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An Award-winning, Eco-friendly Cabin

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Award-winning Mountaintop Cabin

story by Lucie B. Amundsen
photos by RixonPhotography.com



Green has never looked so good

It's award winning, it's eco-friendly and it's ... modular? Unexpectedly, these descriptors are swirling around a much-lauded mountain retreat in New Hampshire. Thus far, the cottage has won nine awards, including the prestigious U.S. Green Building Council LEED Platinum Certification, which has rigorous requirements.

Used to be modular housing was a cringe-worthy term, but techniques have improved dramatically since Sears shipped its drafty pre-fabricated homes via rail in the first half of the 1900s.

Americans are slowly warming to the advantages of homes constructed in factories that feature large, precision equipment, assembly-line efficiency, climate-controlled environments and the cost advantages of purchasing materials in bulk.

From a green perspective, modular construction can be built to high

This New Hampshire mountainside cottage recently won nine awards. And we're not talking run-of-the-mill beauty contests, though it is gorgeous. The honors include a prestigious and difficult-to-earn U.S. Green Building Council LEED Platinum Certification.

energy-efficiency standards and, given the use of standardized dimensions, creates less waste in its production. Plus, the fact that the discards of on-site assembly fit inside one trash barrel speaks well to the small carbon footprint of modular construction, even when you consider the necessity of transporting the “mods” via flatbed truck to the property.

Another advantage to this building type is the speed of construction. This award-winning cottage was built by ABODE builders of New England, Inc. as its Mountain Home model. The home went from the setup of modular boxes to curtains hung in 31 days. With a good hunk of the country unbuildable for over half of the year, this is a significant innovation. And this is doubly true for those who build far-off vacation homes and are unable to “babysit” their construction site.

Bright Green & Eco-bling

Although the Mountain Home model is factory built to specification, the entire interior was customized on site for higher quality and more thoughtful finishes. The two-bedroom, two-bath vacation place is tricked out with eco-bling to create as close to an air and watertight structural envelope as possible.

This starts from the ground up. The project uses an insulated concrete foundation (ICF) made of expanded polystyrene (EPS), a rigid plastic foam form that provides thermal insulation and is reinforced with rebar. ICFs cost about 25 percent more up front, but takes cold-attracting concrete (where up to 33 percent of heat can be lost) from an R-value of 3 up to a bright green R-24.

The attic is blown with cellulose

This model home went up in an astounding 31 days. No, it wasn't built by ABC Television's "Extreme Makeover Home Edition" team. It's a modular home, so the components of the cabin were factory-built, then delivered to the job site in boxes.

Modular construction has come a long way since the Sears prefab homes of the last century. As you can see by these photos, today's modular building practices do not mean the cabin owner receives a dull, cookie-cutter, standard home.



icynene insulation, which resists wind displacement and meets the Energy Star requirements of an R-49 value. Open-cell foam insulation is applied in walls for its R-24 value and then water-proofed with a thin membrane applied directly to the foam. The whole structure is then wrapped in a building wrap, such as Tyvek, that acts like a GORE-TEX jacket breathing out any moisture under the cedar siding.

And after the high tech products are applied, old fashioned caulk and glue are used to weatherize the sub-flooring and wall plates to prevent air infiltration – the culprit for 70 percent of heat loss. The little cabin is buttoned up.

To stave off moisture issues and ensure proper aeration in such a tight structure, the cabin uses air filtration and Heat Recovery Ventilation (HRV)



This is one of two bathrooms in the Mountain Home model. Hidden behind fine accoutrements like the copper wash basins are eco-friendly, water-saving features including tankless water heaters and dual-flush toilets.

Systems. The HRV brings in fresh, outside air and preheats or pre-cools it for energy savings. In fact, according to ENERGY STAR testing, heating costs for the cabin are estimated at under \$1,000 annually.

What takes this cabin to the next shade of green – beyond just efficient to downright ecologically cool – are the little choices: recycled engineered board is chosen over plywood,

reclaimed wood from a Virginia tobacco farm is milled for the oak flooring, tankless water heaters replace the need to constantly heat an entire water tank, low flow fixtures, including dual flush toilets, keep water consumption to a minimum and the recessed LED lighting is expected to run with high efficiency for 15 years. For minimum off-gassing, only low-VOC (volatile organic chemicals) paint and carpet are used ... and it goes on. It's a laundry list of conscious selections that adds up to lower impact living.

Design & Style

Probably the most earth-friendly aspect of the project is its scale. While people may agree in concept with the idea of downsizing to a smaller space, actually following through with it takes some courage. This project comes in at just below 1,700 finished square feet, and every inch is hard-working with functionality in mind.

But for the cabin owner who may want a little more flexibility for hosting guests or even an expanding family, this smartly designed retreat does offer some options, such as a den that could serve as a third bedroom and a 1,300-square-foot walkout basement, which could be finished in the future.

To make the house feel more spacious, it is designed with an open kitchen/dining and living area with elongated sight lines. Also, ceiling heights are generous at 9 feet and soar to 11 feet in the master bedroom, keeping a cozy cabin from causing a case of cabin fever.

Lastly, the traditional cottage look follows the idea that one can be very enthusiastic about green architecture and not have to live in the austere modern style often associated with the movement. The cabin aesthetic is meant to capture all the warmth of a rustic getaway while treading lightly on our places of retreat. ~

Lucie B. Amundsen is a writer who spends her free time greening up her century-old home.



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To see a floor plan of this cabin, go to www.CabinLife.com and look under "Featured Cabins" (under "Dream Cabins" on the main navigation bar).