



What is Passive House?



Passive House is the world's leading standard for energy efficient construction. It combines building enclosure efficiency and passive solar strategies in a system for designing and building cost effective, comfortable, energy efficient buildings. In the New England climate, the major components are:

- **Super-insulated envelope**
- **Ultra-high-performance windows**
- **Eliminating or reducing thermal bridging**
- **Airtight construction (0.6 ACH@50Pascals)***
- **Heat-recovery ventilation**
- **Using passive heat sources (solar of course, but also equipment, lighting, and occupants).**

Its effectiveness has been demonstrated in projects in every climate zone around the world, ranging from single family homes to very large commercial and institutional structures.

*** This is 1/10th the prevailing Massachusetts average, based on the last state sponsored new construction baseline study that documented average infiltration at 6.72 ACH 50.**

Benefits of a Passive House

A Passive House is about quality, comfort and energy efficiency.

A Passive House is an extremely energy efficient building which also has substantial non-energy benefits.

An extremely air tight building provides freedom from drafts. Air tightness makes possible a high level of control over indoor air quality, since the building is mechanically ventilated, independent of weather conditions. High quality air is brought in under precise control and balance. Poor quality, out of control air is kept out.

If desired, the ventilation system can be equipped with a high quality filter, so allergens and other particulates are removed – so the indoor air can be cleaner than the outdoor air.

A superior level of insulation and high performance windows help insure a uniformly high level of comfort. The interior surfaces of the building are close to room temperature by design, so radiant loss from people in the building is minimized: the result is you feel more comfortable.

The insulation and high quality windows greatly reduce the intrusion of outdoor noise.

In the event of a loss of power, there is no concern about burst water pipes. Although the building will get cooler without active heating, it should never get close to freezing.

A Passive House is ‘passively comfortable’ – requiring little heating and cooling. This minimizes both the first cost of heating and cooling equipment, as well as ongoing energy costs.

A Passive House is a way to enjoy an investment against energy price inflation: both your peace of mind and finances benefit from a reduced dependence on energy.

A Passive House is a contribution to energy security and environmental sustainability.

A Passive House reflects the owner’s values, and represents a quality of life choice.

PASSIVE HOUSE NEW ENGLAND is an open group of collaborators meeting to share knowledge about energy efficient homes, buildings, and the Passive House Standard.