



## First Time Home Buyers **Energy Efficiency Workshop** Guide

### Why is efficiency important when buying a home?

- **Affordability:** lower utility bills
- **Environmental responsibility:** reduces your carbon footprint and helps to reduce emissions of dangerous greenhouse gases and other pollutants from power plants
- **Comfort:** your home will stay warmer in winter, cooler in summer
- **Quieter:** insulation not only acts as a heat barrier, but also a sound barrier
- **Durability, quality:** homes that meet or exceed energy efficiency standards are often more durable, higher quality homes
- **Resale value:** “green” upgrades and energy efficient features are sought after by most home buyers. In time, as utility costs increase, energy efficiency will only become *more* important to potential home buyers

### Part One - What can you do as a potential homebuyer?

1. **EEMs.** In the process of qualifying for a home loan, talk to your lender about an Energy Efficient Mortgage (EEM). Buyers with an EEM may qualify for larger loan because they can anticipate reduced energy costs.
2. More popular in Montana is the FHA 203K program, aka “Renovation Loan”. With this program, buyers can add the cost of improvements (excluding structural) to the existing loan and as long as the appraiser can substantiate the end value. This is a great way to get a new heating system, insulation, windows, doors, lighting, etc.

### Part Two – What do you look for in a prospective home?

*Remember that you’re not necessarily looking for a home that is highly efficient but one with the potential to be efficient.*

1. **Request to see past utility bills.** Remember that energy consumption will vary widely based on lifestyle and number of occupants. Request consumption info on all fuels used in a home – not just gas & electric. Many homeowners supplement with pellets, wood, etc.
2. **Ask about past energy audits.** The buyer cannot obtain the report directly from NorthWestern Energy, but the seller/homeowner, even if they didn’t have the audit performed, can request a copy of the report and provide that to you. Ask the seller to first review the report and note any energy efficiency improvements they’ve completed since the audit.

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Alternative Energy Resources Organization

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**3. Schedule an energy audit if the property has never had one.** If NorthWestern can't schedule you for a free energy audit in time consider hiring them to complete a basic audit (for example, insulation evaluation and blower door test). Other companies in your area may provide similar services.

An audit includes:

- Insulation evaluation
- A blower door test to evaluate the leakiness of the home. A blower door measures the air exchange rate of the building envelope and shows areas for improvement
- Gas appliance safety/efficiency checklist
- Extensive customer education and survey with questions relating to fuel consumption in the home
- Installation of water and energy saving measures (compact fluorescent bulbs, water heater insulation blankets, water-saving showerheads and aerators)
- A report with recommendations for improvements stated in order of the most cost-effective

#### **4. Do a fuel cost comparison at**

[http://www.northwesternenergy.com/display.aspx?Page=Fuel\\_Comparison\\_MT](http://www.northwesternenergy.com/display.aspx?Page=Fuel_Comparison_MT). This will help give you an idea of what heating system you'd prefer in searching for a new home. Be aware that replacing a heating system has a very long payback.

- In general, natural gas is the widely preferred heating fuel as it costs significantly less per heat unit than electricity. Electric heat has its benefits as well as for being 100% efficient, having great zoning capabilities and lower installation and maintenance costs.

**5. Look for home ratings.** Some homes are rated as 'Energy Star' or 'Green', and while these are not common, we're seeing more and more in our area. Ask your builder what the energy code requires and what their product offers above and beyond the current code.

#### **6. Assess the passive solar qualities of a home and yard and acknowledge the value in established landscaping!**

- Deciduous trees on the south and west sides of a home can reduce cooling costs by providing shade in the summer and allowing heat and sunlight to reach the home in the winter.
- Windows on the south and west sides of a home will provide light and heat in the winter when the sun is low. Properly designed awnings/overhangs will shade these windows in the summer when you want to keep the heat out.

### Part Three – What do you do once you've found a home you like?

1. **During the home inspection**, look for:

**Insulation:** How much and what type is present, what is the feasibility of adding more?

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- The effectiveness of insulation is measured by an R-value. The higher the R-value, the greater it's effectiveness. The 2009 Energy Code requires R-49 in the attic, R-21 in exterior walls, R-30 in floors separating conditioned from unconditioned space (i.e. cantilevers, tuck under garages) and R-19 for below-grade foundation walls.
- Insulation comes in many varieties, including fiberglass in batts (like a quilt, comes in rolls) and blown-in form, polyurethane foam, and cellulose.

### **Appliances**

- Look for the Energy Star rated heating and air conditioning systems, water heaters, refrigerators, and dishwashers.

### **Energy Efficient Windows**

- Double-pane windows, low E-ratings, a low U-value, and storm windows for single-panes are all important.
- Replacing windows typically has a long payback, however adding storm windows can be much cheaper and significantly improve the efficiency of your windows. Either way, a home that already has efficient windows is a big plus!

2. **Negotiate price with the home's efficiency needs in mind.** And don't forget that there are many tax credits and rebates available for home efficiency upgrades (at least for now!). For example, a \$3,000 furnace replacement can be "paid for" with a \$1,500 reduction of the asking price and \$1,500 in government rebates and tax incentives.

## Part Four – What can you do NOW?

*Whether you're a renter or in a new home, there are many simple things you can do to increase your home's energy efficiency.*

1. **Schedule a free energy audit with KEMA (1.800.823.5995)** if the home has never had one. If you are a tenant, the homeowner will need to give permission. The audit (or the report) will help you with several of the tasks described below.
2. **Insulate your water heater.** The only reason to not wrap your tank is if the tank shows signs of rust or leakage.
3. **Replace incandescent bulbs with compact fluorescent bulbs (CFL's).**
  - CFL's use 75% less energy and last up to 10x longer.
4. **Install programmable thermostats.** These automatically adjust the temp of your home while you are away or at night.

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**5. Maintain the recommended temperatures for your fridge and water heater.**

- The fridge should be between 38 and 42 degrees F.
- The freezer should be between 0 and 5 degrees F.
- Water heaters should be set around 120 degrees F.

**6. Wash clothes in cold water.** Most detergents clean just as well in cold water.

- Always do a full load!
- If you're buying a new washer, look for one that adjusts water levels to load size.

**7. Install motion sensors on outdoor lights.** Photo sensors are a good alternative if the light must be on during darkness hours.

**8. Seek out the air leaks.** A blower door test can tell you this if you're not sure.

- Add weather stripping to windows and doors
- Caulk around window and door trim, inside and outside
- Seal around plumbing penetrations with spray foam (i.e. Great Stuff)
- Fill and seal cracks and gaps in your ducts and house
- Install foam gaskets under outlet and switch covers
- Clean out dryer vents and make sure exterior damper is closing properly

**9. Add insulation where necessary.** Priorities for adding insulation (in terms of cost effectiveness) are generally:

1. Any duct work outside of your heated space: seal it and insulate it
2. Attics:
  - make sure not to clog any attic venting
  - don't blow insulation against anything that gets hot (metal vents or recessed lighting - - be ware of vermiculite, common in loose insulation from the 1950's and 1960's, and contact a professional to handle the job if it may be present
3. Basement or crawl walls/floors: a little tougher and more expensive
4. Above grade walls: expensive and a job for professionals only

**10. Install water-saving shower heads and faucets.**

**11. Replace furnace filters regularly.** Check monthly but you may only have to replace every few months during the heating season. If you haven't had a furnace tune up in the last few years, schedule one and inquire about the NWE rebate.

**12. When buying new appliances research your options at <http://www.energystar.gov>**

**13. Take advantage of incentives and rebates.** Check with NWE to see what incentives and rebates are available for the purchase of efficient appliances, lighting or heating, ventilation, A/C systems, and renewable energy technologies.

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14. Find out about tax credits for energy efficiency improvements. Visit <http://www.dsireusa.org>