



**Go Green,
Save Money,
Insulate Now!**

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INSULATION

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Energy Star
HOME
PERFORMANCE
ENERGY STAR

BPI
BUILDING PERFORMANCE INSTITUTE
ACCREDITED
CONTRACTOR

A look at the Empower Program

HOWARD FALKOW, CO-OWNER

DEBBIE FALKOW, CO-OWNER

Behind the Scenes w/Empower

- ▶ **Goals of our presentation**
- ▶ Discuss how the EMPOWER Program helps its clients
- ▶ How we obtain clients as Accredited Contractors w/i NYSERDA
- ▶ Things we can do for the clients home – Renter or Owner
- ▶ Empower Audit – Electrical Reduction or Home Performance
- ▶ Implementation of Eligible Measures
- ▶ Other options to help the home.

Back Office Paperwork to Determine Eligibility



Submit Application

Receive referral from Empower

Or

Submit application for approval



Collect Utility Info

Collect 12 months of Utility Usage

Or

Energy Usage Waiver



Financial Eligibility

Client proves their eligibility by providing:

Pay Stubs or Tax Returns

What happens next?

The field process.

- 
- ▶ **Schedule an appointment to perform an audit**
 - ▶ **Perform the Audit – 1-2.5 hours depending upon home size**
 - ▶ **Collect the data**
 - ▶ **Enter Data into system and build job scope for home**
 - ▶ **Submit to NYSERDA for Approval**
 - ▶ **Schedule the work**
 - ▶ **Install Measures**
 - ▶ **TEST OUT**

Building Science Lesson

Common House Problems That Cause High Energy Costs and Sacrifice Comfort

Many homes have these problems which may go undetected by the homeowner without proper diagnostic performance testing. The problems are color coded in the diagram below.

Problem: Inadequate Insulation Levels

- Effects:**
- Warm and cool air escapes, causing heating and cooling equipment to work harder than necessary
 - Ice damming may occur, leading to roof and ceiling leaks
 - Freezing pipes

Problem: Air Leakage

- Effects:**
- Drafts and cold spots
 - Overworking of heating and cooling equipment
 - Moisture problems leading to peeling, paint, mold, mildew or structural damage in walls and attic
 - Inadequate air exchange causing unhealthy air quality, high humidity or dryness

Problem: Inefficient Heating Systems

- Effects:**
- Uneven room temperatures due to low air flow
 - High energy costs due to equipment that's older than ten years old with low efficiency ratings
 - Reduced system efficiency due to oversized and/or poorly maintained equipment

Problem: Inefficient Central Air Conditioning Systems

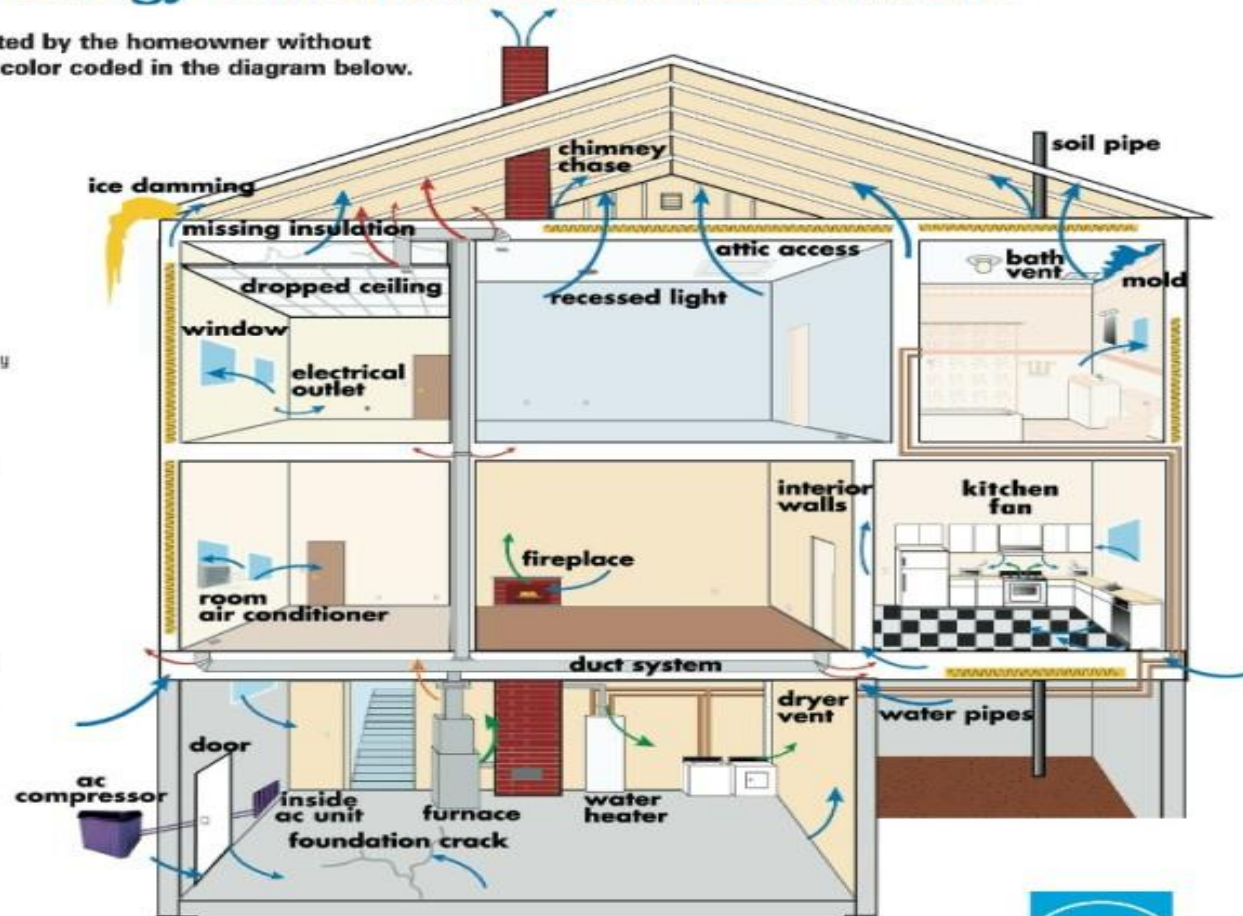
- Effects:**
- Refrigerant undercharging or overcharging may lead to premature compressor failure
 - Low air flow may be caused by dirty inside coils, closed registers or inadequate duct sizing
 - Incorrectly wired thermostats and other controls can affect system performance
 - Oversized or improperly serviced equipment reduces efficiency

Problem: Duct Leakage

- Effects:**
- Uneven distribution of warm or cool air
 - Uncomfortable room temperatures
 - Poor heating and cooling equipment performance

Problem: Improperly Vented Appliances

- Effects:**
- Dangerous carbon monoxide fumes can enter the living space when gas or oil-fired appliances are not vented properly. This is known as backdrafting and often occurs with poorly vented heating systems, stoves, water heaters, and clothes dryers.



Audit Types for Empower Clients

Electrical Reduction Audit

- ▶ Replace Fridge or Freezer
- ▶ Replace Light Bulbs
- ▶ Check for minor health and safety issues – Smoke and CO Detectors
- ▶ Provide helpful energy savings tips to reduce electrical usage.



Home Performance Audit

- ▶ Check Homes Air Tightness
- ▶ Check Combustion Appliances
- ▶ Evaluate Electrical Usage
- ▶ Look for Health & Safety Issues



How we save money for our clients

- ▶ Reduce Gas, Propane, Oil and Electrical usage.
- ▶ Upgrade Insulation in Attics, Walls, and Basements
- ▶ Coordinate the replacement of Boilers and Furnaces
- ▶ Replace Light Bulbs
- ▶ Replace Fridge and Freezer



Identification of Health & Safety Issues

- ▶ Natural Gas Leaks
- ▶ High Levels of Carbon Monoxide - Heating Units(Furnace, HW Boilers, Steam Boilers)
- ▶ Poorly Operating Heating Units (Furnace, Boilers, and Electric)
- ▶ Failing Water Heaters
- ▶ Lack of Smoke or CO Detectors
- ▶ Faulty Ovens

Combustion Safety Testing

Bubble Gas Leak Detection



Handheld Leak Detector





Combustion Safety Testing

Insulation Process – Attic, Walls & Rim Joists

01

We reduce the air flow of a home and make it more comfortable so that clients will save money!

02

Air Sealing the Attic

03

Attic Insulation –
Blown Cellulose

04

Pull Down Stair
Cover & Whole
House Fan Covers

05

Wall Insulation –
Dense Packing from
the Exterior &
Interior

06

Basement Rim
Joist/Sill Plate -
Closed Cell Foam
Installation

Air Sealing the Attic

- ▶ Pull Down Stair Cover
 - ▶ Recessed Light Covers
 - ▶ Top Plates
 - ▶ Penetrations by others
-
- ▶ **This work tightens the home to make it more efficient**



Insulating an Attic with Cellulose

- ▶ **Cellulose Insulation –**
What is it?
- ▶ How does it get into the attic?
- ▶ Why do we use cellulose?
- ▶ Why is it more effective than fiberglass?



Insulating Walls – Exterior & Interior

Installation Methods

► Exterior

- You don't need to take down the walls to insulate them.
- Siding is removed
- 3" Holes are drilled
- A fill tube dense packs the cavity
- The holes are plugged
- Siding is returned to the house.

► Interior

- Interior Installations can be done when the siding is hard to remove
- The house is prepped as the process makes dust
- Holes are drilled every 16"
- The wall cavity is filled
- Spackled is applied to the hole

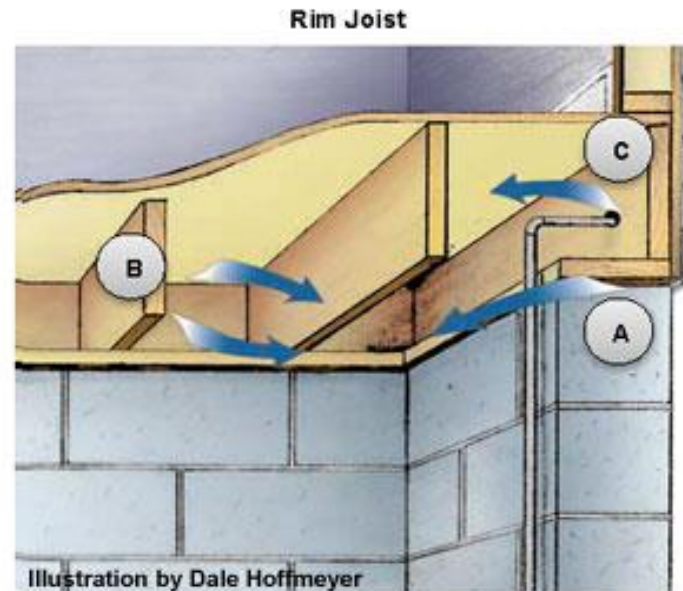
Installations – Interior & Exterior





Basement Rim Joist & Sill Plate Insulation

- A** Along the gap between the sill plate and the foundation
- B** At the bottom and top of the rim joist on each end of the house
- C** All electrical, water or gas line penetrations and any venting ducts that pass to the outside



Other Helpful NYSERDA Options

When **EMPOWER** Measures Are Not Enough:

Assisted Home Performance Grants – 50% up to \$4,000

NYSERDA On-Bill and Smart Loans – 3.49%
Financing w/No Money Down in most situations.

Credit Options

Thank you

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Debbie Falkow

MetroNYInsulation.com

845-445-8255

info@metronyinsulation.com