



Comfort • Savings • Efficiency

Colbert Home in Fort Washington, Maryland

The Colbert's have lived for 20 years in their 2500 square foot home built in 1973. They now have two children attending nearby colleges. Their uncomfortable family room and bedrooms, and high energy bills, led them to add an attic fan and replace their home's windows and siding a couple of years ago. But their utility bills didn't get lower - in part because of their 37-year old air conditioner and poor insulation.



The Colbert Home in Fort Washington, MD

House Facts

- 2-story with partially finished basement
- Built in 1973
- 2500 square feet
- Occupied by 2 adults and 2 adult children attending college nearby
- \$245 a month on average, combined energy utility bills (total annually almost \$1,900 in electricity and almost \$1,050 in gas)

Their Home Energy Makeover

Comprehensive Energy Analysis

Scott Donelson of Home Energy Medics conducted a comprehensive home energy analysis using diagnostic equipment. The analysis looked at how the different components of the home energy system worked together compared to national "whole house" energy efficiency and safety standards. Scott found that air leakage through the home's outside walls, attic and crawlspace was over two times greater than should be expected. Scott determined what improvements would have the greatest impact for energy savings, health and safety, and comfort. Comprehensive national standards are set by the Building Performance Institute.

Heating and Air Conditioning System

F.H. Furr replaced the home's 16-year-old 80% efficient gas furnace and 37-year-old 8 SEER air conditioner with a Lennox 95% efficient modulating furnace and Lennox XE21 SEER air conditioner. They also installed a hospital-grade air filtration system to help with Mrs. Colbert's breathing problems, which cause her to take medication weekly.

Sealing and Insulation

In the attic, Southland Insulators removed the existing insulation, and used Johns-Manville products to spray a layer of foam insulation over the entire attic floor to seal all leaks where conditioned air could exit the home, and then re-insulated the attic for an overall insulation value of R-49. Also, they insulated the attic hatch to prevent heat from entering or escaping through the closet area.

In the basement, Southland Insulators insulated the inside of the foundation in addition to sealing the band joists with Johns Manville Corbond Spray Foam. Southland Insulators also added additional insulation to an outside wall of the family room. Southland Insulators air-sealed all exterior pipes to prevent insects as well as unwanted air from entering the home. Additionally, Southland Insulators air-sealed and blocked the joist cavities in the cantilever across the front of the house.

Atlantic Duct Cleaning applied Aroseal duct sealant to the interior of all the existing ductwork in order to be sure the conditioned air was delivered efficiently through each vent.

Water Heater

Tankless Concepts replaced the existing 40-gallon natural gas storage water heater with a Rinnai RC80HPi condensing tankless water heater with a 95% thermal efficiency.





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Windows

The home owners had recently replaced the windows so no changes were made to the windows.

Ventilation

Panasonic provided bath and kitchen ventilation fans that operate by occupancy sensor, and exhaust the air from these rooms to the outside rather than recirculate the air as the old fans did. These fans were installed by Southland Insulators. The homeowners replaced a kitchen stove that has combustion safety problems which were identified by the home energy auditor.

INVESTMENT

- \$12,000 Furnace and Air Conditioning System Replacement
- \$ 3,500 Tankless Water Heater with Installation
- \$ 5,000 Insulation with Air Sealing and Ventilation Fans
- \$ 1,940 Duct Sealing
- \$ 350 Comprehensive Home Energy Analysis
- \$22,790 Total Retail Value of Home Energy Makeover Improvements

Makeover Team

Primary Home Auditor:



www.myenergymedics.com



www.edge-gogreen.com



www.homeenergydetective.com



www.windowsonwashington.net



www.myenergymedics.com



www.wellhome.com

Insulation and sealing provided by:



www.southlandinsulators.com

Heating and Cooling System provided by:



www.lennox.com

Heating and Cooling System installed by:



www.fhfurr.com

Attic and crawlspace Insulation materials provided by:



www.jmhomeowner.com

Water Heater provided by:



www.rinnai.us

Water Heater installed by:



www.tanklessconcepts.com

Duct Sealing provided by:



www.atlanticductcleaning.com

Ventilation Fans provided by:



www.panasonic.com





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Makeover Team

Participating Utilities:

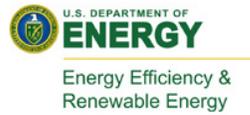


www.pepco.com



www.washingtongas.com

Contest Hosts:



www.energy.gov



www.epa.gov



www.loudoun.gov

Contractor Accreditation and Quality Assurance provided by:



www.bpi.org

Contest Administration provided by:



www.egia.org

Television Coverage provided by:



www.wjla.com



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