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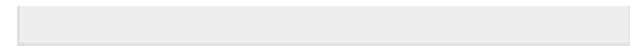
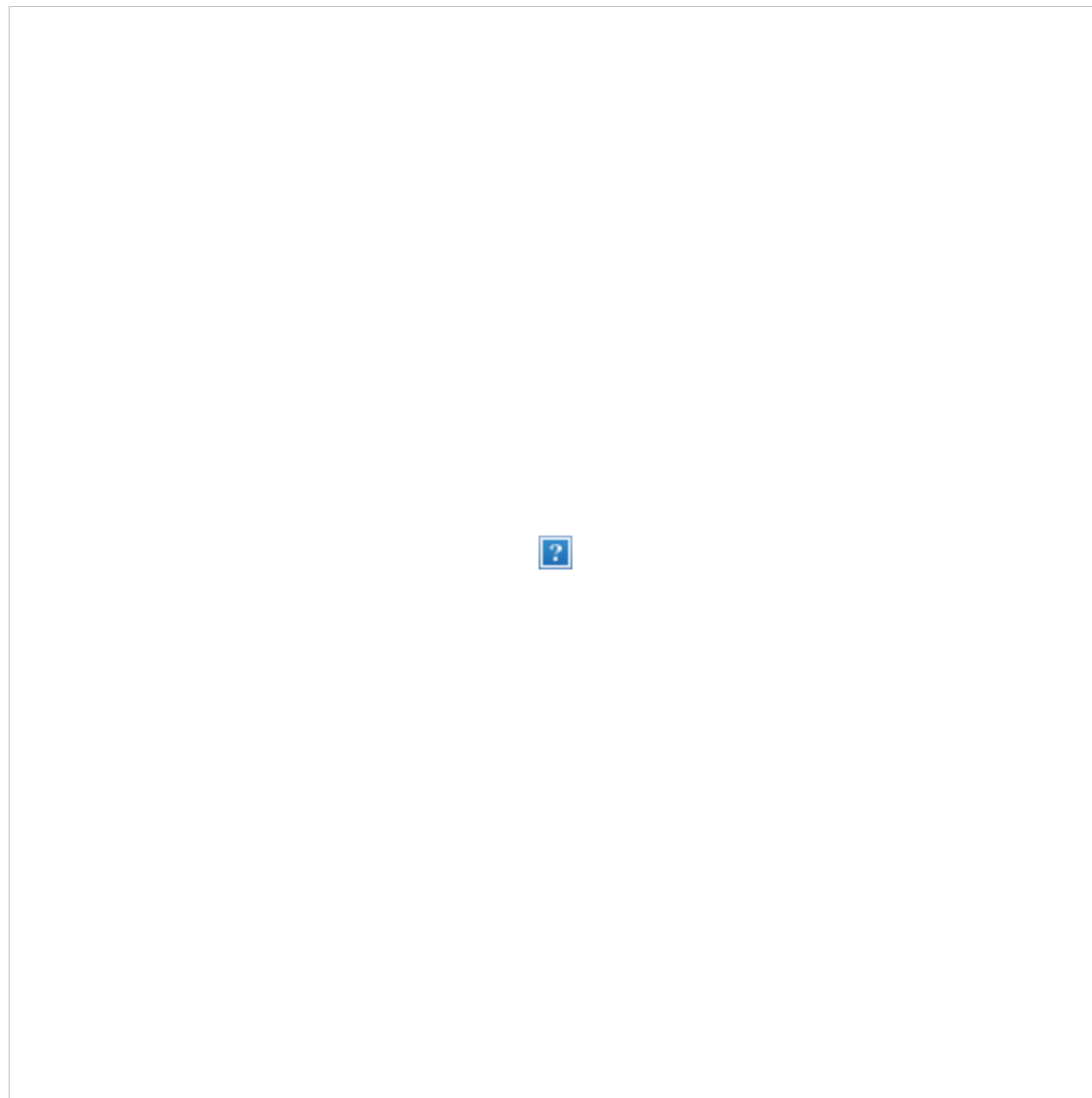
Heliotrope House Spins an Energy Positive Design Tale

Posted on 16. Jan, 2012 by [Maryruth Belsey Priebe](#) in [Articles](#)

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It may not be the newest [green house plan](#) around, but it certainly is one of the most innovative. The [Heliotrope](#) built originally in 1994 by designer [Rolf Disch](#) of Germany, is a model of ingenuity and purportedly the first energy positive house in the world.

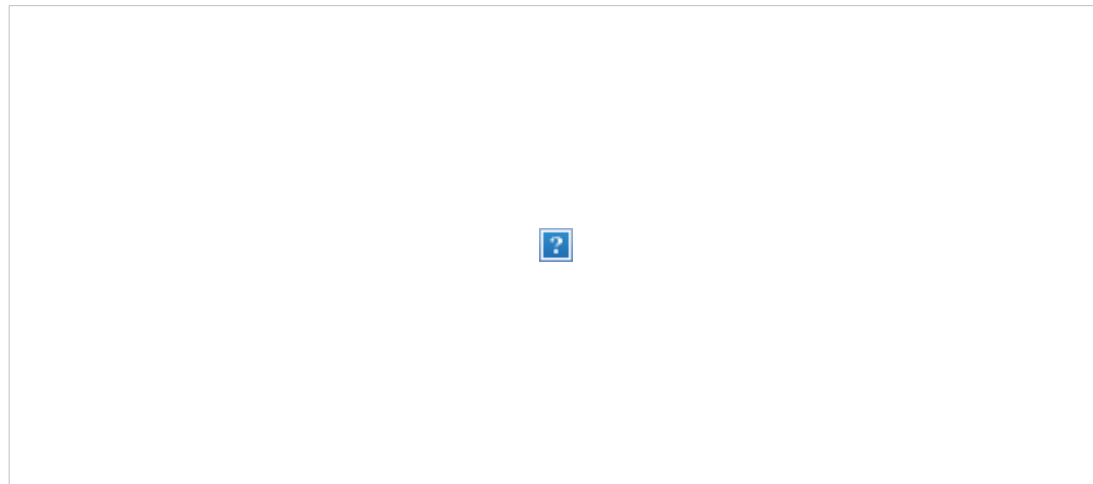
Most interestingly, the Heliotrope, which gets its name from flowers such as poppies that turn their faces to follow the sun, produces between four and six times more energy than it consumes using a variety of renewable energy options: dual-axis solar PV, a geothermal heat exchanger, and a combined heat and power unit. It even has solar thermal collectors built into the railings the wrap the house to heat

water for bathrooms and the kitchen, and for space heating, too.

It also turns 180 degrees every 12 hours to follow the sun to allow for maximum solar energy generation as well as passive solar heating (during cooler months), and optimum daylighting. Aside from the house's movements, the mounting and computer-controlled solar system tracks the sun throughout the day to turn independently of the building and adjust the angles to maintain the optimum pitch for energy collection.

Disch calls his design PlusEnergy to draw attention to the extreme energy efficiency and positive energy balance achieved. This extraordinary house has many other eco-friendly features:

- Highly-efficiency insulation
- Triple-glazed windows
- Sun shades to prevent overheating in warmer months
- Gray water recycling which is purified through a cascade pool
- Waterless, dry-compost toilet system
- A roof garden with a sun deck with changing vistas throughout the day



This green house design has been adapted since the first iteration to accommodate commercial enterprises (such as a dental facility or hotel) as well as create private residences. As a residence, this concept is a fascinating living experience. The 18-edged spiral climbs continually upward with each living or working level. With an

open floor plan, you can move from one segment to the next going ever higher, never stepping foot into a hallway. Alternatively, the design can be created with segmentations as internal partitions, allowing you to move from one room to another using the central staircase. Very inspirational, even 18 years on.



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