Energy-plus-house

An energy-plus house (also called: plus-energy house, efficiency-plus house) produces more energy from renewable energy sources, over the course of a year, than it imports from external sources. This is achieved using a combination of microgeneration technology and low-energy building techniques, such as: passive solar building design, insulation and careful site selection and placement. A reduction of modern conveniences can also contribute to energy savings, however many energy-plus houses are almost indistinguishable from a traditional home, preferring instead to use highly energy-efficient appliances, fixtures, etc., throughout the house.

PlusEnergy is a term used in building design to describe a structure that produces more energy than it uses. The term was coined in 1994 by Rolf Disch when building his private residence, the Heliotrope as the first PlusEnergy house in the world. Disch then went on to refine the concepts involved with several more projects built by his company Rolf Disch Solar Architecture in order to promote PlusEnergy for wider adoption in residential, commercial and retail spaces. Disch maintains that PlusEnergy is more than just a method of producing environmentally-friendly housing, but also an integrated ecological and architectural concept. As such, PlusEnergy is intended to be superior to low-energy or zero-energy designs such as those of Passivhaus.

The PlusEnergy approach uses a variety of techniques to produce a building that generates more energy than it consumes. A typical example is to capture heat during the day in order to reduce the need to generate heat over night. This is achieved using large North and South facing window areas to allow sunlight to penetrate the structure, reducing the need for energy use from light bulbs. Triple-paned windows (U-value = 0.7) trap this heat inside, and the addition of heavy insulation then means the structure is already warm in the evening and therefore needs less heating. In the Sun Ship, a 60,000 sq ft (5,600 m2) commercial, retail and residential PlusEnergy structure, techniques such as phase changing materials in the walls and vacuum insulation are also used. This permits maximum availability of floor space without compromising efficient insulation.

Analyse the text.