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PATH RELEASES TOP 10 ENERGY-EFFICIENT REMODELING PROJECTS [Normal View](#)

PATH, a public-private partnership for advancing housing technology, recently released its annual recommendations on the top remodeling technologies to make existing homes more durable, stronger and more resource efficient.

Each of the [PATH Remodeling Top 10](#) technologies chosen is rated on affordability, energy efficiency, ease of installation, quality and durability, environmental performance and safety.

The top 10 technologies include:

1. **Air Sealing** — Four alternatives to conventional fiberglass insulation — non-fiberglass batts, sprayed foam insulation, sprayed fiber insulation and blown or foamed through a membrane — are recommended because they improve the thermal resistance of exterior walls.
2. **Smartvent Ventilation/Ventilation Control System** — This new mechanical ventilator provides an excellent compromise for deciding whether or not crawlspace should be ventilated, especially in humid climates. The system measures the moisture content of outdoor and crawlspace air and only provides ventilation when the outdoor air is drier than crawlspace air. The system prevents moisture from being added to the crawlspace due to ventilation.
3. **HVAC Sizing — Right-Sized HVAC** — The [Air Conditioning Contractors of America \(ACCA\)](#) guidelines for sizing HVAC equipment, "ACCA Manual J Residential Load Calculation," enables contractors to estimate heating and air conditioning loads more accurately so they can install properly-sized HVAC systems that ensure energy efficiency and optimum performance.
4. **High Efficiency Toilets** — Designed for water conservation, high efficiency toilets have been defined by the plumbing industry and the [Environmental Protection Agency](#) as those that use an average of 20% less water per flush than the industry standard of 1.6 gallons.

A high efficiency unit toilet can save up to 8,760 gallons of water each year for a family of four with 24 average daily flushes. Types of high-efficiency toilets include gravity-fed, single-flush; dual-flush; pressure-assist; and power-assist toilets.

5. **Compact Fluorescent Lighting** — Compact fluorescent lamps (CFL), simply miniature versions of full-size fluorescent lights, are up to four times more efficient (using 50% to 80% less energy) and last up to 10 times longer than incandescent bulbs. A 22-watt CFL has about the same light output as a 100-watt incandescent. In addition, the warm tones of newer compact fluorescent lighting make it almost indistinguishable from incandescent lighting.



To optimize the value of CFLs, it is best to use them in areas that are lit for relatively extended periods of time (15 minutes or longer). This could include outdoor fixtures, the kitchen, family room and bedroom.

6. **High Performance Windows/Storm Windows** — Window technology has evolved over the years to the point where windows can be selected not only for their aesthetic qualities, but also for their performance abilities. Windows can be made from laminated glass that resists impact from flying debris in hurricanes, have special coatings that control the amount of heat gain and loss, or can prevent water spots and dirt accumulation.
7. **Wireless Lighting, Thermostats and Other Controls** — Derived from commercial construction but now available in homes, these controls can be set on timers or using a variety of sensors — temperature, occupancy, light detection and more — with wireless systems to increase home efficiency without sacrificing home owner comfort.
8. **Solar Hot Water** — Solar water heaters come in a variety of configurations to meet domestic hot water needs. Each differs in design, cost, performance and level of complexity. Most systems have back-up water heating such as electricity or gas.

There are two main types of systems — passive and forced circulation — and within each type there are several configurations.

Solar water heaters can help save on water heating costs by reducing the amount of gas and electricity needed to heat water. By using sunlight to heat water instead of a combustible source or power plant-produced electricity, less pollution is being introduced into the environment.

9. **Recycled/Renewable Flooring** — Two types of environmentally-conscious flooring lead the market — [recycled](#) flooring from old structures and [renewable](#) flooring from fast-growing trees, such as bamboo.

Recycled wood flooring is typically very durable due to its tight grain. Creating wood floors from old lumber diverts the valuable wood from landfills and reduces the need for fabricating new wood flooring products.

Properly installed and maintained floors made of sustainable species, which grow more quickly than hardwoods and softwoods, will last as long as hardwood flooring and can be as cost competitive.

10. **Tubular Skylights** — Tubular skylights use the sun for lighting interiors without the drawbacks associated with conventional skylights. They are generally easier to install than typical skylights and, from the home's interior, resemble conventional lighting fixtures.

Tubular skylights have a roof-mounted light collector typically consisting of an acrylic lens set in a metal frame. Most have a reflective sun scoop in the rooftop assembly that directs sunlight into a metal or plastic tube that has a highly reflective interior coating.

Some of the systems available cost less than conventional lighting and most cost less than conventional skylights.

For more information, visit the [PATH Web site](#).

For more information about this item, please contact Kelly Mack at 800-368-5242 x8451 or via e-mail at kmack@nahb.com.