

WHY WE SHOULD IMPROVE THE EFFICIENCY OF OUR HOMES

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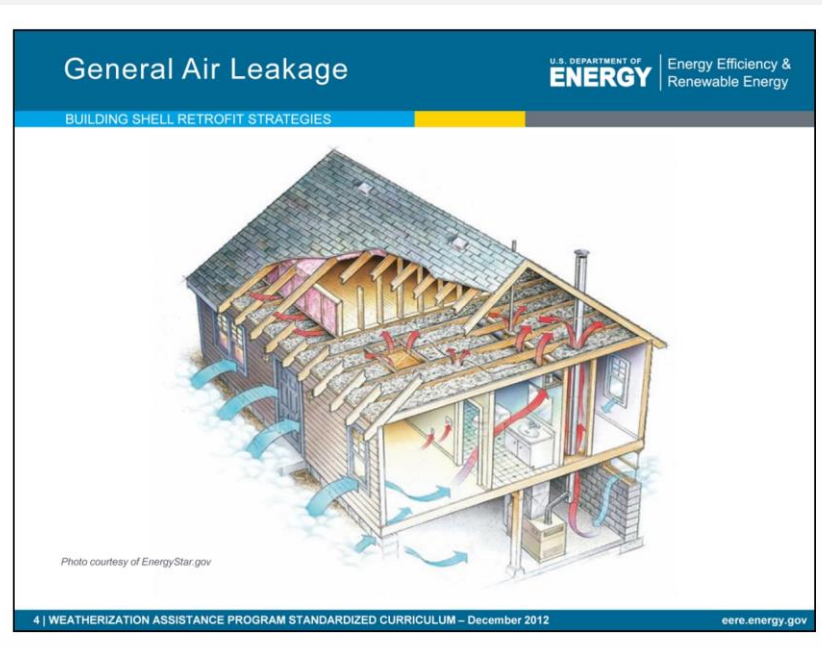
WHY SHOULD WE IMPROVE OUR HOMES?

- Health & Safety (Reducing pollutants both indoors and outdoors)
- Improved Occupant Comfort
- It saves you money
- Durability
- It helps the economy (creates jobs, saves money, creates energy independence)

NOW THAT WE KNOW WHY, WE NEED TO KNOW HOW...

- Things you need to know before you improve a home:
 - Health and safety is the number one concern when improving a home. Energy professionals are taught that the house is a “system”. That means that every part is connected in some way to other parts of the home. So improving one thing (air infiltration) could change something else. This may have a negative or positive effect on the house. It could be something you see right away, or something that happens over time.

AIR INFILTRATION:



AIR INFILTRATION PROS & CONS

- The number one “Bang” for your “buck” is air sealing. It’s usually cheap, easy, and has instant savings. It’s a low hanging fruit that is easy to take advantage of.
- However, air sealing can also have major drawbacks:
 - Backdrafting of a heating system trapping carbon monoxide in the home
 - Trapping moisture from a wet basement can causing mold and rot issues
 - Trapping radon in a home increasing the levels above acceptable rates
 - Forcing ventilation from unhealthy areas of the home like the basement or attic.

AIR FILTER? OR INSULATION?



IMPROVED THERMAL COMFORT

- Insulation that is easy vs insulation that is not:
 - When you are building a new home, you should put the best type and quantity of insulation in that you can afford because it is the hardest thing to change after the fact.
 - However, we have a significant amount of housing stock in Maine that needs upgrades. When to call the pros:
 - Insulating wall (dense packing existing homes)
 - Insulating walls (rigid insulation on the exterior)
 - Insulating foundations (Spray foam on rubble walls)

IMPROVED THERMAL COMFORT

- Things a homeowner could do on their own:
 - Adding rigid insulation to a band joist or smooth concrete wall
 - Be aware, the Maine State Fire Marshal makes you use approved products or cover them with a 15 minute thermal barrier – so choose your products wisely
 - Air infiltration reduction will happen with the installation of insulation, so be sure you do not have any health and safety issues before you start your project.
 - i.e. Dirt floor in basement
 - Heating system issues
 - High radon levels
 - Other sources of indoor contaminants or bulk water

ORDER OF IMPORTANCE

- Health and Safety – check for dirt basements, ask about radon levels, check or have the heating system tested.
- Air infiltration measures – Caulk around windows, seal off openings to the outdoors, seal band joists and attic penetrations (electrical, plumbing, stacks, chimneys, attic access, and open wall cavities).
- Insulate:Attic's and Basement (Think Hats and Boots)
- Insulate Walls
- Replace Heating System (after upgrades to install a smaller system)
- Replace Windows...

WHERE TO GET MORE INFORMATION

- There are great videos, tutorials, and information through the Department of Energy. This is a great video for homeowner 101.
- <https://energy.gov/eere/videos/energy-101-home-energy-checkup>
- If the climate action teams are interested in helping homeowners with low hanging fruit, I recommend someone from the team take a course in energy auditing through SMCC, KVCC or one of the other organizations that offer 2 week auditor training
- You can also reach out to the auditors in the state through the Efficiency Maine website to see if anyone would be willing to donate some time to help the climate action teams make the best choices for homeowners in their neighborhood.
- You can check with SMCC's classroom training if your in the Portland/South Portland area. The students are always looking for houses to train at during the semester that the class is offered.
- Low income individuals should be referred to their local CAP Agency
- And anyone looking to take advantage of the rebates through Efficiency Maine should locate an auditor through the approved vendor list to see what might be available to them.