



Home Energy Assessment



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Home

Jennifer Behrens
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Madison WI, 53517
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Assessment Date

Invalid date
Invalid date

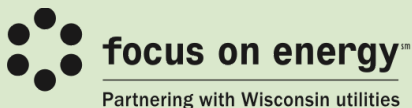
Assessment By

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9-3 M-F

Steady State Building Performance, LLC

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Proud to Partner with Focus on Energy



Buying your home was one of the largest investments you have made.

Now you can enhance your home's performance by making improvements that are smart for you, your family and the environment.

- Air sealing- attic perimeter, kitchen soffit, attic/basement stair juncture, fireplace/attic connectivity.
- Attic Insulation- Remove existing fiberglass and insulate to R60
- Sill box insulation- exposed joists- 2.5 inches of closed cell foam
- Caulk basement casement window
- Improve garage door weatherstripping

Inside Your Report

- Cover
- HES
- Concerns
- Solutions
- Upgrade Details
- Health & Safety
- Additional Notes
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- Tech specs
- Glossary

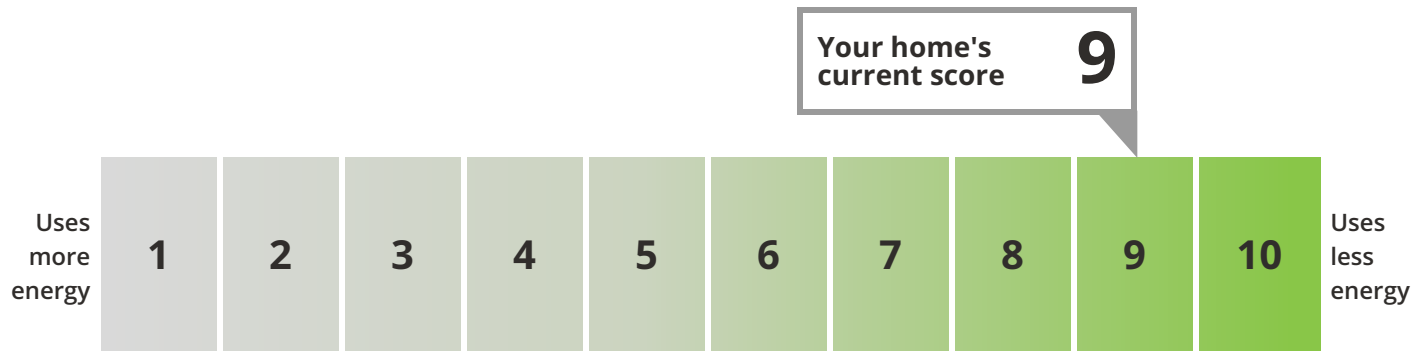
Home Energy Score

ADDRESS: 7101 Harvest Hill Rd
Madison, WI 53517

HOME SIZE: 1,212 square feet

YEAR BUILT: 1980

AIR CONDITIONED: Yes



Learn more at homeenergyscore.gov



The **Home Energy Score** is a national rating system developed by the U.S. Department of Energy. The **Score** reflects the energy efficiency of a home based on the home's structure and heating, cooling, and hot water systems.



Your feedback is important

We want to make sure we address all of your home's concerns. Listed to the right are the top concerns we discussed. If there other issues not addressed in this report, please let us know right away.

Your Concerns

Homeowners are looking to improve the efficiency and comfort of their home.

Steady State LLC is proud to partner with Focus on Energy's Home Performance with ENERGY STAR® Program. Home Performance with ENERGY STAR, offers several paths to savings, with incentives and expert guidance available for energy improvements both large and small. Rather than focusing on a single problem, like not enough insulation in the attic or leaky windows, Home Performance with ENERGY STAR looks at how energy-saving improvements throughout your home can work together to give you better results and a more comfortable home. We look forward to making your home safer and more comfortable.



Solutions for Your Home

Contact us today to ask a question or discuss the next step.

Totals

Approximate Cost

\$ 2,500

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

Estimated Savings

\$94 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: 0.8

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.

Impact of upgrades

Energy Reduction	13%
Carbon (CO2) Savings	1 tons
Equivalent cars removed from the road	0.2/yr

DETAILS	APPROXIMATE INSTALLED COST	APPROXIMATE ANNUAL SAVINGS	SIR *
Seal Air Leaks	\$ 600	\$ 22	0.9
Insulate Attic & Kneewalls	\$ 2,000	\$ 67	0.7
Insulate Basement	\$ 0	\$ 6	100

* 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.

Seal Air Leaks

AIR LEAKAGE

Approximate installed cost

\$600

Energy Savings

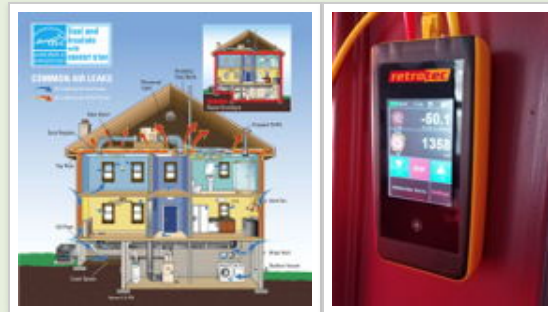
Approx. \$22

Savings to Investment Ratio

0.9

Why it matters

Air that leaks through your home's envelope or thermal shell – the attic, exterior walls, windows, doors, and other openings – wastes a lot of energy and increases your utility costs. In colder climates, air sealing is typically the most cost effective improvement you can make to your home. Air sealing job will dramatically increase the comfort of your home and help you save significant energy.

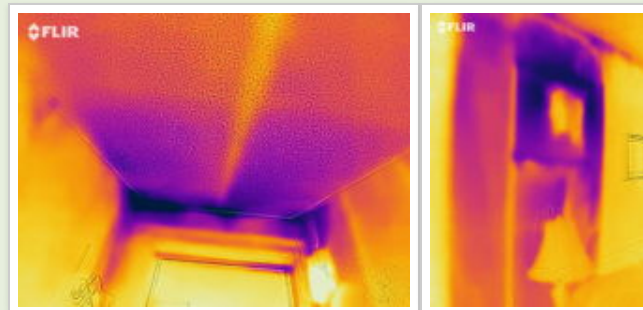


L: House as a system : Heat loss through the ceiling drives energy loss in your home- causing convective loops and making homes feel drafty.

R: Your blower door reading shows how many cubic feet of air infiltrate your home when depressurized to 50 pascals. Essentially, the higher the number, the leakier the building.



Examples of attic air sealing



L: Area above basement stairway is a major energy loss pathway

R: Air leakage from old fireplace.

Seal Air Leaks

AIR LEAKAGE

Approximate installed cost

\$600

Energy Savings

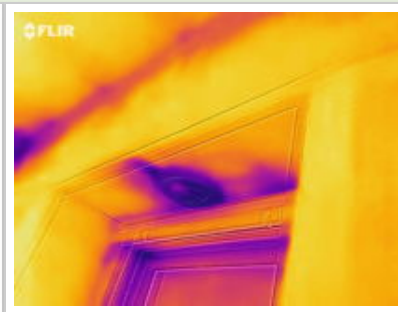
Approx. \$22

Savings to Investment Ratio

0.9

Why it matters

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L: Air leakage between kitchen soffit and attic
R: Air leakage through can light within soffit



L: Top plate attic air leakage: Where exterior and interior walls terminate in the attic, there is a junction between the wall board and the framing. This long thin gap between the wall board and the wall framing allows conditioned house air and attic air to exchange.

Notes to Homeowners

You may already know where some air leakage occurs in your home, such as an under-the-door draft, but you'll need to find the less obvious gaps to properly air seal your home.

During the energy assessment on your home a blower door test was conducted to determine the overall leakiness of your home. The blower door test, which depressurized your home, helped identify the location of many leaks.

Attic air sealing must always precede the addition of attic insulation.



Seal Air Leaks

AIR LEAKAGE

Approximate installed cost

\$600

Energy Savings

Approx. \$22

Savings to Investment Ratio

0.9

Why it matters

Air that leaks through your home's envelope or thermal shell – the attic, exterior walls, windows, doors, and other openings – wastes a lot of energy and increases your utility costs. In colder climates, air sealing is typically the most cost effective improvement you can make to your home. Air sealing job will dramatically increase the comfort of your home and help you save significant energy.

DETAILS	NOW	GOAL
Air Leakage		
Blower Door Reading	1358 CFM50	1018.5 CFM50
Conditioned Air Volume	9090 ft ³	
Wind Zone	2	
N-Factor	18.5	
Equivalent NACH	0.48 NACH	0.36 NACH
Effective Leakage Area	75.65 in ²	56.74 in ²
Equivalent ACH50	8.96 ACH50	6.72 ACH50
Kitchen Fan	60 CFM	60 CFM
Bathroom Fan 1	27 CFM	27 CFM
Bathroom Fan 2	42 CFM	42 CFM
Bathroom Fan 3	36 CFM	36 CFM
ASHRAE 62.2 Required mechanical ventilation rate	33.4 CFM	44.3 CFM
Minimum CFM50		1930 CFM50

Insulate Attic & Kneewalls

ATTIC

Approximate installed cost

\$2,000

Energy Savings

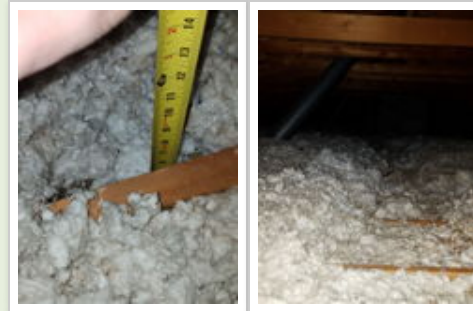
Approx. \$67

Savings to Investment Ratio

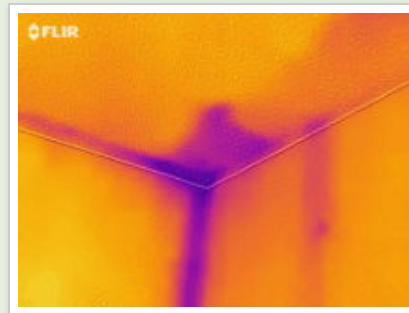
0.7

Why it matters

Adding insulation to your attic can lead to a reduction in your utility bill. This process must be combined with careful air sealing of the ceiling from the attic side to ensure the new insulation performs at its maximum level. Attic knee-walls are the cause of many comfort problems, especially in bonus rooms. Air sealing key junctures plus insulating the knee-walls can improve comfort and reduce utility costs.



L: 6 inches of fiberglass insulation provides an R value of 16, far below the recommended R 50 for our climate
R: Trampling and uneven application lowers the performance of current insulation.



Cold spot on ceiling due to uneven application.

Notes to Homeowners

After air sealing is complete insulating your attic to a consistent R-50 will vastly improve the comfort and efficiency of your home.

Knee walls are vertical walls with attic space directly behind them. They are often found in houses with finished attics (e.g. Bungalow and Cape Cod Styles) or a bonus room above a garage area. The knee wall should be conditioned to the same values as an exterior wall.

Attic Hatch: Openings used for access to the attic such as access panels, doors into knee walls, or drop down stairs should be air sealed and insulated.

Skylight Shafts: Skylight shaft walls should be insulated.



Insulate Attic & Kneewalls

ATTIC

Approximate installed cost

\$2,000

Energy Savings

Approx. \$67

Savings to Investment Ratio

0.7

Why it matters

Adding insulation to your attic can lead to a reduction in your utility bill. This process must be combined with careful air sealing of the ceiling from the attic side to ensure the new insulation performs at its maximum level. Attic knee-walls are the cause of many comfort problems, especially in bonus rooms. Air sealing key junctures plus insulating the knee-walls can improve comfort and reduce utility costs.

DETAILS	NOW	GOAL
Attic		
Attic 1		
Modeled Area	1212 ft ²	1212 ft ²
Insulation	16 R Value	60 R Value
Radiant Barrier?	No	No
Has Knee Wall?	No	No
Cool Roof?	No	No

Insulate Basement

BASEMENT

Approximate installed cost

\$0

Energy Savings

Approx. \$6

Savings to Investment Ratio

100

Why it matters

Insulating your basement walls will increase the overall comfort and temperature of your basement and could potentially lower utility costs. Insulated walls are less susceptible to condensation and mold. Insulated walls can be framed out, insulated, and finished with drywall to make a "finished basement".



Example of R-20 spray foam rim joist insulation: Example of R-20 spray foam rim joist insulation- this type of insulation serves as both air sealing and has a high R value. It also stays in place!

Notes to Homeowners

Air sealing and insulating the rim joist can be completed as one measure separate from basement wall insulation. By air sealing and insulating the sill boxes, you can prevent cold floors and reduce drafts from below to keep your home comfortable.

A properly insulated basement can save you money on heating and provides a dry, comfortable living space. In most cases, a basement with insulation installed on its exterior walls should be considered a conditioned space. Even in a house with an unconditioned basement, the basement is more connected to other living spaces than to the outside, which makes basement wall insulation preferable to ceiling insulation. All basement wall insulation projects should have a strategy for moisture control and remedy any cracks in the basement walls before proceeding.

Now & Goal

DETAILS	NOW	GOAL
Basement		
Modeled Basement Wall Area	1104 ft ²	
Modeled Basement Floor Area	1212 ft ²	
Modeled Basement Perimeter	154 ft	
Basement Heating	Incidental-Desired (e.g. leaky ducts)	Incidental-Desired (e.g. leaky ducts)
Basement Cooling	Incidental-Desired (e.g. leaky ducts)	Incidental-Desired (e.g. leaky ducts)



Insulate Basement

BASEMENT

Approximate installed cost

\$0

Energy Savings

Approx. \$6

Savings to Investment Ratio

100

Why it matters

Insulating your basement walls will increase the overall comfort and temperature of your basement and could potentially lower utility costs. Insulated walls are less susceptible to condensation and mold. Insulated walls can be framed out, insulated, and finished with drywall to make a "finished basement".

DETAILS

NOW

GOAL

Basement

Basement Rim Joist Treatment	Separately	Separately
Basement Rim Joist Length	77 ft	
Basement Rim Joist Insulation	4 R Value	21 R Value



Health & Comfort

Notes to Homeowners

Review the Health & Comfort test results on the left sidebar. Any item on the list that resulted in a Fail or Warning is explained below.

CAZ (Combustion Appliance Zone) Test Results:

Combustion Equipment Spillage Assessment:

Combustion Equipment Spillage Venting:

Knob & Tube Wiring Present:

Dryer Venting:

CARBON MONOXIDE (CO)

Reduce your exposure to CO, confirm all fuel-burning appliances are correctly vented and maintained. Since 2011, Wisconsin has required CO Alarms in all homes with fuel-burning appliances, fireplaces or attached garages. It is recommended that a CO detector with a digital readout be placed on each level of your home.

MOLD & MOISTURE

Moisture control is the key to mold control. Molds need both food and water to survive; since molds can digest most things, water is the factor that limits mold growth. Molds will often grow in damp or wet areas indoors. Common sites for indoor mold growth include basement walls and areas around windows where moisture condenses. Common sources or causes of water or moisture problems include roof leaks, deferred maintenance, condensation associated with high humidity or cold spots in the building, and malfunction or poor design of humidification systems. Uncontrolled humidity can also be a source of moisture leading to mold growth.

What's This?

These tests are recommended by the Building Performance Institute (BPI) and embraced by Home Performance with ENERGY STAR®. They can help identify and solve potential health and comfort concerns in your home.

Test Summary

- Ambient Carbon Monoxide
- Natural Condition Spillage
- Worst Case Depressurization
- Worst Case Spillage
- Undiluted Flue CO
- Draft Pressure
- Gas Leak
- Venting

Passed Failed Warning



Focus on Energy Incentives



Focus info

Focus on Energy is Wisconsin utilities' statewide energy efficiency and renewable resource program. Since 2001, the program has worked with eligible Wisconsin residents and businesses to install cost-effective energy efficiency and renewable energy projects.

The information, resources and financial incentives we provide help to implement energy saving projects that otherwise would not be completed, or to complete projects sooner than scheduled.

Whole Home Improvements

AIR SEALING AND INSULATION	TIER 1	TIER 2
10-19% energy reduction	\$850	\$1,000
20-29% energy reduction	\$1,250	\$1,500
30%+ energy reduction	\$2,000	\$2,250

Note: To qualify for Tier 2 incentives your household income must be equal to or less than 80 percent of the 2017 State Median Income.

Improvements that are used to improve incentive savings numbers:

- Air Leaks
- Attic & Kneewalls
- Crawl Space
- Exterior Walls
- Basement
- Frame Floor & Cantilevers
- Sloped or Cathedral Ceilings

Receive a \$250 bonus when you complete Whole Home Improvements and Heating and Cooling Improvements together. Improvements must be completed within 90 days of each other.

The Total Energy Savings estimated is based on the installation of all measures as specifically stated above and is solely based on the information as entered by the Trade Ally in the Program software. The Program reserves the right to inspect all installations in order to ensure compliance with all Program requirements. Responsibility for proper installations of measures, as well as delivery and workmanship related to any measures or services the customer procures rests exclusively with the Trade Ally selected by the Customer.

Incentive Amounts and requirements are subject to change. Consult with your Trade Ally or visit focusonenergy.com/myhome for complete program information.





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Heating & Cooling Improvements

EQUIPMENT	TIER 1		TIER 2	
	Incentive	Incentive w/ Smart Thermostat*	Incentive	Incentive w/ Smart Thermostat*
Natural gas multi-stage furnace with ECM, 95%+ AFUE	\$125	\$250	\$525	\$650
Natural gas multi-stage furnace with ECM and 95%+ AFUE installed with a 16+ SEER air conditioner	\$250	\$375	\$750	\$875
Modulating natural gas boiler with outdoor reset control, 95%+ AFUE	\$400	\$525	\$550	\$675
Indirect water heater (installed at the same time as qualified boiler)	\$100	NA	\$150	NA
Modulating combination natural gas boiler with integrated domestic hot water and outdoor reset control, 95%+AFUE	\$500	\$625	\$675	\$800
Propane multi-stage furnace with ECM, 90%+ AFUE	\$100	NA	\$300	NA
Natural gas furnace, 95%+ AFUE	NA	NA	\$350	\$475
Air source heat pump, 16+ SEER and 8.4 HSPF (propane, oil or electric furnace only; cannot be a mini-split or ductless system)	\$300	\$425	\$300	\$425
Ductless/mini-split heat pump for electric resistance heated home, 18+ SEER and 9.0 HSPF (only for homes heated solely with electric resistance heat)	\$500	NA	\$500	NA
ECM replacement	\$100	NA	\$100	NA
Smart thermostat stand-alone (not installed along with new program qualified HVAC equipment). For use with natural gas furnace, natural gas boiler, and air source heat pump only.	\$75	NA	\$75	NA
BONUS when you complete Heating and Cooling Improvements and Whole Home Improvements together within 90 days of each other. Does not include smart thermostat stand-alone.	\$250	\$250	\$250	\$250

* Includes installation and smart thermostat incentive.



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Renewable Energy

EQUIPMENT	INCENTIVE
Solar Electric (PV)	12% of installed cost up to \$2000
Geothermal	\$650



Focus on Energy Incentives

Ready to do more? Find the next program that is right for you!

PROGRAM NAME	WHO IS IT FOR	WHAT IS INCLUDED	INVESTMENT REQUIRED
Appliance Recycling bit.ly/applrec	Residents interested in removing an old or unused refrigerator or freezer	Offers FREE pickup of old, working refrigerators and freezers. Units will be recycled and disposed of in an environmentally friendly way.	FREE
Appliance Marketplace bit.ly/applmar	Residents interested in finding local retailers that offer discounts on energy-saving appliances.	Connects customers with participating retailers offering discounted ENERGY STAR appliances to make these high-performing, high-quality products more affordable.	FREE
Simple Energy Efficiency bit.ly/foesee	Residents interested in FREE Energy Saving Products for their homes	Offers a selection of Free Energy Saving Products including LED light bulbs and more	FREE
Lighting bit.ly/foelight	Residents looking for in-store discounts on Energy Efficient Products	Special Discount Pricing on LEDs at Participating Retailers.	\$
Smart Thermostats bit.ly/foest	Residents interested in installing a new smart thermostat in their home	Offers a cash incentive for installing qualifying smart thermostats.	\$\$
Home Performance bit.ly/foehpp	Residents interested in knowing if their homes are wasting energy	Whole Home Improvements Path (bit.ly/foewhip) For homeowners looking for top home comfort and serious savings. Includes a home energy assessment and a customized report with recommended energy improvements.	\$\$ - \$\$
		Heating and Cooling Improvements Path (bit.ly/foehaci) For homeowners who aren't quite ready for the Whole Home approach, but want to take smaller steps to lower energy and increase home comfort through HVAC improvements.	
		Renewable Energy Path (bit.ly/foeer) The path if you've already taken steps to ensure your home uses energy efficiently and want to invest in more energy efficient options.	
New Home bit.ly/foenewh	Residents interested in building a new home	Work with a certified Focus on Energy builder to ensure your new home is comfortable, combustion safe, energy efficient, and durable.	\$\$\$\$\$



About the metrics

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

The 'Baseline' 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 Typical Meteorological Year for the past 30 years (TMY30). In other words, this is the energy consumption of the home for a typical year, not the year that the utility bills were from.

Metrics

FUELS	BASELINE	IMPROVED	SAVED
Total Fuel Energy Usage <small>therms/year</small>	634	526	108
Natural Gas Energy Usage <small>therms/year</small>	634	526	108

METRIC	BASELINE	IMPROVED	SAVED
Electric Energy Usage <small>kWh/year</small>	5,711	5,649	62
Total Energy Usage <small>MMBtu/year</small>	83.00	72.00	11.00
Fuel Energy Cost <small>\$/year</small>	\$ 500	\$ 415	\$ 85
Electric Energy Cost <small>\$/year</small>	\$ 818	\$ 809	\$ 9
Total Energy Cost <small>\$/year</small>	\$ 1,318	\$ 1,223	\$ 95
CO2 Production <small>Tons/year</small>	6.8	6.2	0.6
Payback <small>years</small>			17
Total Energy Savings			13%
Total Carbon Savings			9%
Net Savings to Investment Ratio <small>SIR</small>			0.8
Net Annualized Return <small>MIRR</small>			4.0%

HEATING & COOLING LOAD CALCULATIONS		
Heating Load <small>Btu/hr</small>	Base: 36,957	Improved: 29,983
Cooling Load: Sensible <small>Btu/hr</small>	Base: 14,273	Improved: 10,867
Cooling Load: Latent <small>Btu/hr</small>	Base: 1,160	Improved: 1,071
Winter Design Temperature	Outdoor: -12°	Indoor: 70°
Summer Design Temperature	Outdoor: 87°	Indoor: 75°



Tech Specs

Property Details

Year Built:	1980
Conditioned Area:	1212 ft ²
Includes Basement:	No
Average Wall Height:	7.5 ft
House Length:	40.5 ft
House Width:	28.5 ft
Floors Above Grade:	1
Number of Occupants:	4
Number of Bedrooms:	3
Type of Home:	Single Family Detached
Front of Building Orientation:	North East
Shielding:	Normal
Tuck Under Garage:	No

Thermostat

Programmable Thermostat Installed:	Yes
Heating Setpoint High:	64-72 °F
Heating Setpoint Low:	60-68 °F
Cooling Setpoint High:	76-88 °F
Cooling Setpoint Low:	72-82 °F

Heating & Cooling

Heating Design Load:	36957 Btu/hr
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Hvac: 1

System Name:	Hvac System 1
Equipment Type:	Furnace / Central AC (shared ducts)
Upgrade action:	Keep an existing system as is
Heating Energy Source:	Natural Gas
% of Total Heating Load:	100%
Heating Capacity:	70000 BTU/h

Heating System Efficiency:	99.4 AFUE
Heating System Manufacturer:	Comfort Master
Heating System Model Year:	2014
% of Total Cooling Load:	100%
Cooling Capacity:	70000 BTU/h
Cooling System Efficiency:	13 SEER
Cooling System Manufacturer:	General Electric
Cooling System Model Year:	2004
Duct Location:	50/50 Basement (unconditioned) - Conditioned Space
Duct Insulation:	Fiberglass 1.25"
Duct Leakage:	15% - Somewhat leaky
Duct Efficiency:	100%

Appliances

Range: 1

Range Fuel Type:	Electricity
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Oven: 1

Oven Fuel Type:	Electricity
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Clothes Dryer: 1

Dryer Fuel Type:	Natural Gas
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Clothes Washer

Type:	Front Load
Integrated Modified Energy Factor:	1.62 IMEF
ENERGY STAR:	No

Dishwasher

Dishwasher Installed?:	Yes
Energy Factor:	0.43 EF
ENERGY STAR:	No

Refrigerators

Refrigerator: 1

Refrigerator Age:	15-21
Refrigerator Size:	19-21
ENERGY STAR:	No
Usage:	762.08 kWh/yr

Lighting

% CFLs or LEDs:	51-75%
Total # of Light Bulbs:	62
# of CFLs:	39
# of LEDs:	0
# of Incandescents:	23

Doors

Door: 1

Type:	Steel, hollow with storm
Area:	21 ft ²
ENERGY STAR:	No
U Value:	0.45 U Value

Door: 2

Type:	Wood
Area:	21 ft ²
ENERGY STAR:	No
U Value:	0.46 U Value

Exterior Walls

Wall: 1

Modeled Area:	1056.39 ft ²
Insulated?:	Yes
Siding:	Metal/vinyl siding
Construction:	2x6 Frame
Cavity Insulation:	16 R Value
Wall Cavity Insulation Type:	Fiberglass or Rockwool Batt
Continuous Insulation:	0 R Value



Tech Specs

Attic & Vaulted Ceiling

Attic: 1

Modeled Area:	1212 ft ²
Insulation Depth:	4-6
Insulation Type:	Fiberglass or Rockwool (batts or blown)
Insulation:	16 R Value
Radiant Barrier?:	No
Has Knee Wall?:	No
Cool Roof?:	No

Foundation - General

Foundation: Basement:	100%
Foundation Above Grade Height:	1 ft

Foundation - Basement

Modeled Basement Floor Area:	1212 ft ²
Basement Wall Insulation:	None or Bare Walls
Basement Rim Joist Treatment:	Separately
Basement Rim Joist Insulation:	4 R Value
Basement Rim Joist Insulation Type:	Fiberglass or Rockwool Batt
Basement Heating:	Incidental-Desired (e.g. leaky ducts)
Basement Cooling:	Incidental-Desired (e.g. leaky ducts)

Frame Floors

Modeled Floor Area:	0 ft ²
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Windows

Window: 1

Window Area: NE (Front):	55.8 ft ²
Window Area: SE (Left):	0 ft ²
Window Area: SW (Back):	37.2 ft ²
Window Area: NW (Right):	8.73 ft ²

Frame:	Vinyl
ENERGY STAR:	No
U-Value:	0.51 U Value
Solar Heat Gain Coefficient:	0.56 SHGC
Window Area: NE (Front) Overhang Depth:	2 ft
Window Area: SE (Left) Overhang Depth:	2 ft
Window Area: SW (Back) Overhang Depth:	2 ft
Window Area: NW (Right) Overhang Depth:	2 ft
Exterior Treatment: NE (Front):	No Treatment
Exterior Treatment: SE (Left):	No Treatment
Exterior Treatment: SW (Back):	No Treatment
Exterior Treatment: NW (Right):	No Treatment

Skylights

Skylight Area:	0 ft ²
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Air Leakage

Blower Door Reading:	1358 CFM50
Conditioned Air Volume:	9090 ft ³
Wind Zone:	2
N-Factor:	18.5
Equivalent NACH:	0.48 NACH
Effective Leakage Area:	75.65 in ²
Equivalent ACH50:	8.96 ACH50
Kitchen Fan:	60 CFM
Bathroom Fan 1:	27 CFM
Bathroom Fan 2:	42 CFM
Bathroom Fan 3:	36 CFM
ASHRAE 62.2 Required mechanical ventilation rate:	33.4 CFM

Water Heating

Water Heating: 1

Fuel:	Natural Gas
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Type:	Tank Water Heater
Age:	6-10
Location:	Garage or Unconditioned Space
Temperature Settings:	High (140-150 F)
Energy Factor:	58 EF

Pool & Hot Tub

Pool:	No
Hot Tub:	No

PV

Pv: 1

Has PV?:	No
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Utilities

Utility Price: Natural Gas:	0.79 \$/Therm
Utility Price: Propane:	1.47 \$/Gallon
Utility Price: Fuel Oil:	2.15 \$/Gallon
Utility Price: Electricity:	0.14 \$/kWh
Utility Price: Wood:	0 \$/cord
Utility Price: Pellets:	0 \$/Ton

Utility Bills

Electric

Electric Utility Provider Name	MG & E
Electric Account Number	25441437
1. 01/02/2017	476 kWh
2. 01/31/2017	412 kWh
3. 02/28/2017	346 kWh
4. 04/02/2017	433 kWh
5. 04/30/2017	367 kWh
6. 05/31/2017	328 kWh
7. 07/02/2017	419 kWh



Tech Specs

8. 07/31/2017	538 kWh
9. 08/31/2017	463 kWh
10. 10/01/2017	445 kWh
11. 10/31/2017	395 kWh
12. 11/30/2017	399 kWh

Job ID: 100640

Focus on Energy

Report & modeling software: Snugg Pro™ 5.0

Fuel

Fuel Utility Provider Name	MG &E
Fuel Account Number	25441437
1. 01/02/2017	107 Therms
2. 01/31/2017	98 Therms
3. 02/28/2017	75 Therms
4. 04/02/2017	80 Therms
5. 04/30/2017	33 Therms
6. 05/31/2017	24 Therms
7. 07/02/2017	14 Therms
8. 07/31/2017	11 Therms
9. 08/31/2017	12 Therms
10. 10/01/2017	12 Therms
11. 10/31/2017	25 Therms
12. 11/30/2017	64 Therms

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About This Report

Report Date: April 2, 2018



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.

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.