

Press Release

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Number of certified Passive House square metres reaches one million mark

Energy efficient construction standard now applied throughout the world

Darmstadt, Germany. Building owners throughout the world are increasingly turning to the Passive House Standard. This autumn the number of square metres that have been certified internationally based on the highly efficient standard reached one million. The symbolic threshold was crossed with the certification of a [detached house in Santa Cruz](#) in California, USA. Almost 25 years after the construction of a prototype house in Darmstadt, tens of thousands of tenants and home owners continue to benefit from the low heating costs and high level of comfort provided by Passive Houses – on almost all continents and in practically every climate zone.



The building in California with the "one-millionth Passive House square metre". Photo: Kurt Hurley

The Passive House Institute issued a special certificate for the refurbished building in California, noting the milestone achievement. The 90-year-old bungalow was converted by the owners into a future-oriented model while still retaining its outer appearance. In their [Blog](#) they report on the technical details of the renovation and the results for their energy consumption values on a regular basis.

To date, the Passive House Institute has issued certificates for just over 10 000 units in Passive House Standard. However, the certification is voluntary, meaning that the total number is much higher and there are no solid statistics available. "In principle, anyone can build a Passive House", says Zeno Bastian, Head of Building Certification at the Passive House Institute. What matters is compliance with the clearly defined criteria for energy consumption. How this is achieved depends on the climate; in Central Europe the most essential measures include thermal bridge free construction, an airtight building envelope, a ventilation system with heat recovery, triple-glazed windows and excellent thermal insulation. "The primary purpose of certification is quality assurance", says Bastian. "With this internationally recognised seal, buildings owners are safe in the knowledge that the desired savings for heating costs and added benefits of a Passive House will actually be realised".

With reference to the architectural design, the Passive House Standard does not specify any particular type of construction – and the principle works for every type of building use.

Certified projects are accordingly diverse. To date, the largest building built to the Passive House Standard is an [office tower in Vienna](#) which has a useable area of almost 21 000 square metres. The [smallest Passive House](#), certified at the end of November, is a building in France near Rennes with a floor area of just eleven square metres. Most Passive Houses are located in Central Europe, but construction based on this principle is increasingly spreading to other parts of the world; in addition to many buildings in North America and Eastern Asia, as well as pilot projects in [South America](#) and [Central America](#), the first project in [Australia](#) was certified this past November.

The adoption of the Passive House Standard, especially in Europe, is expected to gain traction substantially in the coming years. In 2021, when the EU Buildings Directive comes into effect, the so-called "Nearly Zero-Energy Building" will become standard for all new buildings. This will be achievable through a combination of the Passive House Standard with the use of renewable energy. With savings of up to 90% in heating costs, this building standard does not only represent a meaningful solution for the energy revolution but is also economically attractive for building owners.



The largest Passive House building in the world: the "RHW.2" in Vienna. *Photo: Passive House Institute*



The smallest Passive House in the world, in Amanlis near Rennes, France. *Photo: Hinoki*



The first of just three Passive Houses in Australia. *Photo: Passive House Australia / Sustainable Building Resources*



The first Passive House was built in 1990 in Darmstadt, Germany. *Photo: Passive House Institute*

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