Passivhaus
Passive House

First inspired by the U.S. energy crisis.

Inspired by the OPEC oil embargo of the 1970s, modern “Passive House” design began in North America. Further research was conducted in Scandinavia and Germany.

Did you know?

• A house built to Passive House standards in the U.S. saves between 75% and 95% less energy for heating and cooling than houses built to current energy efficiency codes.
• To be certified, thermal comfort must be met for all living areas year-round with not more than 10% of the hours in any given year over 25°C (75°F).
• The houses are oriented to the south to take advantage of passive solar heat.
• Originally developed in Germany for houses and low-rise multi-unit residential buildings, the Passive House Standard is now being applied to schools, office buildings, and even high-rises.

“The surprise and delight of Passive House is not just in the incredible comfort and low energy bills but also in the daylighting and quietness it provides.” — Passive House owner

The Passivhaus Standard

• The Passivhaus Standard originated in 1988 with a conversation between Dr. Wolfgang Feist, a German physicist, and Dr. Bo Adamson, a Swedish scientist.
• The Standard has two mandatory components: providing flexibility for innovation in local materials and pricing systems.
• Passive House principles can be applied to nearly every building type, anywhere in the world.

The 5 basic principles

1. Thermal insulation
2. Passive House windows
3. Ventilation with heat recovery
4. Airtightness
5. Thermal bridge free design

Designed by Stephan Tanner at Intep in 2005, the Waldsee BioHaus in Bemidji, Minnesota, is the first certified Passive House building in North America. Photo: Cal Rice Photography.

Designed by Minneapolis firm TE Studio, the Nordeast Nest is one of the most efficient homes in the state. Photo: Corey Gaffer Photography.

The 7 Sustainable Development Goals

7: Affordable and clean energy