

# How to Build a Green Kitchen

By Scott Rodwin



For many years it seemed if you wanted to be environmentally friendly, it meant you had to compromise on beauty, functionality, or pay an exorbitant premium. Not so anymore. So how do you make your kitchen as healthy and green as possible? There are three areas to consider:

- Energy efficiency
- Environmental quality
- Resource conservation

## Energy Efficiency:

There are two main ways to save energy in a kitchen.

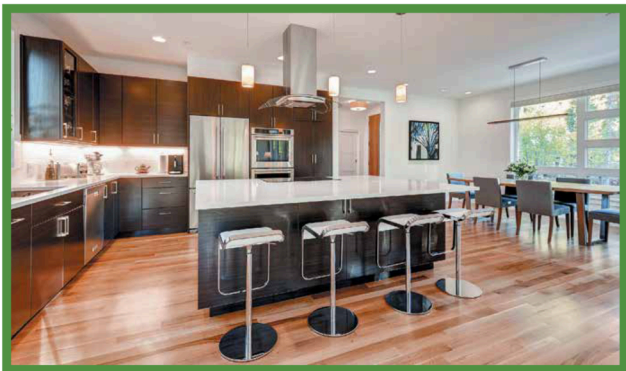
- Choose EnergyStar rated appliances. Not all EnergyStar appliances are equally efficient. Check the estimated energy use label to compare. If you want to switch away from fossil fuels, consider an electric induction cooktop (and pair it with a rooftop solar photo-voltaic system). While gourmet cooks have historically preferred gas ranges, more and more cooks are making the switch. It's cool to the touch (a nice safety feature) and transmits 100% of the energy directly into the pots and pans. It's also easy to clean.
- Second, swap out your traditional incandescent bulbs for LED lighting. If you choose 2700 Kelvin (color is

measured in temperature for lighting), it will have nearly the same color spectrum as incandescent. LED's last 10 times as long and use 90% less energy. They are also an ideal choice for undercabinet lighting, as they are much cooler than conventional halogen lights.

## Environmental Quality:

There are a host of things you can do in the kitchen to create a healthy indoor air and water environment.

- Low & no-VOC (Volatile Organic Compound) paint, sealant and adhesives: when remodeling or building new, use low or No-VOC versions of all of these items. That "new paint smell" is the off-gassing of carcinogenic chemicals. These days non-toxic products are readily available, perform well and are nearly the same price as conventional.
- Cabinet construction: cabinets are often made from plywood or particle-board. Both are manufactured with formaldehyde, which is a major source of VOCs. You can specify "No Added Formaldehyde" (NAF) for particle board and plywood to reduce that exposure. Choose FSC (Forest Stewardship Council) certified solid wood for the doors and face frame.
- Declare Label: this new program requires a



manufacturer to tell you what substances their product is made from. Highly toxic products are not eligible, so if you see this label, chances are it's a green product.

- Sufficient ventilation: smoke and un-combusted gas from a cooktop can contribute to poor indoor air quality. Utilize an exhaust hood.
- Mold prevention: mold is the result of a water issue and is commonly found under cabinets where plumbing pipe leaks on wood, or near a dishwasher that fails slowly over time. There are a variety of Bluetooth water alert sensors for around \$30.
- Water filtration: these systems come in several different forms. Faucet attachment or countertop units (cheap but ungainly), undercounter, or a whole house filter (handles all the plumbing fixtures in the house). They can filter out bacteria and chemicals such as chlorine.

### Resource Conservation:

There are a number of excellent products for the kitchen that can help conserve resources.

- Countertops are typically either made of plastic laminate on particle-board (cheap), stone (expensive) or a composite material (medium). The composite comes in two varieties: solid surface and quartz. Both have several advantages over laminate or stone including zero maintenance, extreme durability, and a virtually unlimited variety of styles and colors. They both contain a significant percentage of waste stone material which makes them a green choice. These products are known by their brand names of Ceasarstone, Quartzstone, Cambria, Corian, and many more.
- Made in America – going local (or at least domestic) is part of being green as transportation adds to

the 'embodied energy' of a material. Nearly every component of a kitchen has domestic options:

- countertops (Cambria), appliances (Whirlpool, KitchenAid, GE, Viking, Thermador), tile (Daltile, Florida Tile, and many more), cabinetry, and flooring.
- Built-in compost and recycling center: having convenient dedicated receptacles (like a pull-out drawer) next to the sink increases the likelihood of keeping things out the landfill or garbage disposal.
- Grow your own: urban cultivators are special refrigerators that help you grow your own herbs and veggies. They tuck in nicely under the countertop.
- Water conservation: look for the EPA Watersense label to find water-conserving faucets. You can also retrofit an existing faucet by adding an aerator. Installing a recirculation pump will keep water slowly moving in your plumbing pipes so that when you call for hot water it will arrive in seconds so you don't have to waste water waiting for it to arrive. Lastly, older dishwashers use 15-18 gallons of water per wash. New Energy Star washers use only four gallons.

The kitchen uses more energy and material than almost any other part of the house, which means there are great opportunities to make your kitchen green and healthy!

### About the author:

Scott Rodwin, AIA, LEED AP is the owner of the Rodwin Architecture + Skycastle Construction, a 13 person award-winning design/build firm specializing in high-end custom green homes in the Front Range. [scott@rodwinarch.com](http://scott@rodwinarch.com) [www.rodwinarch.com](http://www.rodwinarch.com)