



Existing Home Assessment/Rating Summary Report

Rater Name: Matthew Ryan

RESNET Rater #: BER-0006

Homeowner Name(s):

Address:

Phone Number:

Email:

Purpose of Audit: Energy Assessment

Approximate age of House: 10-20 years

Homeowner Complaints/Areas of Concern:

None

Audit Date:

HERS Index: 90

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A. Visual Inspection Notes/Addressing of Homeowner Complaints



1.) One of your ducts in the crawlspace is disconnected at the Y elbow. Not only is this costing you money but it also affects *Indoor Air Quality* because it allows air from the crawlspace to be pulled into the home. Proper sealing should be done by a licensed HVAC contractor. **Importance: High**



2.) The Pictures below are areas in the floor leading to the crawlspace which are not properly sealed. Pathways such as these allow air to flow freely up into the living space and contribute to problems with moisture, noise, dust, and entry of pollutants, insects, and rodents **Importance: High**



3. Your Dryer vent and the vent in the picture to the right are not correctly vented to the outside. By not correctly venting, you are dumping hot, humid air into your crawlspace which can cause moisture problems. **Importance: Medium**

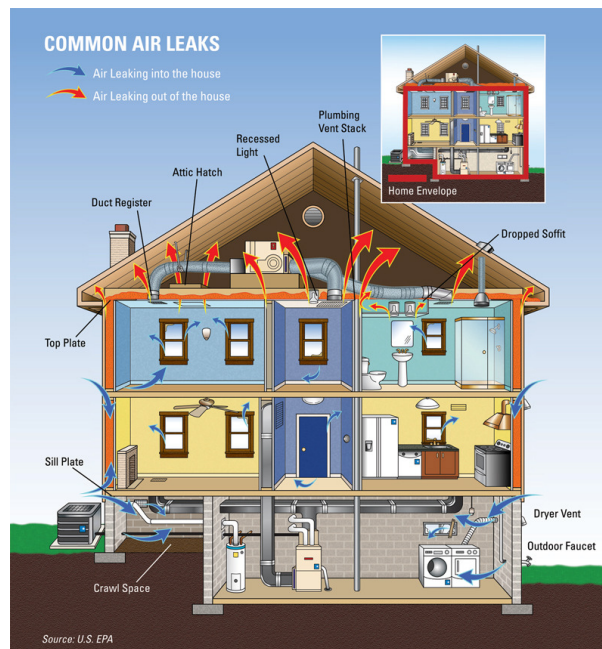


B. Air Infiltration Test Results and Areas of Concern

Why do we focus on "Air Infiltration"?

"Air Infiltration can account for 30% or more of a home's heating and cooling costs and contribute to problems with moisture, noise, dust, and entry of pollutants, insects, and rodents."

- NC State University, NC Solar Center



**Test Results:**CFM50 = **4333**

On a scale of 1-5 with 1 being extremely leaky and 5 being extremely air tight, your home ranked a **3.5.**

**The air leakage in your home is costing you approximately
\$ 415/yr.**

Areas of Concern:

1. Please see areas noted in the Section A-2, above.
2. Attic Knee wall doors in FROG

C. Duct Leakage Test Results & Areas of Concern

Why do we focus on "Duct Leakage"?

Commonly we find that ductwork in homes can be anywhere from 10-70% and can account for 15-30% of your annual heating and cooling bill. Additionally, most ducts are located in unconditioned zone like attics, crawlspaces, etc and often times pull air from these locations. When we have duct leakage it not only drives up utility bills, but sacrifices comfort and can have negative health affects.

First Floor Duct Leakage

Duct leakage as a % of system capacity = 9%

Second Floor Duct Leakage

Duct leakage as a % of system capacity = 2%

What does this mean? It means that your system is made to distribute a certain amount of air into your home based on your units tonnage. If your ductwork leaks 25%, it simply means that 25% of the air meant to heat and cool your home is leaking. We recommend that your ducts leak no air, but a baseline for a high performance system is less than or equal to 4%.

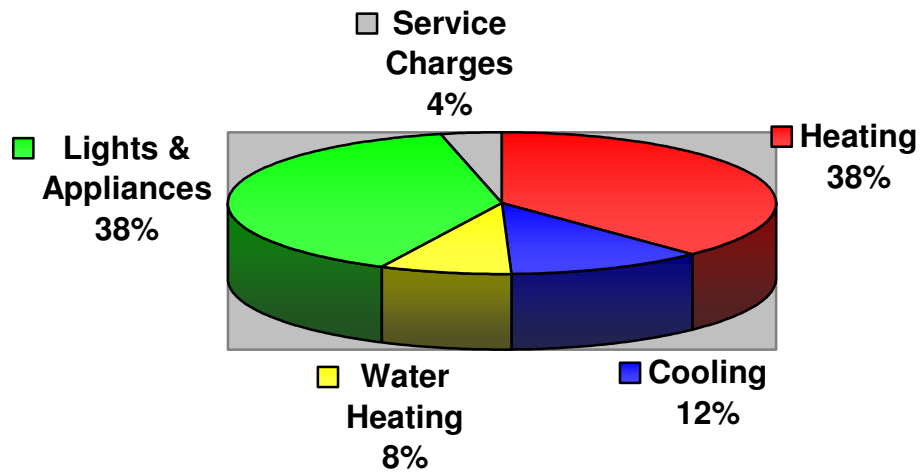
Areas of Concern:

1. Please see Section A-1.

**The duct leakage in your home is costing you approximately
\$ 275/yr.**



D. Energy & Emissions Analysis



**Your estimated yearly energy costs: \$ 3251
or \$270 avg/month**

Total Emissions:

Carbon Dioxide (tons/year)	17.2
Sulphur Dioxide (lbs/year)	140.4
Nitrogen Oxides (lbs/year)	47.6

The following figures are based on the RemRate software tool. Actual energy costs may be more or less depending on a hosts of factors. Consult with your rater if you feel these number are not accurate.

E. Improvement Analysis

(In order of priority)

Recommended Improvements:	Est. Yearly Savings	Affects			
		Durability	Comfort	IAQ (Indoor Air Quality)	Energy
1. Seal duct in crawl, improve 1 st Floor leakage to <= 4%	\$ 75		X	X	X
2. Seal Areas of Infiltration in crawl, Reduce overall air leakage by 40%	\$150	X	X	X	X
3. Install CFL's in 100% of the occupied spaces	\$140				X
4. Eliminate Refrigerator in Garage	\$75				X
Total Savings/year if all Improvements made	\$ 440				



Appliance & Mechanical Replacement Information

- 1) Both of your HVAC units are 80% AFUE furnaces with an estimated 10 SEER downstairs and confirmed 13 SEER upstairs. Once these units have concluded their lifespan, replacement with a 95% Furnace and 14 SEER A/C units will save you an average of \$500/year or \$250/unit per year. Geothermal Unit would save approximately \$900/year. We currently offer HVAC sizing for replacement units and can offer cost/saving analysis as well. **For information on tax credits and utility rebates visit www.energystar.gov or www.dsireusa.org.**
- 2) Your appliances are relatively new and replacement with newer models wouldn't be cost effective. However, once the units have reached the end of their life, current Energy Star models are typically 15-20% more efficient than non Energy star models.
- 3) Solar Hot Water and PV systems are becoming more cost effective given current federal and state incentives. To inquire about solar services, please contact us for a no cost estimate.

What are 10 Things I can do to reduce my monthly energy bill now?

1. Install CFL's (compact fluorescent lighting) in lighting fixtures. CFL's require a 1/3 of the energy than regular, incandescent bulbs and have a longer life span.
2. Wash dishes and clothing in cold water and only wash **full** loads. Set your water heater back to 120 degrees Fahrenheit.
3. Try and reduce shower times unless, of course, you have teenagers!
4. Setback your thermostat or program your thermostat to go back 3-4 degrees when unoccupied. Need help programming it? Call us.
5. If you have multiple flat screen TV's, cable boxes, receivers, CD players, computers, etc try buying a power strip that automatically shuts off (or you can turn it off) when not in use or has a remote control. Phantom loads, or electrical draw of electronics when not turned on, can account for 3-10% of your utility bill.
6. Adjust your blinds and or drapes so they allow minimal light during the summertime, maximum light in the winter time.
7. Clean out your dirty air filters and don't buy the "expensive" anti-microbial filters. These don't provide the stated benefits in addition to putting strain on equipment that is trying to return air to the system. If you want a good, sturdy filter, consult an HVAC contractor about MERV rated filters.
8. Buy a home energy monitor. Occupant behavior can account for 5-10% worth the savings.
9. Use Fans during the summertime *and* winter time. When air moves across the skin, a 3-4 degree difference can be felt than the actual temperature of the air. During the winter, reverse the fan on a slow speed to push the hot air that rises back down.
10. Ditch that old freezer or fridge in the garage, basement. Old refrigerators and freezers are energy hogs; especially when made before 1980-90 and left in hot garages. For more information how much you can be saving, try this calculator: <http://michaelbluejay.com/electricity/refrigerators.html>