to save energy



## What's Next

New York is all-in on the energy transition. In May of 2024, it became the first state to offer home energy rebates funded through the Inflation Reduction Act, making more than \$300 million for updates like insulation and air sealing and heat pumps for space and water heating. Connecting residents with these programs is vital to meeting the state's decarbonization goals.

Sense's remote home assessment reports have the potential to scale to over 1 million residential customers in upstate New York thanks to National Grid being one of the first utilities nationwide to deploy Landis+Gyr's Revelo meters embedded with Sense's technology. As customers connect their new meters with the Sense app, they receive free access to ongoing information and insights about how their home is using energy. Sense is looking to incorporate elements from the home energy assessment into the standard app experience, enabling on-demand access to performance snap-shots of their home

Sense is also investigating ways to leverage AI to help further personalize recommendations and enhance them over time based on user preferences and what they've already done at home. Our goal is not only to provide a one-time snapshot, but to continue to engage customers over time with new interactive features and reduce friction for them to access discounts and special offers for new efficient and electric equipment.

Learn more about how Sense drives electrification, energy efficiency, and demand flexibility:

 <https://sense.com/utilities/>

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