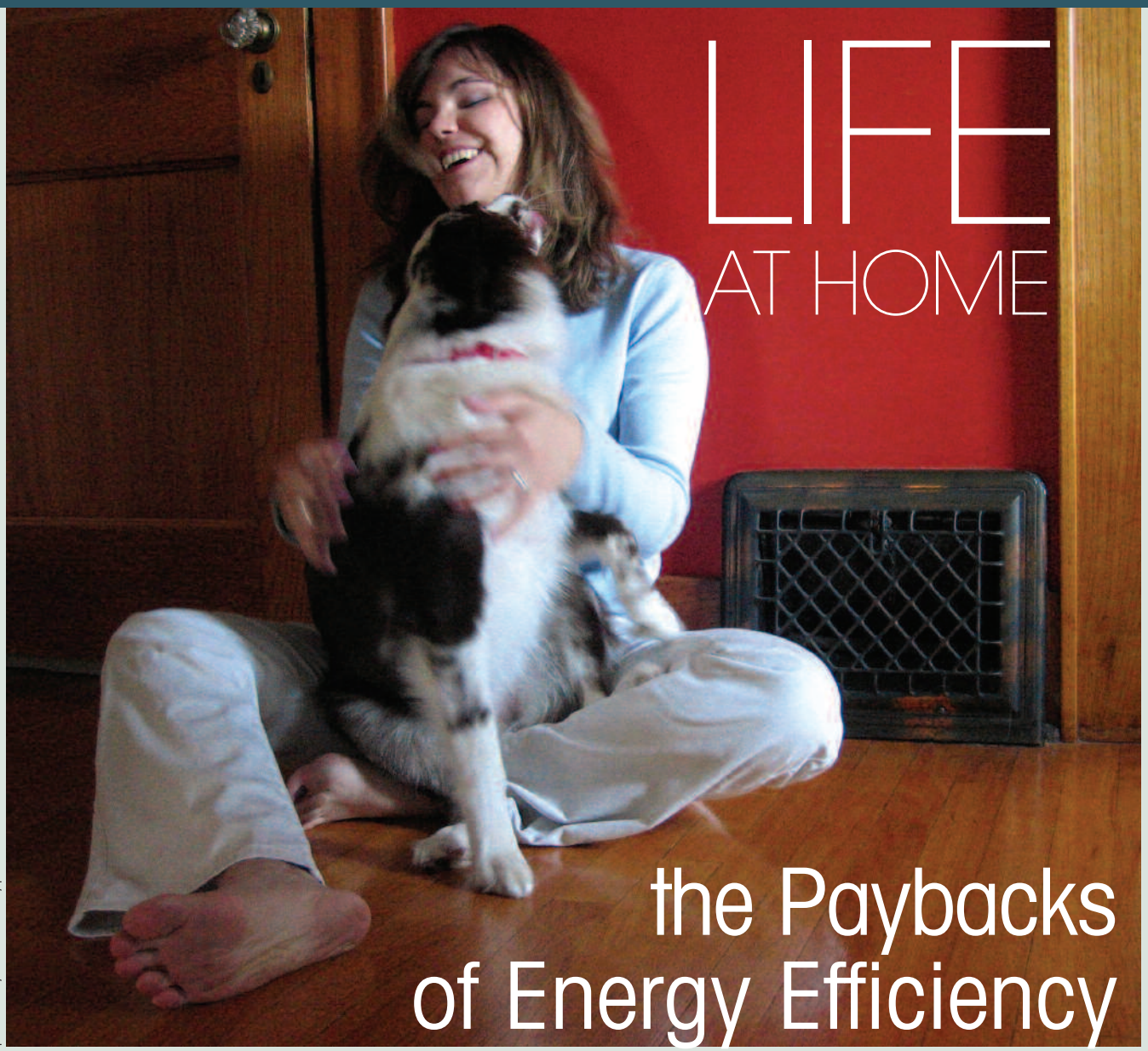
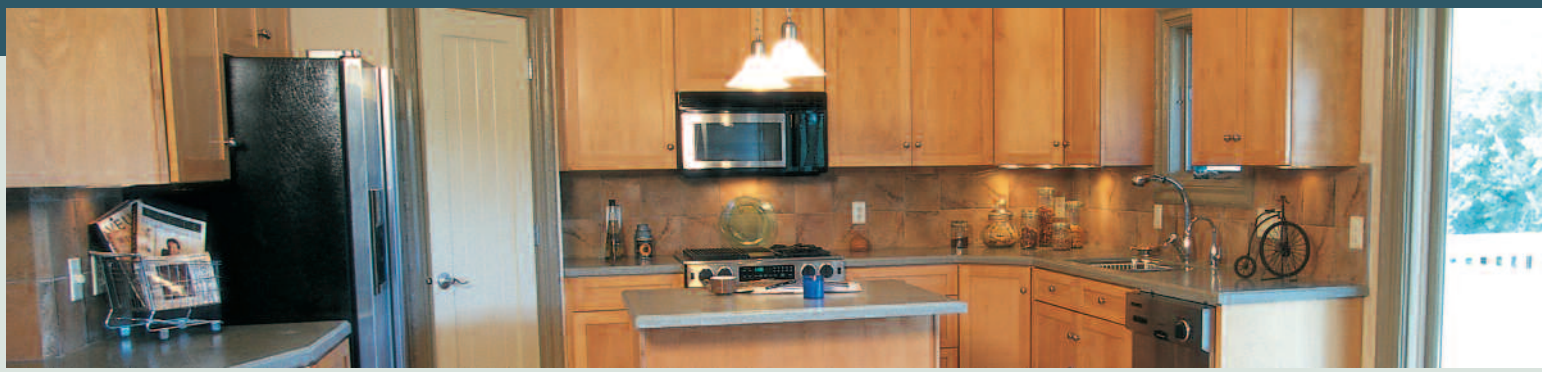


photo by www.KGByproducts.com

LIFE AT HOME

the Paybacks of Energy Efficiency

Totaling up the costs of building a new home can be intimidating. For most of us, it's one of the most expensive things we will do in our lifetime. Consequently, it's often necessary to scale back some dreams and make compromises along the way. But one of the places it's important not to cut corners is energy efficiency. That's an area where spending more up front can pay off in years of savings and higher resale value.



INSULATION AND SEALING Nearly half of the average family's energy consumption is used heating and cooling their home. It's easy to understand why, when studies show 75 - 100% of the air inside a typical new home escapes every hour (with all windows and doors tightly closed). The importance of effective insulation and air sealing is clear.

Conventionally framed homes require superb attention and advanced products to minimize air leakage. This may take the form of a housewrap + extensive caulking + a high performance insulation or expanding foams which fill nooks and crevices in wall and attic cavities and surround plumbing and electrical penetrations. Insulated siding (typically vinyl siding) is another emerging approach.

Two building systems which merit special mention for their superior insulating abilities are Structurally Insulated Panels (SIPs) for exterior walls and roofs, and Insulated Concrete Forms (ICFs) for basement and exterior walls. SIPs consist of a thick slab of insulating foam sandwiched between two structural "skins" (usually OSB or plywood). Because the insulation is not interrupted every 16 inches by wooden studs, SIP homes have minimal air leaks and high R-values. ICFs use lightweight, hollow insulating foam blocks which are stacked like Legos® and are then filled with concrete. Continuous insulating foam on both sides of the concrete makes for a highly energy-efficient wall system.

Attic and roof insulation do double duty. In the winter, as warm air rises, it seeks to escape into the attic. In summer, sunshine can raise attic temps to 140° - 170° when outside temps are in the 90's. Attic insulation helps keep heat from entering your living space. (That's also why correct attic/roof ventilation is essential.)

DOORS AND WINDOWS When it comes to doors, insulated steel and fiberglass doors typically have five times the insulating capability of solid wood doors. Windows in the door will reduce this potential somewhat. Most hinged (swing-type) patio doors are much tighter than sliding patio doors.

Window efficiency is measured in terms of U-factors, with the lower numbers representing less heat loss. Many aspects affect a window's U-factor, including the number of panes (referred to as glazing). Double glazing (two panes of glass) is the most common, but triple glazing is gaining popularity. The glass itself may be tinted or include reflective coatings or films to reduce heat gain and glare. Low-emittance coatings (called Low-E) actually reflect heat. In the summer heat is reflected away from the house; in the winter the home's heat is reflected back inside. Some windows also have Argon gas between the panes which further reduces heat transfer. The material used to create the window's frame or "cladding" and the spacers between the panes can affect its performance as well. (Some cladding materials, such as aluminum, absorb heat and transfer it inside.)

HEATING, VENTILATION AND AIR CONDITIONING EQUIPMENT Any new home presents the opportunity to select more efficient HVAC equipment. A well-sealed home allows a smaller furnace, air conditioner or heat pump to perform adequately.

There has been a tendency to oversize furnaces and air conditioners, but it's important to know that doing so can be costly. Units that are too large not only cost more initially, they also don't run long enough to reach operating efficiency and they may wear out sooner because they start and stop so frequently. What's more, they are often louder and they may not dehumidify homes sufficiently in hot weather (because they don't run long enough to remove sufficient amounts of water).

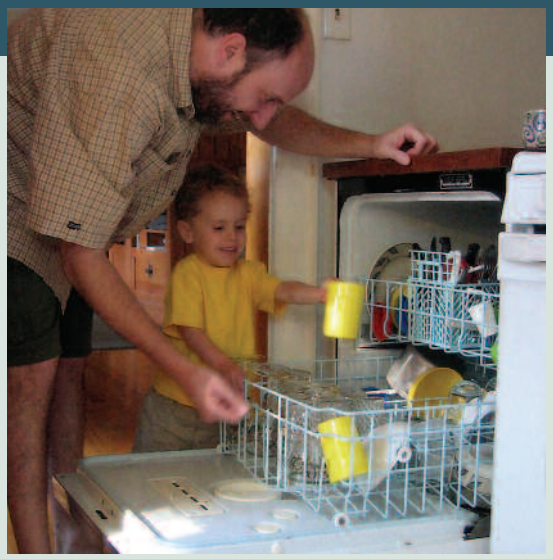
DUCTWORK Another way to maximize the HVAC equipment's efficiency is to locate it to minimize the length of the duct runs. In addition, it's wise to keep duct runs away from exterior walls and out of unconditioned spaces (such as attics or crawl spaces) and to ensure all ductwork is sized properly and well-sealed.

PROPER HUMIDITY In colder climates, indoor air in many homes is too dry. Even if the relative humidity outside is 70%, by the time the outside air passes through the furnace to be heated, the humidity in the hot air may be down to just 7%. Because moist air feels warmer than dry air, adding a power humidifier to the furnace system can create a comfortable environment with the thermostat a couple of degrees lower than normal.

EFFICIENT APPLIANCES While building a new home, don't forget to choose efficient appliances. As the second largest area of power consumption in the home, wise appliance choices can have a major impact on energy consumption. The federal government's ENERGY STAR® program currently has ratings for refrigerators, clothes washers and dishwashers that make it easy to choose energy-smart appliances.

Building an energy-efficient home requires well-informed decisions, detailed planning and in some cases, a willingness to pay more for higher quality products. But the special attention and extra investments will reap benefits for years to come – in your family's comfort, in considerable utility savings and in your home's resale value.

For more energy saving tips, and to find out about building an ENERGY STAR® rated home, visit EnergyStar.gov



photos by www.KGByproducts.com

Other Ways to Save Energy

1. Choose an efficient, sealed, direct-vent fireplace.
2. Use a ceiling fan to draw cool air which has settled upward in the summer and reverse it in the winter to push warm air downward.
3. Replace standard incandescent light bulbs with compact fluorescent light bulbs.
4. Avoid dark exterior colors (which absorb heat), especially on roofs.

The dollors you invest into your home's energy efficiency will begin paying back immediately – and more importantly; can make life at home more comfortable for you and your family for years to come.

"we're paying about $650 less per year for natural gas and electricity…even though our new home is nearly twice as large!"

BREATHING EASIER *at home*

a real~life story

To learn more about this home, visit HerHome.com/homeplans, search for plan number 6651.

Her Home Magazine recently talked with an Omaha woman who wanted to share the financial and health benefits of her family's energy efficient home and its air purification system:

Our family had outgrown the multi-level home we built in 1990, so in 2002 we built a new 2-story home. Energy efficiency was a high priority, and with all six people in our home dealing with allergies and asthma, building a healthy home was equally important.

Insulating the walls and attic with an expanding foam created a very "tight" home, which tested out to be 15 times less leaky than the average new home. This, combined with energy efficient windows, allowed us to cut the size of our furnace and air conditioner in half. So, we reinvested the money we saved on smaller heating and cooling equipment into buying Lennox's energy-efficient models.

At today's utility costs, we're paying about $650 less per year for natural gas and electricity than we were paying in our multi-level home, even though our new home is nearly twice as large!

And, when we finished our income taxes earlier this year, we discovered we had cut our prescriptions (medicine) for asthma and allergies in half, living in our new home. Now, I don't know if the weather patterns have been different, or if simply moving to the other side of town helped. I do believe the Lennox PureAir™ air purification system we chose has had a lot to do with getting rid of allergens and asthma triggers in our home. For years, my husband had a nagging cough in the morning. That disappeared shortly after we moved into our new house, too.

I know 'energy efficiency' and 'healthy' aren't the top considerations for everyone buying a new home. But when you can have a more comfortable home that also saves you money every month, why wouldn't you build this way?"

"…why wouldn't you build this way?"