

# Nearly Zero-Energy Building



The term nZEB is an acronym of the English term “nearly Zero-Energy Building”.

It refers to buildings that comply with a very high level of energy efficiency and nearly zero, or very low, energy consumption, the majority of which should come from renewable sources produce in situ or in the surrounding area.

40% of the energy consumed in the European Union corresponds to buildings. Its reduction is a priority in the goal to reduce this energy dependency. For this purpose, the **European Directive 2010/31/EU** on the energy performance of building was published, according to which all Member States must take measures so that **from 2020 all new builds (2018 for public buildings) are nearly zero-energy.**



## Aspects of the nearly zero-energy building

- **A good architectural design** that takes into account the weather conditions and local distinctive features of the setting (sunlight, orientation, analysis of shade, prevailing breezes, topography of the environment, vegetation, humidity, etc.). Bioclimatic architecture.
- **An intelligent envelope** (façades, roof and floor) that makes the most of the environmental sources and drains (solar protection and gain, passive construction, thermal inertia, tempering of the exterior air, low emissivity glass, ventilated façade,

green roof, etc.). Passive architecture.

- **High construction quality** in accordance with requirements (super-insulation, sealing, strict control of thermal bridges and air filtrations, high performance windows and glass, thoroughness in the execution of works, etc.). Specialist companies.

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- **High efficiency equipment and installations**, and seasonal average high performance (interior air quality, mechanical ventilation with heat exchanger, passive elements for heating and cooling, cross ventilation, more efficient household appliances, etc.) **supported by renewable energies** (solar, geothermics, aerothermics, wind, etc.) to constantly maintain the required conditions of comfort with minimal consumption of conventional energy, sustainable architecture, renewable energy, etc.

- **Comprehensive home automation system** adapted to the needs of the property to optimise consumptions: automation and monitoring (control of all installations, movement detectors, low consumption and LED light bulbs, remote access, etc.) of all the systems.

For the sustainability of the planet, it is necessary we understand that the most intelligent (and economical) thing is to only use the necessary energy and reduce our energy dependency as much as possible. **The most sustainable energy is energy that is not used.**

We should understand that the fair cost of a building is not just its construction, we must add its energy demand and maintenance throughout its entire useful life. **Building today without energy saving criteria is a bad investment, it is an "energy mortgage".**