

Passive House for Oregon Reach Code!

Passive House Oregon

12 May 2010

Passive House in a sentence.

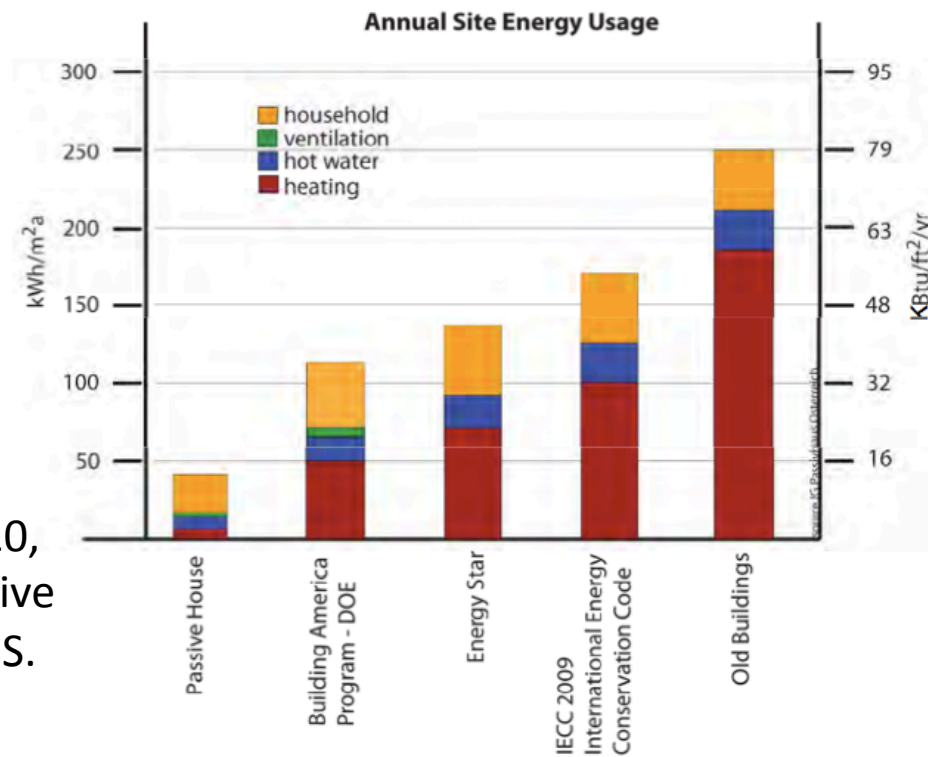
- Passive House is an energy performance standard for buildings with particular emphasis on the performance and quality of the building envelope.

P/H Standard

1. Total annual energy use referred to the source less than 11.1 kWh/yr per square foot of conditioned floor area.
 - Translates to about 2.1-4.6 kWh/yr site energy per square foot of gross floor area. Residential National average about 13.5. (Solar OR, US-EIA)
 - *Source energy criterion is proxy for global warming impact.*

Standards compared

Challenges



P/H corresponds approximately to the Architecture 2030 goal for 2020, according to Passive House Institute US.

Prepared by PHIUS from Architecture 2030 data.

P/H Standard

Special attention to the building envelope.

2. Annual space heating demand (site) less than 1.4 kWh/yr per square foot of conditioned floor area.

Translates to about 1.1 kWh/yr per square foot of gross floor area.

Forces high insulation levels for long-lived energy savings.

3. Measured air-leakage less than 0.6 ACH50.

Compared to Oregon Hi-Perf. home limit of 5.0.

Prevent moisture problems, ensures durability.

Passive House system

- Meeting the standard normally requires:
 - Superinsulation $R \sim 60$ walls, floor, $R \sim 90$ roof.
 - Continuous planned and detailed air barrier.
 - Heat recovery ventilator.
 - Triple-glazed windows.

Passive House

- Nationally recognized & technically feasible
 - 10 year, 15,000 building track record in central Europe (similar climate to coastal Northwest)

