PSEG LONG ISLAND

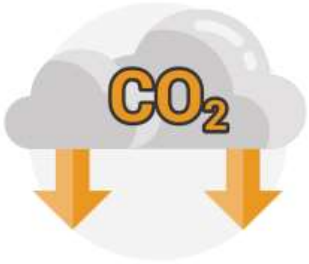
PSEG Long Island MyHEAT Users Guide

May 5, 2025

About MyHEAT

- The MyHEAT Team build's interactive tools that engage the human spirit on responsible energy use and inspire change for a better global future.
- MyHEAT's technology provides users with the visual information they need to truly understand their energy loss, increase efficiency, reduce consumption, and save money.
- MyHEAT's mission is to reduce the energy required to heat and cool buildings around the world and to empower a worldwide reduction in urban greenhouse gas emissions, one building at a time by:

1. Promote Energy Literacy



2. Reducing Consumption and GHG Emissions

3. Combating Energy Poverty

Use the following link to explore: MyHEAT Website

MyHEAT and PSEG Long Island's Strategic Partnership

- The MyHEAT team developed an aerial infrared Heat Loss Map of residential, municipal, commercial, and industrial buildings throughout Long Island and the Rockaways, New York.

- PSEG Long Island has reviewed this Heat Loss Map and found the imaging is useful for Energy Assessments and other analysis.

- PSEG Long Island has incorporated this Heat Loss Map into the PSEG Long Island Energy Efficiency Program to provide partners and customers with this detailed heat loss tool to increase heat loss awareness and display a detailed Home Energy Analysis.

Use the following link to explore: MyHEAT Website

MyHEAT's Home Energy Efficiency: A Complete Guide

How home energy efficiency works, how proper insulation can improve home efficiency, and quick tips to improve energy efficiency at home:

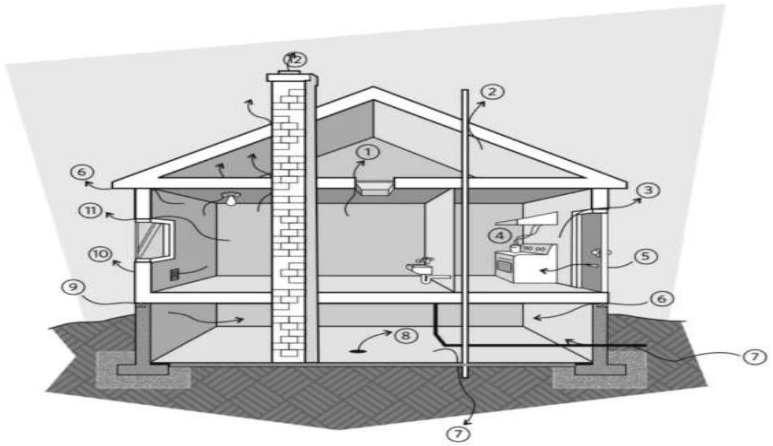
- Drafts, uneven temperatures, and high bills are signs of an inefficient home. In many cases, heating systems work overtime to compensate without making a home comfortable and still allowing heat and money to escape.

- Homes can be kept warmer in the winter and cooler in the summer by adding insulation, sealing air leaks, improving windows and doors, and upgrading mechanical systems. These upgrades can lower utility bills, while making homes more comfortable.

Find MyHEAT's HEA Complete Guide with the link below:

Key areas of your home to check for air leaks: Complete Guide

1. Attic hatch
2. Ceiling penetrations into the attic
3. Door
4. Exhaust vent
5. Mail slot
6. Sill and header
7. Service entry
8. Floor Drain
9. Foundation crack
10. Electrical Outlet
11. Window
12. Chimney



Source: Natural Resources Canada

Use the following link to explore: MyHEAT Website - Home Energy Efficiency - A Complete Guide

Home Heat Loss

Guide to Heat Loss in Homes and Buildings

- How and where does home heat loss occur, how to fix issues, and how heat loss mapping can help

Find MyHEAT's "Guide To Heat Loss In Homes And Buildings" with the link below:

- MyHEAT - Guide to Heat Loss

Causes of heat loss:

- Structural Flaws
- Inadequate insulation
- Heat transfer mechanisms
- Windows and doors
- Ventilation systems
- Behavioral factors

Heat Loss Examples

Use the following link to explore: MyHEAT Website - Guide to Heat Loss

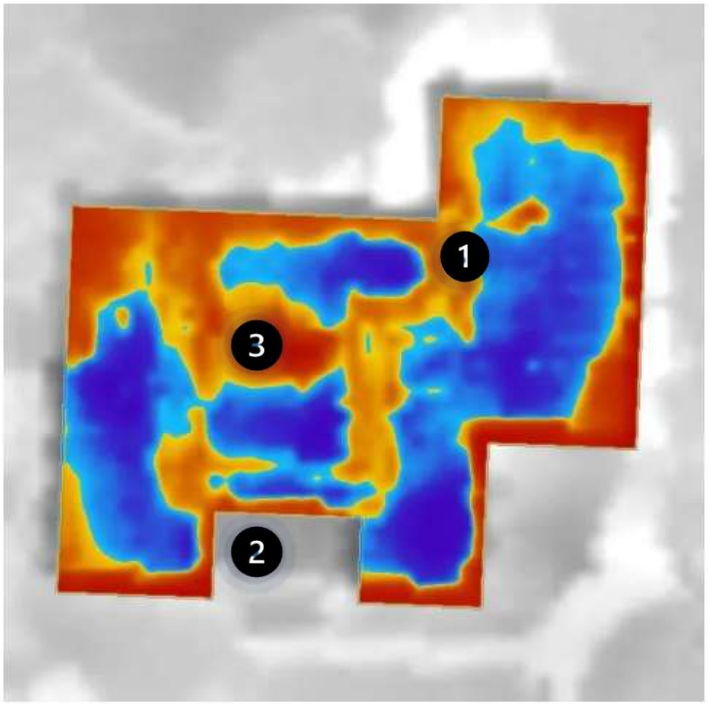
Exhibit A: 1959 Bungalow with Attached Garage

Note: HEAT Maps show red as hot, and blue as cold. The handheld IR images show white and yellow as hot, and purple and blue as cold.

1. **Chimney:** Openings for flue and combustion air creates a very large area of thermal loss, both through thermal bridging in areas with no insulation and air leakage. This is suspected to be a large area of energy loss.

2. **Entry Way:** Change in thermal pattern after applying testing pressure showed potential connection between house and garage.

3. **Heated Sunroom:** Although not included in the Heat Loss Map, this area is all glass and includes an older patio door that showed strong leakage at weather-stripping during testing. Moreover, the connection of sunroom framing to the house appears to not be fully airtight.



Note: HEAT Maps show red as hot, and blue as cold. The handheld IR images show white and yellow as hot, and purple and blue as cold.

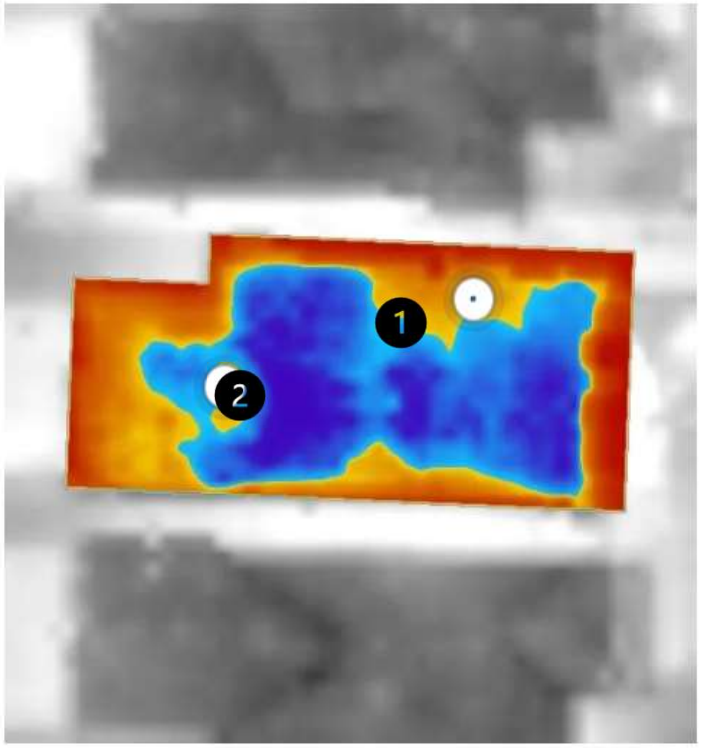
Use the following link to explore: MyHEAT Website - Case Study - Heat Loss

Exhibit B: 1959 Bungalow with Attached Garage

Note: HEAT Maps show red as hot, and blue as cold. The handheld IR images show white and yellow as hot, and purple and blue as cold.

1. **Attic Hatch**: Large leakage area noted around the attic hatch and the trim that surrounds it. This would allow large amounts of warm humid air to pass during the winter, which can lead to dampness that promotes mold growth as suspected on the insulation blocking around the opening.

2. **Garage Wall:** Suspected poorly sealed connection between wall and floors that separate the house from the garage. This would result in additional energy loss and risk of durability issues.



Note: HEAT Maps show red as hot, and blue as cold. The handheld IR images show white and yellow as hot, and purple and blue as cold.

Use the following link to explore: MyHEAT Website - Case Study - Heat Loss

Exhibit C: 1976 2 Story with Attached Garage

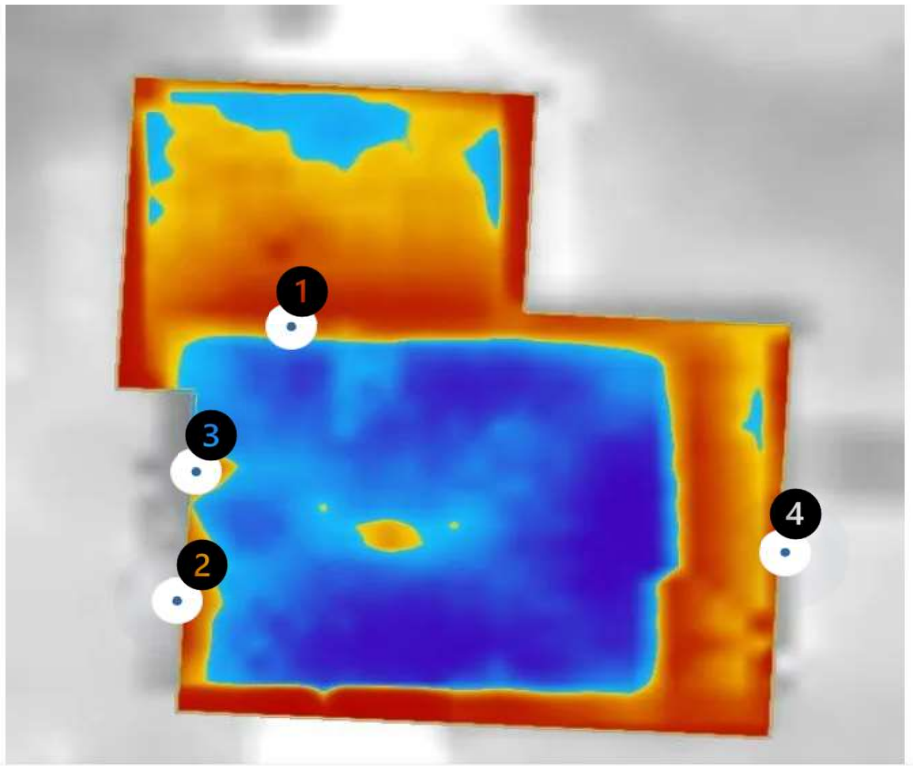
Note: HEAT Maps show red as hot, and blue as cold. The handheld IR images show white and yellow as hot, and purple and blue as cold.

1. **Garage Wall:** Wall between the house and the garage is showing areas of air leakage. Under normal conditions, this warm air will travel up the plumbing and electrical penetrations, laundry vent and into the garage attic.

2. **Fireplace:** Replacement gas insert showing strong leakage around the edge—indicating poor seal of new unit to the existing chimney. Combined with warm house air leaking up the chimney, this creates a greater level of heat loss.

3. **Mechanical Vent:** Metal B-vent is unsealed and strongly leaking. Warm house air will rise up this chase wall, which is unsealed at the attic level. Plastic side venting furnace vents also appear to be unsealed.

4. **Living Room:** Poorly fit insulation and heavy thermal bridging creates a cold area along the living/dining room ceiling. This area shows suspected air leakage after testing the air pressure applied.



Use the following link to explore: MyHEAT Website - Case Study - Heat Loss

The Results

In each home, a detailed Heat Loss image was reviewed while on-site. When comparing these images with the findings of the in-home audits, 4 Elements reported these findings:

1. Overall, the MyHEAT imagery supported and reinforced findings based on the blower door testing, thermography and the investigator's own knowledge of construction over various ages of homes.

2. In all cases, the investigation revealed potential thermal and air tightness issues such as poorly sealed attic hatches, plumbing stacks and mechanical chases, **which all appeared to match areas of high heat loss on each HEAT map**.

3. In the least upgraded homes, there was a stronger relationship between the findings of the evaluation and major indicators from the MyHEAT image.

4. The HEAT Map provided the most relevant information on the least efficient homes.

"After working with the MyHEAT images in detail while reviewing these existing homes, **it is clear that the images provide real and relevant information in understanding the performance and energy efficiency opportunities of existing homes.**" – Tyler Hermanson, 4 Elements.

MyHEAT – Analysis of Results

During a recent analysis performed by the TRC – PSEG Long Island team, the following items were identified and worth noting as potential heat loss signature readings:

- Trees - The shading from trees can influence readings
- Utility Equipment: Boilers, Furnaces, Hot Water Heaters or other HVAC equipment
- Mechanical equipment, such as vents
- Solar Panels
- Construction design, light but slabs, basement, soffits, garages
- Skylights
- Doors
- Geographical location and position, such as “South Facing”

Other details that can help are:

- When was the home built? That will help understand codes/requirements when constructed.
- Modifications? If made after the thermal imagining, it will not be represented in this analysis.
- Was a HEA performed in this home?
- What emissivity was used during the scan? A high emissivity of a material comes together with a high absorptance. Objects with lower emissivity emit less light but also reflect or scatter more light. The connection between emissivity and absorptance (reciprocity principle) is expressed by Gustav Kirchhoff's law of thermal radiation.

Questions? Contact the Home Performance Team

For questions/comments/support regarding the PSEG Long Island Home Energy Assessment or Home Performance with ENERGY STAR®:
HomePerformanceLI@pseg.com

For questions/comments/support regarding the MyHEAT tool, please refer to the Guide for Heat Loss in Homes and Buildings:
https://myheat.ca/home-heat-loss-a-complete-guide/

Additional program information and resources for contractors:
https://www.psegliny.com/saveenergyandmoney/homeefficiency/homeenergyassessment/forcontractors