

THE
Energy Solutions
for Life™ BROCHURE SERIES

Know what you can do.
Do what you can.

LOOK FOR THE ENTIRE ENERGY INFORMATION SERIES:



Remember to look for this label whenever you purchase new appliances and electronics. It symbolizes that the product is made to meet very high energy efficiency standards.

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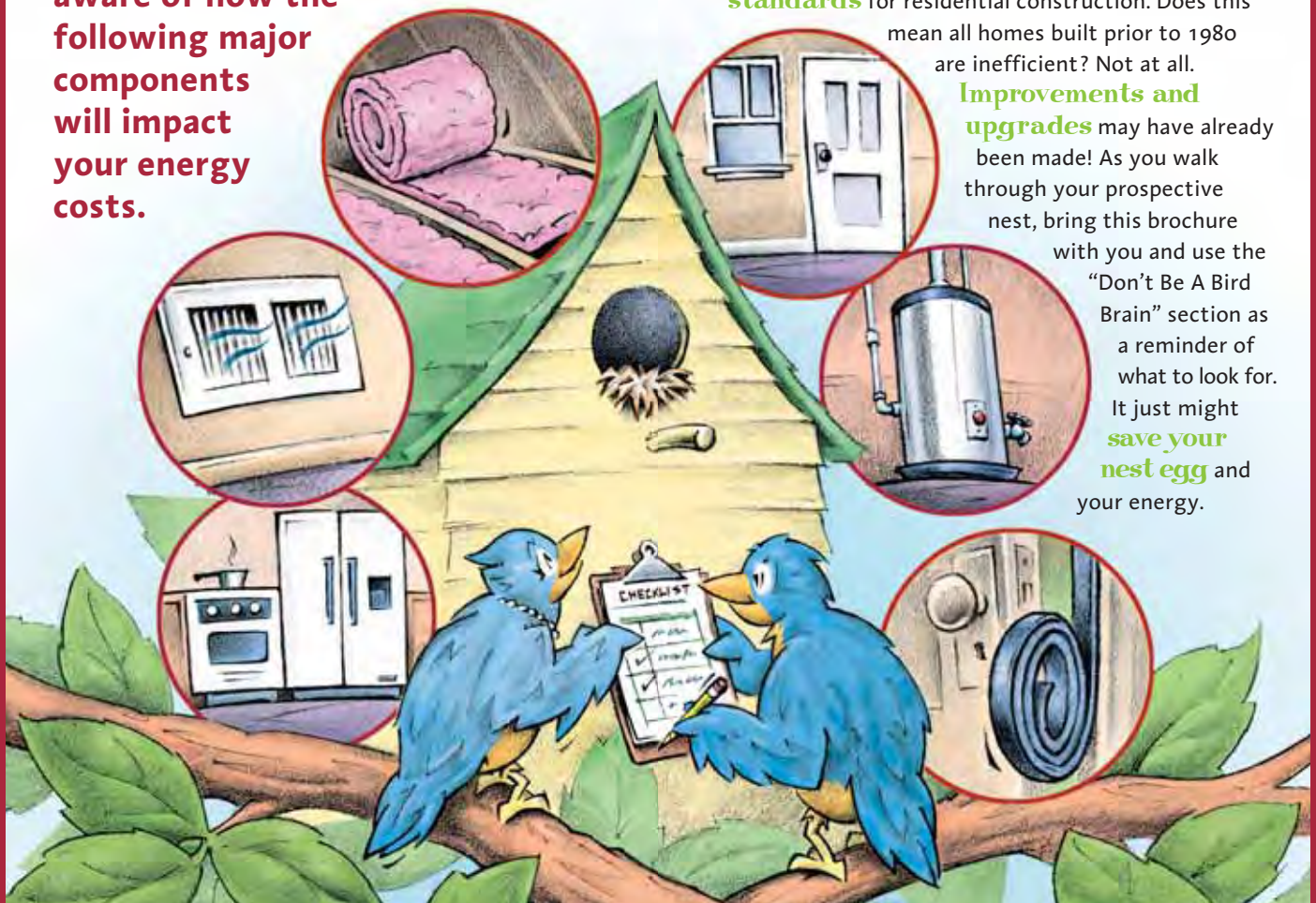
Thinking of moving? According to the 2000 U.S. Census Bureau report, more than 65% of homes in the United States were built prior to 1980. So chances are that in your search for a new home, you will be viewing more previously owned homes than newly constructed ones. With an older home, you should be aware of how the following major components will impact your energy costs.

The Big Energy Picture

Consider the **energy qualities** of the whole house including the a) age and maintenance of heating and cooling equipment, the water heater, and appliances b) levels of insulation and c) thermostat settings (indoor temperature). All of these components, in differing degrees, affect your monthly utility bills (electric, gas, oil, and other fuels). Some pre-1980 homes were built without great **concern for insulation**, weatherstripping, and caulking.

Thanks to the oil crunch of the 1970s, there are now stronger state and federal **energy efficiency standards** for residential construction. Does this mean all homes built prior to 1980 are inefficient? Not at all.

Improvements and upgrades may have already been made! As you walk through your prospective nest, bring this brochure with you and use the "Don't Be A Bird Brain" section as a reminder of what to look for. It just might **save your nest egg** and your energy.



The Comfort Zone ...

Heating & cooling equipment

No matter what climate you live in, your **biggest energy users** are the heating and cooling equipment. They account for 40–45% of your total energy dollars.



So what should you look for?

1. Note the age of the heating unit. Verify maintenance/repair records. Properly maintaining and upgrading your unit can save you money and increase your comfort.
2. If oil heat is used, check for an upgraded retention head burner. Even if the **furnace** is very old, this is a minor upgrade worth making.
3. If **ductwork** is present, check for insulation. Plan on sealing any leaks.
4. Ask if **supplemental heating and cooling** sources are used, such as wood stoves or window air conditioners. If they are, ask if it's because the main units are not up to the task.
5. Ask to see the current homeowner's energy bills and **check local fuel prices** to get an average annual cost.
6. If there is a central air unit, verify the age. Newer units, less than ten years old, are 25–40% more efficient.

Wall insulation

Insulation is applied to areas that separate conditioned spaces, heated or cooled, from non-conditioned spaces. Without insulation in the walls and ceilings, heating and cooling units have to work harder to maintain the desired indoor temperature. So, first

things first: **Does the house have insulation?** The current homeowner might be able to answer that question. If not, check an exterior wall for insulation by following step 1.

STEP 1.

Locate an unfinished area of the exterior wall, or remove an electrical outlet plate to view the wall cavity. Using a **plastic** probe, such as a coffee stirrer, gently poke the wall cavity. If you can feel any resistance, chances are good that you have found insulation. If there is insulation, regardless of whether or not it fills the entire cavity (which provides **optimal energy savings**), it is not recommended that you add more to that cavity. If the homeowner is uncertain about insulation, and you find no signs of it, you can probably assume that there isn't any.

STEP 2.

Adding insulation to an existing wall cavity is quite common but **can be complicated** and should be handled by a professional contractor. A contractor will ensure that proper materials are used and potential moisture problems are avoided.

Attic floor insulation

Every insulation material has its own R-value per inch. Most attics have open floors, so you can see the **type and quantity** of insulation. Use a ruler to measure how much insulation there is.



An R-value rates the ability of a material to resist heat transfer. The higher the value is, the less the heat loss will be. To ensure that the house has the optimal amount recommended for your climate, go to www.energy.gov for current information. If more insulation needs to be added to the attic, you can do it yourself or hire a contractor.

Windows, Doors, Weatherstripping, & Caulking

Birds of a feather caulk together

The age of the windows and doors impacts your comfort and energy bills. Think about the following when inspecting the windows:



- **Single pane windows,**

especially those with no storm windows, are probably old and drafty.

Upgrading to double pane, ENERGY STAR™ labeled windows will make your new home more comfortable and **save you money**

because these windows are twice as efficient as those produced ten years ago.



- Double pane windows, which require no storm, must close tightly to avoid heat loss. To **test their efficiency**, open the window and slip a dollar bill between the upper and lower casements, then shut and lock the window. The more resistance you feel when trying to pull the dollar out, the better the fit.
- **Weatherstripping** can be added to moveable window components but the window must shut tightly to prevent drafts. Weatherstripping is a low-cost measure easily installed by a homeowner.

- **Caulking around windows**, from the outside and/or inside, minimizes drafts. It's another **low-cost measure** easily performed by a homeowner.
- All doors must shut tightly to be effective at **keeping drafts out**. Exterior doors should offer a tight fit when shut with no visible light around their perimeters. Storm doors are recommended for further draft prevention.
- The most **energy-efficient door** is one that is made of metal and contains 1–2 inches of foam board insulation inside.
- To increase comfort and savings, add weatherstripping and caulking around doors, and a door sweep at the bottom. All can easily be added at **minimal cost**.

One last note on caulking: While you've got the caulk gun out, check the exterior walls for other causes of drafts, such as chimney penetrations, cable and electric box openings, sill plates, etc.

Water Heating

Spish splash I was taking a bird bath

The age of the hot water heater and the type of fuel it uses will help you predict how much it will cost to operate. **Older units are less efficient**, especially if the recommended annual maintenance has not been performed. So be sure to:



- **Wrap the water heater** with an insulated blanket unless the unit's instructions warn against doing so. This step will retain heat.

- Figure out **how old the tank is**. If it's 12–15 years old, you will probably need to replace it soon. When you do, be sure to research:

- The proper tank size for the number of people in your family
- The most fuel-efficient unit within your budget (look for a high Energy Factor, or EF)

Plan Ahead! Don't wait for the unit to die before replacing it. By thinking about **your long-term needs**, you can avoid making quick and often expensive choices in an emergency.

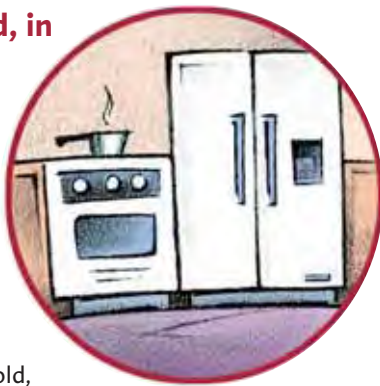
Water Heater Size Chart

PEOPLE	GALLONS
2–3	30–40
3–4	40–50
5 or more	50–80

Appliances

Out with the old, in with the newer

Your resale home may come equipped with kitchen appliances and a washer and dryer. That may sound like a **great deal initially**. However, if they are more than ten years old, they will cost you more to operate than newer, **energy-efficient** appliances. If your prospective house is full of older appliances, make a 1–2 year plan to replace them with newer models. Appliance manufacturers have made **incredible technical advances** since the early 1990s. Depending on the appliance type, its efficiency may have increased by 25–50%.



For example, **refrigerators** (the **biggest** energy user of the large appliances) are nearly 150% more efficient than in 1980. Therefore, upgrading to a newer unit will really pay off in energy savings.

One of the newest features in **clothes dryers** includes **moisture sensors** that will shut off the dryer when the clothes are dry, and not continue to run simply because you set the timer.

Dishwashers use most of their energy consumption to **heat** the water needed for washing. Today, some manufacturers are designing dishwashers to use 4–6 gallons per load as opposed to 10 years ago when over 14 gallons were needed!

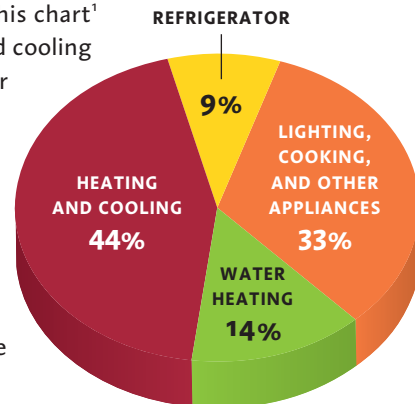
There is an easy way to spot these new appliances when you are shopping. Look for the blue **ENERGY STAR label**. It assures you that the appliance *exceeds* federal efficiency standards.



Not convinced to upgrade old appliances? Well, the more efficient an appliance is, the less you will pay to run it, and using less energy is beneficial to the environment by reducing air pollution. If you can save money and the environment at the same time, why wait?

A picture is worth a thousand words

It's clear from this chart¹ that heating and cooling costs are a major concern, but remember to keep all components of The Big Energy Picture in mind when viewing your prospective home.



Don't be a birdbrain!

Whether you are a **first-time homebuyer** or an experienced homeowner, you should be aware of all the costs associated with older homes, including energy. This reminder list will help assess the energy efficiency of homes you visit. **Use it to keep track** of any measures already taken, as well as steps you plan to do. Good luck and happy house hunting!

This list of resources can give you **more detailed information** on the topics discussed in this brochure:

www.energystar.gov www.nahb.com
www.nwwda.org www.naima.org
www.ase.org www.energybuilder.com
www.ari.org www.insulate.org
www.aceee.org
www.eren.doe.gov/buildings
www.efficientwindows.org

Energy items to check	House 1	House 2	House 3
HEATING/COOLING EQUIPMENT: <ul style="list-style-type: none">- Main source of fuel- Review of current owner's utility bill- Have the units been maintained properly?			
WALL INSULATION: <ul style="list-style-type: none">- Check for insulation in exterior wall.- Is there sufficient insulation?			
ATTIC FLOOR INSULATION: <ul style="list-style-type: none">- Does it exist?- Is the R-value high enough?			
WINDOWS/DOORS: <ul style="list-style-type: none">- Do the windows have single or double panes?- Is there caulk around the windows?- Is there a storm door on all exterior doors?- Are the doors on exterior walls made of wood or metal?			
WATER HEATING: <ul style="list-style-type: none">- How old is the unit?- Is the unit the right size for the number of people in the home?			
APPLIANCES: <ul style="list-style-type: none">- Check the age of the refrigerator, dishwasher, and clothes washer			