



UNIVERSITÀ
DEGLI STUDI
DI TRIESTE

Regulatory Framework and Building Energy Design

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Energy Performance Building Directive (EPBD)

ARTICLE 9

Progressive renovation of the building stock

By **29 May 2026**, each member State shall establish a national trajectory for the progressive renovation of the **residential building stock** in line with the National Building Renovation Plan ensuring that the average Primary Energy (PE) use in kWh/(m² year) of the residential building stock:

- decreases by at least 16% compared to 2020 by 2030
- decreases by at least 20-22% compared to 2020 by 2035



After 2035?

There must be a progressive decrease in the average PE use in line with the transformation of the **residential building stock** into a zero-emission building stock by 2050

⚠ At least 55% of the decrease in the average PE use after 2035 is achieved through the renovation of the 43% worst-performing residential buildings ⚠

Energy Performance Building Directive (EPBD)

ARTICLE 13

Technical building systems

System requirements shall be set for new and for the replacement and upgrading of existing technical building systems

System requirements shall be set for technical building systems in order to facilitate the effective installation and operation of low temperature heating systems in new or renovated buildings

Stand-alone boilers powered by fossil fuels in **existing buildings** shall be replaced, in line with the national phase-out plans for fossil fuel boilers

Non-residential buildings shall be equipped with building automation and control systems:

- continuously monitoring, logging, analysing and allowing for adjusting energy use
- benchmarking the building's energy efficiency, detecting losses in efficiency of technical building systems
- monitoring of indoor environmental quality

Energy Performance Building Directive (EPBD)

ARTICLE 10

Solar energy in buildings

Member States shall ensure the deployment of suitable solar energy installations:

- by 31 December 2026, on all **new** public and **non-residential buildings** with useful floor area larger than 250m²
- on all **existing** public buildings with useful floor area larger than:
 - 2.000m², by 31 December 2027
 - 750m², by 31 December 2028
 - 250m², by 31 December 2030
- by 31 December 2027, on **existing non-residential buildings** with useful floor area larger than 500m², if the building undergoes a major renovation
- by 31 December 2029, on all **new residential buildings** and on all new roofed car parks physically adjacent to buildings

Energy Performance Building Directive (EPBD)

ARTICLE 14

Infrastructure for sustainable mobility

Non-residential buildings, new or undergoing major renovation, with more than five car parking spaces shall ensure:

- installation of at least one recharging point for every five car parking spaces
- installation of pre-cabling for at least 50 % of car parking spaces
- provision of bicycle parking spaces representing at least 15 % of average or 10 % of total user capacity of non-residential buildings

All non-residential buildings, with more than 20 car parking spaces, shall ensure, **by 1 January 2027:**

- installation of at least one recharging point for every 10 car parking spaces, or of ducting, for at least 50 % of the car parking spaces
- provision of bicycle parking spaces representing at least 15 % of average or 10 % of total user capacity of non-residential buildings

Energy Performance Building Directive (EPBD)

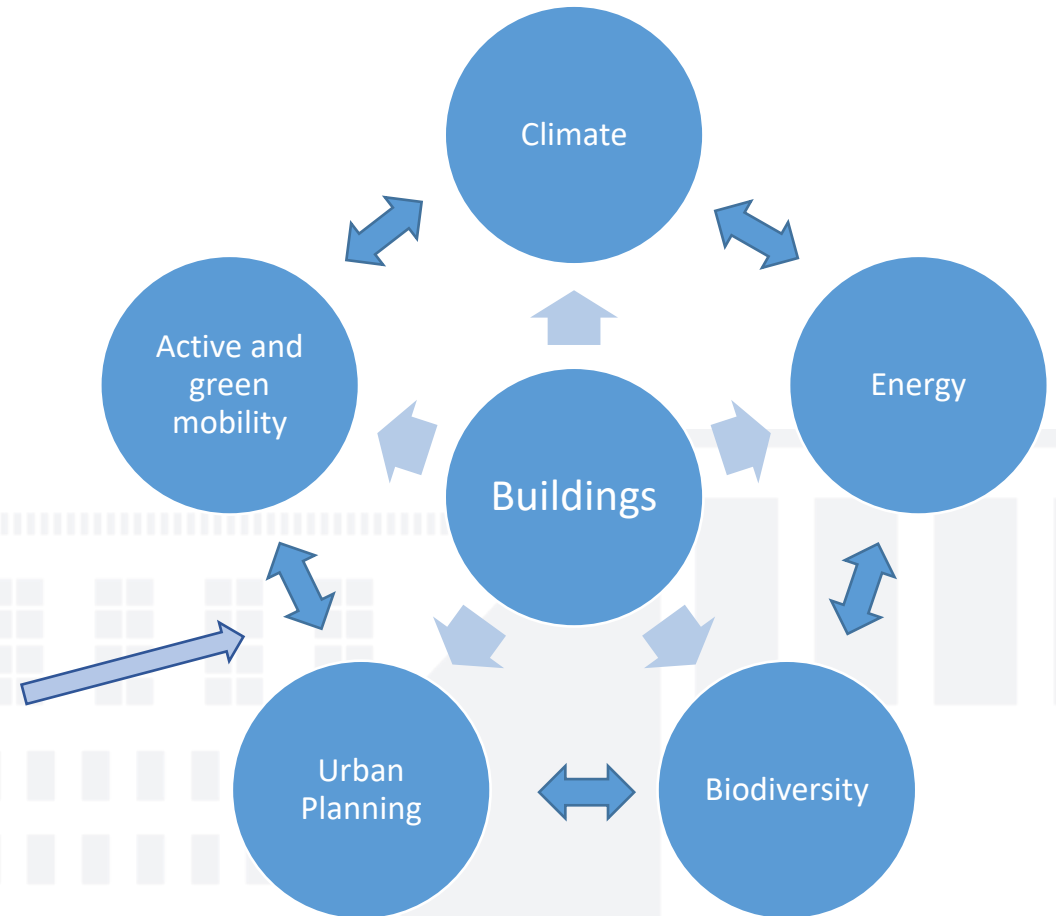
ARTICLE 14

Infrastructure for sustainable mobility

Residential buildings, new or undergoing major renovation, with more than three car parking spaces shall ensure:

- installation of at least one recharging point
- installation of pre-cabling for at least 50 % of car parking spaces
- the provision of at least two bicycle parking spaces for every residential building unit

Member States shall ensure the coherence of policies between:



Energy Performance Building Directive (EPBD)

ARTICLE 12

Renovation passports

By 29 May 2026, member States shall introduce a scheme for **renovation passports**

Renovation passports provide a clear roadmap for staged deep renovations, helping owners and investors plan the best timing and scope for interventions

There are some synergies between renovation passports and **energy performance certificates**, in particular as regards the assessment of the current performance of the building and the recommendations for its improvement



In case of joint drawing up and issuing, the renovation passport should substitute the recommendations in the energy performance certificate

Energy Performance Building Directive (EPBD)

ARTICLE 19

Energy Performance Certificate

It shall include the energy performance of a building expressed by a numeric indicator of PE use in kWh/(m² year), and reference values such:

- minimum energy performance requirements
- minimum energy performance standards
- nearly zero-energy building requirements and zero-emission building requirements

By 29 May 2026, the energy performance certificate shall specify the energy performance class of the building, on a closed scale using only letters **from A to G**

The letter **A** shall correspond to **zero-emission buildings**, and the letter **G** shall correspond to the **very worst-performing buildings** in the national building stock at the time of the introduction of the scale

Member States shall ensure that the classes have an appropriate distribution of energy performance indicators among the energy performance classes

Energy Performance Building Directive (EPBD)

ARTICLE 19

Energy Performance Certificate

Member States may define an **A+** energy performance class corresponding to buildings with a maximum threshold for energy demand which is at least 20 % lower than the maximum threshold for zero-emission buildings, and which generates more renewable energy on-site annually than its total annual primary energy demand

Member States shall ensure that energy performance certificates are issued by independent experts **on the basis of an on-site visit**

The energy performance certificate shall include recommendations for the cost-effective improvement of the energy performance and the reduction of operational greenhouse gases emissions and the improvement of indoor environmental quality of a building or building unit, unless the building or building unit already achieves at least energy performance class A

Energy Performance Building Directive (EPBD)

ARTICLE 19

Energy Performance Certificate

The validity of the energy performance certificate **shall not exceed 10 years**.

Member States shall ensure that, where a building was issued a energy performance certificate below level **C**, building owners are invited to a one-stop shop to receive renovation advice on whichever of the following is the earlier:

- immediately after the energy performance certificate of the building expires
- five years after the issuance of the energy performance certificate

Member States shall ensure that a digital energy performance certificate is issued for:

- buildings or building units when they are constructed, when they have undergone a major renovation, when they are sold, when they are rented out to a new tenant, or for which a rental contract is renewed
- existing buildings owned or occupied by public bodies

Energy Performance Building Directive (EPBD)

Short summary - The Directive related to Fit For 55 targets

Increase the rate of energy renovations	Increase deep renovation	Decarbonization	Leading role of the public sector
Article 9 Retrofit all non-residential buildings that are above the 16% threshold	Article 8 Buildings undergoing major renovation shall meet the minimum energy performance requirements set in accordance with Article 5 Article 17 <u>Incentives and support for the National Building Renovation Plans</u>	Article 10 Solar Ready buildings Article 15 <u>No financial incentives for the installation of stand-alone boilers powered by fossil fuels</u>	Article 7 From 1 January 2028 all new public buildings must be zero-emission Article 9 Retrofit all non-residential buildings that are above the 26% threshold Article 17 <u>Financial support</u> to boost investments on public buildings

Energy Performance Building Directive (EPBD)

Short summary - The Directive related to Fit For 55 targets

Better building planning	Investments on energy efficiency	Fighting energy poverty	Increase of skills
<p>Article 3 National Building Renovation Plans</p> <p>Article 12 Renovation Passports</p> <p>Article 19 Update of the Energy Performance Certificates</p> <p>Article 22 One-stop-shops for informations on energy efficiency</p>	<p>Article 9 <u>Financial incentives and support</u> to reach energy performance minimum requirements</p> <p>Article 17 <u>Financial incentives and support</u> for energy efficiency projects</p>	<p>Article 7 Standards for dwellers internal comfort</p> <p>Article 8 Buildings undergoing major renovation shall guarantee healthy internal comfort</p>	<p>Article 17 Education and training to ensure a qualified workforce</p>