

Yannell Residence, Chicago, United States

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A house with positive energy



Farr Associates



ENTRY: WAN AWARDS 2009 - RESIDENTIAL

Yannell Residence, Illinois' first LEED Platinum-certified home, boasts the nation's highest score for a net-zero energy residence

As Chicago's first Net Zero Energy building – producing 40% more energy than it consumes – it demonstrates that beautiful, sustainable, energy-positive housing can be integrated seamlessly into existing housing stock in northern climates.

The floor plan features two narrow wings, maximizing solar penetration for winter heating, and aid in natural ventilation. Connected by a foyer, each wing faces a landscaped interior courtyard garden that creates views of outdoor rooms and habitat certified by the National Wildlife Federation. Each wing features a butterfly-shaped roof: capturing rainwater, hiding the home's 10KW photovoltaic array, and providing solar shading and access. The passive solar design features low-E windows on the south face of each wing, significantly reducing energy transmission. Advanced, integrated energy systems include a geothermal system, cooling forced air in summer, and warming radiant floors in winter. The north walls of each wing feature an interior mass wall/plenum air return system that allows heated air to pass along the front- and back-sides of the mass wall, recirculating the air through the house to minimize mechanical energy usage.

The greywater/ rainwater systems demonstrate that water conservation is critical for truly sustainable design. Spent water from the washing machine is collected and filtered to provide potable-equivalent water for dual flush toilets. Rainwater is collected in a cistern and used to water landscaping. The courtyard fountain serves as a design element and a method to keep the water in the cistern in constant motion—inhibiting stagnation and bacteria growth. The Yannell Residence sheds light on what is possible now in America and gives further credibility to the identity of Chicago as being on the forefront of sustainable design and living.

Key Facts

Status	Completed
Value	0(m€)

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