

top 10 technologies FOR REMODELING

by GLEN SALAS

The Partnership for Advancing Technology in Housing's list of Top 10 Remodeling Technologies offers something to improve almost every area of the home: the building envelope; lighting; heating, ventilating and air-conditioning (HVAC) equipment; plumbing; floors; and beyond.

Although some of them are relatively new, most have been around for a while, but for various reasons haven't been widely adopted.

All of the Top 10 technologies are resource-efficient and most can dramatically improve a home's energy efficiency. This is important because, according to "Foundations for Future Growth in the Remodeling Industry," a 2007 publication from Harvard University's Joint Center for Housing Studies, "Homeowners are now putting energy efficiency near the top of their remodeling concerns." The report also states "products with higher energy-efficiency ratings have shown the fastest rise in popularity. Indeed, residential architects and remodeling contractors have noted a growing interest in sustainable design features."



ABOVE:

Help circulate your indoor air with an efficient and attractive ceiling fan, as shown here with the Energy Star-qualified Edgewood series by Fanimation.

RIGHT:

Spray-foam insulation is sprayed into wall cavities and expands to fill all the nooks and crannies. Photo courtesy Icyne



AIR SEALING

SEAL IT TIGHT, VENTILATE IT RIGHT

Air infiltration may contribute to as much as 30 percent of a home's heating and cooling costs. Infiltration wastes energy and money and contributes to moisture, noise and dust problems. Openings also may serve as an entryway for unwanted pests. Properly sealing the home and controlling ventilation can downsize the HVAC, resulting in a smaller, quieter and less costly system.

If you're moving walls, building an addition or stripping walls to the studs, consider spray-foam insulation, which makes it easy to insulate and air-seal in the same step. It's sprayed into wall cavities and expands to fill all the nooks and crannies. Excess foam is scraped off the studs.

VENTILATION CONTROL SYSTEMS

SMART VENTILATION, COMFORTABLE CLIENTS

Properly sealing for comfort and energy efficiency is a great way to keep conditioned air inside. But the downside of reduced airflow can be poor indoor air quality, which may lead to moisture problems and affect your health. Even conventional systems that are designed with a fresh air intake often don't ventilate when they're not operating.

Economical ventilation controls are ideal for use with exhaust or supply fans, air handlers, heat recovery ventilators, intermittent whole-house exhaust systems or anywhere specific ventilation rates are desired. Even ceiling fans are efficient tools for moving air. And mixing the indoor air with fresh outdoor air can reduce moisture and contaminants and revitalize the indoor air's oxygen content. ▶



ABOVE:

Wireless systems add flexibility in how you control lighting, temperature and ventilation. Photo courtesy Trane

LEFT:

Make sure you have the right-sized Heating, Ventilation and Air-Conditioning (HVAC) system for optimum results. Photo courtesy Trane

HOW TO SHOP FOR PLUMBING FIXTURES



Kelston Toilet by Kohler (1.28 GPF) Watersense approved

If you are looking to update your kitchen or bathrooms, The Bath & Kitchen Showplace is sure to have something to fit your needs.

As the showroom for Moore Supply Company and the parent company Hajoca, The Bath & Kitchen Showplace is able to offer a large selection of inventory at a competitive price with personalized service. Tomball Showroom Manager Sheri Phillips says her focus is customer

service, and she has a detailed knowledge of the various products.

“There are so many things on the market that people just get lost in it and feel very overwhelmed, so I try to guide them as efficiently as I can.” Phillips recommends making an appointment and bringing any building plans or photos that will help you select the appropriate fixtures.

Moore’s Bath & Kitchen Showplace can provide you with every product

imaginable. As a Kohler registered showroom, you’ll be awed and inspired by what they have to offer. Whether you are changing out faucets or remodeling an entire kitchen or bath, you’ll find everything you need to create the perfect look.

Phillips keeps up with industry trends, and what she’s seen lately is plumbing going green with high-efficiency toilets, faucets and showerheads. “You’re going to see even more emphasis on water usage,” she predicts. When beginning a project, here are a few things to keep in mind:

- Do you want a high-efficiency toilet that uses 1.28 gallons per flush instead of the usual 1.6 gallons? Kohler has introduced seven new high-efficiency toilets engineered for powerful flushes and also offers a dual flushing toilet that lets you decide how much water to use.
- For your shower, decide if you want a basic showerhead or the newer body sprays or a rain head. “That gives me an idea of where to take you,” Phillips says.
- In the kitchen, think about how you use it, what you like about the layout and what you want to change. Do you want to add some of the new trends such as a farm sink, a chef-inspired stainless steel sink, a sustainable cast iron Kohler SmartDivide™ sink to manage large cooking items, a small prep sink for your island or pot fillers mounted behind the stove?
- Look for faucet and sink finishes that will blend with the rest of the room. Bringing photos of the room will help Phillips guide you to an appropriate choice.



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COMPACT FLUORESCENT LIGHTING

CHANGE A LIGHT NOW

Entire countries are mandating the end of conventional incandescent bulbs. Surely, any new lighting scheme you install could include Energy Star-qualified CFLs (Compact Fluorescent Light bulbs). Just think: If every American home replaced just one light bulb with an Energy Star-qualified bulb, the United States would save enough energy to light more than 3 million homes for a year, with savings exceeding \$600 million in annual energy costs and greenhouse gas reductions equivalent to the emissions of more than 800,000 cars. Multiply those benefits by the numbers of bulbs that can be changed in each of your projects. You can make a difference.

TUBULAR SKYLIGHTS

LET THE SUN SHINE IN

Tubular skylights, or solar tubes, use the sun for lighting interiors without the drawbacks of conventional skylights, which often don't distribute light evenly, are a significant source of energy loss and can cause ultraviolet damage to carpets and furniture.

Tubular skylights are ideal for remodeling projects. Compared to typical skylights, tubular skylights are generally easier and less costly to install. They're lightweight and don't usually require modifications to the structure because they fit between rafters and other structural elements. Their simple design, complete with self-flashing kits, leads to excellent durability.

HIGH-PERFORMANCE WINDOWS

LIGHTING AND INSULATION ALL IN ONE

Today, you can select windows not only for their aesthetics, but also for their performance. For energy efficiency, comfort and quality, specify Energy Star anytime you are replacing or adding windows. Energy Star-qualified windows will cut heating and cooling loads and even reduce draftiness and moisture condensation.

If new windows are too expensive, not really necessary or are difficult to match with the existing windows, consider tight-fitting interior storm windows. They increase the energy performance of a home for significantly less money than replacing windows. They also are particularly suited to historic homes because they improve efficiency without altering the home's exterior appearance. In addition to energy benefits, interior storms can improve sound resistance, decrease window condensation and reduce furniture and floor fading from UV light.

RIGHT-SIZED HVAC

WHERE SIZE MATTERS

Forget those rules of thumb from the old days when fuel oil was 50 cents a gallon and electricity was two cents a kilowatt-hour.

Use the Air Conditioning Contractors of America guidelines for sizing HVAC equipment. ACCA's "Manual J Residential Load Calculation" allows contractors to estimate heating and air-conditioning loads much more accurately. The benefits:

- Smaller, quieter systems can often be specified, reducing the initial cost.
- A right-sized system will operate for long periods of time, rather than frequently cycling on and off. This results in the optimum equipment operating efficiency with fewer annoying drafts.
- Less short-cycling of equipment results in longer equipment life and better control over indoor environmental conditions. ▶

ABOVE:

Make a difference by switching out your light bulbs for energy-efficient Compact Fluorescent Light bulbs (CFLs). Photo courtesy U.S. Environmental Protection Agency, ENERGY STAR Program

TOP RIGHT:

Tubular skylights are generally easier and less costly to install than conventional skylights. Photo courtesy Velux

RIGHT:

Energy Star-qualified windows cut heating and cooling loads and even reduce draftiness and moisture condensation. Photo courtesy U.S. Environmental Protection Agency, ENERGY STAR Program





Let
**Closet
 Factory**
 organize
 your
 home
 office.

Closet Factory goes beyond the closet to provide storage and functional living space for any room in the house, including pantries, laundry rooms, garages, media rooms and home offices.

A one-stop shop that has served the Houston area since 1995, Closet Factory designs, manufactures, delivers and installs storage systems directly into your home.

The company's staff of four advance designers with more than 35 years of experience combined can make any space more livable, says Closet Factory owner Don Yokovich.

One room where The Closet Factory can work its magic is the home office.

"With the increase in the number of home business startups and the number of people who are telecommuting, the home office becomes an important space that needs to be functional, comfortable and aesthetically pleasing," Yokovich says.

The process begins with a design consultant visiting your home to assess your space, needs and budget to create a custom fit solution.

For example, in a home office, after discussing your needs, your Closet Factory

consultant will evaluate the room configuration, wall space, and phone and electrical connections to conceptualize a layout. From there, the concept goes on paper for your approval. Using the design, Closet Factory's craftspeople custom cut and finish your shelves and cabinets. Once components are complete, trained technicians transform your space replacing the old with the new in one to two days.

"We want to exceed our clients' expectations," Yokovich says. "We want the room to serve its purpose and ultimately be comfortable and enjoyable."

When choosing organizational solutions for your home office, Expert Designers recommend you keep in mind these questions:

- Do you want a quiet work area tucked away from the rest of the house, or would you rather have a multipurpose office that could double as a guest room or family room? Is proper lighting or natural light sufficient?
- How do you typically use the space? Do you spend most of the time on the phone, at the computer or doing paperwork? What items do you need easily within your reach?
- Are there any extras you would like to consider such as a floor-to-ceiling library with ladders, cubbies for your envelopes, tracking to hide computer wires, file cabinets or a wallboard with fabric covering instead of cork for visual appeal?
- What kind of look do you want? Options range from solid colors to wood grain and stained wood. Crown moulding, decorative trim and hardware add extra flair.



Tracy, Linda, Kim and Jeff

Online: www.ClosetFactoryHouston.com

Address: 2530 Old Louetta Loop, Suite 128
 Spring, TX 77388

Phone: 281.355.7676

top 10 technologies



ABOVE:

Relax when taking your next shower, especially knowing it is warmed by a solar water heater. Photo courtesy Kohler

RIGHT:

High-Efficiency Toilets like this Toto Aqua II use an average of 20 percent less water per flush than the industry standard. Photo courtesy Toto

BELOW:

Cork is a green flooring option that looks great in traditional to contemporary homes. Photo courtesy Kitchen Design Concepts



SOLAR WATER HEATING

SOLAR POWER FOR THE SHOWER

Solar water heaters have been commercially available since the 1800s, and they're still an environmentally sound way to reduce energy bills. While everyone talks about solar photovoltaic (PV) systems that produce electricity, solar water heaters are much more cost effective. An active, flat-plate system costs about \$2,500 to \$3,500 installed and heats about 80 to 100 gallons of water a day. A passive system costs about \$1,000 to \$2,000, but has less capacity.

HIGH-EFFICIENCY TOILETS

ALWAYS GO WITH LOW-FLOW

The typical toilet uses more water than any other item in a home. High-Efficiency Toilets (HETs), on the other hand, use an average 20 percent less water per flush than the industry standard. An HET can save up to 8,760 gallons of water each year for a family of four. They are very reliable and don't require multiple flushes like the first wave of low-flow toilets sold years ago.

Several types of HETs are available, including gravity-fed, single-flush toilets, dual-flush toilets, pressure-assist toilets and power-assist toilets. Dual-flush, power-assist models also are available and are even more efficient.

WIRELESS CONTROLS

22ND CENTURY TECHNOLOGY TODAY

Hard-wired connections for lighting, thermostats and other controls have many limitations that wireless technology has now overcome. Wireless systems require less installation time; make coordinating with tradespeople easier; and add flexibility in how you control lighting, temperature and ventilation. These attributes make wireless controls ideal for equipment retrofits and additions.

To control multiple pieces of equipment or temperature from multiple locations, just wall mount additional wireless controls, plugs and switches. The physical installation of the receivers and sensor units is simple. The details are in properly programming and setting the system up for operation.

RECYCLED & RENEWABLE FLOORING OPTIONS

FEEL-GOOD WOODS AND GRASSES

There are affordable, durable and rich-looking flooring options that come from two nonconventional sources. The first is old wood that's recycled into "new" wood flooring; the second is flooring made from sustainably grown grasses and trees that mature to market size in roughly half the time it takes hardwoods.

Recycled wood flooring is made from salvaged boards or trees that have been remilled into a product suitable for residential use. Because this wood often comes from America's old-growth forests, it is often harder, denser and more attractive than new-growth wood. And recycling wood uses fewer resources than making new wood flooring.

Bamboo, cork and eucalyptus flooring products are sustainable alternative to traditional hardwoods. They are available in traditional flooring thicknesses and lengths for installation as tongue-and-groove planks either fastened to the subfloor or floating above padding. Properly installed and maintained floors made of sustainable species will last as long as hardwood flooring. Many types can be sanded and sealed, like the 3/4-inch hardwood installations.



Glen Salas writes about better building practices on behalf of the Partnership for Advancing Technology in Housing. PATH is administered by the U.S. Department of Housing and Urban Development.

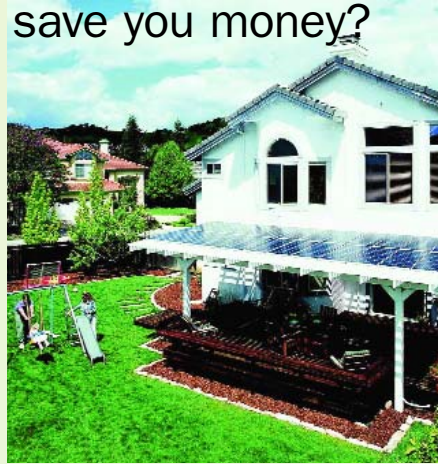
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How will **solar energy** save you money?

In just three hours, the sun provides enough free energy to power the earth for a year. That's 1,000 watts/square foot/hour wasted on the ground. Solar energy is not just a fad, it's the future. With today's rising energy costs, a solar energy system from Alternative Power Solutions LLC (APS) is one of the best ways to cut your energy costs.

The real question is what kind of energy costs are you trying to reduce—gas or electricity? Most people emphatically respond electricity.

The first step in designing and installing a solar power system should be an APS energy audit of your home to identify what's costing you hundreds of dollars a month in lost energy. A good energy audit can usually cut your energy bills by 20 to 30 percent by finding energy leaks in your home from leaking air ducts or insufficient insulation. An APS audit, which costs



just \$300, can be invaluable since every \$1 spent making your home more energy efficient is equal to \$5 of solar energy.

After the audit, APS can design a solar power system to cut your electricity costs significantly. APS can renovate retrofit existing homes or design for new construction. Switching your home to solar energy is an exciting long-term investment.

As energy costs rise, the typical time to payback can be as short as 10 years. Savings to your electricity bill is immediate. However, you must think of solar power as the equivalent of buying your electricity today at cheap cost in comparison to future cost.

For quick payback on investment, consider solar water heaters, solar attic vents, or solar pool pumps which have a typical payback of two to five years. Solar water heaters can lower electricity bills about 30 percent in all-electric homes. They also slash the cost of natural gas or propane for rural homes.

Pool heating with natural gas is very expensive. An APS solar-heated pool lets you enjoy your investment an additional six months of the year with no added heating cost, even in November.

Interested in alternative energy solutions for your home? Call APS at 713.981.3875 or visit www.apowersolutions.com.

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