

The Next Wave in Green Living

Energy efficiency is vital, but today's trends also highlight human health

By Jenn Virškus



Utah is one of the nation's greenest states, with hundreds of LEED and Energy Star-certified homes, schools and businesses, according to the U.S. Green Building Council.

To most of us, sustainable building means being energy-efficient, but that's only the tip of the iceberg.

"The really important trend that green is taking at this time is to achieve greater benefits, particularly regarding occupant health and how it can be improved through better construction, lighting and materials," says Alan Agle, a sustainability consultant based in Park City.

Architects, designers, and contractors with strong commitments to sustainable design and construction can lead homeowners through the process. It also doesn't hurt for homeowners to educate themselves about the latest green design techniques and technology, including air quality, materials, and water use.

Let the Sun Shine In—or Not

Designing a home to take full advantage of its building lot, aspect, and exposure is essential in sustainable design. The benefits are most obvious when it comes to passive solar energy. Natural light plays a big role in occupant health, but if your home is made entirely of windows, it won't be very green. Rooflines, eaves, and the number and size of windows can all affect how much solar energy your home receives. >>

For years, energy efficiency was the primary focus of green experts. Now, using building materials that enhance human comfort and health is equally vital.



COURTESY TALL PINES CONSTRUCTION
Solar panels can add to a building's energy efficiency, but developing a team of sustainability-focused architects, interior designers, and contractors is just as important.



of the home," says Garret Strong, owner of Tall Pines Construction in Park City. He also suggests doing a "blower door test" early in the construction process, right after the framing, electrical, and HVAC is completed, to seal up any holes and make the house more efficient.

Keep in mind that low quality (i.e., thin-paned) windows can cause drafts, due to a convection effect near the window. Reducing this factor isn't just good for the environment and heating bills—it also benefits residents. "It's not just about cost savings; it's about comfort. The more efficient the house is, the more comfortable you are," says Strong.

Material Matters

In the past, you'd hire an architect to design your new home, then hire a building contractor to construct it, then hire an interior designer for the finishing touches. But today, early collaboration allows every-

Resources

Alan Agle

3337 American Saddler Dr.
Park City, Utah
435.645.6148
usgbc.org/organizations/alan-agle-llc

Todd Evans Black Dog Builders

P.O. Box 982755
Park City, Utah
435.659.1223
bdogbuilders.com

Garret Strong Tall Pines Construction

9743 S. 1210 E.
Sandy, Utah
435.513.1975
tallpinesconstruction.com

Eric Miller Avi-On

2750 Rasmussen Rd #203
Park City, Utah
844.704.8383
avi-on.com

"Relying on passive solar in our climate means designing eave lines so that in the summer, when the sun is high in the sky, you only get a sliver of direct sunlight, but in the winter, when the sun is lower, you get as much sun as possible coming into your home and helping to heat it," says Todd Evans, owner of Park City's Black Dog Builders.

Landscaping can also impact passive solar; deciduous trees provide shade in the summer and allow in more light during winter months.

A Word About Water

Space-conscious home design can also impact water use, both inside and out.

"We want a water system that's more compact so that we're not running water all over the house and having to run cold water for a long time before the hot water reaches the tap—and also to have less trapped water," Agle says. "We're also focused on water use reduction in landscaping; choosing drought-resistant species and native plants used to a dry place."

Insulation Update

Standard practice when insulating a home is adding insulation between each wall stud. But that means there's a gap in insulation every 16 to 24 inches. An alternative method is to add a thermal break between the siding and the frame. It's a relatively inexpensive way to stop the transfer of heat between inside and outside.

"If you put foam insulation at least 2 inches thick on the outside of the house, you can insulate the entire structure

one involved in the project to remain conscious of how design can influence the use of materials and where resources might be saved.

"If you can save even 10 percent to 15 percent in materials to build a home, that's pretty significant—not only for saving money but also saving resources," Evans says.

A builder might decrease the amount of needed lumber at a home's bearing points by using a steel hanger, which could eventually be reused or recycled, or by using pre-cut wood to reduce waste. Homeowners can choose recycled or reused materials for flooring, countertops, wall coverings and cabinets.

One way to reduce the amount of copper wiring needed to power your home includes choosing a cloud-based home automation system like Avi-On, a Park City-based company that uses Bluetooth to power its smart switches. Evans has employed the switches in his own home, as well as the homes of his clients.

Avi-On chief operating officer Dana Kunz explains, "In a traditional home automation system, there's a lot of wiring and extra panels that go into connecting the pieces. In the Avi-On lighting control system, our panels are all in the cloud. As a result, the investment to put lighting automation in a home can be as much as 30 percent less than whatever the next possible lighting automation system is." The Avi-On system includes moveable switches to add a light switch on the other side of a room or make your home more accessible to children or people with disabilities.

That “New Home” Smell

When indoor air quality improves, people get sick less often, kids miss fewer days of school, and working parents are more productive. The first step to clean up air quality comes in the form of an HVAC system that puts out more heat and uses less energy, but better filtration and materials play a role, too. That “new home” smell is actually caused by “off-gassing,” which is the release of volatile organic compounds (VOCs) or other chemicals, especially from paints and carpeting.

Reduce off-gassing in new homes by choosing low-VOC or zero-VOC paints and carpeting manufactured with natural fibers, such as wool and traditional jute-backed carpet. Not only does a wool, jute-backed carpet emit fewer (if any) harmful chemicals, it’s also inherently biodegradable. So when the day comes to replace the carpet, it won’t just take up space in a landfill.

The Bottom Line

Green home design is now much more than the sum of its parts. Rather than simply ticking of a set of boxes on a LEED certification form, the truly sustainable home takes a comprehensive, collaborative approach to architectural and landscape design. Reducing the amount of building materials, favoring multi-use materials that can later be repurposed, and creating a living environment that improves the wellbeing of the people who live there: That’s the look of sustainability in 2018.



Choosing paints and fibers with low- or zero-VOC will create a more human-friendly home.

Custom Homes • Remodels



“Famous For Quality”



PJ Builders specializes in new construction and high-end residential renovations. We bring both professionalism and craftsmanship to each and every project. Our goal is to ensure a positive experience and a highly successful outcome.

435.649.7345 | pjbuilders.com