



Name  
Address  
Cedar Falls, IA 50613

Dear Name,

I want to thank you for participating in Cedar Falls Utilities House Call Energy Audit program. With increasing cost and demand for energy, it is ever-more important for homeowners to actively conserve energy usage. By asking for a House Call Energy Audit, you have taken an important first step in keeping your future energy costs low and at the same time, helping our environment by lowering carbon emissions. The following comments and recommendations have been gathered based on our audit of your home.

**#1 Insulation** (Payback\* approximation: ~5yrs)

- ✓ **Attic:** Higher R-Factors are better. We currently estimate you have 10 inches of insulation in your attic. CFU recommends a total level of 18 inches of blow-in fiberglass (14in cellulose) attic insulation which will achieve a near R-50 efficiency rating. Energy Tip: Often, though not always; a sign of insulation problems is ice on the roof and icicles hanging from the gutters.
- ✓ **Walls:** If sidewalls are not insulated please call an insulation contractor. If there are any specific areas of concern which develop please give CFU Energy Services a call.
- ✓ **Rim/Band Joists:** A surprising amount of heat escapes between the area of the basement wall and first floor. An inexpensive and effective method to insulate this area is a piece of batt insulation topped with styrofoam and sealed with white caulking.
- ✓ **Pipes:** Insulating the hot water pipes is recommended with a hot water temp of 125 °F. We measure the hot water tank by running the kitchen sink over a meat thermometer. And because of the hard water flushing the water tank can extend its life.

**#2 Furnace and A/C** (Payback approximation: Geothermal: ~10yrs, Natural Gas: **Long-term Payback**)

- ✓ **Efficiency:** Your furnace and A/C are of average efficiency. At this time it is not necessary to replace these. HVAC equipment can generally last up to 20-30 years or more. The most efficient systems are ground source heat pumps (geothermal) which achieve 300-400% efficiency; and 'condensing' gas furnaces which achieve 95% efficiency.
- ✓ **Sizing:** CFU estimates that you will need about a 3 ton two-stage geothermal with 10kw back-up resistance. Or a 45,000 BTU furnace and 1.5 ton A/C unit. Too large a capacity in your HVAC equipment can also be an energy hog. Call CFU for a 'sizing' and we will calculate exact HVAC specifications for your home qualifying you for rebates for ENERGY STAR® equipment when it's time to replace your heating and cooling systems. A CFU 'sizing letter' is required before installation for receiving HVAC rebates.
- ✓ **Trees:** An effective and inexpensive solution to reduce cooling loads is deciduous trees which block the sunlight during the summer and lose their leaves in the fall. And for the winter cold: conifer trees to create wind blocks.

**#3 Windows and Doors** (Payback approximation: ~30 yrs, unless windows are structurally damaged)

- ✓ **Drafts:** The best way to keep out the cold is to make sure that these windows and doors do not have any drafts. If you feel cold air coming into the house it is a good idea to check weather-stripping. If it is a small area like the bottom corner you can try to mend the weather-stripping back in place for a good seal. If you are going to replace the weather-stripping metal V-strip works best for doors and rope caulk or peel n' seal works best for the windows.
- ✓ **U Factor:** Lower U-factors are better and are the inverse of an R-factor. Also low-E metallic coatings help to reflect back UV rays and reduce cooling loads.

**#4 Appliances** (Payback approximation: ~20yrs)

- ✓ **Clean and Unplug:** The best way to maintain energy efficiency regarding your appliances is to keep them well maintained and clean. Computers, televisions, and stereo equipment can also have phantom loads when in low power modes. If entertainment equipment is unused for more than 4hrs a complete shutdown or unplugging will minimize this energy usage.
- ✓ **Refrigerator:** CFU offers a \$75 rebate for bringing in the receipt for recycling an old fridge and buying a new ENERGY STAR high efficiency model which uses half the power or less.
- ✓ **Washer/Dryer:** Newer wash machines save energy by spinning faster and draining more water from clothes letting the dryer work less. And clothes lines are the most efficient model of dryer. Dryers should always be vented to the outdoors.

**#5 Solar Panels** (Payback approximation: Solar: ~25yrs, Wind: ~15yrs)

- ✓ **Costs continue to drop:** CFU also buys back excess electricity generation at \$0.07/kWh. For more info about renewable energy please request a list of solar contractors and check out the Iowa Renewable Energy Association at: [irenew.org](http://irenew.org)

\*Simple Payback: Is the return on energy savings vs the technologies 'increased' installation costs including rebates. If you have any questions or concerns, please feel free to contact me at (319) 268-5413 All the best: Christopher Thilges, CFU Energy Services



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**CFU House Call Energy Conservation Program  
Summary Data Report**

Item	Fuel Type	Existing Estimated Efficiency	Minimum Recommended Efficiency	Recommendations
<b>Furnace and Air Conditioning</b>	Natural Gas	80%	92%	CFU recommends a total level of 18 inches of blown-in fiberglass attic insulation and we provide a 60% rebate if installed by a licensed contractor. And it's a great time to check out geothermal and renewables.
or			14 SEER	
<b>Ground Source Heat Pump</b>	Electric		300%	
or				
<b>Air Source Heat Pump</b>	Electric		150%	
<b>Insulation</b>	<b>Estimated</b>	<b>Recommended</b>	<b>Savings/Year</b>	
<b>Attic</b>	R19	R49	\$50-\$150	
<b>Sidewalls</b>	R19	R19		
<b>Rim/Band Joists</b>	R11	R11		
<b>Basement Sidewalls</b>	R0	R11		<i>Please see enclosed brochure for CFU rebate information.</i>
<b>Vaulted Ceiling</b>				
<b>Insulation Potential Savings</b>			\$100	
<b>Water Heater</b>	<b>Fuel Type</b>	<b>Min Temp</b>	<b>Recommended</b>	
	Natural Gas	105 °F	125 °F	(Each 10° drop in temperature will save 5% on water heating costs.)

For available **Federal rebates** please visit: [www.energystar.gov/index.cfm?c=products.pr\\_tax\\_credits](http://www.energystar.gov/index.cfm?c=products.pr_tax_credits)

And always please: **Reduce, Reuse, Recycle, and Bicycle.**

For Cedar Falls recycling services details please visit: [www.cedarfalls.com/index.aspx?NID=100](http://www.cedarfalls.com/index.aspx?NID=100)

And for maps of Cedar Falls trails and bike paths please visit: [www.cedarfallstourism.org/trails.asp](http://www.cedarfallstourism.org/trails.asp)

And for **Locally Grown Foods** which travel approx. 1500 fewer miles to the dinner table visit UNI Center for Environmental Education at: [www.uni.ceee.edu](http://www.uni.ceee.edu)

