

Towards efficient European heating and cooling:

Key implications of the Energy Performance of Buildings Directive (EPBD) recast

Policy brief



Paving the way for a decarbonised building stock

The Energy Performance of Buildings Directive directly contributes to the EU's energy and climate goals by aiming for a fully decarbonised building stock by 2050. Buildings are the single largest consumer of energy in Europe. The buildings sector is therefore crucial to achieving the EU's energy and climate goals. 85% of buildings in the EU were built before 2000 and 75% of them have poor energy performance. Together, buildings account for a staggering 42% of energy consumption and 80% of this demand is for heating and cooling. Combining ambitious building renovation with the deployment of clean heating solutions will therefore be crucial to delivering more

efficient and sustainable homes and putting the EU on track to achieve climate neutrality. Therefore, addressing the energy efficiency of buildings is crucial to save energy and achieve a zero emission and fully decarbonised building stock by 2050. To improve the energy performance of buildings, the EU has established a legislative framework that includes the Energy Performance of Buildings Directive EU/2010/31, which has been reviewed in 2023. It promotes policies that will achieve a highly energy-efficient and decarbonised building stock by 2050, provide a stable environment for investment decisions, and enable consumers and businesses to make more informed choices to save energy and money.

The Energy Performance of Buildings Directive (EPBD) was originally adopted in 2002, requiring Member States to strengthen their building regulations and introduce energy certification of buildings. The EPBD was substantially revised in 2018 as part of the Clean Energy for All Europeans package. On 14 October 2020, the Commission published the EU Renovation Wave strategy, which aims to improve

42%
of energy
consumed in the
EU in 2021 was
used in buildings

Over 1/3
of the EU's
energy related
GHG emissions
come from
buildings

Around 80%
of the energy
used in EU
households is for
heating, cooling
and hot water

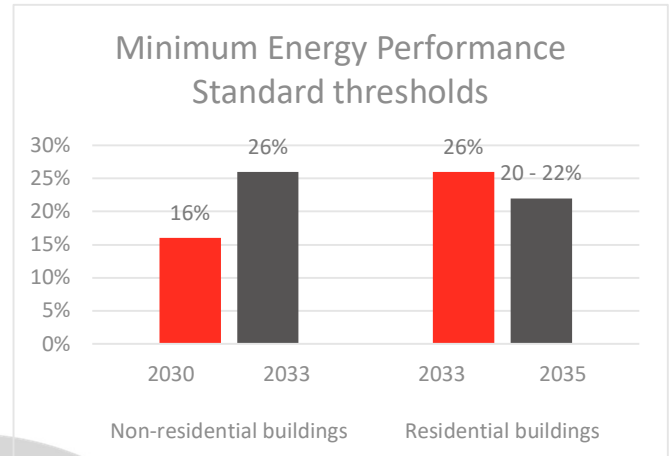
energy efficiency, boost the economy and provide better living standards for Europeans. Following the 'Fit for 55' legislative package, the Commission has proposed a revision of the EPBD in December 2021. In December 2023, the co-legislators reached a provisional agreement on the revision of the EPBD, while the Council formally adopted the revised Directive in April 2024. The final text is expected to be published in the Official Journal of the European Union by June 2024.

Minimum energy performance standards and trajectories for progressive renovation

Under the new rules, all **new buildings** should be **zero-emissions by 2030** and the **EU's building stock should be zero-emissions by 2050**.

For **non-residential buildings**, the Directive introduces minimum energy performance standards to ensure that such buildings do not exceed the specified maximum amount of primary or final energy they can consume per m² per year. The minimum energy performance standards for all non-residential buildings must be below the 16% threshold by 2030 and 26% by 2033. This will lead to a gradual phase-out of the worst performing non-residential buildings. Member States may exempt certain buildings, such as historic buildings, places of worship or buildings owned by the armed forces.

Member States will also ensure that the average primary energy consumption of **residential buildings** is reduced by 16% in 2030 and by 20-22% in 2035. At least 55% of the energy savings will be achieved by renovating the 43% of residential buildings with the worst energy performance. In their renovation efforts, Member States will introduce technical assistance and financial support measures with a focus on vulnerable households.



Renovation plan and renovation passport

Each Member State must develop a **national building renovation 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, with the aim of transforming existing buildings into zero-emission buildings. National building renovation plans will include a roadmap to phase out fossil fuel boilers by 2040. Member States shall not provide financial incentives for the installation of stand-alone fossil fuel boilers (except for those selected for investment before 2025).

On the basis of a common framework, Member States shall establish a system of **renovation passports**. The passport will contain mandatory information on national provisions on the phasing-out of fossil fuels used for heating and cooling in buildings; mandatory information on a possible connection to an efficient district heating and cooling system; voluntary information on the technical conditions necessary for the optimal introduction of low-temperature heating.

District heating and cooling

This directive bridges the deployment of **efficient district heating and cooling systems** with sustainable homes. District heating and cooling systems are considered as one of the future-proof heating solutions and therefore networks that meet the definition of efficient district heating and cooling systems (EDHC) as defined in the Energy Efficiency Directive can be connected to zero emission buildings. It will help building owners and tenants to be more informed about the opportunities provided by efficient district heating and cooling networks in their neighbourhoods, to maximise the climate and energy security impact of their home renovations.

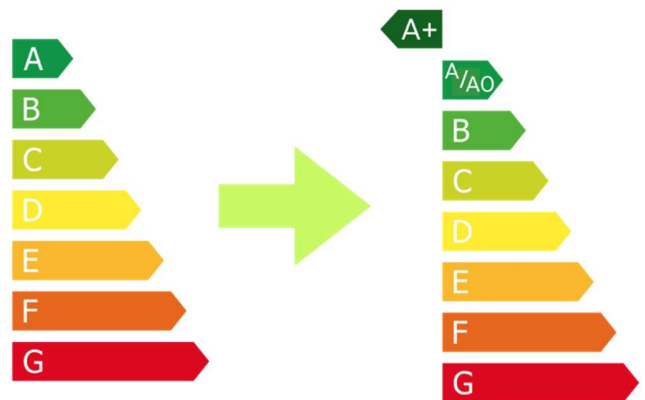


Figure: Member States are allowed to introduce an A+ energy performance class corresponding to buildings with a maximum threshold for energy demand, and flexibility is granted to Member States for scale distribution, with letters from A to G. A grandfathering clause accommodates Member States, which already designate zero-emission buildings as A0 may continue to use this designation instead of class A. (Source: Euroheat & Power)

Solar energy in buildings

Measures to promote the use of **solar energy in buildings** are encouraged. More importantly, it calls on Member States to establish a framework providing the necessary administrative, technical and financial measures to support the use of solar energy in buildings, including in combination with technical building systems or efficient district heating systems.

Energy Performance Certificates information on heating system

Energy performance certificates should include references such as minimum energy performance requirements, minimum energy performance standards, near zero energy building requirements and zero emission building requirements, recommendations for the cost-effective improvement of the energy performance and reduction of the operational greenhouse gas emissions of buildings and building units up to class A. The recommendations shall include an assessment of whether the heating, ventilation, air conditioning and domestic hot water systems can be adapted to operate at more efficient temperature settings. The recommendations shall include an assessment of the remaining lifetime of the heating and/or air-conditioning systems.

One-stop shops for energy efficiency in building

Member States must set up one-stop shops, with at least one per region or per 80,000 inhabitants, to provide free, streamlined technical and financial assistance to all actors involved in the renovation of buildings. The one-stop-shops will provide independent advice on the energy performance of buildings and may accompany integrated district renovation programmes.

The Energy Performance of Buildings Directive aims to achieve a fully decarbonised building stock in the EU by 2050 by addressing the significant energy consumption of buildings. It introduces minimum energy performance standards, renovation trajectories, renovation plans and one-stop shops to facilitate energy efficiency improvements and the transition to zero-emission buildings.