

# Home remodeling can be a *Sunny* experience

**E**nergy prices continue to climb, but the good news is that barriers to using green energy are dropping. Technology continues to evolve that helps us channel the sun's energy. Here are green energy ideas from the National Association of the Remodeling Industry if you plan to remodel:

## Conservation Options

Draft-proof your home and upgrade insulation for optimum conservation. A remodeling project is a prime opportunity to undertake wall and ceiling insulation, air sealing, and installing new energy efficient windows with low-e glass, gas fill and insulating spacers. You can maximize cooling with roof overhangs that block direct sunlight.

## Passive Solar Heating

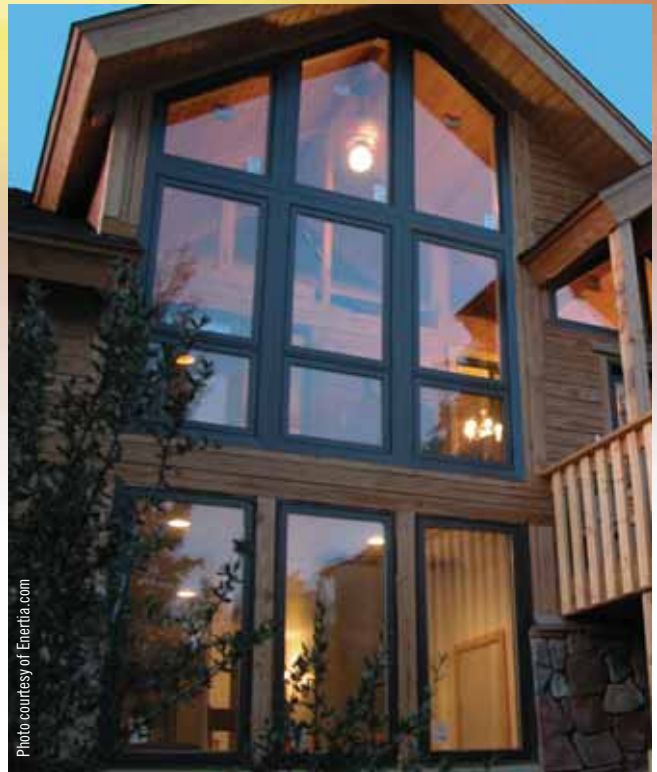
Passive solar is the most cost effective approach to maximizing solar energy for your home. Passive solar heating occurs when sunlight passes through a window, and no additional equipment is used to harness the energy. Passive solar applications use building elements such as walls, windows, floors and roofs, in addition to exterior building elements. Landscaping can control overheating by providing shade and winter windbreaks. Once heat is collected inside, a well-insulated airtight "building envelope" helps prevent heat loss.

## Active Solar Systems

Active solar systems use solar collectors and a pump or a fan to distribute the sun's energy. Active systems are often used for heating water. The collector is a dark color to absorb the sun's energy and convert it into heat. Some collectors have a glass cover, collecting solar energy all year. Domestic hot water requirements can be met in part by active solar systems. In most cases solar energy will provide some partial water requirements during winter, but most of the summer season requirements. In most applications the solar system is used to preheat water going into a conventional water heater. Outdoor swimming pools can be entirely heated by solar systems, eliminating the need for a supplemental heater.

## Photovoltaics (Solar Electricity)

Sunlight converted directly to electricity through solar cells is called photovoltaic (PV) energy. Solar cells come in many sizes and will produce electricity as long as sunlight



shines on them. Solar cells used for electrical generation are a more sophisticated version of the solar cells used in calculators and other small devices. PV cells generate direct current (DC). DC appliances and lights can be used in recreational vehicles. To use standard household appliances the power must be converted to alternating current (AC), so a solar electric system must be designed to convert the power to AC.

Although prices have dropped in recent years, a PV system can still be expensive. They are especially cost effective in remote areas away from power grids where you might need to generate your own electricity, or in recreational vehicles and boats. An electrical load analysis must be done, and there are important safety considerations. Consult your electric cooperative.

## Geothermal Energy

Geothermal or ground source heat pumps take stored solar energy from the soil and bodies of water. They rely on electricity but provide the equivalent of three times the kilowatt heat for every kilowatt delivered. Heat pumps are reversible, supplying cooling and heating, so they can be useful in areas with significant cooling loads.

## Remodeling brochure

You can get a free brochure from the National Association of the Remodeling Industry (NARI) on "How to Select a Remodeling Professional." Call (800) 611-NARI or visit [www.RemodelToday.com](http://www.RemodelToday.com) and click on the homeowner's guide. 