

What is a passivhaus home

homes designed to save
money

by magnumproperties



passivhaus, or passive house, is a building standard born in Germany in 1991 that has been spreading throughout the rest of the world. it combines high indoor comfort with very low energy consumption and an affordable price, thanks to the maximum care of the building envelope and a controlled ventilation system.



Evitar Puentes Térmicos

Los puentes térmicos aumentan el riesgo de condensaciones y apariciones de moho. El estándar Passivhaus evita los puentes térmicos al hacer continua la envolvente.

Hermeticidad

Se evitan por completo las infiltraciones de aire, garantizando el correcto funcionamiento del recuperador de calor.

Grandes Espesores de Aislamiento

El aislamiento térmico mejora el comportamiento del edificio, destacando situaciones de frío. Para el calor se llevan a cabo estrategias pasiva alternativas como el sombreado o la ventilación nocturna en verano.

Recuperador de Calor

Asegura la calidad higiénica del interior del Edificio, filtrando partículas nocivas para el cuerpo humano o el propio edificio, obteniendo siempre aire fresco sin perder energía.

Sombreamientos

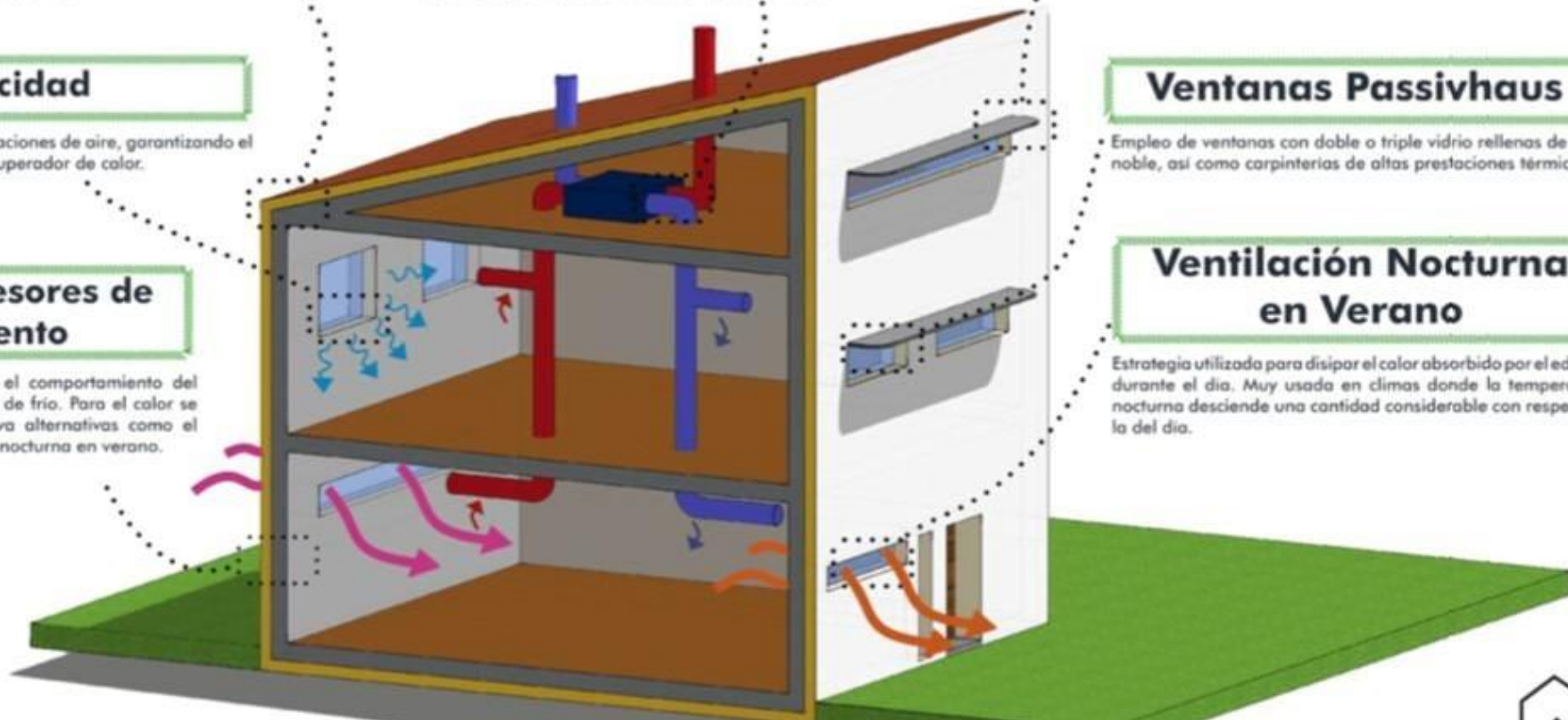
Se establece un control total sobre las sombras en las superficies acristaladas del edificio.

Ventanas Passivhaus

Empleo de ventanas con doble o triple vidrio rellenas de gas noble, así como carpinterías de altas prestaciones térmicas.

Ventilación Nocturna en Verano

Estrategia utilizada para disipar el calor absorbido por el edificio durante el día. Muy usada en climas donde la temperatura nocturna desciende una cantidad considerable con respecto a la del día.



benefits of a passivhaus



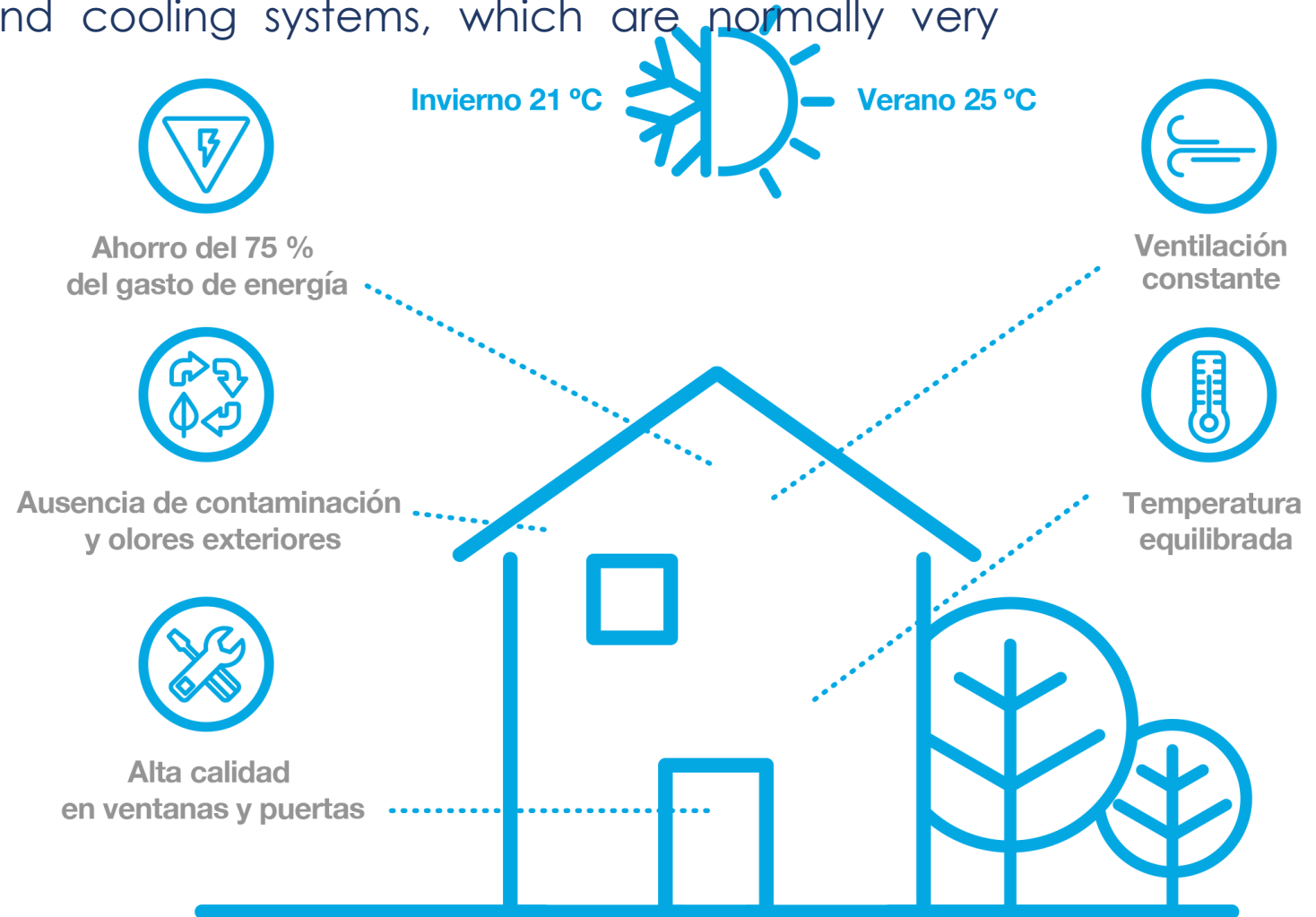
Sustainable Housing

A passive house requires as little as 10% percent of the energy used by conventional buildings, which means energy savings of up to 90%!!! Since energy savings equals reduced emissions, the passive house is a sustainable alternative to conventional construction.



Cost-effective housing

The investment in higher quality building components required for the construction of a passivhaus is offset by the fact that there is no need to invest in heating and cooling systems, which are normally very expensive.



Comfortable Housing

the pleasant temperatures inside a passive house and the quality ventilation it provides make them the most comfortable homes, as they help prevent moisture build-up, putting an end to possible condensation on windows and the appearance of mold. ventilation systems in passive houses constantly supply fresh air, making indoor air quality superior. the air in a passive house is never stale, abundant clean air, free of dust and dirt outside. this maximizes comfort for everyone, especially for people with allergies or respiratory problems.



Versatile Housing

the concept of passive house is based on physical principles, so each building can and must adapt to its particular climate. This allows us to undertake our projects with methodologies and work systems that we are used to, as far as possible we try to implement the Bioconstruction in our projects.



5 reasons why it is increasingly necessary to build under the passivhaus standard taking into account health, consumption, comfort and savings criteria.



The energy savings of passive houses come mainly from the optimization of two parameters in which the passivhaus standard is particularly demanding: heating and cooling. one example is that last april, despite the abundant rainfall, electricity prices rose by 6.2% compared to march, reaching 42.66 euros/MWh. with a passivhaus building we could ensure a reduction of up to 75% in heating demand, thus leaving the end consumer less exposed to these increases.

comfort. the comfort provided by a building in which all rooms are at a constant and homogeneous temperature within the comfort range (between 20° and 25° depending on the season) regardless of whether it is day or night, or the outside temperatures. this occurs because homes built to the passivhaus standard make efficient use of the sun, harnessing its energy to both naturally illuminate the home and to heat it. passivhaus also ensures this temperature thanks to measures that eliminate unwanted energy losses or gains and contribute to guarantee the interior comfort of the building. in addition to the comfort provided by a clean and healthy environment with mechanical ventilation, and the acoustic comfort provided by a building in which the building envelope has been carefully designed.

efficiency. working together and coordinating five basic principles: high thermal insulation, elimination of thermal bridges, high performance carpentry and glazing, airtightness control and ventilation with heat recovery. if we also take advantage of solar radiation energy in cold periods and avoid it in hot periods, the result obtained is high efficiency, which translates into high indoor comfort with a very low energy demand. such a low demand can be easily supplied with renewable energies.

long-term investment. the cost of a building should not only be considered as the cost of its construction, but also the cost of maintenance and energy costs throughout its useful life. passivhaus buildings are really a good investment, compared to a "non-passive" building, as far as habitability conditions are concerned, given that the initial investment in their construction can be between 3% and 8% more (although there are examples of buildings with a 0% cost overrun) but their overall cost is amortized, depending on the size of the building, between the first 5 and 10 years of use, thanks to the high savings on the energy bill that they provide.

air quality. building ventilation is required by regulations and helps to eliminate the concentration of carbon dioxide generated by our presence alone, as well as volatile organic compounds generated by adhesives, paints, varnishes, aerosols and cleaning products. however, if it is carried out by means of a forced or mechanical ventilation system with a heat recovery system, the air is renewed continuously without changing the temperature of the building. these systems are equipped with filters that prevent the passage of dust, pollen and other particles in suspension in the outside air, which is highly effective for people suffering from respiratory disorders or allergy problems. this achieves a high degree of comfort in the indoor environment of buildings. Since air quality is key to ensuring optimal conditions for learning and growth, as well as increased productivity and improved morale, the Passivhaus Building Platform, in collaboration with the University of Burgos, is conducting studies of indoor air conditions through monitoring in schools.
