

storage. Schneider also selected basic household appliances with energy conservation in mind. He chose a highly efficient dishwasher and specified bathroom showerheads with low water-flow volume to reduce water consumption. This helps to minimize the strain on local water supply and treatment facilities, which reduces utility charges while adding little cost to the project. Sustainable circles refer to this as “rapid payback”: the homeowner quickly recovers the initial premium paid for a green strategy through life-cycle savings.

Building green does present some additional challenges. Despite increasing consumer demand for green products, affordability and availability still vary. In addition, contractors may be unfamiliar or unaccustomed to sustainable practice. Schneider encourages homeowners to be proactive about sustainability. To get started, he suggests that people explore the Internet, where there is an abundance of green-related material. “For larger, more complex projects, an architect can help the homeowner to integrate various green strategies and do more with less.”



view, individuals make choices with a holistic approach, considering the impact of their decisions on the greater community. According to Schneider, “The question is not whether to live green; it is about discovering your comfort zone. Sometimes it takes a leap of faith. In the case of a major building project, architects can work with homeowners to express this in the design of their home.”

When asked how others have responded to his renovation, Schneider says, “People are psyched. It starts a dialogue, where I can share some of what I have learned with others.” In addition to features in *Metropolis* magazine and *The Washington Post*, Schneider has given presentations to local citizen groups. The interest in his renovation inspired him to create a list of “10 Green Home Improvement Tips” (see below). While he is encouraged by the positive feedback, Schneider anticipates a future when sustainability is standard building practice. That is when green architecture will have truly arrived.

Schneider endorses a team approach, where the architect facilitates a dialogue between owner and contractor to ensure that the homeowner’s sustainable goals are being met. The boundaries of sustainability are ever expanding. Once considered an “alternative” lifestyle, today sustainable is becoming the norm. In this wide-angle

## Rick Schneider’s 10 Green Home-Improvement Tips

Products are available at any hardware store.

1. Wrap your hot water heater with an insulating blanket (pipes too, if you can).
2. Use low or no-VOC paints and sealers. All major manufacturers make at least one.
3. Install Energy-Star rated appliances and equipment.
4. Change incandescent bulbs to compact fluorescents (CFLs).
5. Use non-toxic cleaning solutions like borax, vinegar, and baking soda.
6. Avoid vinyl in all forms, including siding and furniture.
7. Use composite decking, cedar, or non-toxic treated lumber instead of pressure-treated lumber on decks and porches.
8. Use cement board or cedar instead of vinyl for siding.
9. Replace old windows with non-vinyl insulated windows.
10. Use natural daylight and ventilation whenever possible.

And recycle and compost your “waste.”

# Green Products for Home Renovations

by William Craig, LEED AP

Looking to improve the environmental performance of your house? Here are a few “green” products you might want to know about. More are listed on [www.aiadc.com](http://www.aiadc.com).

## Energy-Efficient Equipment & Appliances

[www.energystar.gov](http://www.energystar.gov)

Homeowners are always updating equipment and appliances, whether or not it’s part of a larger project in which an architect might have a role. The Department of Energy’s *EnergyStar* program is a good source of information to aid in selecting the most energy- and water-efficient models currently available.

## Cork Flooring

[www.regupol.com](http://www.regupol.com)

[www.wicanders.com](http://www.wicanders.com)

This is an all-time favorite for “green” architects as well as “organic” architects like Frank Lloyd Wright! It is a 100% natural, rapidly-renewable bark that forms a truly resilient flooring material. It makes a real difference for people who stand a lot and are prone to back fatigue. I think it looks fantastic, particularly when finished with wax.

## Agriboard and Medium Density Fiberboard (MDF)

[www.isobord.com](http://www.isobord.com)

[www.phenixbiocomposites.com](http://www.phenixbiocomposites.com)

[www.homasote.com](http://www.homasote.com)

[www.sierrapine.com](http://www.sierrapine.com)

For home improvement projects, there could be any number of uses for such products, from wall surfacing to cabinets, from miscellaneous carpentry to trim.

**Strawboard** and **wheatboard** are composed of leftover agricultural residue that would otherwise get burned. They can yield magnificent finished surfaces. Plus, they have a subtle, warm, cereal smell.

**Medite** is a urea-formaldehyde-free MDF with high recycled content that can be used indoors for many things. I love the look of it for cabinets with just a clear coat of water-borne lacquer. I’ve been told that woodworkers actually prefer the workability of Medite to traditional MDF, a rather toxic material.

**Homasote** makes many readily available panel products (tackboards, etc.) from 100% recycled newspapers and a wax-type binder.

## Programmable Thermostats

[www.invensysibs.com](http://www.invensysibs.com)

[www.residential.carrier.com/iwc.html](http://www.residential.carrier.com/iwc.html)

These allow for more precise control of thermal comfort systems. A microprocessor is programmed with automatic settings based on occupancy and/or exterior conditions. For control of wasteful lighting, occupancy and daylight sensors can also be useful.

## GFX Drainwater Heat Recovery Systems

[www.endlessshower.com/welcome](http://www.endlessshower.com/welcome)

When you take a shower, a lot of hot water goes down the drain. This simple unit, made of high-heat-transfer copper, simply wraps the cold water supply line around the shower drain, so you’re combining hot and warm water at the mixing valve rather than actually combining hot and cold water. As a result, you turn down the shower temperature and save energy. (Of course, the other way to look at it is that you can take a longer shower.) These have no moving parts and are maintenance-free. There are a number of sizes, and they can work either at individual showers or for the whole house.

## Non-Asphalt Paving

[www.stabilizersolutions.com](http://www.stabilizersolutions.com)

[www.invisiblestructures.com](http://www.invisiblestructures.com)

The byproduct of rampant development and suburban sprawl is the paving-over of nearly everything. Anything homeowners can do to allow water into the ground is a step in the right direction. When it comes time to re-do your driveway, consider porous or semi-porous alternatives to asphalt that are also cooler and more pleasant to be around.

The first weblink above is for a product that is a binder of psyllium fiber husk (super-Metamucil, would you believe?) that is mixed with fine aggregate and laid in a thick bed. It is semi-porous and appropriate for light vehicular traffic. The National Park Service (for whom my office often works) uses it frequently. The second link is for a product that is a system of open plastic rings arranged in a grid with a backer of geotextile fabric. Once laid, the rings are filled with gravel. The result is a very porous system, which may require only a bit of raking periodically.

So those are a few examples of the relatively easy stuff. For the committed environmentalist homeowner who wants to go a little further, there are solar photovoltaics, vegetated roofs, ground-coupled heat pumps (geothermal), micro-wind turbines, rainwater collection systems, and composting and urine-diverting toilets—just to name a few options.