Pro Eco-Energy

Home Assessment

HOME ENERGY AUDIT REPORT

Prepared for:

[redacted]

Prepared by:
Pro Eco Energy

Andrew Aliferis
PO Box 445
Scotland, PA 17254
717-446-0575

Met-Ed®
Penelec®
Penn Power®
West Penn Power®

FirstEnergy Companies

HOME ENERGY AUDIT REPORT

Audit Date: 2/12/2013

ABOUT THIS REPORT

Your in-home evaluation was conducted on 2/12/2013. During the inspection, I evaluated your home's structural elements, heating/cooling equipment, and energy consuming appliances. The information gathered during the home inspection provided input data to benchmark the energy use of your home and develop a strategic plan for the most effective way to reduce that energy usage. The attached report details the proposed improvement measures including expected savings for your home. If you have any questions about your home's energy performance, please contact me. Implementing these recommendations will reduce your energy bills and make your home more comfortable and more valuable. It's important to note that savings estimates provided are approximations to help you prioritize changes. The estimations should not be taken as firm commitments.

BUILDING INFORMATION

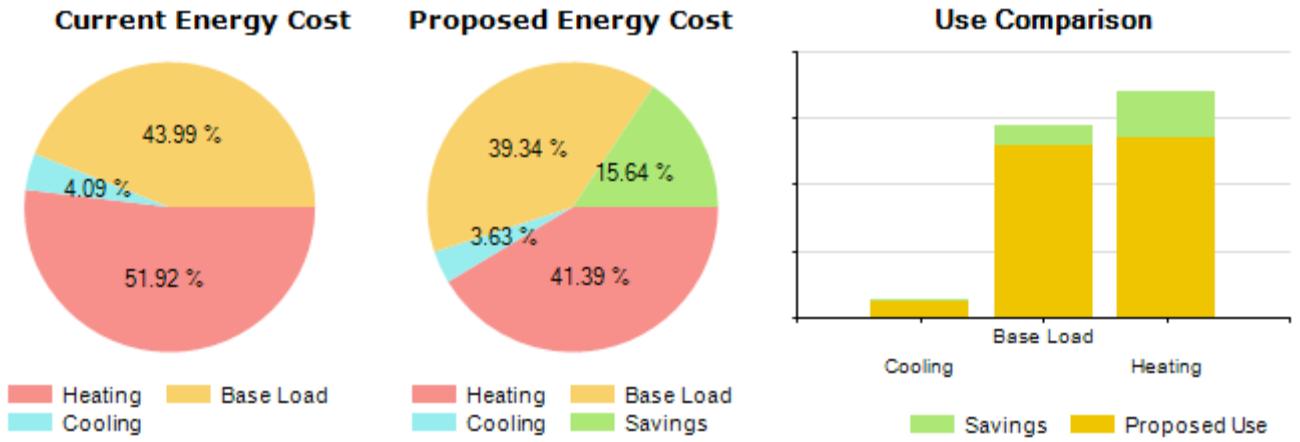
Date of Visit	February 12, 2013	Year Built	2002
Conditioned Area	1478	Number Occupants	1
Foundation Type	Vented Crawlspace	Number Bedrooms	2
Attic Type	Vented Attic	Number Stories	1

HOME ENERGY AUDIT REPORT

Audit Date: 2/12/2013

HOW YOUR HOME USES ENERGY

Fuel Type	Use	Unit Price	Cost	Savings
			$842	$205
Electricity	8363 kWh	$0.10		
	Total Cost		$842	$205

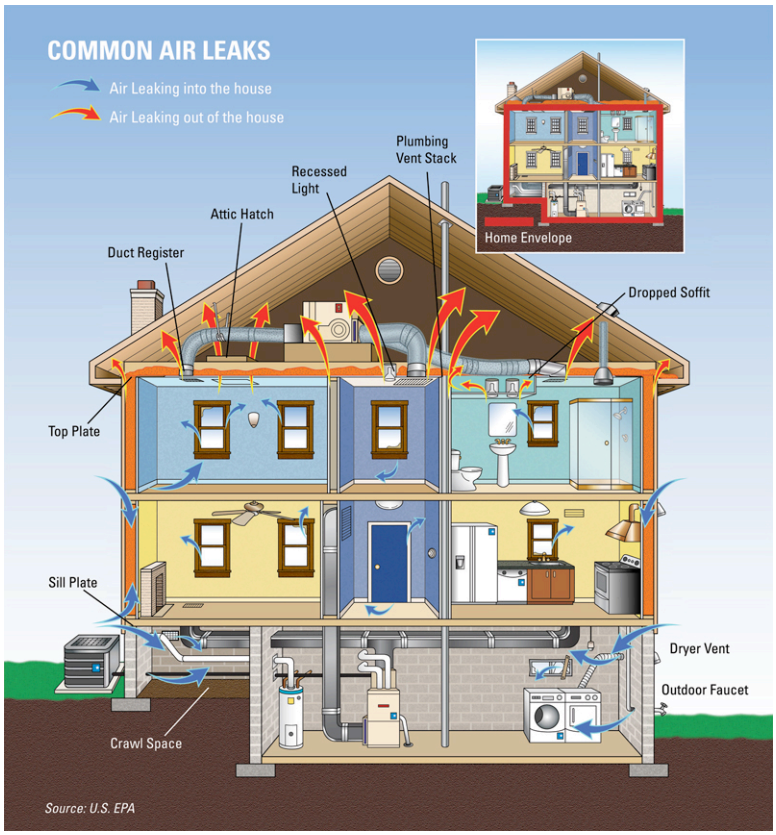


Heating usage includes all energy used to heat your home. Both heating and cooling usage are weather dependent. Base load is the energy use that is independent of the weather. This includes uses like appliances and lighting as well as hot water. This chart shows how your home is currently using energy among these different end uses. Each improvement affects the energy profile of your house in different ways. Insulation will improve both heating and cooling while replacing a refrigerator will only improve the base-load. This chart indicates the proposed energy usage of your house with all the recommended improvements installed to indicate from where your savings will come.

IMPROVEMENT SAVINGS

Improvement	Status	First Year's Savings	Cost	SIR	Payback
Improve 114 sq ft of rim joist from Low insulation to High insulation	Recommended	18 kWh (Electricity) $1.78	$0.00	NC	0.0 yrs
Kitchen Aerators (1.0 each)	Installed	34 kWh (Electricity) $3.46	$0.00	NC	0.0 yrs
Replace 60W bulbs with 13W CFLs (4 each)	Installed	116 kWh (Electricity) $11.70	$0.00	NC	0.0 yrs
Replace 100W bulbs with 23W CFLs (4 each)	Installed	190 kWh (Electricity) $19.14	$0.00	NC	0.0 yrs
Improve 1,436 sq ft of attic floor insulation from 9 inches to 15 inches.	Recommended	198 kWh (Electricity) $19.95	$0.00	NC	0.0 yrs
Reduce the house air leakage from 2360 CFM50 to 1830 CFM50.	Recommended	590 kWh (Electricity) $59.43	$0.00	NC	0.0 yrs
Reduce Duct Leakages: Heating:327 to 84 CFM25, Cooling:300 to 84 CFM25.	Recommended	624 kWh (Electricity) $62.87	$0.00	NC	0.0 yrs
Total		2034 kWh (Electricity) $204.87			0.0 yrs

AIR SEALING



Many air leaks and drafts are easy to find because they are easy to feel — like those around windows and doors. But holes hidden in attics, basements, and crawlspaces are usually bigger problems. Sealing these leaks with caulk, spray foam, or weather stripping will have a great impact on improving your comfort and reducing utility bills. A house that has a lot of air leaks is subject to the “stack effect,” which means it tends to pull in unconditioned, outdoor air at the lower levels and then lose air that you have paid to heat or cool at the upper levels -- much like a chimneystack.

Some homeowners are concerned about sealing their house too tightly; however, this is very unlikely in older homes. A certain amount of fresh air is needed for good indoor air quality, and there are specifications that set the minimum amount of fresh air needed for a house. Part of the reason I tested your home for its air leakage rate (called the air infiltration rate), is to be sure you get enough fresh air after implementing your energy improvements.

Blower Door Test	*WholeBuildingMechanicalVentilation*	**Building Pressure**	*-50*
Building Leakage	*2360*	**Airflow Standard**	*1830*

Recommended Improvements

AIR SEALING

Notes: *Seal all wire, pipe and headers in attic space to eliminate bypasses to conditioned living space.*

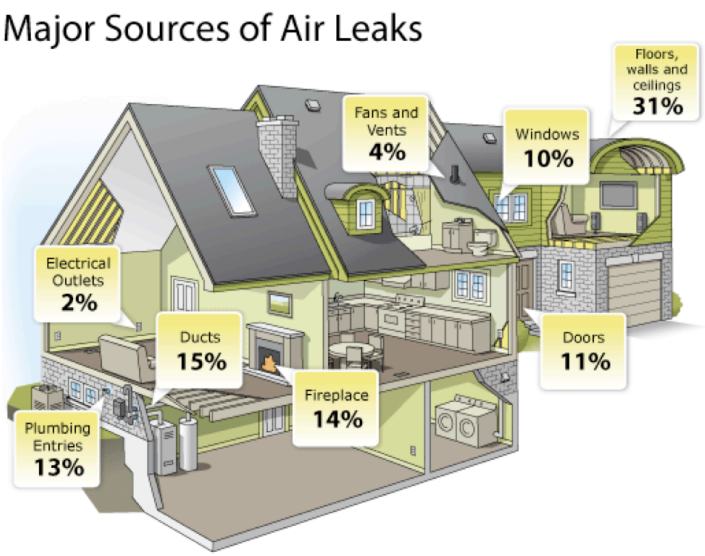
AIR SEALING

Notes: *Box 5 recessed lights of kitchen to separate living area form Attic space. Also box the 2 bathroom fan lights.*

AIR SEALING

Reduce the house air leakage from 2360 CFM50 to 1830 CFM50.

Notes: *Perform blower door guided air-sealing to reduce air flow through the house to .5 ACH minimum as per ASHRAE Standards. Use attached Blower door Air leakage Test results as a starting point.*



There are many points of leakage in homes that are leaky and inadequately air sealed.

The thermal image above shows you the sources of air leaks in a typical home. Some are obvious like the red areas around windows and doors. Others, like those in attics, are trickier to both see and seal.

HEATING AND COOLING

During the winter, homeowners expect their heating systems to keep them warm without breaking the bank. ENERGY STAR qualified heating equipment can be up to 15 percent more efficient than standard models.

Benefits of Energy Star Systems

- Lower Utility Bills. ENERGY STAR qualified heating systems are designed to use less energy than standard systems. When properly installed, these heating systems can save money on utility bills.
- Less Risk of Air Quality Problems. ENERGY STAR qualified gas-fired boilers and furnaces are designed to reduce the risk of back-drafting dangerous carbon monoxide exhaust into the home.
- Increased Durability. Most ENERGY STAR qualified boilers, furnaces, and heat pumps employ advanced technologies and high quality components, often resulting in longer equipment life and longer warranties compared to standard models.

Heat Pump

Heat pumps provide both heating and cooling in one integrated system.

- Electric Air-Source Heat Pumps are often used in moderate climates and use the difference between outdoor and indoor air temperatures to cool and heat.
- ENERGY STAR qualified Heat pumps have higher SEER and EER ratings than conventional models. They also have a higher Heating and Seasonal Performance Factor (HSPF), which measures the heating efficiency of the heat pump.
- Geothermal heat pumps (also known as Ground-source heat pumps) are among the most efficient and comfortable heating and cooling technologies currently available, because they use the earth's natural heat to provide heating, cooling, and often, water heating.

Air Conditioner

Most residential central air conditioners are called "split-systems" because they have an outdoor component with a condenser and compressor and an indoor component with an evaporator coil. It's very important to replace both of these units at the same time. Installing a new outdoor unit without replacing the indoor unit is likely to result in low efficiency, and may lead to premature failure of the system.

- ENERGY STAR qualified central air conditioners have higher SEER (Seasonal Energy Efficiency Ratio) and EER (Energy Efficiency Ratio) ratings than today's standard models.
- SEER is the most commonly used measurement of efficiency for air conditioners. It measures how efficiently a cooling system will operate over an entire season. EER measures how efficiently a cooling system will operate when the outdoor temperature is at a specific level (95 degrees F).
- The central air conditioner also needs a blower motor—which is usually part of the furnace—to blow the cool air through the duct system. The only way to ensure that your new air conditioner performs at its rated efficiency, is to replace your heating system at the same time. It's especially recommended if your furnace is over 15 years old. If you purchase a new energy-efficient air conditioner but connect it to an older furnace and blower motor, your system will not perform to its rated efficiency.

Heating System	*Air Source Heat Pump - Electric Backup Ducted*	**Year Installed**	*2002*
Heating System Location	*Vented Crawlspace*	**Heating Fuel**	*Electricity*
Cooling System	*Air Source Heat Pump - Ducted*	**Year Installed**	*2002*
Cooling System Location	*Vented Crawlspace*		

INSULATION

Insulation is one of the keys to a comfortable, energy-efficient home. But simply having the right amount of insulation is not enough. If insulation is not properly installed, a home can have excessive heat gain during the summer and heat loss in the winter—forcing the heating and cooling systems to work overtime.
Properly installed insulation will completely blanket the home—exterior walls, ceiling, and floors—without gaps, voids, or compressions, and it will be in full contact with the interior air barrier (for example, drywall). Continuous sealing of the air barrier along the insulation is also critical to protecting against moisture damage that can be caused by warm air flow through the insulation to colder surfaces where it can condense.

Benefits of Properly Installed Insulation

- Enhanced Comfort. Properly installed insulation minimizes temperature variability indoors and helps keep rooms warmer in the winter and cooler in the summer.
- Lower Utility Bills. As much as half of the energy used in your home goes to heating and cooling. By preventing heat loss in the winter and heat gain in the summer, a properly installed insulation barrier reduces utility bills year round.
- Improved Durability. When insulation is properly installed, the potential for condensation that can lead to decay of building materials is reduced, helping to improve the durability of your home.
- Better Resale Position. The improved comfort, lower utility bills, and improved durability of a properly installed insulation barrier can translate into higher resale value compared to less efficient homes.

Recommended Improvements

VAULTED CEILING INSULATION

Improve 118 sq ft of vaulted ceiling from 5.5 inches of insulation to 9.25 inches of insulation

Notes: *Add fiberglass batt insulation to existing R-19 batt on vaulted ceiling in attic space.*

RIM JOIST INSULATION

Improve 114 sq ft of rim joist from Low insulation to High insulation

Notes: *Insulate and seal Basement Rim Joists to reduce Heat loss and air infiltration.*

ATTIC INSULATION

Improve 1,436 sq ft of attic floor insulation from 9 inches to 15 inches.

Notes: *Existing Attic insulation is uneven between 6" - 12" thickness with an average R-value of R22. Increase existing Blown in Fiberglass to either R-38 on the low end or R-50 on the high.*

DUCT SEALING

Duct Leakage Test	*Pressure Pan*	**Duct Leakage**	*205 CFM25*

Recommended Improvements

DUCT SEALING

Reduce Duct Leakages: Heating: 205 to 84 CFM25, Cooling: 205 to 84 CFM25.

Detailed Improvement Properties

Proposed Cooling Duct Leakage (CFM25)	*84*
Proposed Heating Duct Leakage (CFM25)	*84*
Units of final leakage value (if not CFM25)	

Notes: *Air seal existing ductwork to reduce leakage to unconditioned areas. Block openings in returns that connect to the basement or attic unconditioned spaces.*

HOT WATER

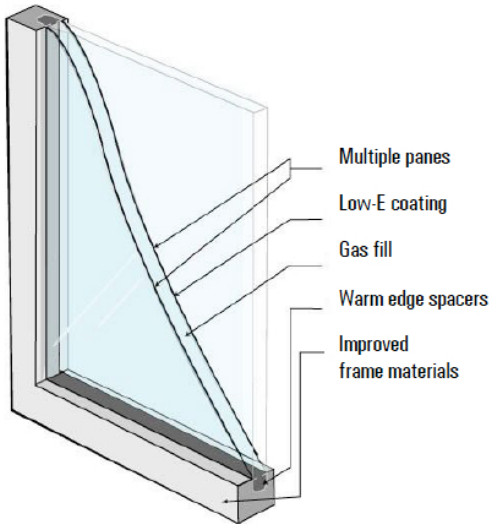
Heating water accounts for about 15 percent of a home's energy use. High efficiency water heaters use 10 to 50 percent less energy than standard models, saving homeowners money on their utility bills. Actual energy savings from high efficiency water heaters depend on family size, heater location, and the size and placement of water pipes.

Hot Water System	*Storage Water Heater*	**Year Installed**	*2002*
Hot Water Fuel	*Electricity*		

WINDOWS

Windows provide natural daylight and views, but homeowners often use drapes or blinds to cover them because of comfort concerns. ENERGY STAR qualified windows and skylights allow owners to enjoy the light and views while saving money on utility bills and protecting valuable furnishings and finishes from sun damage. Independently tested for superior energy performance, ENERGY STAR qualified windows and skylights are also better for the environment because lowering energy use helps reduce the emissions of greenhouse gases and air pollutants at the source.
Benefits of ENERGY STAR qualified windows and skylights include

- Energy Savings
- Improved Comfort
- Protection of Your Home's Interior
- Reduced Condensation



WINDOW TINTING
Residential window tinting is not only affordable, but an effective form of conservation. Solar window film saves energy and increases comfort through:

- Keeping filmed buildings cooler in the summer by minimizing the presence of heat producing infrared rays.
- Retaining heat during the winter by providing insulation for filmed windows. Solar film increases the U-factor of less efficient windows.
- Reduce HVAC strain by preventing hotspots in large buildings. Hotspots can create situations where the air conditioning system will be running in one area of the building and heat simultaneously in another.
- Reducing glare that increases eye fatigue.and lowers productivity.
- Protecting valuable furnishings from fading and sun damage.

Existing Window Glazing	Double Pane (low-e)		

LIGHTING & APPLIANCES

APPLIANCES

Every appliance comes with two price tags: what it costs to take it home and what it costs to operate and maintain it each month. ENERGY STAR qualified appliances incorporate advanced technologies and use 10 to 50 percent less energy than standard appliances. From refrigerators to clothes washers, ENERGY STAR qualified appliances save energy, save money, and help reduce emissions of greenhouse gases and air pollutants at the source.

Benefits of ENERGY STAR Qualified Appliances

- Lower Utility Bills. Appliances account for nearly 20 percent of the average household's energy use. A comprehensive package of ENERGY STAR qualified appliances can save up to $80 a year in energy costs compared to standard appliances.
- Improved Quality and Durability. Energy-efficient appliances often include quality components surpassing those found in standard appliances. These can result in fewer mechanical problems, longer equipment life, and in many cases extended warranties.
- Enhanced Performance. ENERGY STAR qualified appliances often outperform standard appliances due to improved design and advanced technologies. For instance, some ENERGY STAR qualified appliances include features that decrease operating noise, while others include technologies that reduce water use.

Lightbulbs & Fixtures

Choosing more efficient light bulbs or light fixtures can make a big difference on utility bills and for the environment. Replacing the five most frequently used light fixtures in a home with ENERGY STAR qualified lighting can save about $65 each year in energy costs.

Benefits of ENERGY STAR Qualified Fixtures and Bulbs

- Cost Savings. An ENERGY STAR qualified compact fluorescent light bulb (CFL) uses about 75 percent less energy than a comparable standard incandescent bulb. Replacing a 60-watt incandescent with a 13-watt CFL can save more than $30 in energy costs over the life of the bulb.
- Improved Safety. ENERGY STAR qualified CFLs operate at less than 100 degrees F and are safer than the halogen bulbs typically used in floor lamps or torchieres, which burn at 1,000 degrees F. Halogen bulbs, when improperly handled, can cause burns and fires due to their high heat output.
- Enhanced Comfort. Compared to standard incandescent bulbs, ENERGY STAR qualified CFLs generate about 75 percent less heat. This means they are cool to the touch, help reduce home cooling costs, and keep homes more comfortable.
- Durability. ENERGY STAR qualified fixtures and bulbs meet strict guidelines for longevity. Pin-based fixtures must last 10,000 hours, about 10 times longer than standard. CFLs must last 6,000 hours. In addition, ENERGY STAR qualified fixtures come with a 2-year warranty—double the industry standard.

Cooking Fuel	*Electricity*	**Clothes Dryer Fuel**	*Electricity*
Lighting Usage	*Very Low*	**Misc Electric Usage**	*Very Low*

RECOMMENDED IMPROVEMENTS

HEALTH AND SAFETY MEASUREMENTS

In addition to energy savings, your home was checked for any underlying health and safety issues such as proper ventilation, carbon monoxide levels, and proper venting of any combustion appliances. To assess your home, a series of measurements were performed including a blower door test to depressurize the house and assess air leakage levels in addition to safety tests on HVAC equipment, including carbon monoxide levels and combustion appliance back-draft testing (not applicable on an all-electric home). The results of these tests are presented here along with any recommended actions for improving your home where it fails to meet national standards for a healthy and safe home.

Stoves

Fuel	Electricity
Vent Out	false
Action	No Combustion

Blower Door Test Results

Method	Whole Building Mechanical Ventilation
Building Pressure (Pa)	-50
Fan Pressure (Pa)	50
Fan Ring Used	A+B Rings
Building Leakage (CFM50)	2360
Building Airflow Standard	1830
Result	Pass With Recommendation
Action	Air Seal to achieve no less than .5 ACH

Distribution System Airflow

Test Results	Fail
Action	Check all connections where flex duct meets trunk and at boots. Air seal where boots meet wall or floor. Block connections in returns to stud bays and openings to basement or attic.

Ventilation

Primary Heating Vent Type	
DHW Vent Type	
Dryer Vent	Electric
Dryer Vent Action	None
Other Health & Safety Issues	None

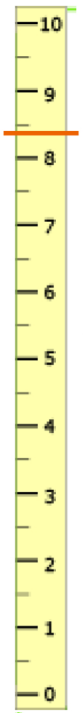
Duct Leakage

Test	Pressure Pan
Result (CFM25)	205
Pressure Pan Avg (Pa)	205

Home Energy Usage Report

Met-Ed®
Penelec®
Penn Power®
West Penn Power®
FirstEnergy Companies

How Does Your Home MEASURE UP?



8.4

EPA ENERGY STAR Home Energy Yardstick Results

Your Yardstick score is calculated against similar homes nationally and is scored between 0 and 10, with 10 being the most energy efficient. 5 is average.

Estimated Annual CO_2 Emissions:
12,000 lbs of CO_2

Your Home

Building Information:
[redacted]

Occupants: 1

Square Footage: 1478

Year Built: 2002

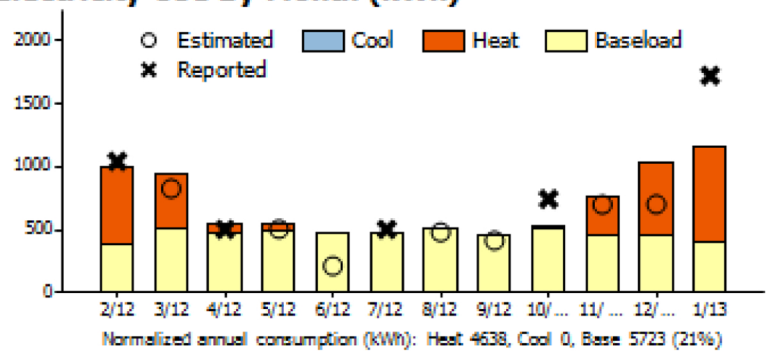
Hot Water Source:
Electricity

Annual Usage:
Electricity: 8360 kWh/yr

Report Date: February 20, 2013

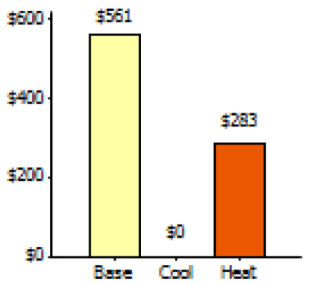
Your Energy Usage

Electricity Use By Month (kWh)

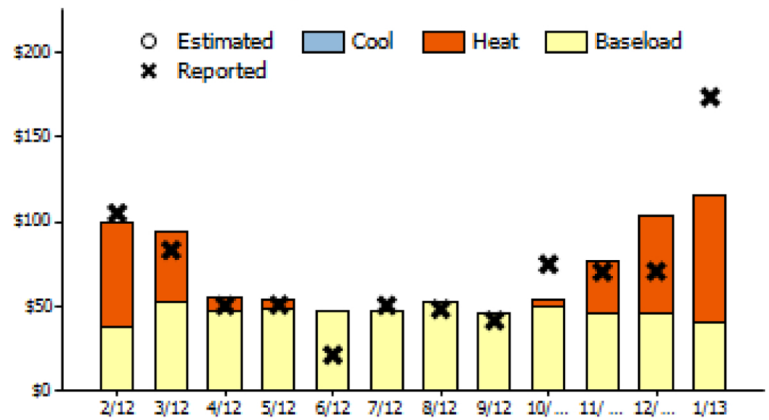


Electricity Cost By Use

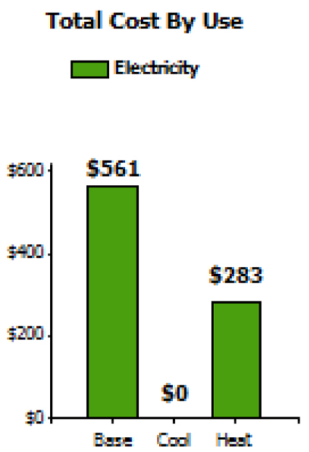
Annual Energy Cost
Avg. unit cost: 10¢/kWh



Total Energy Cost By Use



Total Cost By Use



Your Savings Potential

Electricity

20% Annual Savings

Heating	$93
Cooling	$0
Baseload	$115

Total Energy

20% Annual Savings

Heating	$93
Cooling	$0
Baseload	$115
Total	$209

Explanation of Terms

Savings are for a typical year
Baseload energy is the energy not affected by outdoor temperature. This includes appliances, lighting, and hot water.
Reported energy is your recorded monthly consumption values.

Your Carbon Footprint

In one year, your home uses the carbon of...

1 car

Normalized energy Use:
19 Btu/sqft/person

What's a Footprint?

A Carbon Footprint is a snapshot of how much carbon dioxide(CO2) is produced in a particular span of time by an area, object, or person. In this case, it is a measure of your home's CO2 production over a 12 month period. Typically the higher this is, the greater potential there is for reduction and savings.

To find out more about your carbon footprint, visit www.nature.org/calculator.

Report Date: February 20, 2013

10 Things You Can Do To Shrink Your Energy Bill

Cost effective energy use reductions of 40% to 50% can be realized when you use a whole house, performance tested approach on your current home.

1. **Set back your thermostat:** Setting thermostats down to 60 degrees when you are in bed or away saves significant energy. Automatic thermostats, adjusted to your schedule, make this very easy.
2. **Stop using unnecessary refrigerators:** Refrigerators are significant energy users. Turn off unused refrigerators that are only needed seasonally, and consolidate the contents of nearly empty refrigerators and freezers.
3. **Lower your water heater tank temperature setting:** Reducing hot water tank temperature down to 120 degrees, or lower, can save significant energy, while reducing the risk of scalding. This lower setting will not reduce your bathing enjoyment.
4. **Use compact fluorescent or LED lighting:** Compact fluorescent light (CFL) bulbs are a very cost effective way to reduce energy consumption. They are available in many sizes and shapes for most any location. LED bulbs are even more efficient than CFL and are extraordinarily effective for many locations.
5. **Use a low flow shower head:** Heating water takes energy, so using half the amount of hot water saves substantial energy. There are a wide variety of low flow shower heads available that provide a satisfying experience while conserving energy.

Seek the help of a professional building performance contractor for these tasks:

1. **Seal against air infiltration:** Reducing the exchange of conditioned air to the outside, or outside air to the inside is a most effective way to reduce energy consumption. A whole house de-pressurization test is the most reliable way to understand the effectiveness of a comprehensive air sealing effort.
2. **Seal and insulate your attic:** Sealing and insulating the ceiling between your attic and living space is often, also, a very good energy saving measure. An inspection by a qualified professional can determine the efficacy of this measure, in relation to others, as part of a whole house energy audit.
3. **Insulate exterior walls and floors:** Increasing the amount and quality of insulation in exterior walls and floors, though it can be difficult, is often necessary to the overall effectiveness of the whole house remediation effort. Specialized equipment of the building performance contractor is useful to pinpoint the exact areas that need work.
4. **Update your heating and cooling equipment:** Efficiency of heating and cooling equipment has been increasing such that the proper sized system may be smaller than your current one. If your equipment is old, or has not been serviced recently, you may benefit by having it serviced or replaced with a new efficient model.
5. **Update your water heater:** Water heating equipment efficiency has been increasing, as well. If your equipment is old, or has not been serviced recently, you may benefit by having it serviced or replaced with a new efficient model.

Carbon Savings Potential

Electricity

20% Annual Savings

Heating	1271 lbs CO_2
Cooling	0 lbs CO_2
Baseload	1568 lbs CO_2

Total Energy

20% Annual Savings

Heating	1271 lbs CO_2
Cooling	0 lbs CO_2
Baseload	1568 lbs CO_2
Total	2839 lbs CO_2

Explanation of Terms

Baseload energy is the energy not affected by outdoor temperature. This includes appliances, lighting, and hot water.
Reported energy is your recorded monthly consumption.

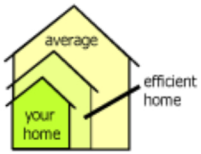
Met-Ed®
Penelec®
Penn Power®
West Penn Power®
FirstEnergy Companies

Peer Comparison Report

Met-Ed®
Penelec®
Penn Power®
West Penn Power®
FirstEnergy Companies

Summary

Total Energy Use for a typical year



Your Home:
116,305 kBtu

Average Home:
243,204 kBtu

Efficient Home:
159,893 kBtu

Average home energy use is calculated based on the homes in your community.

Your Community

The comparison graphs on this page are held against an average of the buildings within your community.

Your selected community:

Homes in PA state with

- Between 1 and 4 occupants
- Between 500 and 1,500 square feet of living space

To create a more accurate comparison, your home is compared with other similar homes based on size, occupancy and location.

Your selected community contains **17** homes.

Report Date: February 20, 2013
Building: [redacted]

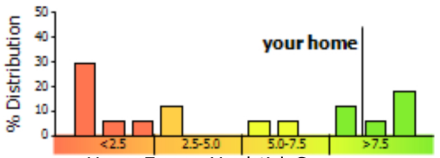
How Are You Doing?

Cost (total for a typical year)

Your Home		$ 1,063
Average Home	*	$ 2,112
Efficient Home	**	$ 1,363

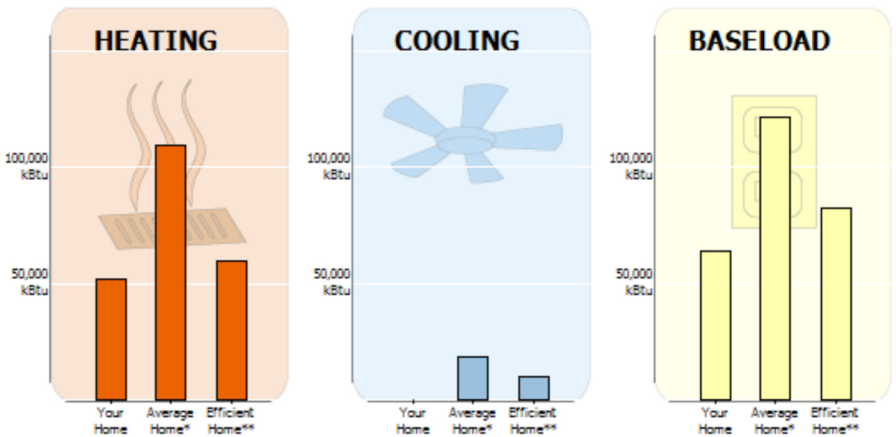
You Could Save $0

Scores in Your Community



Home Energy Yardstick Score

Where Your Energy is Used



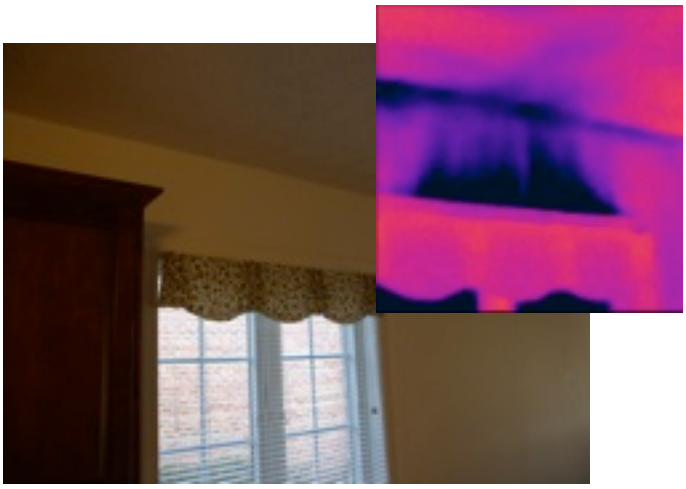
Savings values for the whole house may differ from the end use savings. To achieve the end use savings, your home needs to become efficient for each end use.

*Average home is calculated as the average of all homes in your selected community group. Efficient home is calculated as the average energy use of the 25% of homes in your community that use the lowest energy.

**Energy values shown on this report include a source energy conversion factor.

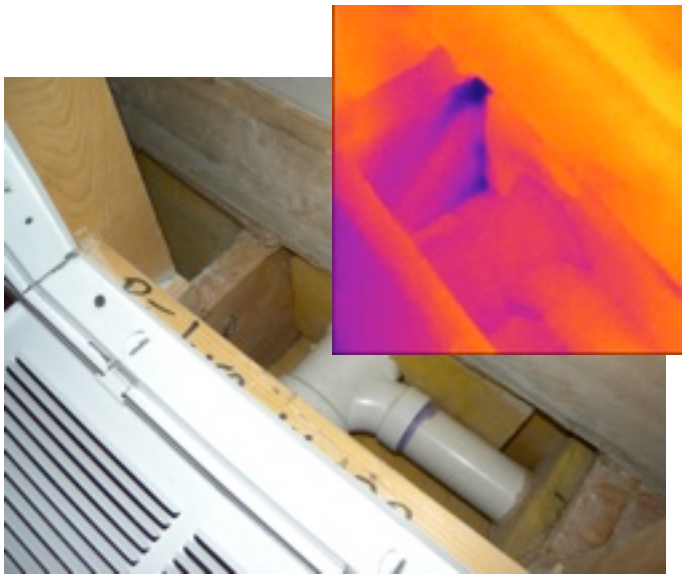
In all thermal images warmer surfaces appear lighter in color and cooler surfaces appear darker

Ductwork in basement showing heat loss



Infiltration above windows

Draft from returns

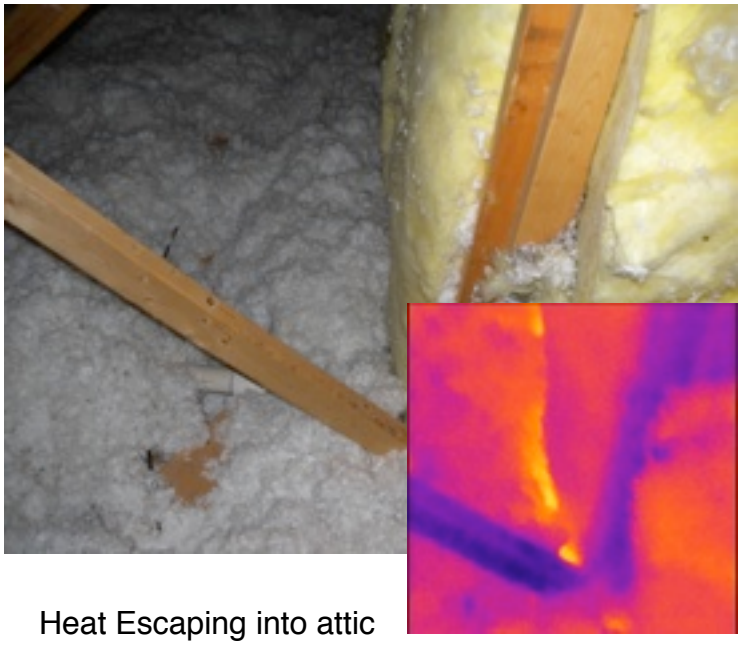


Flow of air in return from unconditioned basement

Infiltration from attic through recessed lights in kitchen

Air around basement hatch

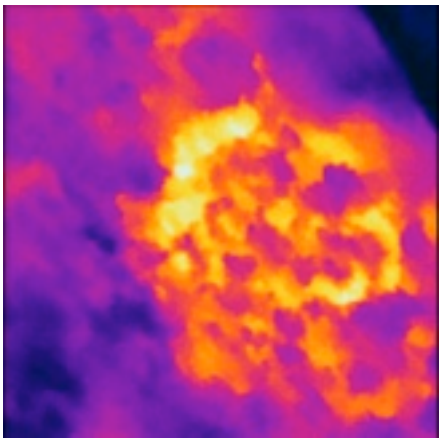
Vent from Hallway bath showing heat loss to attic space from unboxed fan and improper venting throwing moisture into Attic. Could lead to possible mold in Attic



Heat Escaping into attic at areas with very low insulation near vaulted ceiling at entry.

Uneven blown fiberglass in attic. 9” equals approximately R22. DOE recommends between R38 - R60.

Area over master bathroom showing effect of unboxed bathroom fan



Heat loss into attic over unsealed recessed lights in kitchen.

BLOWER DOOR RESULTS

Date of Audit:2/12/2013

Room	Problems / Measures needed	Zonal	Thermal Boundry
Front Office	No Problems noted	2.8 pa	In ■ Out ☐
Master Bath	Box fan in attic. Vent to exterior	12.2 pa	In ■ Out ☐
Walk-in Closet	Add gasket to basement hatch	2.0 pa	In ■ Out ☐
Hallway	Seal stud bays and return pans	pa	In ■ Out ☐
Kitchen	Box 5 recessed lights	pa	In ■ Out ☐
	Caulk top trim of windows	pa	In ■ Out ☐
Living Room	Caulk top trim of windows	pa	In ■ Out ☐
Hall Bath	Box fan in attic. Vent to exterior	6.0 pa	In ☐ Out ■
Attic	Box lighting and fans.	48.0 pa	In ☐ Out ■
Basement	Seal hatch and returns	41.0 pa	In ☐ Out ■
Garage	Adjust threshold	49.0 pa	In ☐ Out ■
		pa	In ☐ Out ☐
		pa	In ☐ Out ☐
		pa	In ☐ Out ☐
		pa	In ☐ Out ☐
		pa	In ☐ Out ☐
		pa	In ☐ Out ☐
		pa	In ☐ Out ☐
		pa	In ☐ Out ☐
		pa	In ☐ Out ☐
	* achieve .5 ACH	pa	In ☐ Out ☐

Target BTL 1830*	**Door Location** Front	**Baseline** -4.2 **pa**
CFM@50 2360	**Ring** ☐ Open ☐ A ■ B ☐ C	**Blower Door setting** -50.0 **pa**

Basement door ☐ **Open** ■ **Closed** ☐ **NA** **Other door** _____ ☐ **Open** ☐ **Closed**

v122612

PRESSURE PAN RESULTS

Date of Audit:2/12/2013

Supply Ducts	Room	Reading	Returns	Room	Reading
S1	Kitchen	2.8 pa	R1	Hall @ Kitchen	10.0 pa
S2	LR @ Kitchen	2.8 pa	R2	Hall @ Beds	11.0 pa
S3	LR @Sliding Door	4.0 pa	R3		pa
S4	Entry	5.4 pa	R4		pa
S5	Office	10.4 pa	R5		pa
S6	Master Bed	10.4 pa	R6		pa
S7	Master Bath	7.2 pa	R7		pa
S8		pa	R8		pa
S9		pa	R9		pa
S10		pa	R10		pa
S11		pa	R11		pa
S12		pa	R12		pa
S13		pa	R13		pa
S14		pa	R14		pa
S15		pa	R15		pa
S16		pa	R16		pa
S17		pa	R17		pa
S18		pa	R18		pa
S19		pa	R19		pa

Test performed at CFM@50 ☑ CFM@25 ☐

NOTES: Any Supply or Return Duct with a result greater than 2.0 pa indicates possible leakage to the exterior and could benefit from duct sealing.

Duct leaks or disconnects observed? ☑ Yes ☐ No ☑ If Yes, Describe Possible loose flex connections

Existing Duct Materials: ☐ Metal ☑ Ductboard ☑ Flex ☐ Other _____

System Type: ☑ Heat Pump ☐ Central Air ☐ Electric Furnace ☐ Oil Furnace
☐ Gas Furnace ☐ Orphaned (No connected System) ☐ Other _____

APPLIANCE MONTHLY COST

kWh Reading	Cost / Mo
0.093	$6.48

Appliance Monthly kWh Cost

FirstEnergy Whole House Program - Usage Calculation

Agency: Pro Eco-Energy

Client's Name: [redacted]

Account Number: [redacted]

Date: 2/11/13

Read Type (RT): AV = Average ES = Estimate

Consumption History

Month		YR	Usage (kWh)	RT	Days	Per Day	Rank	Low 3	Baseload (3 lowest months) Usage	Baseload (3 lowest months) Days
January		2013	1,722		36	47.83	12.00	N	0	0
February		2012	1,043	ES	24	43.46	11.00	N	0	0
March		2012	827		33	25.06	10.00	N	0	0
April		2012	503	ES	30	16.77	5.00	N	0	0
May		2012	506	ES	31	16.32	4.00	N	0	0
June	S	2012	214		30	7.13	1.00	Y	214	30
July	S	2012	504	ES	30	16.80	6.00	N	0	0
August	S	2012	481	ES	33	14.58	3.00	Y	481	33
September	S	2012	415		29	14.31	2.00	Y	415	29
October		2012	745	ES	32	23.28	7.00	N	0	0
November		2012	700	ES	29	24.14	8.00	N	0	0
December		2012	703		29	24.24	9.00	N	0	0

Total Usage/Days	8,363	366.0		1,110	92
Daily kWh	22.8		Baseload/Day kWh		12.1

Cooling Use Calculation			
Summer Total Use (kWh)	1,614		
Summer Seasonal Use (kWh)	142	>	Summer Use over 2000 kWh indicates that Cooling improvements should be recommended
Summer Base Use (kWh)	1,472		

Heating Use Calculation			
Winter Season Total Use (kWh)	6,749		
Winter Seasonal Use (kWh)	3,805	>	Winter seasonal use of over 2,000 kWh indicates that improvements should be made to reduce heating load
Winter Base Use (kWh)	2,944		

Total Annual Use (kWh)	8,363		
Annual Base Use (kWh)	4,416	>	Estimated Annual Baseload Use
Annual Seasonal Use (kWh)	3,947		

Total Annual Use	
< 7,200 kWh	FALSE
7,200 - 9,900 kWh	TRUE
9,901 - 14,000 kWh	FALSE
> 14,000 kWh	FALSE

Estimated Annual Energy Burden	$842.63
Estimated Average Monthly Bill	$70.22
Average Cost per kWh	$0.10

Estimated Monthly Costs	
January	$166.85
February	$102.84
March	$82.48
April	$51.94
May	$52.22
June	$24.69
July	$52.03
August	$49.86
September	$43.64
October	$74.75
November	$70.51
December	$70.79