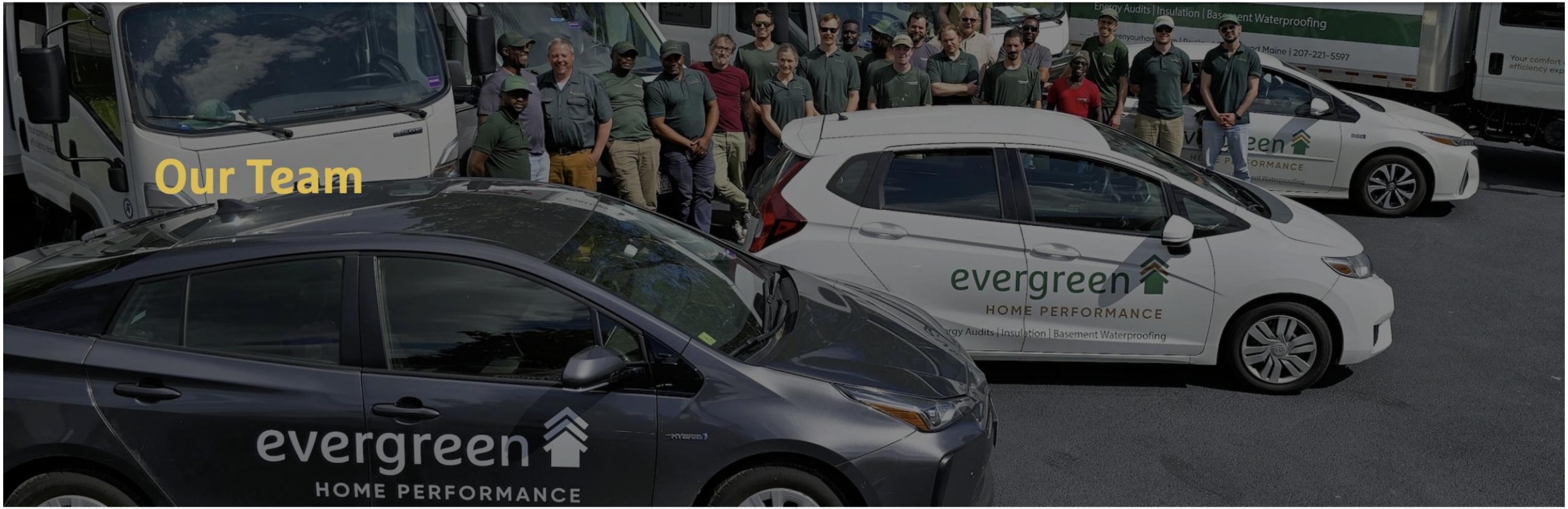
Your Home as an Energy System:

Waste, Supply & Source, oh my!



At Evergreen, we believe great homes start with a great team. From your first consult to your final walkthrough, our staff brings passion, experience, and a deep love for Maine homes to every project. Get to know the people who make Evergreen one of the most trusted names in energy efficiency and home comfort.

What are some common things that energy in our homes?

Home energy use

- Roughly 55% is space heating
- Roughly 15% is hot water (showers, dishes, clothes, etc.)
- Balance is (other) electrical & cooking (30%)

Home use = energy waste

- Most homes waste 90+% of their energy
- Many homes can easily reduce unnecessary energy waste by 75%!

Demand

What is it? What creates it?

Demand

It is what you lost & need to replace

Demand is unnecessary waste

Supply

What is it?

Supply

Is what you add to replace what you've lost!

Source

What is it?

Source

Is how you power the supply!

Demand vs Supply vs Source

- Demand (Waste)
  - Is what you lost & need to replace
  - Demand is unnecessary waste

- Supply
  - is what you add to replace what you've lost

- Source
  - is how you power the supply

Why Sequencing Matters

Investing in Eliminating Unnecessary Waste First

reduces demand FOREVER

- Cut your costs by 40% and your carbon footprint by 40% by investing in
  - Air sealing & insulating your attic (stop heating the outdoors)
  - Air sealing & insulating basement ceiling & foundation (stop heating the ground)
  - Air sealing & insulating your exterior walls (stop heating the outdoors)
  - Thermal window inserts (stop heating the outdoors)
  - Low flow showerheads & faucet aerators
  - Turn off phantom loads (chargers, etc. that always stay plugged in . . .)

Why Sequencing Matters

Invest 40% less in Efficient Supply

- Further Reduce costs by 20%, and your carbon footprint by 60% by
  - Swapping out oil or LP heating to heat pumps (maybe only 2 not 3 because you eliminated waste first)
  - Swapping out electric/oil or LP water heaters to heat pumps
  - Modernizing your appliances (clothes washer, dishwasher, refrigerator, range/oven, TV's, etc.)

Why Sequencing Matters

Switch to a Cleaner Source

- Further reduce your on-going carbon footprint 100% and costs by another 10% by investing in
  - 100% solar, wind or renewable energy sources

Why Sequencing Matters

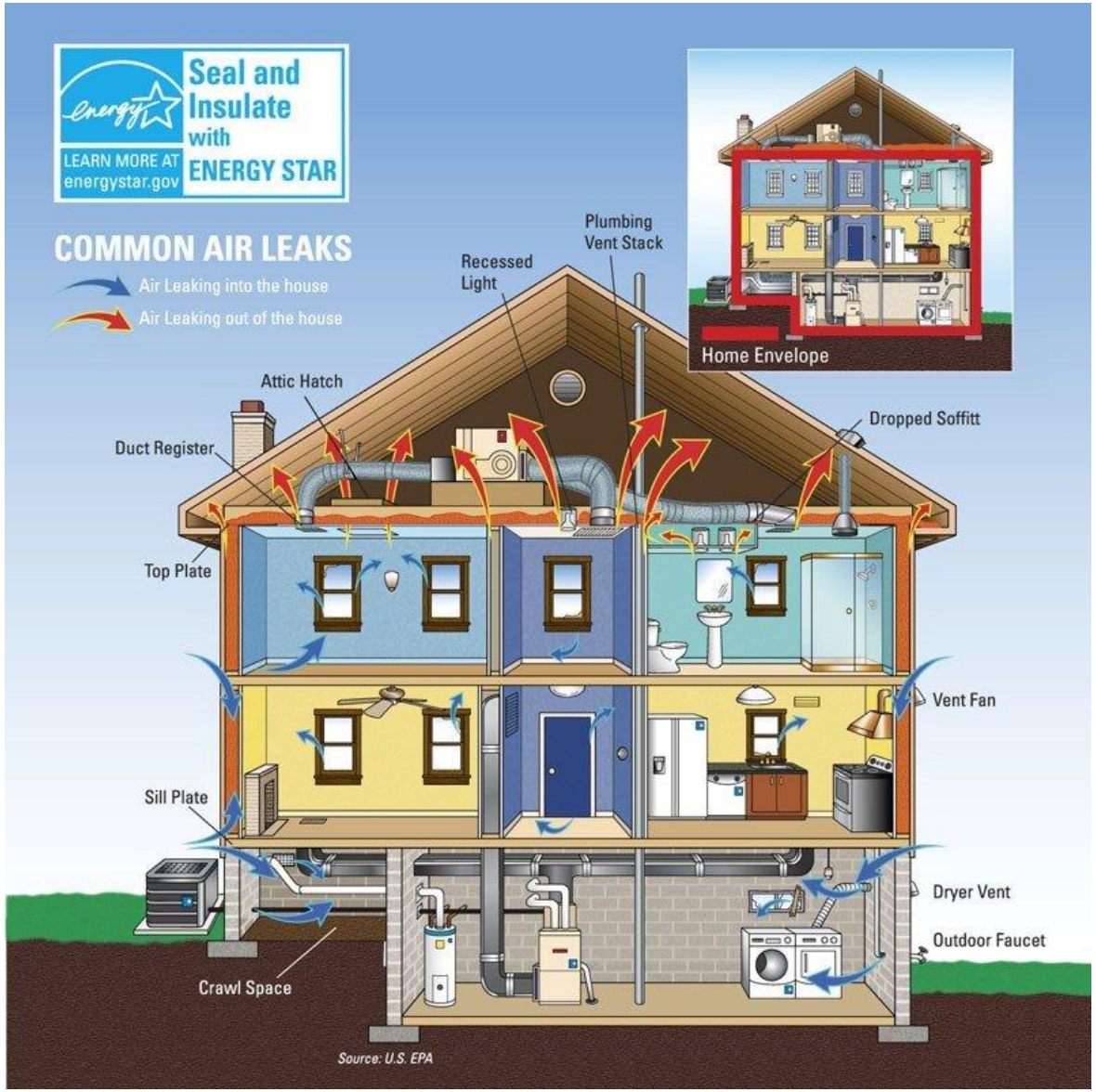
These three steps taken in this sequence can reduce your unnecessary costs by 75% and your carbon foot-print by 100% without investing in 40% more heat pumps and solar panels than you actually need

because you reduced unnecessary waste first!

Good News & Bad News

QUICK FACTS

- Nearly two-thirds of Maine households use fuel oil as their primary energy source for home heating, a larger share than any other state.
- In 2019, 80% of Maine's electricity net generation came from renewable energy resources, and hydroelectric power provided the largest share at 31%.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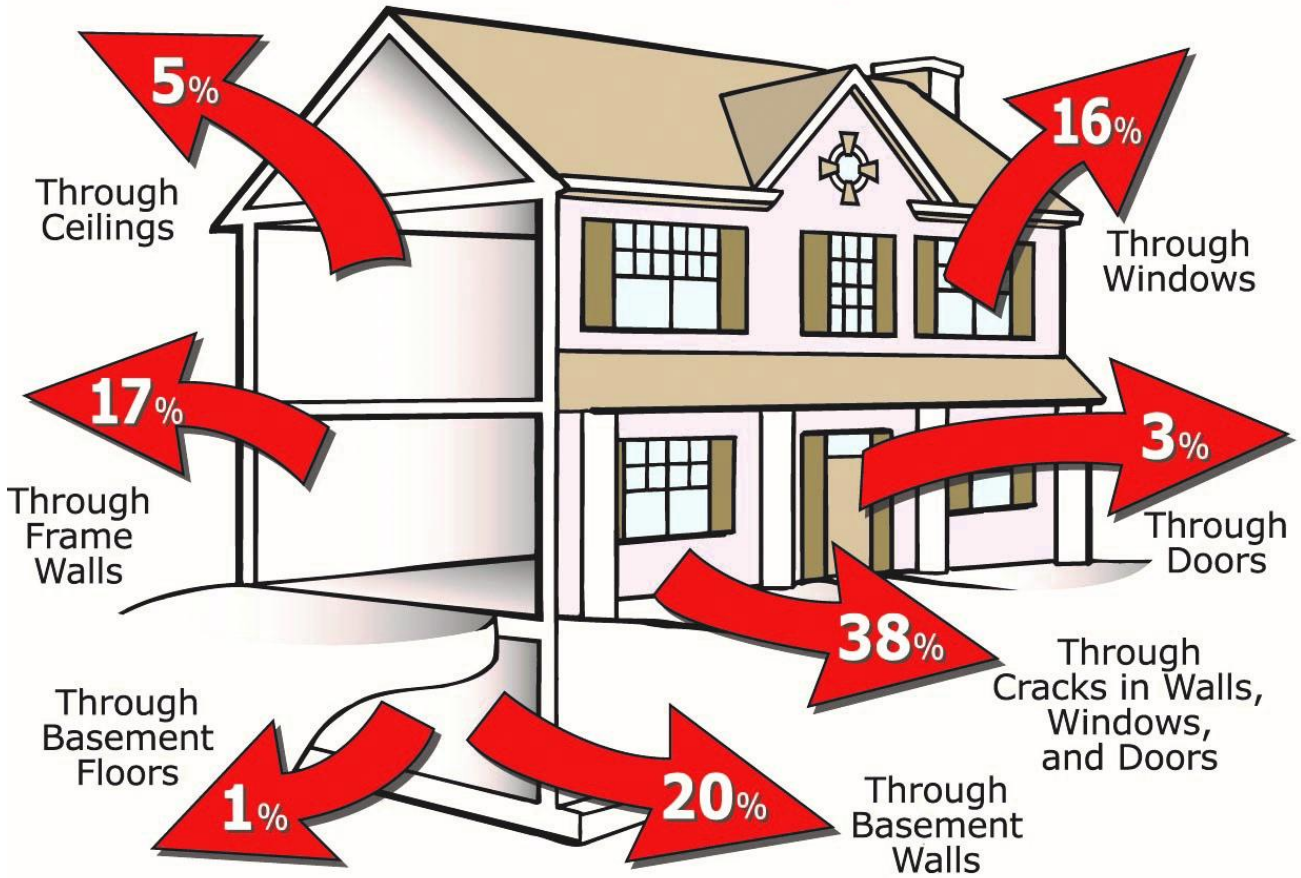
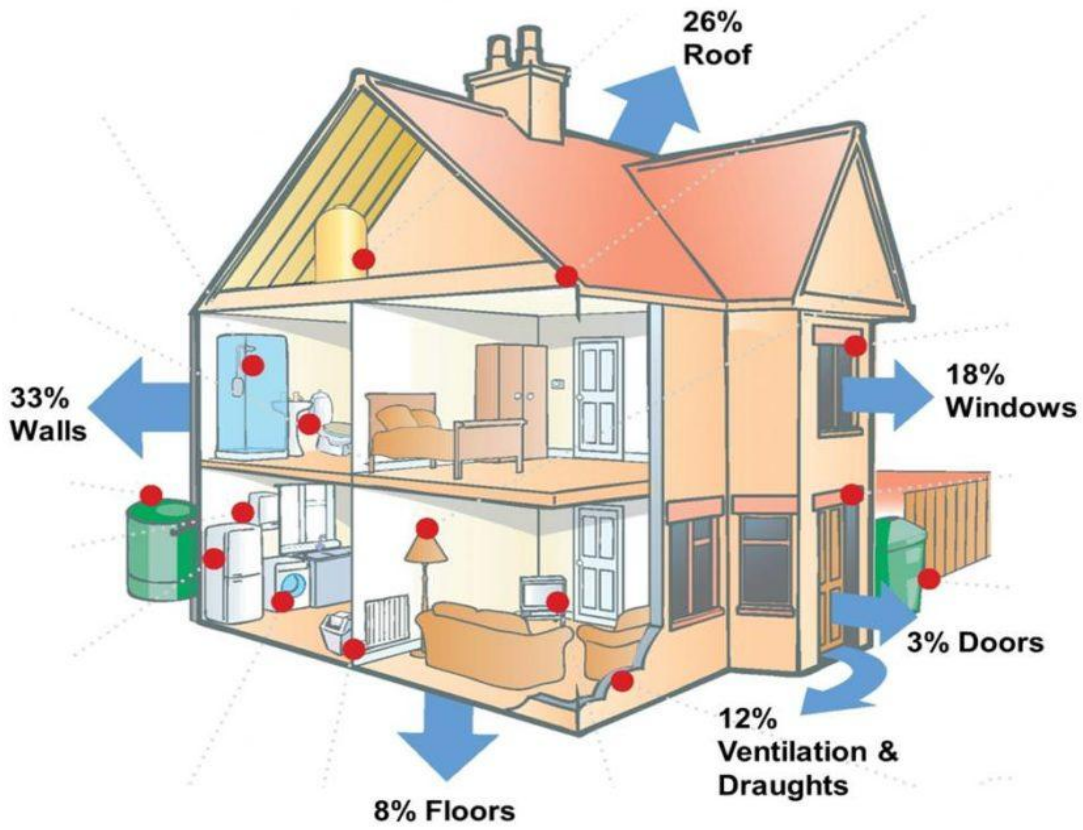
COMMON AIR LEAKS
Air Leaking into the house
Air Leaking out of the house
Home Envelope
Plumbing Vent Stack
Recessed Light
Attic Hatch
Duct Register
Dropped Soffitt
Top Plate
Vent Fan
Sill Plate
Dryer Vent
Outdoor Faucet
Crawl Space
Source: U.S. EPA

Air Leakage



Drawing courtesy of
Touch 'n Foam Insulating Sealants

Signs of Air Leakage



Thermal losses (aka where you are heating the outdoors!)


25.7~°F
=0.97
21-03
11:30

Attic with Storage

Floor Encapsulation & Insulating Ducts to Deliver Warmer Air

DIY Pipe Insulation