Adkins Home Inspections

Your Energy Audit

Home

John Doe
Address
Phone
Email

Audit Date

Feb 22, 2022
11:30 AM

Audited By

Joshua Adkins
RESNET HERS Rater
ID#3023118, EIN 83-2118624
joshua@
adkinshomeinspections.com

Adkins Home Inspections, LLC
Berea, KY 40403
Office 859-779-8558

Hello John, **we appreciate your decision to select our company for your energy audit**. If you have any inquiries or need assistance, **please don't hesitate to contact me at 859-779-8558**.

Inside Your Report

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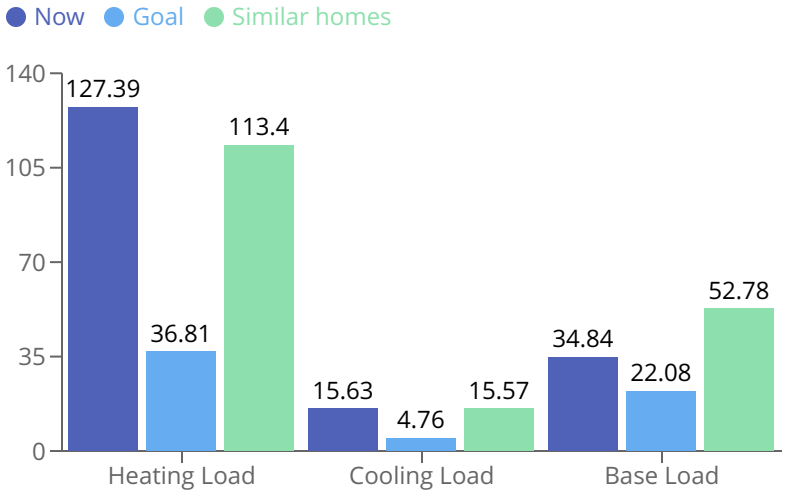
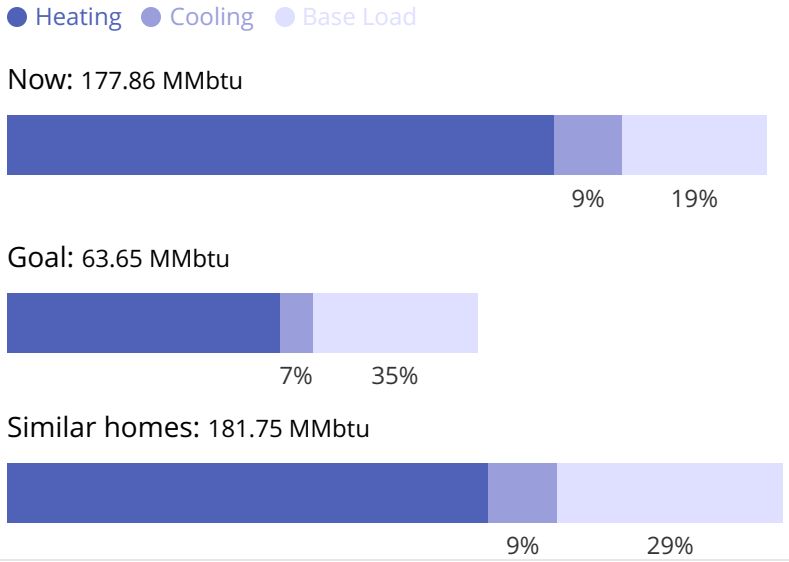
Your Energy Use

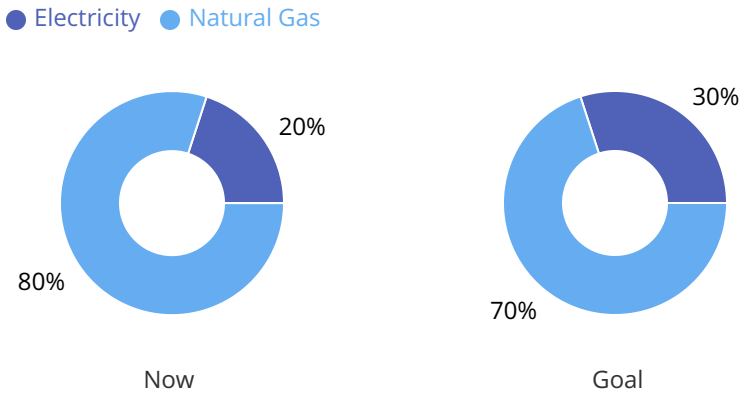
Yearly Energy Consumption (MMBtu)



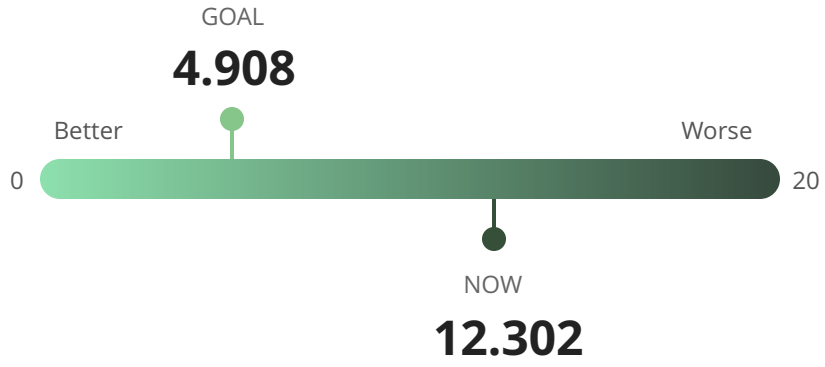
Load Profile (MMBtu)



Energy Mix by Fuel Type



CO2 Footprint (tons)



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Solutions for Your Home

Totals

Approximate Cost

$ 40,200

This is a ballpark guess. Ask your contractor for a detailed bid.

Estimated Savings

$1,656 per year

This is an estimate of how much you could save starting in Year 1. Savings will only increase as energy prices rise over the years.

Savings to Investment Ratio*

For Package: 0.7

Impact of upgrades

Energy Reduction	64%
Carbon (CO2) Savings	7 tons
Equivalent cars removed from the road	1.5/yr

Call us today at 859-779-8558 to ask a question or discuss the next step!

DETAILS	APPROXIMATE INSTALLED COST	APPROXIMATE ANNUAL SAVINGS	SIR *
Thermostat Set Points	$ 200	$ 105	7.8
Upgrade Heating System	$ 6,000	$ 31	0.1
Upgrade Cooling System	$ 6,000	$ 64	0.2
Upgrade Clotheswasher	$ 800	$ 37	0.7
Upgrade Lighting	$ 100	$ 147	10.3
Insulate Walls	$ 4,100	$ 240	1.2
Insulate Attic	$ 6,000	$ 187	0.6
Insulate Vault	$ 1,000	$ 33	0.7
Insulate Basement	$ 3,000	$ 262	1.7
Upgrade Windows	$ 10,000	$ 247	0.5
Seal Air Leaks	$ 1,200	$ 247	3.1
Upgrade Water Heater	$ 1,800	$ 58	0.4

* SIR is the Savings to Investment Ratio. Simply put, if the SIR is 1 or greater, then the energy savings from the item will pay for itself before it needs to be replaced again. This metric is used to help prioritize the recommendations by financial merit.

Thermostat Set Points

THERMOSTAT

Approximate installed cost

$200

Annual Energy Savings

Approx. $105

Savings to Investment Ratio

7.8

Why it matters

Installing a programmable thermostat (or correctly setting the one you currently have) will help you to use less energy when you're not at home or when you're sleeping.

Notes to Homeowners

Replacing your manual thermostat with programmable one can help you less energy when you're not a home.

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Upgrade Heating System

HEATING SYSTEM

Approximate installed cost

$6,000

Annual Energy Savings

Approx. $31

Savings to Investment Ratio

0.1

Why it matters

Install a more efficient furnace, boiler or heat pump. Depending on the age of the unit, substantial savings may be gained by replacing it with an ENERGY STAR rated appliance. If you're heating with gas, look for a sealed combustion unit. They're much safer since the exhaust pathway from the unit is sealed and goes directly outside. If it doesn't quite make sense to replace your heating system now, be prepared to replace it with a high efficiency ENERGY STAR unit when it finally wears out.

Notes to Homeowners

You have a modern high efficiency furnace. This system is a sealed combustion unit. That means that any flue gasses produced by burning the natural gas go directly outside without the opportunity to leak into your home. Also, fresh air from the outside is brought directly to the burners in the furnace as opposed to pulling air from the house. This keeps the cold outside air in a closed loop and keeps the exhaust air outside where it belongs!
It will not be cost effective to replace the current furnace with a higher efficiency furnace.

Upgrade Cooling System

COOLING SYSTEM

Approximate installed cost

$6,000

Annual Energy Savings

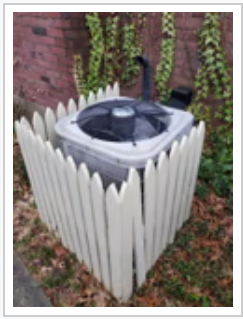
Approx. $64

Savings to Investment Ratio

0.2

Why it matters

Install a more efficient air conditioner or evaporative cooler. Depending on the age of the unit, substantial savings may be gained by replacing it with an ENERGY STAR rated appliance. If it doesn't quite make sense to replace your air conditioner now, be prepared to choose a high efficiency ENERGY STAR unit (14 SEER or higher) when it finally wears out.



Notes to Homeowners

You have a fairly efficient air conditioner. While more efficient options are available it may not be cost effective to replace at this time.

Upgrade Clotheswasher

CLOTHESWASHER

Approximate installed cost

$800

Annual Energy Savings

Approx. $37

Savings to Investment Ratio

0.7

Why it matters

Old clothes washers can be energy and water hogs. When your current clothes washer breaks or otherwise needs to be replaced, be sure to choose a front loading ENERGY STAR model with the highest Modified Energy Factor (MEF) that's within your budget. More information is available at http://www.energystar.gov.

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Upgrade Lighting

LIGHTING

Approximate installed cost

$100

Annual Energy Savings

Approx. $147

Savings to Investment Ratio

10.3

Why it matters

Compact Florescent Lightbulbs (CFLs) use 1/4 of the energy of regular incandescent light bulbs and last 8 to 15 times as long. Light Emitting Diode (LED) bulbs use 12% of the energy of regular incandescent light bulbs and last up to 50 times as long. Replacing incandescent bulbs with CFLs or LEDs will save significant energy and replacement costs over time.

Notes to Homeowners

The light bulbs currently installed are all incandescent bulbs that produces significant heat and are very inefficient. Replacing them with LED bulbs will save considerable money.

Insulate Walls

WALLS

Approximate installed cost

$4,100

Annual Energy Savings

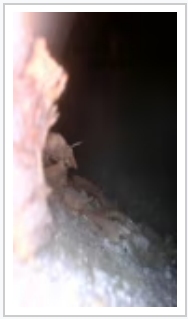
Approx. $240

Savings to Investment Ratio

1.2

Why it matters

Insulating your walls can lead to a significant reduction in utility bills. The is done by drilling small holes in the wall cavities either from the inside or outside and filling the space with cellulose, fiberglass, or even foam insulation. If it's time to replace your exterior siding, then be sure to ask your contractor about adding a layer of rigid foam underneath the new sheathing of 1" or more.



Inside View of Wall Cavity, No Insulation Observed

Notes to Homeowners

Typical among homes of this age, there is no insulation in the walls. By “dense packing” cellulose insulation in your wall cavities, air leaks and drafts will be dramatically reduced. To install the insulation, contractors will drill a 2” hole in the wall for every wall cavity. A blower pushes cellulose insulation at high speed through a hose into the holes, filling the wall cavity.
Installation of wall insulation will make a dramatic difference in your discomfort and will also make the house a lot quieter and energy efficient!

Insulate Attic

ATTIC

Approximate installed cost

$6,000

Annual Energy Savings

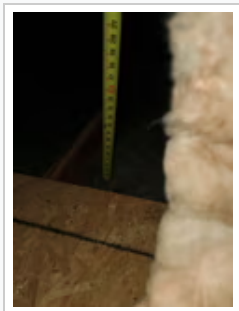
Approx. $187

Savings to Investment Ratio

0.6

Why it matters

Adding insulation to your attic can lead to a significant reduction in your utility bills. This process is often combined with careful air sealing of the ceiling from the attic side to ensure the new insulation performs at its maximum level.



Notes to Homeowners

This attic has very little insulation. By installing 6 inches of open cell spray foam insulation at the attic roof deck, you can save a significant amount of energy. This will dramatically reduce the air leakage in the house and increase overall comfort.

Notes to Contractors

Open Cell Foam - Roof Deck
-Demo and Prep
-Spray the Roof Deck: Spray Nominal SIX INCHES of Open Cell foam directly to underside of roof deck - create airtight seal - any vents foamed closed.

Insulate Vault

VAULTED CEILING

Approximate installed cost

$1,000

Annual Energy Savings

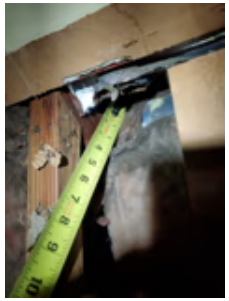
Approx. $33

Savings to Investment Ratio

0.7

Why it matters

Vaulted ceilings are almost always poorly insulated. If your roof is in need of replacement, it's a perfect time to also insulate the area between the interior drywall and the roof deck. Dense packing this cavity with blown fiberglass or cellulose will help prevent significant heat loss.



Notes to Homeowners

The vaulted ceiling had 2" of fiberglass insulation installed. Installing cellulose insulation could increase the energy efficiency and comfort of the home.

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Insulate Basement

BASEMENT

Approximate installed cost

$3,000

Annual Energy Savings

Approx. $262

Savings to Investment Ratio

1.7

Why it matters

WIth basement walls being uninsulated it will be more difficult to maintain consistent temperatures across the levels of the home.

Notes to Homeowners

Insulating your basement walls will increase the overall temperature of your basement and make the floors above more comfortable. A fiberglass blanket with a vinyl backing can be installed along the basement walls. Or the walls can be framed out, insulated, and finished with drywall to make a "finished basement".

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Upgrade Windows

WINDOWS

Approximate installed cost

$10,000

Annual Energy Savings

Approx. $247

Savings to Investment Ratio

0.5

Why it matters

Adding storm windows, solar screens or replacing your current windows can save energy and help reduce drafts or solar gain.

Notes to Homeowners

Single pane and metal framed windows are significantly less efficient than vinyl or wood framed windows with dual or triple panes. Recommend replacement for energy savings and comfort.

Seal Air Leaks

AIR LEAKAGE

Approximate installed cost

$1,200

Annual Energy Savings

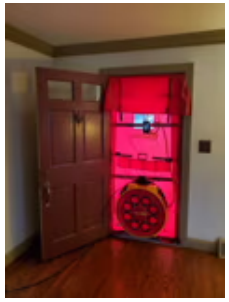
Approx. $247

Savings to Investment Ratio

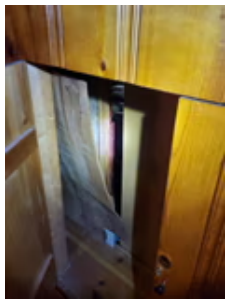
3.1

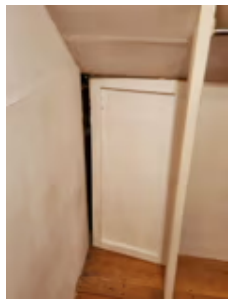
Why it matters

Air sealing is typically the most cost effective improvement you can make to your home. To properly seal out air leaks, a large fan called a blower door is used to depressurize your house. This makes air leaks easy to find, so corrective measures can be taken. A good air sealing job will dramatically increase the comfort of your home and help you save significant energy.



Blower Door Utilized to Find Air Leaks





Large Openings at Knee Walls

Air Leaks at Single Pane Windows

...CONTINUED

Seal Air Leaks

AIR LEAKAGE

Approximate installed cost

$1,200

Annual Energy Savings

Approx. $247

Savings to Investment Ratio

3.1

Why it matters

Air sealing is typically the most cost effective improvement you can make to your home. To properly seal out air leaks, a large fan called a blower door is used to depressurize your house. This makes air leaks easy to find, so corrective measures can be taken. A good air sealing job will dramatically increase the comfort of your home and help you save significant energy.

Air Leaks at Penetrations

Notes to Homeowners

During the energy audit, blower-assisted thermal imaging played a pivotal role in identifying air infiltration points within the homes thermal envelope. The second-floor knee walls lacked a continuous air barrier, which allowed significant air infiltration from the attic area. Notable leaks were also detected around windows, doors, and at penetrations such as vent and/or plumbing pipes.
I recommend seeking consulation with an experienced air sealing contractor to assess the associated costs and and options for effectively sealing the home's air leaks.

Notes to Contractors

Approximate Cost of Air Sealing Basement-$400
Spray Foam - Band Boards
-Air Seal using 6" Open Cell Spray Foam

Approximate Cost of Air Sealing First and Second Floor-$800
-Air Seal by Caulking around Trim and Drywall of All Windows and Doors

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Upgrade Water Heater

WATER HEATER

Approximate installed cost

$1,800

Annual Energy Savings

Approx. $58

Savings to Investment Ratio

0.4

Why it matters

Replace your water heater with a tankless model or a heat pump water heater to save energy and reduce the ability for dangerous Carbon Monoxide to leak into your home.

Notes to Homeowners

Naturally drafting tank water heaters like the one installed at this home are very inefficient. Most of the heat produced is lost up the flue. A tankless unit has no standby losses and is very efficient saving you money.

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Health & Safety

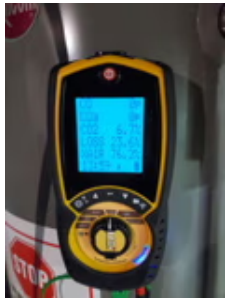
What's This?

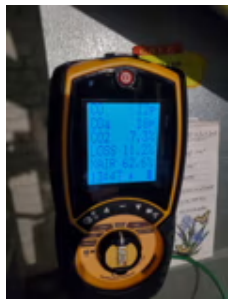
These tests are recommended by the Building Performance Institute (BPI). They can help identify potential health and safety concerns in your home.

Test Summary

Ambient Carbon Monoxide	✓
Natural Condition Spillage	✓
Worst Case Depressurization	✓
Worst Case Spillage	✓
Undiluted Flue CO	✓
Gas Leak	✓
Venting	✓

✓ Passed ✗ Failed ⚑ Warning



Notes to Homeowners

Combustion appliances like furnaces and gas water heaters have the potential for improper venting of the flue gases. This means that carbon monoxide could spill into the home, which can be very dangerous. Safety tests were performed and no safety concerns were found at the time of the inspection. As air sealing measures are applied to a house, the chance increases for hazardous back drafting of flue gases to occur. Recommend that safety tests are performed again after any air sealing measures are applied.

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Metrics

About the metrics

These metrics are for the whole house in a pre and post-retrofit state.

The 'Base' savings numbers will likely not be the same as the actual energy consumption of the home. These numbers are weather normalized and then projected based on the 30 year weather normals data from NOAA. In other words, this is the modeled energy consumption of the home for a typical year, not the year that the utility bills were from.

FUELS	BASE	IMPROVED	SAVED
Total Fuel Energy Usage therms/year	1,423	447	976
Natural Gas Energy Usage therms/year	1,423	447	976

METRIC	BASE	IMPROVED	SAVED
Electric Energy Usage kWh/year	10,415	5,560	4,855
Total Energy Usage MMBtu/year	177.86	63.65	114.21
Fuel Energy Cost $/year	$ 1,547	$ 486	$ 1,061
Electric Energy Cost $/year	$ 1,277	$ 682	$ 595
Total Energy Cost $/year	$ 2,824	$ 1,167	$ 1,657
CO2 Production Tons/year	12.3	4.9	7.4
Payback years			18
Total Energy Savings			64%
Total Carbon Savings			60%
Net Savings to Investment Ratio SIR			0.7
Net Annualized Return MIRR			3.0%

HEATING & COOLING LOAD CALCULATIONS		
Heating Load Btu/hr	Base: 77,865	Improved: 29,431
Cooling Load: Sensible Btu/hr	Base: 39,872	Improved: 18,424
Cooling Load: Latent Btu/hr	Base: 6,918	Improved: 3,100
Winter Design Temperature	Outdoor: 14°	Indoor: 70°
Summer Design Temperature	Outdoor: 91°	Indoor: 75°

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Tech Specs

Property Details

Year Built:	1954
Conditioned Area:	2590 ft²
Area Includes Basement:	Yes
Average Wall Height:	7.5 ft
House Length:	30 ft
House Width:	34 ft
Floors Above Grade:	1.5
Number of Occupants:	2
Number of Bedrooms:	3
Type of Home:	Single Family Detached
Front of Building Orientation:	South East
Shielding:	Normal
Tuck Under Garage:	No

Thermostat

Programmable Thermostat Installed:	No
Heating Setpoint High:	72 °F
Heating Setpoint Low:	72 °F
Cooling Setpoint High:	70 °F
Cooling Setpoint Low:	70 °F

Heating & Cooling

Heating Design Load:	77865 Btu/hr
Hvac: 1	
System Name:	Hvac System 1
Equipment Type:	Furnace / Central AC (shared ducts)
Upgrade action:	Replace with a newer model
Heating Energy Source:	Natural Gas
% of Total Heating Load:	100%
Heating Capacity:	80000 BTU/h
Heating System Efficiency:	92 AFUE
Heating System Manufacturer:	Bryant
Heating System Model:	912SD48080E17A-A
Heating System Model Year:	2021
Heating System Serial Number:	4721A60293
Heating System Equivalent Full Load Hours:	1438.5369
% of Total Cooling Load:	100%
Cooling Capacity:	33800 BTU/h
Cooling System Efficiency:	14 SEER
Cooling System Manufacturer:	Bryant
Cooling System Model:	123ANA036-A
Cooling System Model Year:	2008
Cooling System Serial Number:	1108E03833
Cooling System Equivalent Full Load Hours:	1757.0437
Duct Location:	Intentionally Conditioned Space
Duct Insulation:	No Insulation
Duct Leakage:	30% - Very leaky
Duct Efficiency:	100%

Appliances

Range: 1

Range Fuel Type:	Electricity

Clothes Dryer: 1

Dryer Fuel Type:	Electricity

Clothes Washer

Type:	Top Load
Integrated Modified Energy Factor:	0.64 IMEF
ENERGY STAR:	No

Dishwasher

Dishwasher Installed?:	Yes
Energy Factor:	0.43 EF
ENERGY STAR:	No
Model #:	FD21RFS3
Manufacturer:	Fridgidaire
Model Year:	2008

Refrigerators

Refrigerator: 1

Name:	Refrigerator 1
Refrigerator Age:	0-14
Refrigerator Size:	16-18
ENERGY STAR:	Yes
Usage:	383 kWh/yr

Lighting

% CFLs or LEDs:	0%
Total # of Light Bulbs:	28
# of CFLs:	0
# of LEDs:	0
# of Incandescents:	28

Doors

Door: 1

Type:	1/2-Lite Wood with Storm
Area:	20 ft²
ENERGY STAR:	No
U Value:	0.37 U Value

Door: 2

Type:	Wood with Storm
Area:	20 ft²
ENERGY STAR:	No
U Value:	0.31 U Value

Exterior Walls

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Tech Specs

Wall: 1

Modeled Area:	1845.62 ft²
Insulated?:	No
Siding:	Brick Veneer
Construction:	2x4 Frame
Cavity Insulation:	0 R Value
Continuous Insulation:	0 R Value

Attic & Vaulted Ceiling

Attic: 1

Modeled Area:	652 ft²
Insulation Depth:	1-3
Insulation Type:	Fiberglass or Rockwool (batts or blown)
Insulation:	5 R Value
Radiant Barrier?:	No
Has Knee Wall?:	Yes
Knee Wall Area:	272 ft²
Knee Wall Cavity Insulation:	7 R Value
Knee Wall Insulation Type:	Fiberglass or Rockwool Batt
Knee Wall Continuous Insulation:	0 R Value
Cool Roof?:	No

Vault: 1

Modeled Area:	548 ft²
Insulated?:	Poorly
Cavity Insulation:	7 R Value
Cavity Insulation Type:	Fiberglass or Rockwool Batt
Continuous Insulation:	0 R Value
Cool Roof?:	No

Vault: 2

Modeled Area:	0 ft²

Foundation - General

Foundation: Basement:	100%
Foundation Above Grade Height:	2 ft

Foundation - Basement

Modeled Basement Floor Area:	986 ft²
Basement Wall Insulation:	None or Bare Walls
Basement Rim Joist Treatment:	Separately
Basement Rim Joist Insulation:	0 R Value
Basement Heating:	Intentional
Basement Cooling:	Intentional

Frame Floors

Modeled Floor Area:	83.33 ft²
Floor Cavity Insulation:	7 R Value
Floor Continuous Insulation:	0 R Value

Windows

Window: 1

Window Area: NE (Right):	88.24 ft²
Window Area: SE (Front):	21.63 ft²
Window Area: SW (Left):	73.54 ft²
Window Area: NW (Back):	8.65 ft²
Type:	Single pane
Frame:	Wood or metal clad
ENERGY STAR:	No
U-Value:	0.89 U Value
Solar Heat Gain Coefficient:	0.64 SHGC
Window Area: NE (Right) Overhang Depth:	0 ft
Window Area: SE (Front) Overhang Depth:	0 ft
Window Area: SW (Left) Overhang Depth:	0 ft
Window Area: NW (Back) Overhang Depth:	0 ft
Exterior Treatment: NE (Right):	No Treatment
Exterior Treatment: SE (Front):	No Treatment
Exterior Treatment: SW (Left):	No Treatment
Exterior Treatment: NW (Back):	No Treatment

Window: 2

Window Area: NE (Right):	44.12 ft²
Window Area: SE (Front):	0 ft²
Window Area: SW (Left):	0 ft²
Window Area: NW (Back):	90.84 ft²
Type:	Double pane
Frame:	Metal
ENERGY STAR:	No
U-Value:	0.81 U Value
Solar Heat Gain Coefficient:	0.67 SHGC
Window Area: NE (Right) Overhang Depth:	0 ft
Window Area: SE (Front) Overhang Depth:	0 ft
Window Area: SW (Left) Overhang Depth:	0 ft
Window Area: NW (Back) Overhang Depth:	0 ft
Exterior Treatment: NE (Right):	No Treatment
Exterior Treatment: SE (Front):	No Treatment
Exterior Treatment: SW (Left):	No Treatment
Exterior Treatment: NW (Back):	No Treatment

Skylights

Skylight Area:	6.25 ft²

Air Leakage

Blower Door Test Performed:	Tested
Blower Door Reading:	5323 CFM50
Conditioned Air Volume:	20000 ft³
Wind Zone:	2
N-Factor:	16.47
Equivalent NACH:	0.97 NACH
Effective Leakage Area:	296.1 in²

Tech Specs

Job ID: 269050

Report & modeling software: Snugg Pro™ 5.0

Equivalent ACH50:	15.97 ACH50
Mechanical Ventilation Type:	None

Water Heating

Water Heating: 1

Fuel:	Natural Gas
Type:	Tank Water Heater
Location:	Indoors and within heated area
Temperature Settings:	Low (120-130 F)
ENERGY STAR:	No
Unified Energy Factor:	58 UEF
Manufacturer:	Rheem
Model:	XG40T06EC36U1
Model Year:	2021
DHW Serial Number:	Q332144177

Utility Bills

Electric

Electric Utility Provider Name	Louisville Gas and Electric Company
Electric Account Number	

Fuel

Fuel Utility Provider Name	Louisville Gas and Electric Company
Fuel Account Number	

Contact Information

Joshua Adkins
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Berea, KY 40403
joshua@adkinshomeinspections.com

About This Report

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Glossary

Annual Fuel Utilization Efficiency (AFUE) The measure of seasonal or annual efficiency of a residential heating furnace or boiler. It takes into account the cyclic on/off operation and associated energy losses of the heating unit as it responds to changes in the load, which in turn is affected by changes in weather and occupant controls.

Annualized Return The return an investment provides over a period of time, expressed as a time-weighted annual percentage. This is the equivalent annual interest rate you would get if you put the same amount of money spent on the energy upgrade into a savings account.

Asbestos Asbestos is a mineral fiber that has been used commonly in a variety of building construction materials for insulation and as a fire-retardant, but is no longer used in homes. When asbestos-containing materials are damaged or disturbed by repair, remodeling or demolition activities, microscopic fibers become airborne and can be inhaled into the lungs, where they can cause significant health problems.

British Thermal Unit (Btu) The amount of heat required to raise the temperature of one pound of water one degree Fahrenheit; equal to 252 calories.

Carbon Monoxide (CO) A colorless, odorless but poisonous combustible gas with the formula CO. Carbon monoxide is produced in the incomplete combustion of carbon and carbon compounds such as fossil fuels (i.e. coal, petroleum) and their products (e.g. liquefied petroleum gas, gasoline), and biomass.

Cashflow When financing energy efficiency improvements, cashflow is the difference between the average monthly energy savings and the monthly loan payment.

Combustion Appliance Zone (CAZ) A contiguous air volume within a building that contains a combustion appliance such as furnaces, boilers, and water heaters; the zone may include, but is not limited to, a mechanical closet, mechanical room, or the main body of a house, as applicable.

Compact Fluorescent Light bulb (CFL) A smaller version of standard fluorescent lamps which can directly replace standard incandescent lights. These highly efficient lights consist of a gas filled tube, and a magnetic or electronic ballast.

Cubic Feet per Minute (CFM) A measurement of airflow that indicates how many cubic feet of air pass by a stationary point in one minute.

Carbon Dioxide (CO2) A colorless, odorless noncombustible gas that is present in the atmosphere. It is formed by the combustion of carbon and carbon compounds (such as fossil fuels and biomass). It acts as a greenhouse gas which plays a major role in global warming and climate change.

Energy Efficiency Ratio (EER) The measure of the energy efficiency of room air conditioners: cooling capacity in Btu/hr divided by the watts consumed at a specific outdoor temperature.

Energy Factor (EF) The measure of efficiency for a variety of appliances. For water heaters, the energy factor is based on three factors: 1) the recovery efficiency, or how efficiently the heat from the energy source is transferred to the water; 2) stand-by losses, or the percentage of heat lost per hour from the stored water compared to the content of the water: and 3) cycling losses. For dishwashers, the energy factor is the number of cycles per kWh of input power. For clothes washers, the energy factor is the cubic foot capacity per kWh of input power per cycle. For clothes dryers, the energy factor is the number of pounds of clothes dried per kWh of power consumed.

Heating Seasonal Performance Factor (HSPF) The measure of seasonal efficiency of a heat pump operating in the heating mode. It takes into account the variations in temperature that can occur within a season and is the average number of Btu of heat delivered for every watt-hour of electricity used.

Heat Recovery Ventilator (HRV) / Energy Recovery Ventilator (ERV) A device that captures the heat or energy from the exhaust air from a building and transfers it to the supply/fresh air entering the building to preheat the air and increase overall heating efficiency while providing consistent fresh air.

Light Emitting Diode (LED) Lighting An extremely efficient semiconductor light source. LEDs present many advantages over incandescent light sources including lower energy consumption, longer lifetime, improved physical robustness, and smaller size.

Modified Internal Rate of Return (MIRR) This is your return on investment. Roughly speaking, if you invested the same amount of money for this project (listed on this report as the total cost) into a bank account, your equivalent interest rate from all of the energy savings would be the MIRR.

N-Factor A factor of how susceptible your house is to wind, influenced by weather patterns, location, and the number of floors in the home. Used in the calculation of NACH.

Natural Air Changes per Hour (NACH) The number of times in one hour the entire volume of air inside the building leaks to the outside naturally.

Payback Period The amount of time required before the savings resulting from your system equal the system cost. Our payback calculation is amortized with an annual inflation of 3% and a fuel cost escalation of 5%.

R-Value A measure of the capacity of a material to resist heat transfer. The R-Value is the reciprocal of the conductivity of a material (U-Value). The larger the R-Value of a material, the greater its insulating properties.

Radon A naturally occurring radioactive gas found in the U.S. in nearly all types of soil, rock, and water. It can migrate into most buildings. Studies have linked high concentrations of radon to lung cancer.

Rim Joist In the framing of a deck or building, a rim joist is the final joist that caps the end of the row of joists that support a floor or ceiling. A rim joist makes up the end of the box that comprises the floor system.

Seasonal Energy Efficiency Ratio (SEER) A measure of seasonal or annual efficiency of a central air conditioner or air conditioning heat pump. It takes into account the variations in temperature that can occur within a season and is the average number of Btu of cooling delivered for every watt-hour of electricity used by the heat pump over a cooling season.

Savings to Investment Ratio (SIR) A ratio used to determine whether a project that aims to save money in the future is worth doing. The ratio compares the investment that is put in now with the amount of savings from the project.