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The Living Building Challenge

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Metropolis magazine wrote about the [Omega Institute of Sustainable Living](#) in Rhinebeck, New York, one of the world's greenest buildings. According to *Metropolis*, the institute creates its own energy through solar panels and geothermal wells, and materials "strenuously eschew toxins—there's virtually no PVC, lead, or mercury to speak of—and draw from a 250- to 1,000-mile zone, depending on the product." The building was created using the [International Living Building Institute's living building standard](#). Certified living buildings must consume zero energy, zero water, be non-toxic, provide habitat restoration and urban agriculture (all of these are actually required).

One of the more interesting features is the building's "Eco Machine," a system that clearly demonstrates for visitors how plants and fish remove human waste from water. The system was described as "a self-contained sewage system that mimics nature's self-corrective principles by freeing plants, bacteria, micro-organisms, algae, and fish to feast on human waste, thus purifying it, much as a stream cleanses its own ecosystem."



However, creating these buildings is no walk in the park. Skip Backus, executive director of the Omega Institute, told *Metropolis*: "To say that Living Building Challenge is a challenge—you've got to keep that word Challenge capitalized throughout the process." Dan Hellmuth, the architect for Washington University's Living Building project, added: "We knew what we were getting into, but we didn't know how bad it was going to be."

Metropolis argues the new system may spur additional gains in energy and water efficiency through the LEED rating system. "Think of the Living Building Challenge as a Port Huron Statement for the green age. Its motto, 'No credits, just prerequisites,' rebukes the moderate incrementalism of LEED, which favors plaques and incentives over soup-to-nuts sustainability. The rigors of the Challenge, the thinking goes, will pressure the USGBC itself to radicalize, effectively tamping the entire industry into smaller carbon footprints, one pretty little building at a time. In this era of (perhaps mythical) carbon-neutral resorts and LEED Platinum skyscrapers, it seems a logical next step."

Inhabitat adds there is an additional important feature of the living building certification system: data must be collected and verified: "One of the most important features [...] is that it measures the actual performance of buildings. Basically this means that a year after a building was built, measurements are taken to ensure that it is, in fact, net zero in terms of energy and water, etc. This is a big distinction from existing requirements like LEED and CA's Title 24 which measure performance models and do not hold projects accountable to live up to those models."

In 2009, the Cascadia Region Green Building Council founded the International Living Building Institute to promote to the development of living buildings and sites. There are now 70 projects pursuing certification in the U.S.

The institute's Jason McLennan told *Inhabitat* it recently updated its living building certification system to address food, transportation and other issues. "The simple concept of green buildings has generally produced more efficient buildings and smaller footprints. But that is no longer enough. With version 2.0 addressing issues of food, transportation and social justice, we expect a considerable leap forward will happen once again."








[Read the article](#) and [see more photos at Inhabitat](#). |

Also, check out a [Wall Street Journal article](#) on the U.S. Department of Energy National Renewable Energy Laboratory (NREL)'s work to create the country's greenest office building. "NREL told designers bidding on the project that the new building could use no more than 32,000 BTUs per square foot a year. A typical office building in the Rocky Mountain region uses 65,000 BTUs per square foot a year, says the U.S. Green Building Council. If the building stays within its limits, all its energy use should be covered by a one-megawatt solar array being built on the NREL campus."

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