



UNIVERSITÀ
DEGLI STUDI
DI TRIESTE

Regulatory Framework and Building Energy Design

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Energy Performance Building Directive (EPBD)

EU 2024/1275 Directive – April 24, 2024

ARTICLE 1

It promotes:

- the improvement of the energy performance of buildings
- the reduction of greenhouse gas emissions from buildings within the Union

To achieve:

- a zero-emission building stock by 2050

Taking into account:

- local conditions
- external climate conditions
- indoor quality requirements and cost-effectiveness

Energy Performance Building Directive (EPBD)

The Directive must be implemented by member States by **May 29, 2026**

ARTICLE 35

Exception: member States shall bring into force the laws, regulations and administrative provisions necessary to comply with Article 17(15) by **January 1, 2025**

Extract from Article 17(15): *“From 1 January 2025, Member States shall not provide any financial incentives for the installation of stand-alone boilers powered by fossil fuels, with the exception of those selected for investment, before 2025, in accordance with [...]”*

When member States adopt these measures, they shall contain a reference to this Directive

If a member State does not implement the measures within the deadlines it will be subject to infringement procedure

Energy Performance Building Directive (EPBD)

The Directive lays down requirements as regards:

ARTICLE 1

- the methodology for calculating the energy performance of buildings
- the application of minimum energy performance requirements to:
 - **new buildings**
 - **existing buildings** that are undergoing major renovation
 - **building elements** that form part of the building envelope and that have a significant impact on the energy performance of the building envelope when they are retrofitted or replaced
 - **technical building systems** where they are installed, replaced or upgraded
- the calculation and disclosure of the life-cycle global warming potential of buildings
- solar energy in buildings
- ...

Energy Performance Building Directive (EPBD)

ARTICLE 3

National Building Renovation Plan

Each member State shall establish a plan to ensure the renovation of the national stock of **residential** and **non-residential** buildings, both public and private, into a highly energy-efficient and decarbonised building stock by 2050

Every five years, each member State shall submit to the Commission its national building renovation plan

Member States shall submit the first draft building renovation plan to the Commission by **31 December 2025**

Member States shall submit the first national building renovation plan to the Commission by **31 December 2026**

Energy Performance Building Directive (EPBD)

National Building Renovation Plan

ARTICLE 3

Each national building renovation plan shall include:

- an overview of the national building stock for different building types
- an overview of market barriers and failures
- a roadmap with targets and progress indicators, including the reduction of the number of people affected by **energy poverty**
- an overview of implemented and planned policies and measures, supporting the implementation of the roadmap
- an outline of the investment needs for the implementation of the plan
- the **minimum energy performance standards** for non-residential buildings
- the national trajectory for the renovation of the residential building stock
- an estimate of expected energy savings and improvements in **environmental quality**

Energy Performance Building Directive (EPBD)

Methodology for calculating buildings energy performance

ARTICLE 4

⚠ Article 4 is strictly related to Annex I ⚠

*“The energy needs and energy use for space heating, space cooling, domestic hot water, ventilation, lighting and other technical building systems shall be calculated using **monthly, hourly** or **sub-hourly** time calculation intervals in order to account for varying conditions that significantly affect the operation and performance of the system and the indoor conditions, and to optimise health, indoor air quality, including comfort levels, defined by Member States at national or regional level.”*

Energy Performance Building Directive (EPBD)

ARTICLE 5

Setting of minimum energy performance requirements

Member States shall take the necessary measures to ensure that minimum energy performance requirements are set for:

- **existing** and **new buildings**
- **building elements** that form part of the building envelope and that have a significant impact on the energy performance of the building envelope **when they are replaced or retrofitted**

When setting requirements, member States may differentiate between **new** and **existing** buildings and between different categories of building

Member States shall review their minimum energy performance requirements at regular **intervals** which shall **not be longer than five years** and shall, if necessary, update them in order to reflect technical progress in the building sector and updated national energy and climate targets and policies

Energy Performance Building Directive (EPBD)

ARTICLE 7

Requirements for new buildings

Member States shall ensure that new buildings are zero-emission (or at least nearly zero-energy) buildings:

- from 1 January 2028, new buildings owned by public bodies
- from 1 January 2030, all new buildings

Member States shall address, in relation to new buildings, the issues of:

- optimal indoor environmental quality
- adaptation to climate change
- fire safety
- risks related to intense seismic activity
- accessibility for persons with disabilities

Energy Performance Building Directive (EPBD)

ARTICLE 8

Requirements for **existing buildings**

Member States shall take the necessary measures to ensure that, **when buildings undergo major renovation**, the energy performance of the building or of the renovated part meets the minimum energy performance requirements set in accordance with Article 5

Those requirements shall be applied to the renovated building or building unit as a whole. Additionally or alternatively, requirements may be applied to the renovated **building elements**

Member States shall in addition take the necessary measures to ensure that, when a building element that forms part of the building envelope and has a significant impact on the energy performance of the building envelope is retrofitted or replaced, the energy performance of the building element meets minimum energy performance requirements in so far as technically, functionally and economically feasible

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ARTICLE 9

Progressive renovation of the building stock

Each member State shall set two maximum energy performance thresholds so that:

- 16 % of its national **non-residential building stock** is above that threshold
- 26 % of its national **non-residential building stock** is above that threshold

The threshold will be expressed in kWh/(m² year) as the main parameters used for energy performance classes

The minimum energy performance standards shall ensure, at least, that all non-residential buildings are below:

- the 16 % threshold from 2030
- the 26 % threshold from 2033

After 2033?



Roadmaps to lower energy performance threshold by 2040 and 2050