

# Home Energy Assessment



**NYSERDA**  
Participating Contractor

Congratulations on taking an important first step! An energy assessment through NYSERDA's **Residential Energy Assessments** Program can help improve your home's energy usage.

**NYSERDA** has completed a thorough energy assessment at the home of **SW Test 1**, located at **SW Test 1, Schenectady, NY 12345**. The energy assessment report will help you understand your energy usage. This report lists recommendations to help you save money on your energy bills, improve energy efficiency, and make your home safer and more comfortable. The energy assessment report will also help you understand which parts of your home are working well already.



## Summary of Your Home's Current Energy Assessment

Category	Needs Improvement	Fair	Good
<b>Building Envelope</b> (Page 2)	✓		
<b>Heating and Cooling</b> (Page 3)	✓		
<b>Water Heating</b> (Page 4)		✓	
<b>Appliances and Lighting</b> (Page 5)	✓		

Based on your existing energy usage, you could save **647.3** therms in energy usage by following the recommendations in this report. The details are on the following pages. A therm is a standard unit used to measure energy use.

### Assessment Prepared By:

Company Name: NYSERDA

Assessor Name: Steve Wagner

Assessor Email: [steven.wagner@nyserda.ny.gov](mailto:steven.wagner@nyserda.ny.gov)

Company Phone:

Company Website:

Completed Date: February 6, 2023

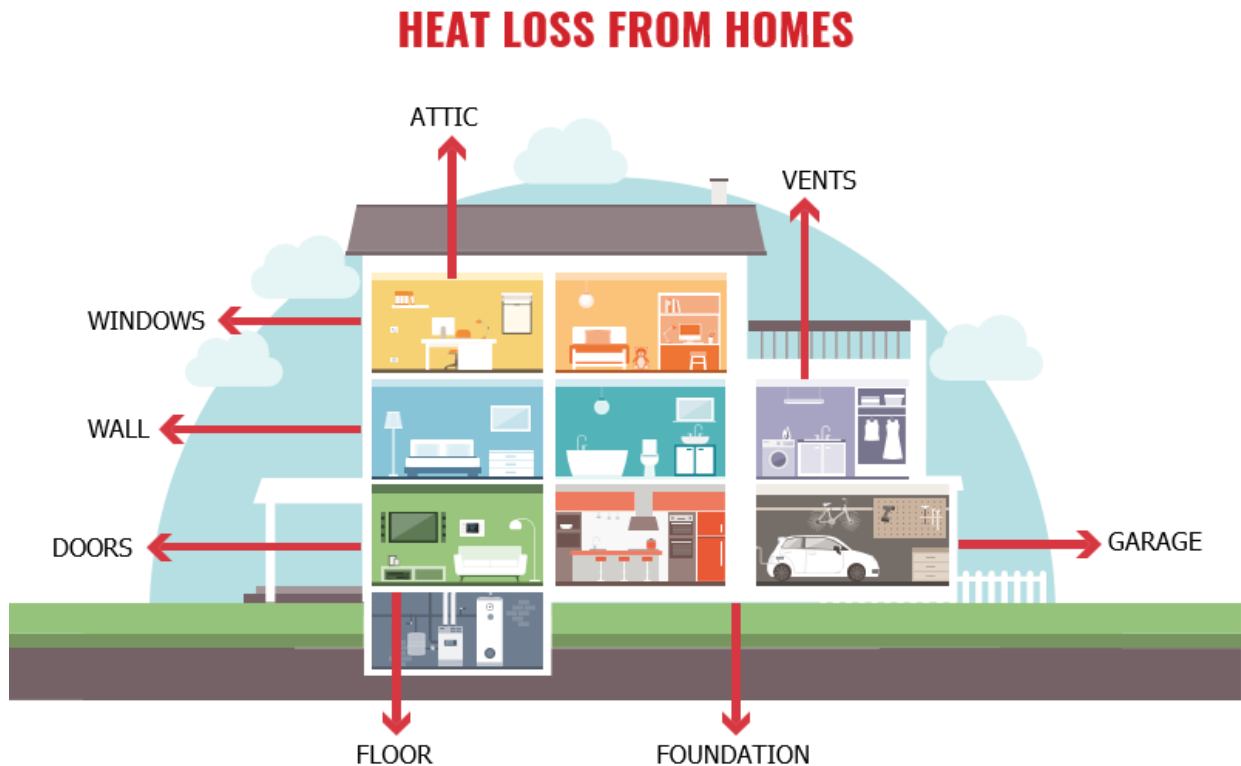
*This report is informational only. It is not an approval document for financing, rebates, or discounts by NYSERDA or your contractor.*

## Building Envelope

**What It Is:** Your home's "Building Envelope" separates the interior from the outside. Roofs, walls, windows, and doors are the main parts of a building envelope. The insulation levels in your home, the amount of air leakage, and the quality of windows and doors are important energy considerations. They determine the strength and quality of the building envelope. They also contribute to the comfort of your home.

**Why It Matters:** Air sealing and insulation are your home's primary way to stop heating and cooling loss. A sealing and insulation upgrade is usually first. That's because it is practical, cost-effective, and the difference can be felt immediately. The effectiveness of insulation is based on something called an "R-value." The higher the R-value, the better. A high R-value means slower heat loss/gain, lower energy bills, and a more comfortable home. The right amount of insulation is key to lowering your heating and cooling costs. Insulation increases the comfort of your home. The Environmental Protection Agency estimates that homeowners can save an average of 15% on heating and cooling costs (or an average of 11% on total energy costs) by air sealing their homes and adding insulation in attics, floors over crawl spaces and basements.

Windows are also part of your home's building envelope. Replacing old, drafty windows with ENERGY STAR® certified windows reduces drafts in the winter. These types of windows keep cool air inside during the summer and warm air inside during the winter and can help lower your energy bills.



### Recommendations for your home:

Category	Existing Condition	Existing Condition Rating	Recommendation
<b>Attic Insulation</b>	6" Fiberglass-Batts	Fair	10" Cellulose
<b>Wall Insulation</b>	2" Fiberglass-Batts	Needs Improvement	4" Closed Cell Foam
<b>Foundation Insulation</b>	0" NONE		1" Closed Cell Foam
<b>Air Leakage</b>	Leaky	Needs Improvement	Air Seal - Attic Plane, Plumbing Penetrations
<b>Dominant Window Type</b>	Single-Pane	Needs Improvement	Upgrade to ENERGY STAR Windows

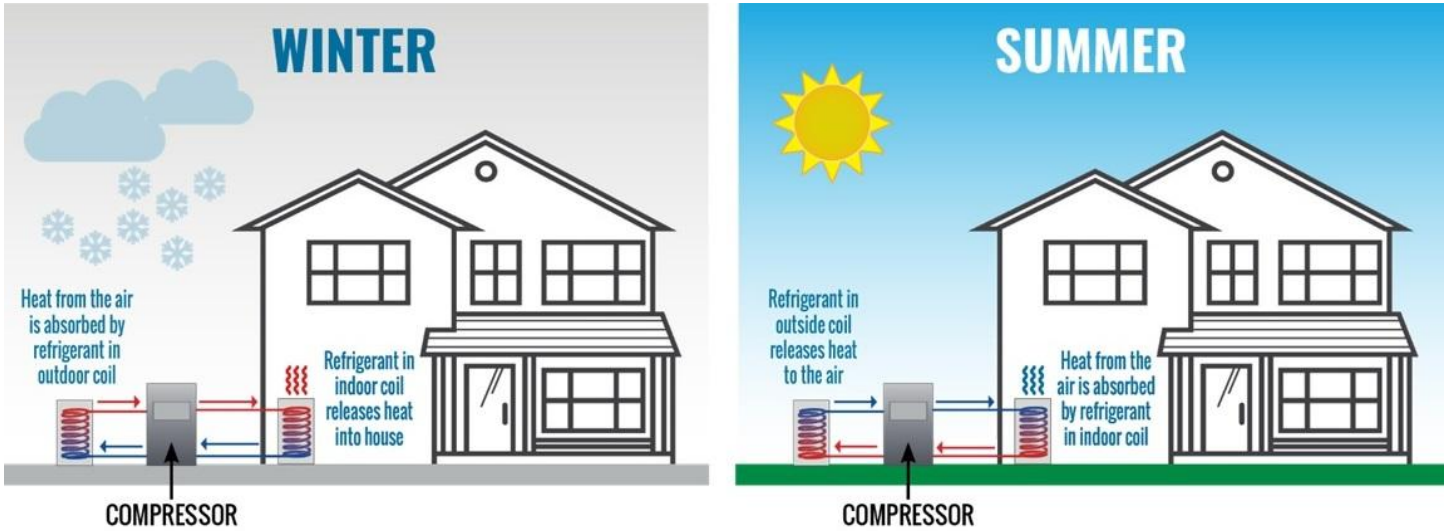
**Annual Savings Potential of Building Envelope Recommendations: 249.1 therms.**

# Heating and Cooling Systems

**What It Is:** The heating and cooling system is a main part of your home's energy performance. When it is time to replace your heating and/or cooling system, consider an **air source heat pump**.

**Why It Matters:** Air source heat pumps are like an air conditioner that works in reverse. During warmer months, a heat pump is used in cooling mode and moves heat inside your house to the outside. During colder months, the heat pump is used in a heating mode. It transfers heat from outside air into your house. Yes, even the cold winter air contains a certain amount of heat. That heat can be used to warm your home! A single heat pump unit can provide comfortable temperatures by both heating and cooling your home year-round. Heat pumps come in a variety of sizes and styles. They can be designed to fit almost every housing style.

In addition, an ENERGY STAR-certified smart thermostat can help reduce energy bills, enhance your comfort, and control temperatures and preferences. Those settings are based on your lifestyle. Smart thermostats will automatically adjust heating and cooling temperatures in your home. They ensure optimal performance and energy savings.



## Recommendations for your home:

Category	Existing Condition	Existing Condition Rating	Recommendation
Primary Heating System	Boiler Hot Water, 80% Efficiency	Fair	No Recommendation
Primary Cooling System	Central Air Conditioner, 17 SEER	Good	No Recommendation
Thermostat	Manual	Needs Improvement	Wi-Fi Thermostat
Duct Work	Basement - uninsulated	Good	No Recommendation

**Annual Savings Potential of Heating and Cooling Recommendations: 69.5 therms.**

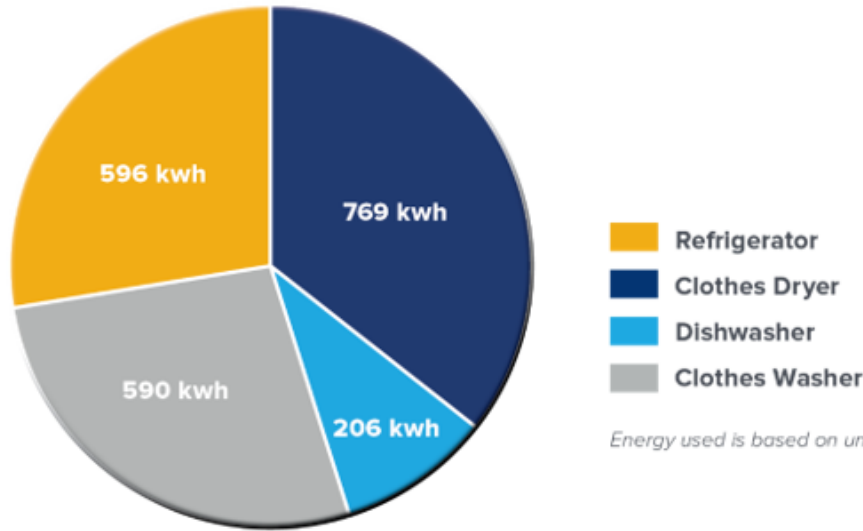
## Appliances and Lighting

**What It Is:** Appliances and lighting are major contributors to energy usage in your home.

**Why It Matters:** Are you considering purchasing a new appliance? If so, get the most savings by buying ENERGY STAR models. Products that have the ENERGY STAR label can help you save money on operating costs without sacrificing performance. You can check your local utility website to see if they offer rebates on ENERGY STAR appliances.

ENERGY STAR-certified LED bulbs can use up to 75% less energy than incandescent bulbs. LED bulbs can last 10-25 times longer. Switching to more efficient bulbs and fixtures is one of the easiest ways to save money and energy. Also consider lighting controls such as dimmers, motion sensors, Home Energy Management Systems, and/or photosensors. They also help save money on lighting costs.

### ENERGY USE OF STANDARD HOUSEHOLD APPLIANCES



Energy used is based on unit energy consumption in kwh. (Source: U.S. EPA)

#### Recommendations for your home:

Category	Existing Condition	Recommendation
Primary Refrigerator	Needs Improvement	Upgrade to ENERGY STAR
Dehumidifier	Needs Improvement	Upgrade to ENERGY STAR
Lighting	25% Incandescent, 25% CFL, 50% LED	Replace with LED Lighting

#### Annual Savings Potential of Appliances and Lighting Recommendations: 1916.5 kWh

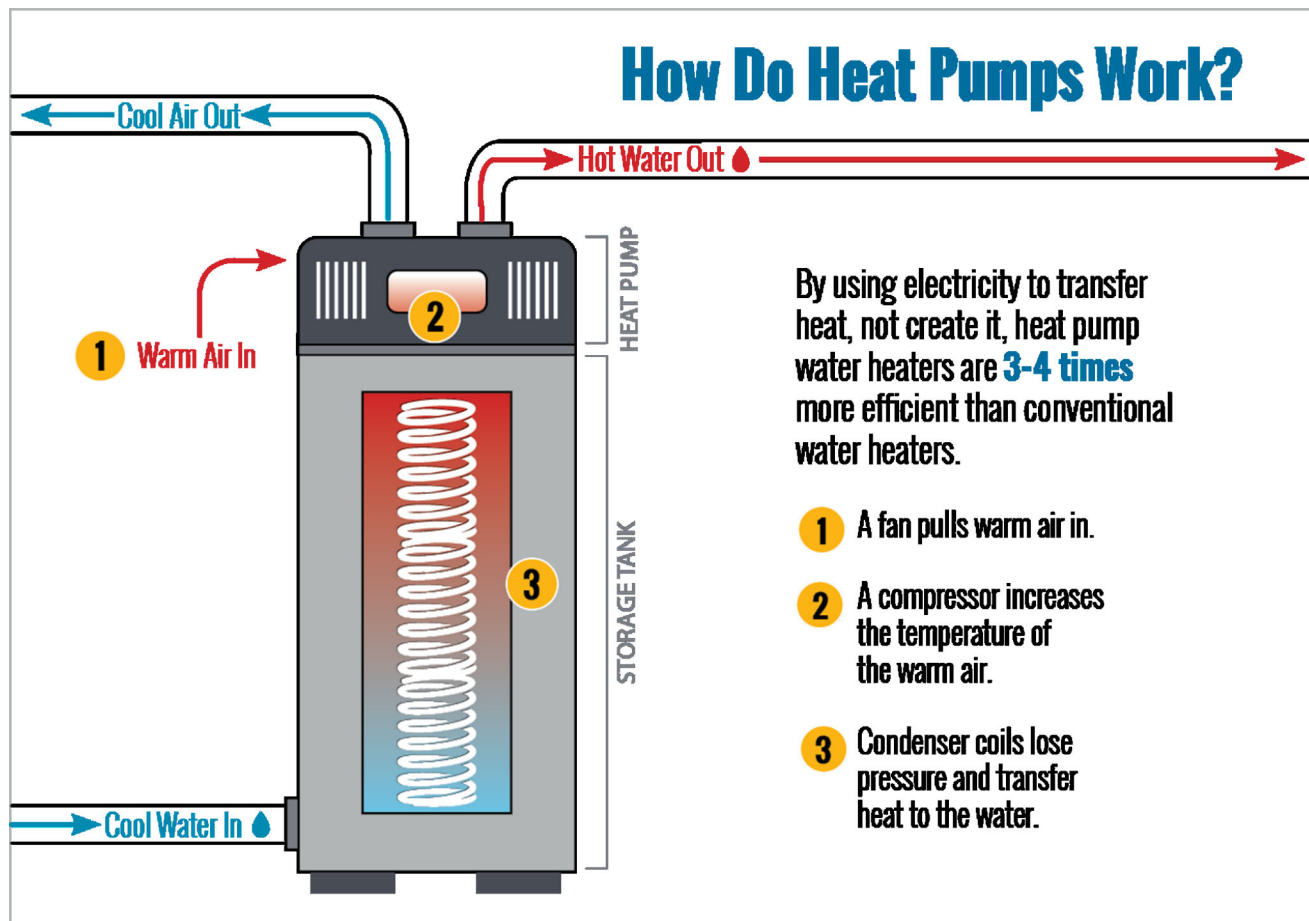
A Kilowatt-hour (kWh) is the standard unit used to measure electricity use.

## Water Heating

**What It Is:** Water heating is typically the second-largest energy expense in a home. It can cost the average household approximately \$400–\$600 each year. Properly taking care of your water heater and choosing high-efficiency equipment can help you save energy, improve the comfort of your home, and contribute to a cleaner environment.

There are several options for water heaters. Heat pump water heaters are one of the best options currently available to consumers.

**Why It Matters:** A heat pump water heater may be a good choice as you decide to electrify your home. A heat pump water heater takes the heat from surrounding air and transfers it to the water in the enclosed tank. Your specific savings will vary. The amount you spend or save is based on the size of your family, the location of the unit, and appliance types. You can make some simple changes to reduce the energy consumed by your hot water heater by reducing the thermostat settings. And you can save water and energy by installing low-flow shower heads and faucet aerators.



### Recommendations for your home:

Category	Existing Condition	Existing Condition Rating	Recommendation
Water Heating System	0.70 UEF Standard DHW Tank	Needs Improvement	2.8 UEF Heat Pump Water Heater
Pipe Insulation	1 inch Copper	Needs Improvement	9 Feet Rigid Foam/Cellular Glass

**Annual Savings Potential of Water Heating Recommendations: 193.0 therms**

## Health, Safety, and Other Considerations

The conditions listed below were seen during your home energy assessment. Although they may not have a direct effect on your energy use, you may want to consider upgrades to maintain the overall condition of your home.

Gas Leak

Notes from Steve Wagner:

**Energy Efficiency** - The concept of using less energy to provide the same service.

**Air Sealing** - The practice of installing appropriate materials, such as caulk or foam, to reduce air leaking in and out of your home.

**Insulation** - Any material that slows heat transfer. Any surface in your home that separates the interior from the exterior should be insulated. Common insulation types include fiberglass, cellulose (commonly made of recycled material), and foam.

**Annual Fuel Utilization Efficiency (AFUE)** - The measure of the efficiency of your heating furnace or boiler. It takes into account the on/off cycles of operation, variations in temperature, thermostat adjustments.

**Heating Seasonal Performance Factor (HSPF)** - The measure of the efficiency of a heat pump operating in the heating mode. It takes into account the variations in temperature that can occur within a heating season.

**Seasonal Energy Efficiency Ratio (SEER)** - The measure of the energy efficiency of a central air conditioner or heat pump. It takes into account the variations in temperature that can occur within a cooling season.

**Uniform Energy Factor (UEF)** – The measure of a water heater's overall efficiency. The higher the UEF rating, the more efficient the water heater. UEF is based off of how much energy the water heater uses and how much energy is used to power the water heater itself.

## Next Steps

Contact NYSERDA to discuss upgrading your home based on the recommendations in this report. To learn more about financial assistance and other resources that may be available to you, review the information below.

NYSERDA's Regional Clean Energy Hubs provide a team of local, trusted, knowledgeable, community-based organizations to help New Yorkers access and navigate these opportunities. To locate a Clean Energy Hub near you and to learn more, visit: [nyserderda.ny.gov/All-Programs/Regional-Clean-Energy-Hubs](https://nyserderda.ny.gov/All-Programs/Regional-Clean-Energy-Hubs)



### **NYSERDA's EmPower+ Program**

EmPower+ provides no-cost and low-cost energy improvements to income eligible customers. Typical upgrades eligible for incentives include air sealing, insulation, appliances, and lighting. Learn more at: [nyserderda.ny.gov/empower](https://nyserderda.ny.gov/empower)



### **NYSERDA's Comfort Home Pilot**

The Comfort Home Pilot provides financial incentives for air sealing and insulation packages. It also provides a recommendation for a heat pump for a more comfortable home, and to lower your energy bills. Learn more at: [nyserderda.ny.gov/All-Programs/Comfort-Home-Program](https://nyserderda.ny.gov/All-Programs/Comfort-Home-Program)



### **NYSERDA's Residential Financing Program**

NYSERDA offers the On-Bill Recovery and Smart Energy Loans. They will help you finance energy efficiency and renewable energy improvements made through NYSERDA's programs. These loans provide lower interest rates to lower-income New Yorkers and to those who cannot qualify for traditional financing. Learn more at: [nyserderda.ny.gov/All-Programs/Residential-Financing-Programs](https://nyserderda.ny.gov/All-Programs/Residential-Financing-Programs)



### **NYS Clean Heat**

The NYS Clean Heat Program connects you to qualified contractors. They can provide customized heat pump recommendation for your home. They can also tell you about rebates available through your electric utility provider. Learn more at: [cleanheat.ny.gov/](https://cleanheat.ny.gov/)



### **Utility Rebates**

Electric and gas utilities across New York State have a variety of financial resources that help residents afford energy efficiency improvements to their home, as well as upgrade to more energy-efficient equipment. Learn more at: [nyserderda.ny.gov/Residents-and-Homeowners/Find-Contractors-and-Incentives/Home-Energy-Performance-Programs](https://nyserderda.ny.gov/Residents-and-Homeowners/Find-Contractors-and-Incentives/Home-Energy-Performance-Programs)



### **Federal Tax Credits**

Under the Inflation Reduction Act of 2022, federal income tax credits for energy efficiency home improvements are available through 2032. Learn more at: [nyserderda.ny.gov/all-programs/inflation-reduction-act](https://nyserderda.ny.gov/all-programs/inflation-reduction-act)



### **Beneficial Electrification**

Preparing to shift from fossil fuels to electric and clean energy can take time. But it makes sense to switch if you want to lower energy bills while increasing your home's efficiency and comfort. Learn More at: [nyserderda.ny.gov/-/media/Project/Common/Files/NYSERDA/Home-Electrification-Fact-Sheet.pdf](https://nyserderda.ny.gov/-/media/Project/Common/Files/NYSERDA/Home-Electrification-Fact-Sheet.pdf)