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REPORT

on the proposal for a directive of the European Parliament and of the Council on the energy performance of buildings (recast)
(COM(2021)0802 – C9-0469/2021 – 2021/0426(COD))

Committee on Industry, Research and Energy

Rapporteur: Ciarán Cuffe

(Recast – Rule 110 of the Rules of Procedure)

Symbols for procedures

*	Consultation procedure
***	Consent procedure
***I	Ordinary legislative procedure (first reading)
***II	Ordinary legislative procedure (second reading)
***III	Ordinary legislative procedure (third reading)

(The type of procedure depends on the legal basis proposed by the draft act.)

Amendments to a draft act

Amendments by Parliament set out in two columns

Deletions are indicated in ***bold italics*** in the left-hand column. Replacements are indicated in ***bold italics*** in both columns. New text is indicated in ***bold italics*** in the right-hand column.

The first and second lines of the header of each amendment identify the relevant part of the draft act under consideration. If an amendment pertains to an existing act that the draft act is seeking to amend, the amendment heading includes a third line identifying the existing act and a fourth line identifying the provision in that act that Parliament wishes to amend.

Amendments by Parliament in the form of a consolidated text

New text is highlighted in ***bold italics***. Deletions are indicated using either the ▌ symbol or strikeout. Replacements are indicated by highlighting the new text in ***bold italics*** and by deleting or striking out the text that has been replaced.
By way of exception, purely technical changes made by the drafting departments in preparing the final text are not highlighted.

CONTENTS

Page

DRAFT EUROPEAN PARLIAMENT LEGISLATIVE RESOLUTION

on the proposal for a directive of the European Parliament and of the Council on the energy performance of buildings (recast)
(COM(2021)0802 – C9-0469/2021 – 2021/0426(COD))

(Ordinary legislative procedure – recast)

The European Parliament,

– having regard to the Commission proposal to Parliament and the Council (COM(2021)0802),

– having regard to Article 294(2) and Article 194(2) of the Treaty on the Functioning of the European Union, pursuant to which the Commission submitted the proposal to Parliament (C9-0469/2021),

– having regard to Article 294(3) of the Treaty on the Functioning of the European Union,

– having regard to the reasoned opinion submitted, within the framework of Protocol No 2 on the application of the principles of subsidiarity and proportionality, by the Finnish Parliament asserting that the draft legislative act does not comply with the principle of subsidiarity,

– having regard to the opinion of the European Economic and Social Committee of 23 March 2022[1],

– having regard to the opinion of the Committee of the Regions of 30.6.2022[2],

– having regard to the Interinstitutional Agreement of 28 November 2001 on a more structured use of the recasting technique for legal acts[3],

– having regard to the letter of 8 November 2022 sent by the Committee on Legal Affairs to the Committee on Industry, Research and Energy in accordance with Rule 110(3) of its Rules of Procedure,

– having regard to Rules 110 and 59 of its Rules of Procedure,

– having regard to the opinions of the Committee on the Environment, Public Health and Food Safety and the Committee on Legal Affairs,

– having regard to the report of the Committee on Industry, Research and Energy (A9-0033/2023),

A. whereas, according to the Consultative Working Party of the legal services of the European Parliament, the Council and the Commission, the Commission proposal does not include any substantive amendments other than those identified as such in the proposal and whereas, as

[1] OJ C 290, 29.7.2022, , p. 114.
[2] OJ C 375, 30.9.2022, , p. 64.
[3] OJ C 77, 28.3.2002, p. 1.

regards the codification of the unchanged provisions of the earlier acts together with those amendments, the proposal contains a straightforward codification of the existing texts, without any change in their substance;

1. Adopts its position at first reading hereinafter set out, taking into account the recommendations of the Consultative Working Party of the legal services of the European Parliament, the Council and the Commission;

2. Calls on the Commission to refer the matter to Parliament again if it replaces, substantially amends or intends to substantially amend its proposal;

3. Instructs its President to forward its position to the Council, the Commission and the national parliaments.

Amendment 1

AMENDMENTS BY THE EUROPEAN PARLIAMENT*

to the Commission proposal

2021/0426(COD)

Proposal for a

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

on the energy performance of buildings (recast)

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 194(2) thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national parliaments,

Having regard to the opinion of the European Economic and Social Committee[4],

Having regard to the opinion of the Committee of the Regions[5],

Acting in accordance with the ordinary legislative procedure,

Whereas:

(1) Directive 2010/31/EU of the European Parliament and of the Council[6] has been substantially amended several times. Since further amendments are to be made, that Directive should be recast in the interests of clarity.

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4 OJ C […], […], p. […].

5 OJ C […], […], p. […].

6 Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings (OJ L 153, 18.6.2010, p. 13).

(2) Under the Paris Agreement, adopted in December 2015 under the United Nations Framework Convention on Climate Change (UNFCCC), its Parties have agreed to hold the increase in the global average temperature well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1,5 °C above pre-industrial levels. ***The parties to the Glasgow Climate Pact in November 2021 reaffirmed that keeping the increase in the global average temperature to 1,5°C above pre-industrial levels would significantly reduce the risks and impacts of climate change, and undertook to strengthen their 2030 targets by the end of 2022.*** Reaching the objectives of the Paris Agreement is at the core of the Commission communication on "The European Green Deal" of 11 December 2019[7]. The Union committed itself to reduce the Union's economy-wide net greenhouse gas emissions by at least 55 % by 2030 below 1990 levels in the updated nationally determined contribution submitted to the UNFCCC Secretariat on 17 December 2020.

(3) As announced in the Green Deal, the Commission presented its Renovation Wave strategy on 14 October 2020[8]. The strategy contains an action plan with concrete regulatory, financing and enabling measures, with the objective to at least double the annual energy renovation rate of buildings by 2030 and to foster deep renovations ***in more than 35 million buildings and the creation of up to 160 000 jobs in the construction sector***. The revision of the Energy Performance of Buildings Directive is necessary as one of the vehicles to deliver on the Renovation Wave. It will also contribute to delivering on the New European Bauhaus initiative and the European mission on climate-neutral and smart cities ***and should follow the pathway established by the New European Bauhaus initiative as a previous phase of the Renovation Wave***. ***The New European Bauhaus initiative is intended to foster a more inclusive society that promotes the wellbeing of all in keeping with the historical Bauhaus, which contributed to social inclusion and the well-being of citizens, in particular worker communities. By facilitating training, networks and issuing guidelines to architects, artists, students, engineers and designers under the principles of sustainability, aesthetics, and inclusion, the New European Bauhaus initiative can empower local authorities to develop innovative and cultural solutions in creating a more sustainable built environment. Member States should support projects of the New European Bauhaus***

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7 The European Green Deal, COM(2019) 640 final.

8 A Renovation Wave for Europe - greening our buildings, creating jobs, improving lives, COM/2020/662 final

initiatives that enrich the cultural and built landscape of regions across Europe and help neighbourhoods and communities achieve the Union's climate goals.

(4) Regulation (EU) 2021/1119 of the European Parliament and of the Council[9], the 'European Climate Law', enshrines ***in Union law*** the target of economy-wide climate neutrality by 2050 ***at the latest the aim of achieving*** and establishes a binding Union domestic reduction commitment of net greenhouse gas emissions (emissions after deduction of removals) of at least 55 % below 1990 levels by 2030.

(5) The "Fit for 55" legislative package announced in the ***Commission's*** 2021 Work Programme aims to implement those objectives. It covers a range of policy areas including energy efficiency, renewable energy, land use, land change and forestry, energy taxation, effort sharing, emissions trading and alternative fuels infrastructure. The revision of Directive 2010/31/EU is an integral part of that package***. The communication of the Commission of 18 May 2022 entitled "REPowerEU plan" reviewed key provisions of the "Fit for 55" legislative package in light of the updated geopolitical context, requiring a revised political framework, with new legislative proposals and targeted recommendations to update the objectives, in particular by increasing ambition with regard to energy efficiency and savings and enhanced energy sovereignty, while moving away from fossil fuels. That communication also encouraged Member States to consider taxation measures to provide incentives for energy savings and reduce fossil fuels consumption, including tax deductions linked to energy savings.***

(5a) The revision of the EPBD should be consistent with the other proposals that are part of the "Fit for 55" legislative package, such as the proposed revisions of Directives

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9 Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law') (OJ L 243, 9.7.2021, p. 1).

2003/87/EC[10], 2012/27/EU[11], (EU) 2014/94/EU[12] and 2018/2001[13] of the European Parliament and of the Council.

(5b) The renovation of monuments should always be carried out in compliance with the national rules on conservation, international conservation standards, including the 1964 Venice Charter for the Conservation and Restoration of Monuments and Sites, and the original architecture of the monuments concerned.

(5c) For buildings that have historical or architectural merit, but are not officially protected, Member States should set criteria for the application of the highest energy performance class that is technically, functionally and economically feasible while maintaining the character of the building.

(6) Buildings account for 40 % of final energy consumption in the Union and 36% of its energy-related greenhouse gas emissions***, while 75% of Union buildings are still energy-inefficient. Natural gas plays the largest role in heating of buildings, accounting for around 42% of energy used for space heating in the residential sector. Oil is the second most important fossil fuel for heating, accounting for 14% and coal accounts for around 3%***. Therefore, reduction of energy consumption, in line with the energy efficiency first principle ▌, ***implemented in accordance with Commission Recommendation (EU) 2021/1749 [14]*** and the use of energy from renewable sources in the buildings sector constitute important measures needed to reduce ▌ greenhouse gas emissions ***and energy poverty in the Union***. Reduced energy consumption and an increased use of energy from renewable sources***, especially solar energy,*** also have ***a key role*** to play in reducing the Union's energy dependency ***on fossil fuel overall and on imports especially***, promoting security of energy

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10 ***Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a system for greenhouse gas emission allowance trading within the Union and amending Council Directive 96/61/EC (OJ L 275, 25.10.2003, p. 32).***

11 ***Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC (OJ L 315, 14.11.2012, p. 1).***

12 ***Directive 2014/94/EU of the European Parliament and of the Council of 22 October 2014 on the deployment of alternative fuels infrastructure (OJ L 307, 28.10.2014, p. 1).***

13 ***Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (OJ L 328, 21.12.2018, p. 82).***

14 ***Commission Recommendation (EU) 2021/1749 of 28 September 2021 on Energy Efficiency First: from principles to practice — Guidelines and examples for its implementation in decision-making in the energy sector and beyond (OJ L 350, 4.10.2021, p. 9).***

supply ***in line with to the objectives set out in the REPowerEU plan, integrating the energy system, contributing to system efficiency, fostering*** technological developments and in creating opportunities for employment and regional development, in particular in islands**,** rural areas ***and off grid communities***.

(6a) The improvement of energy efficiency and energy performance of buildings through deep renovation has enormous social, economic and environmental benefits. Moreover, energy efficiency is the safest and most cost-efficient method by which to decrease the Union's dependence on energy imports and to mitigate the negative impact of high energy prices.Investments in energy efficiency should be high priority at both private and public level.

(6b) In order to ensure that all citizens benefit from the improved energy performance of buildings and the associated living quality, environmental, economic and health benefits, a proper regulatory, financial and advisory framework should be put in place to support building renovations. There should be a special focus on vulnerable and middle-income households, as these often live in worst-performing buildings, both in urban and rural areas.

(6c) The introduction of minimum energy performance standards, accompanied by social safeguards and financial guarantees, are intended to improve the quality of life of the most vulnerable households and the poorest citizens.

(6d) In rural areas across the Union, there is potential for renewable energy generation that helps to reduce greenhouse gas emissions and that is cost-effective in powering and heating off-grid areas, while reducing import dependency and infrastructure lock-in, and that contributes to climate mitigation and improves air quality.

(7) Buildings ***and building elements and materials*** are responsible for greenhouse gas emissions before, during and after their operational lifetime. ▌The whole life-cycle emissions of buildings should therefore progressively be taken into account ***in line with a Union methodology to be established by the Commission, starting with new, then renovated buildings, for which Member States should establish whole life-cycle greenhouse gas emission reduction targets in accordance with that Union methodology.*** Buildings are a significant material bank, being repositories for resources over many decades, and the design options largely influence the whole life-cycle emissions both for new buildings and renovations. The whole life-cycle performance of buildings should be

taken into account not only in new construction, but also in renovations through the inclusion of policies ***and*** reduction ***targets*** of whole life-cycle greenhouse gas emissions in Member States' building renovation plans.

(7a) A link should be made with the principles of the circular economy and the leading role of the New European Bauhaus initiative, which aims to promote greater circularity in the built environment, by promoting renovation and adaptive re-use over demolition and new build, as appropriate.

(7b) The introduction of requirements on whole life-cycle emissions will encourage industrial innovation and value creation, such as through an increase in the use of circular and natural materials.

(7c) It is crucial to promote and include the use of more sustainable construction materials, in particular bio- and geo-sourced materials, as well as simple passive low-tech and locally tested building techniques to support and promote the use of and research into material technologies that contribute to the best possible insulation and structural support of buildings. In view of the climate crisis and the increased probability of summer heat waves, special consideration should be given to heat protection for buildings.

(8) Minimizing the whole life-cycle greenhouse gas emissions of buildings requires resource efficiency ***, sufficiency***, circularity ***and*** turning parts of the building stock into a ▌ carbon sink.

(8a) The fact that buildings are responsible for greenhouse gas emissions even before their operational lifetime is the consequence of the carbon already embedded within all building materials. An increase in the use of sustainably and locally sourced nature-based building materials, in line with the principles of the New European Bauhaus initiative and the internal market, has the potential to substitute for more carbon intensive materials and to store carbon in the built environment via the use of wood-based materials.

(8b) Sufficiency policies are measures and daily practices that avoid the demand for energy, materials, land, water, and other natural resources over the life-cycle of buildings and goods while contributing to delivering wellbeing for all within planetary boundaries. Circularity principles avoid the linear use of materials and goods by applying some of the sufficiency principles at the level of product and construction materials. Measures to use and extend the lifetime of secondary materials, are essential to ensure that the Union

building sector contributes its fair share to the achievement of the climate neutrality objective. (8c) The integration of green infrastructure, such as living roofs and walls in urban planning and infrastructure design, can be an effective tool for climate adaptation and to reduce the detrimental impacts of climate change in urban areas. Member States should encourage the installation of vegetated surfaces which help retain and detain rainwater, thus reducing urban runoff and improving storm water management. Green infrastructure also reduces the "urban heat island effect", cooling buildings and their surroundings during summer and heat wave events.(9) The global warming potential ***(GWP)*** over the whole life-cycle indicates the building's overall contribution to emissions that lead to climate change. It brings together greenhouse gas emissions embodied in construction products with direct and indirect emissions from the use stage. A requirement to calculate the life-cycle ***GWP*** of new buildings therefore constitutes a first step towards increased consideration of the whole life-cycle performance of buildings and a circular economy***. This calculation should be based on a harmonised framework at Union level. The Commission should provide a clear definition of the life-cycle approach. Member States should adopt a roadmap on a reduction of the life-cycle GWP of buildings.***

(9a) In line with the energy efficiency first principle and in order to achieve higher levels of sufficiency and resource efficiency, Member States should minimise the number of unoccupied buildings. They should encourage the deep renovation and exploitation of such buildings, through special administrative and financial measures, if cost effective, and construction, reconstruction and modification of the builing which leads to lower life-cycle GWP within the lifetime of a building. In addition, a significant share of any new builings should be carried out on brownfiled sites.

(9b) The circular economy rules for construction materials are set out in Regulation (EU) No 305/2011 of the European Parliament and of the Council [15] together with a framework set out in Directive 2008/98/EC of the European Parliament and of the Council[16]. Definitions, methodologies and best approaches should be provided and consolidated in upcoming

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15 ***Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC (OJ L 88, 4.4.2011, p. 5).***

16 ***Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (OJ L 312, 22.11.2008, p. 3).***

revision of those legislative acts to ensure a clear, consistent regulatory framework for construction materials.

(10) Buildings are responsible for about half of primary fine particulate matter (PM2.5) emissions in the EU that cause premature death and illness. Improving energy performance ***and the use of nature-based solutions and sustainable materials in*** buildings can and should reduce pollutant emissions at the same time, in line with Directive (EU) 2016/2284 of the European Parliament and the Council[17]**.**

(10a) Management of energy demand is an important tool which enables the Union to influence the global energy market and thus the security of energy supply in the short, medium and long term.

(11) Measures to improve further the energy performance of buildings should take into account climatic conditions, including adaptation to climate change ***through green infrastructures***, local conditions as well as indoor ***environmental quality, sufficiency and circularity and energy savings, thus promoting more sustainable, inclusive and innovative ways of living in order to adapt to new needs. Such*** measures should ***be implemented in a way that maximises the co-benefits of*** other requirements ***and objectives*** concerning buildings such as accessibility, fire safety and seismic***, heating and electrical installation*** safety and the intended use of the building. ***Those co-benefits should be monetised in order to realistically determine the cost-optimality of further energy performance improvements. Moreover, they should ensure the improvement of the situation of vulnerable households and people living in social housing.***

(11a) Member States should ensure that energy performance certificates accurately reflect the climate performance of buildings.

(12) The energy performance of buildings should be calculated on the basis of a methodology, which may be ***supplemented*** at national and regional ***and local*** level. That includes, in addition to thermal characteristics, other factors that play an increasingly important role such as heating and air-conditioning installations, application of energy from renewable sources, building automation and control systems, ***heat recovery from wastewater, ventilation and cooling***, ***energy recuperation, hydronic balancing,*** smart solutions, passive heating and

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17 Directive (EU) 2016/2284 of the European Parliament and of the Council of 14 December 2016 on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC (OJ L 344, 17.12.2016, p.1).

cooling elements, shading, indoor ***environmental*** quality, adequate natural light and design of the building. The methodology for calculating energy performance should be based not only on the season in which heating or air-conditioning is required, but should cover the annual energy performance of a building. That methodology should take into account existing European standards. The methodology should ensure the representation of actual operating conditions and enable the use of metered energy to verify correctness and for comparability, and the methodology should be based on hourly or sub-hourly time-steps**.** ***The methodology should also enable the on-site, remote and desktop validation of the assumptions behind the calculations, including thermal performance, materiality, system efficiency, and the configuration of controls, in the delivered building***. In order to encourage the use of renewable energy on-site, ***including roof solar panels in line with the European Solar Rooftops initiative,*** and in addition to the common general framework, Member States should take the necessary measures so that the benefits of maximising the use of renewable energy on-site, including for other-uses (such as electric vehicle charging points), are recognised and accounted for in the calculation methodology***, taking into account current and future grid capacity***.

(13) Member States should set minimum requirements for the energy performance of buildings and building elements with a view to achieving the cost-optimal balance between the investments involved and the energy costs saved throughout the lifecycle of the building, without prejudice to the right of Member States to set minimum requirements which are more energy efficient than cost-optimal energy efficiency levels. Provision should be made for the possibility for Member States to review regularly their minimum energy performance requirements for buildings in the light of technical progress.

(14) Two-thirds of the energy used for heating and cooling of buildings still comes from fossil fuels. In order to ***reach zero-emissions***, it is ***particularly urgent*** to phase out fossil fuel in heating and cooling. Therefore, Member States should indicate their national policies and measures to phase out fossil fuels in heating and cooling in their building renovation plans, and no financial incentives should be given for the installation of fossil fuel boilers ***from the entry into force of this Directive. Member States should introduce measures to ensure that the use of fossil fuel heating systems in new buildings and buildings undergoing major renovation, deep renovation, or renovation of the heating system is not authorised from the date of transposition of this Directive and phase out the use of fossil fuel based heating***

systems from all buildings by 2035and if not feasible as demonstrated to the Commission, by 2040 at the latest. This will also play a key role in decreasing the Union's dependence on imports from third countries, lower citizens' energy bills and vulnerability to price fluctuations and halt excess air pollution limit values.

(14a) The renovation of heating systems involves the replacement or refurbishment of the heating generator, and it may also involve other elements of the heating system, such as pumping equipment, insulation of pipework, controls or terminal units, such as radiators or fan coils. Despite their impact on the overall efficiency of the system, the replacement or refurbishment of individual elements without involving the heat generator, should not be considered as a renovation of the heating system, since these elements are independent of the energy source used. The renovation of heating system represents an opportunity to support the decarbonisation of heating across the Union.

(14b) Efficient use of waste heat from domestic hot water systems represents significant energy saving opportunity. Hot water preparation is the main source of energy consumption for new buildings and normally this heat is wasted and not reused. Knowing that most of the hot water consumed comes from showers, harvesting heat from shower drains in buildings could be a simple and cost-effective way to save final energy consumption and related CO_2 and methane emissions of domestic hot water production.

(14c) To achieve a cost-efficient decarbonisation of the heating sector, Member States should ensure a level playing field among available technologies and support multi-vector solutions, by taking into consideration security of supply, cost-effectiveness and flexibility.

(15) Energy performance requirements for technical building systems should apply to whole systems, as installed in buildings, and not to the performance of standalone components, which fall under the scope of product-specific regulations under Directive 2009/125/EC***[18]***. When setting energy performance requirements for technical building systems, Member States should use, where available and appropriate, harmonised instruments, in particular testing and calculation methods and energy efficiency classes developed under measures implementing Directive 2009/125/EC of the European Parliament and of the Council and

[18] Regulation (EU) 2017/1369 of the European Parliament and of the Council of 4 July 2017 setting a framework for energy labelling and repealing Directive 2010/30/EU (OJ L 198, 28.7.2017, p. 1).

Regulation (EU) 2017/1369 of the European Parliament and of the Council[19], with a view to ensuring coherence with related initiatives and minimise, to the extent possible, potential fragmentation of the market.

(16) This Directive is without prejudice to Articles 107 and 108 of the Treaty on the Functioning of the European Union (TFEU). The term 'incentive' used in this Directive should not therefore be interpreted as constituting State aid.

(17) The Commission should lay down a comparative methodology framework for calculating cost-optimal levels of minimum energy performance requirements. ***A review of that framework should enable the calculation of both energy and emission performance and should take into account monetisable environmental, social and health externalities.*** Member States should use ***that*** framework to compare the results with the minimum energy performance requirements which they have adopted. Should significant discrepancies, i.e. exceeding 15 %, exist between the calculated cost-optimal levels of minimum energy performance requirements and the minimum energy performance requirements in force, Member States should justify the difference or plan appropriate steps to reduce the discrepancy. The estimated economic lifecycle of a building or building element should be determined by Member States, taking into account current practices and experience in defining typical economic lifecycles. The results of ***that*** comparison and the data used to reach ***those*** results should be regularly reported to the Commission. ***Those*** reports should enable the Commission to assess and report on the progress of Member States in reaching cost-optimal levels of minimum energy performance requirements. ***In applying the comparative methodology, Member States should take into account that energy efficiency measures at building level do not include measures that imply the use of fossil fuels in new buildings, while considering a range of options, such as the supply of renewable energy on-site, including in particular heat pumps and solar technologies, via renewable energy self consumption, joint self consumption, energy sharing or the supply of renewable energy provided from an energy community, renewable and waste energy from an efficient district heating and cooling syste. The discount rate used for the calculation of the cost-optimal levels of energy performance, both for the macroeconomic***

[19] Regulation (EU) 2017/1369 of the European Parliament and of the Council of 4 July 2017 setting a framework for energy labelling and repealing Directive 2010/30/EU (OJ L 198, 28.7.2017, p. 1).

and financial perspective, should not exceed an annual rate of 3 %. The optimisation method and the macroeconomic calculation of global costs should include the environmental and health externalities of energy use, and economy-wide macroeconomic benefits in terms of, for instance, job creation and GDP.

(18) Major renovations of existing buildings, regardless of their size, provide an opportunity to take cost-effective measures to enhance energy performance. For reasons of cost-effectiveness, it should be possible to limit the minimum energy performance requirements to the renovated parts that are most relevant for the energy performance of the building***, while encompassing heating and cooling systems***. Member States should be able to choose to define a 'major renovation' either in terms of a percentage of the surface of the building envelope or in terms of the value of the building. If a Member State decides to define a major renovation in terms of the value of the building, values such as the actuarial value, or the current value based on the cost of reconstruction, excluding the value of the land upon which the building is situated, could be used.

(18a) To ensure decent housing for all, it is necessary to define vulnerable areas or neighbourhoods associated with energy poverty in a way that allows for more accurate detection of less developed micro-areas, both rural and urban, encompassed within more developed areas. That would contribute to the identification and location of the most vulnerable social sectors and those suffering from energy poverty, and households that are exposed to high energy cost and lack the means to renovate the builings they occupy, thus helping to fight against social inequalities that may arise from the application of the different climate action measures. Moreover, inefficient housing is a systemic cause of energy poverty, with 50 million people in the Union living in energy poverty, unable to adequately light, heat or cool their homes, and over 20 % of poor households in the Union live in a dwelling that has mould, damp or rot.

(19) The enhanced climate and energy ambition of the Union requires a new vision for buildings: the zero-emission building, the very low energy demand of which is fully covered by energy from renewable sources where technically feasible. All new buildings should be zero-emission buildings, and all existing buildings should be transformed into zero-emission buildings by 2050. ***Member States should take into account energy transition timing and social costs when they establish any target deadlines.***

(20) Different options are available to cover the energy needs of an efficient building by energy from renewable sources: on-site renewables such as solar ***thermal, geothermal,*** solar photovoltaics, heat pumps ***hydroelectric power*** and biomass, renewable energy provided by renewable energy communities or citizen energy communities, and district heating and cooling based on renewables or waste heat ***recovery from waste water, sanitary hot water or air and renewable energy supplied from the energy grids.***

(20a) With the increased electrification of heating and increase of renewable energy generation, energy efficiency in buildings is required to avoid creating excess pressure on grid capacity and oversizing generation capacity to manage peaks in electricity demand. Energy efficiency in buildings will support the grid and reduce generation capacity needs. This includes dealing with the seasonality of heating demand, which in many Member States is the main part of the energy system peak demand.

(20b) The Commission should assess the grid capacity that is necessary for integration of renewable energy and electrical heating solutions and identify remaining barriers to facilitate the development of renewable self-consumption, in particular those in vulnerable households.

(21) The necessary decarbonisation of the Union building stock requires energy renovation at a large scale: almost 75 % of that building stock is inefficient according to current building standards, and 85-95 % of the buildings that exist today will still be standing in 2050. However, the weighted annual energy renovation rate is persistently low at around 1 %. At the current pace, the decarbonisation of the building sector would require centuries. Triggering and supporting building renovation ***to at least triple the current renovation rate***, including a shift towards emission-free heating systems, is therefore a key goal of this Directive. ***Supporting renovations at district level, including through industrial or serial type renovations, offers benefits by stimulating the volume and depth of building renovations and will lead to a quicker and cheaper decarbonisation of the building stock.***

(22) Minimum energy performance standards are the essential regulatory tool to trigger renovation of existing buildings on a large scale, as they tackle the key barriers to renovation such as split incentives and co-ownership structures, which cannot be overcome by economic incentives. The introduction of minimum energy performance standards should lead to a gradual phase-out of the worst-performing buildings and a continuous improvement of the

national building stock, contributing to the long-term goal of a decarbonised building stock by 2050.

(23) Minimum energy performance standards set at Union level should focus on the renovation of the buildings with the highest potential in terms of decarbonisation, energy poverty alleviation and extended social and economic benefits, in particular on the very worst-performing buildings, which need to be renovated as a priority.

(23a) The Commission should publish a summary report on the situation and progress of the Union building stock at local, regional and national level, in particular regarding the worst-performing buildings in order to focus efforts and investments appropriately.

(24) ***Minimum*** energy performance standards ***should create a pathway, supported by financial mechanisms, for the progressive increase of energy performance classes of buildings, in particular with regards to rural and isolated areas.*** When reviewing this Directive, the Commission should assess whether further binding minimum energy performance standards need to be introduced in order to achieve a decarbonised building stock by 2050.

(24a) This Directive should be consistent with the basic principles of the property and tenancy law of the Member States.

(25) The introduction of minimum energy performance standards should be accompanied by an enabling framework including technical assistance and financial measures ***as well as policies that aim to enhance the skills of workers in the construction and renovation sector***. Minimum energy performance standards set at national level do not amount to "Union standards" within the meaning of State aid rules, while Union-wide minimum energy performance standards might be considered constituting such "Union standards". In line with revised State aid rules, Member States may grant State aid to building renovation to comply with the Union-wide energy performance standards, namely to achieve a certain energy performance class, until those Union-wide standards become mandatory. Once the standards are mandatory, Member States may continue to grant State aid for the renovation of buildings and building units falling under the Union-wide energy performance standards as long as the building renovation aims at a higher standard than the specified minimum energy performance class.

(26) The EU Taxonomy classifies environmentally sustainable economic activities across the economy, including for the building sector. Under the EU Taxonomy Climate Delegated

Act, building renovation is considered a sustainable activity where it achieves at least 30% energy savings, complies with minimum energy performance requirements for major renovation of existing buildings, or consists of individual measures related to the energy performance of buildings, such as the installation, maintenance or repair of energy efficiency equipment or of instruments and devices for measuring, regulating and controlling the energy performance of buildings, where such individual measures comply with the criteria set out. Building renovation to comply with Union-wide minimum energy performance standards is typically in line with the EU Taxonomy criteria related to building renovation activities.

(27) The Union-wide minimum energy performance standards should be based on harmonised energy performance classes. By defining the lowest energy performance class G as the worst-performing 15% of each Member State's national building stock, the harmonisation of energy performance classes ensures similar efforts by all Member States, while the definition of the best energy performance class A ensures the convergence of the harmonised energy performance class scale towards the common vision of zero-emission buildings.

(28) Minimum energy performance requirements for existing buildings and building elements were already contained in the predecessors of this Directive and should continue to apply. While the newly introduced minimum energy performance standards set a floor for the minimum energy performance of existing buildings and ensure that renovation of inefficient buildings takes place, minimum energy performance requirements for existing buildings and building elements ensure the necessary depth of renovation when a renovation takes place.

(28a) There is an urgent need to reduce the dependence on fossil fuels in buildings and to accelerate efforts to decarbonise and electrify their energy consumption. In order to enable the cost-effective installation of solar technologies at a later stage, all new buildings should be "solar ready", that is, designed to optimise the solar generation potential on the basis of the site's solar irradiance, enabling the installation of solar technologies without costly structural interventions. In addition, Member States should ensure the deployment of suitable solar installations on new buildings, both residential and non-residential, and on existing non-residential buildings. Large-scale deployment of solar energy on buildings would greatly contribute to shielding more effectively consumers from increasing and volatile prices of fossil fuels, reduce the exposure of vulnerable households to high energy costs and result in wider environmental, economic

and social benefits. In order to efficiently exploit the potential of solar installations on buildings, Member States should define criteria for the implementation of, and possible exemptions from, the deployment of solar installations on buildings in line with the assessed technical and economic potential of the solar energy installations and the characteristics of the buildings covered by this obligation.

(28b) This Directive should take full account of the communication of the Commission of 18 May 2022 entitled "EU Solar Energy Strategy" and in particular its European Solar Rooftops initiative. Solar photovoltaics and solar thermal technologies should be rolled-out rapidly to benefit both the climate and the finances of citizens and businesses. Member States should establish robust support frameworks for rooftop systems, including in combination with energy storage and heat-pumps, based on predictable payback times that should be shorter than 10 years. The Member States should implement the measures as a priority, using available Union funding, in particular the new REPowerEU chapters of their Recovery and Resilience Plans. The Commission should monitor progress in the implementation of the European Solar Rooftops initiative on an annual basis, with the European Parliament, the Member States and the sector's stakeholders.

(29) To achieve a highly energy efficient and decarbonised building stock and the transformation of existing buildings into zero-emission buildings by 2050, Member States should establish national building renovation plans, which replace the long-term renovation strategies and become an even stronger, fully operational planning tool for Member States, with a stronger focus on financing and ensuring that appropriately skilled workers are available for carrying out building renovations, ***as well as on tackling energy poverty, ensuring electrical and fire safety and improving the energy performance of worst performing buildings***. In their building renovation plans, Member States should set their own national building renovation targets. In line with Article 21(b)(7) of Regulation (EU) 2018/1999 and with the enabling conditions set under Regulation (EU) 2021/60 of the European Parliament and of the Council[20], Member States should provide an outline of financing measures, as well as an

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20 ***Regulation (EU) 2021/1060 of the European Parliament and of the Council of 24 June 2021 laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, the Just Transition Fund and the European Maritime, Fisheries and Aquaculture Fund and financial rules for those and for the Asylum, Migration and Integration Fund, the Internal Security Fund and the Instrument for Financial Support for Border Management and Visa Policy (OJ L 231, 30.6.2021, p. 159).***

outline of the investment needs and the administrative resources for the implementation of their building renovation plans. ***Member States should consider using Union funding and financing mechanisms, in particular, the Resilience and Recovery Facility established by Regulation (EU) 2021/241 of the European Parliament and of the Council[21], structural and cohesion funds and the Social Climate Fund established by Regulation (EU) .../... of the European Parliament and of the Council [regulation of the European Parliament and of the Council establishing a Social Climate Fund as proposed by COM(2021)0568][22], to fund the implementation of their building renovation plans.***

(29a) In order to ensure that the Union's workforce is fully prepared to actively work towards the achievement of the Union climate objectives, Member States should aim to lower gender disparity in the construction and building sector, including through their national energy and climate plans.

(30) The national building renovation plans should be based on a harmonised template in order to ensure comparability of plans. In order to ensure the required ambition, the Commission should assess the draft plans and issue recommendations to Member States.

(31) The national building renovation plans should be closely linked with the integrated national energy and climate plans under Regulation (EU) 2018/1999, and progress in achieving the national targets and the contribution of the building renovation plans to national and Union targets should be reported as part of the biennial reporting under Regulation (EU) 2018/1999. Considering the urgency to scale up renovation based on solid national plans, the date for the submission of the first national building renovation plan should be set as early as possible.

(32) Staged ***deep*** renovation can be a solution to address high upfront costs and hassle for the inhabitants that may occur when renovating 'in one go' ***and can allow for less disruptive and more cost-efficient renovation measures***. However, such staged ***deep*** renovation needs to be carefully planned in order to avoid that one renovation step precludes necessary subsequent steps. ***One-step deep renovation can be more cost-effective and result in lower***

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21 ***Regulation (EU) 2021/241 of the European Parliament and of the Council of 12 February 2021 establishing the Recovery and Resilience Facility (OJ L 57, 18.2.2021, p. 17).***

22 ***Regulation (EU).../... [regulation of the European Parliament and of the Council establishing a Social Climate Fund as proposed by COM(2021)0568].***

carbon budget options to achieve a fully decarbonised and zero-emitting Union building stock. One-step ***deep and staged deep renovations are both valid options for deep renovations as differing factors need consideration, when determining most suitable solutions for decarbonisation, such as cost-effectiveness, resulting carbon budget,building use, renovation time, existing condition of the building, extent of renovations and primary energy supply of a building***. ***Renovation passports provide a clear roadmap for staged deep*** renovation, helping owners and investors plan the best timing and scope for interventions. Therefore, renovation passports should be ***encouraged and*** made available as a voluntary tool to building owners across all Member States. ***Member States should ensure that renovation passports do not create disproportionate burdens for the parties involved and are accompanied by adequate financial support for vulnerable households, in particular where the dwelling is their only residential property.***

(32a) Long-term contracts are an important instrument to stimulate staged renovation. Member States should introduce mechanisms that allow the establishment of long-term contracts over the various stages of staged renovation. Where new and more effective incentives become available during the various stages of the renovation, access to those new incentives should be ensured by allowing beneficiaries to switch to new incentives.

(33) The concept of 'deep renovation' has not yet been defined in Union ***law***. With a view to achieving the long-term vision for buildings, deep renovation should be defined as a renovation that transforms buildings into zero-emission buildings; in a first step, as a renovation that transforms buildings into nearly zero-energy buildings. This definition serves the purpose of increasing the energy performance of buildings. A deep renovation for energy performance purposes is a prime opportunity to address other aspects such as ***indoor environmental quality***, living conditions of vulnerable households, ***sufficiency and circularity***, increasing climate resilience, ***improving environmental and health standards*** resilience against disaster risks including seismic resilience, fire ***and electrical*** safety, the removal of hazardous substances including asbestos, and accessibility for persons with disabilities, ***and enhancing carbon sinks, such as vegetated surfaces.***

(33a) A deep renovations standard, if accompanied by adequate support and information, including technical assistance and training, can be a way to achieve higher emissions reduction. Local policymakers play an enabling role in designing the energy renovation market through local regulations, driving phase-out of inefficient heating and cooling

systems, managing public procurement processes, and developing public-private partnerships. Renovations must be carried out to a high standard to effectively reduce emissions and avoid performance gaps that can make the targets harder to reach in the medium term.

(34) In order to foster ***deep and staged*** deep renovation, which is one of the goals of the Renovation Wave strategy, Member States should ***reserve the highest support level of*** financial and administrative support to ***the*** deep renovation ***of worst performing buildings with a single dwelling.***

(35) Member States should support energy performance upgrades of existing buildings that contribute to achieving ▌ healthy indoor ***environmental quality***, including ***healthy and affordable living space,*** the removal of asbestos and other harmful substances, preventing the illegal removal of harmful substances, and facilitating compliance with existing legislative acts such as Directives 2009/148/EU[23] and (EU) 2016/2284[24] of the European Parliament and of the Council.

(35a) Integrated district or neighbourhood approaches allow for overall renovation concepts for buildings that are spatially related such as housing blocks. Such approaches to renovations offer multiple solutions at a larger scale. Integrated renovation plans can adopt a more holistic approach, which addresses the broader community ecosystem, such as transport needs and appropriate sustainable energy sources, including on-site and nearby renewables or district heating and cooling. Such plans allow for increased cost effectiveness of the works required, enhance connections between modes of transport and take account of existing infrastructure for the purpose of system optimisation as well as the preservation of cultural heritage. Therefore, this Directive should promote the wider use of integrated, participative and district-related approaches, which allow for synergies and potential energy savings that would remain untapped if the focus were exclusively on individual buildings. Integrated renovation plans can also lead to benefits such as

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23 ***Directive 2009/148/EC of the European Parliament and of the Council of 30 November 2009 on the protection of workers from the risks related to exposure to asbestos at work (OJ L 330, 16.12.2009, p. 28).***

24 ***Directive (EU) 2016/2284 of the European Parliament and of the Council of 14 December 2016 on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC (OJ L 344, 17.12.2016, p. 1).***

improved air quality, a reduction in district emissions, and a large-scale alleviation of energy poverty. Districts should be established by local authorities, in accordance with local needs.

(35b) In order to support the multiplication and replicability of successful building renovation projects, in line with the New European Bauhaus initiative, in particular with its sustainability goal, Member States should put in place national industrial policies for the large-scale production of locally adaptable prefabricated building elements for building renovation that provide different functions, including aesthetics, insulation and energy generation and insulation and green infrastructures. They should also promote biodiversity, water management, accessibility and mobility.

(35c) Member States should develop national electrical inspections regimes in light of the fact that a high percentage of the domestic and accidental domestic fires have an electrical source and in order to ensure that electrical installations are safe and ready for new uses aiming to achieve zero-emissions buildings.

(35d) Consideration of the water-energy nexus is particularly important to address the interdependent energy and water use and the increasing pressure on both resources. The effective management and reuse of water can make a significant contribution to energy savings, yielding climate, but also economic and social, benefits.

(36) Electric vehicles are expected to play a crucial role in the decarbonisation and efficiency of the electricity system, namely through the provision of flexibility, balancing and storage services, especially through ***the development of smart charging*** and aggregation. This potential of electric vehicles to integrate with the electricity system and contribute to system efficiency and further absorption of renewable electricity should be fully exploited ***including through the installation of a public charging infrastructure in parking spaces***. Charging in relation to buildings is particularly important, since this is where electric vehicles park regularly and for long periods of time. Slow ***smart and bidirectional*** charging is economical and the installation of recharging points in private spaces can provide energy storage to the related building. ***Combined with data provided by smart meters and data produced by the vehicle, charging infrastructure for electric vehicles could also provide flexibility solutions*** and integration of smart ***and bidirectional*** charging services and system integration services in general***. Electric vehicles capable of bidirectional charging add to the capacity of buildings and the electricity system to balance power supply and demand,***

especially during peak hours and at lower cost, and empower users to actively providing such services against adequate remuneration.

(37) Combined with an increased share of renewable electricity production, electric vehicles produce fewer greenhouse gas emissions. Electric vehicles constitute an important component of a clean energy transition based on energy efficiency measures, alternative fuels, renewable energy and innovative solutions for the management of energy flexibility. Building codes can be effectively used to introduce targeted requirements to support the deployment of recharging infrastructure in car parks of residential and non-residential buildings. Member States should remove barriers such as ***grid connection and capacity bottlenecks***, split incentives and administrative complications which individual owners encounter when trying to install a recharging point on their parking space.

(38) Pre-cabling provides the right conditions for the rapid deployment of recharging points if and where they are needed. Readily available infrastructure will decrease the costs of installation of recharging points for individual owners and ensure that electric vehicle users have access to recharging points. Establishing requirements for electromobility at Union level concerning the pre-equipping of parking spaces and the installation of recharging points is an effective way to promote electric vehicles in the near future while enabling further development at a reduced cost in the medium to long term. ▌ Member States should ensure the accessibility of recharging points for persons with disabilities.

(39) Smart charging and bidirectional charging enable the energy system integration of buildings. Recharging points where electric vehicles typically park for extended periods of time, such as where people park for reasons of residence or employment, are highly relevant to energy system integration, therefore smart charging functionalities need to be ensured. ***As*** bidirectional charging ***assists the*** further penetration of renewable electricity by electric vehicle fleets ***in transport and the electricity system in general and is instrumental to peak shaving, thus lowering the need for power supply at peak hours and hence overall system costs***, such functionality should also be made available***, not least as it empowers owners of electric vehicles to make such functions available to play and active part in the energy system against adequate remuneration, in line with their right to generate, share, store or sell self-produced energy***.

(40) Promoting green mobility is a key part of the European Green Deal and buildings can play an important role in providing the necessary infrastructure, not only for recharging of electric

vehicles but also for bicycles. A shift to ***active*** mobility such as cycling can significantly reduce greenhouse gas emissions from transport. ***With the increase in the sale of electrically power-assisted bicycles and other L-category vehicle types and in order to facilitate the installation of recharging points at a later stage, pre-cabling for those vehicles should be required in new residential buildings and, where technically and economically feasible, pre-cabling or ducting should be required in residential buildings undergoing major renovation.*** As set out in the 2030 Climate Target Plan, increasing the modal shares of clean and efficient private and public transport, such as cycling, will drastically lower pollution from transport and bring major benefits to individual citizens and communities. The lack of bike parking spaces is a major barrier to the uptake of cycling, both in residential and non-residential buildings. ***Union requirements and nationalbuilding*** codes can effectively support the transition to cleaner mobility by establishing requirements for a minimum number of bicycle parking spaces***, and building bicycle parking spaces and related infrastructure in areas where bicycles are less used can lead to an increase in their use***. ***The requirement to provide bicycle parking spaces should not be dependent on, or necessarily be linked to, the availability and supply of car parking spaces, which may be unavailable in certain circumstances. Minimum car parking requirements in building codes should be replaced with maximum car parking requirements, particularly in those areas that are already well served by public transport and active mobility options. Member States should support local authorities in developing and implementing sustainable urban mobility plans with a particular focus on the integration of housing policies with sustainable mobility and urban planning, thereby ensuring and prioritising accessibility of all new major urban developments by active mobility and public transport.***

(40a) Technical support will also be needed to build the capacity of local authorities through trainings and workshops, for instance on designing procurements considering whole life-cycle data and to carry out the whole-life carbon monitoring.

(40b) When implementing the electromobility requirements in this Directive, Member States should particularly consider the economic situation of vulnerable households and vulnerable microenterprises and small enterprises and should be able to adjust the installation of the relevant infrastructure accordingly.

(41) The agendas of the Digital Single Market and the Energy Union should be aligned and should serve common goals. The digitalisation of the energy system is quickly changing the energy

landscape, from the integration of renewables to smart grids and smart-ready buildings. In order to digitalise the building sector, the Union's connectivity targets and ambitions for the deployment of high-capacity communication networks are important for smart homes and well-connected communities. Targeted incentives should be provided to promote smart-ready systems and digital solutions in the built environment. This would offer new opportunities for energy savings, by providing consumers with more accurate information about their consumption patterns, and by enabling the system operator to manage the grid more effectively.

(42) In order to facilitate a competitive and innovative market for smart building services that contributes to efficient energy use and integration of renewable energy in buildings and support investments in renovation, Member States should ensure direct access to building systems' data by interested parties. To avoid excessive administrative costs for third parties, Member States shall facilitate the full interoperability of services and of the data exchange within the Union.

(43) The smart readiness indicator should be used to measure the capacity of buildings to use information and communication technologies and electronic systems to adapt the operation of buildings to the needs of the occupants and the grid and to improve the energy efficiency and overall performance of buildings. The smart readiness indicator should raise awareness amongst building owners and occupants of the value behind building automation and electronic monitoring of technical building systems and should give confidence to occupants about the actual savings of those new enhanced-functionalities. The smart readiness indicator is particularly beneficial for large buildings with high energy demand. For other buildings, the scheme for rating the smart readiness of buildings should be optional for Member States.

(44) Access to sufficient ***grants and*** funding is crucial to meet the 2030 and 2050 energy efficiency targets ***as well as to reduce the number of people living in energy poverty***. Union financial instruments and other measures have been put into place or adapted with the aim of supporting the energy performance of buildings ***and eliminating energy poverty***. The most recent initiatives to increase the availability of financing at Union level include, inter alia, the 'Renovate' flagship component of the Recovery and Resilience Facility ▌ and the Social Climate Fund ***and the REPowerEU plan.*** Several other key EU programmes can support energy renovation under the 2021-2027 Multiannual Financial Framework,

including the cohesion policy funds and the InvestEU Fund established by Regulation (EU) 2021/523 of the European Parliament and of the Council[25]. Through Framework Programmes for research and innovation, the Union invests in grants or loans to push the best technology and improve the energy performance of buildings, including through partnerships with industry and Member States such as the Clean Energy Transition and Built4People European Partnerships. ***In accordance with Regulation (EU) 2021/1119, the Commission should establish sector-specific energy transition partnerships within the building sector by bringing together key stakeholders.***

(45) Union financial instruments should be used to give practical effect to the objectives of this Directive, without however substituting national measures. In particular, due to the scale of the renovation effort needed, they should be used for providing appropriate and innovative means of financing to catalyse investment in energy performance of buildings. They could play an important role in the development of national, regional and local energy efficiency funds, instruments, or mechanisms, which deliver such financing possibilities to private property owners, to small and medium-sized enterprises and to energy efficiency service companies.

(46) Financial mechanisms, ***Union grants and subsidies***, incentives and the mobilisation of financial institutions for energy renovations in buildings, ***tailored to the needs of different building owners and tenants,*** should play a central role in national building renovation plans and be actively promoted by Member States. Such measures should ***promote*** energy efficient mortgages ***with social safeguards*** for certified energy efficient building renovations, ***foster*** investments for public authorities in an energy efficient building stock, for example by public-private partnerships or energy performance contracts or reducing the perceived risk of the investments. ***Financial schemes should provide an important premium for deep renovations, especially of the worst performing buildings, in order to make them financially attractive and be designed to allow accessibility for groups having difficulties to obtain regular financing.***

(46a) Member States should provide guarantees to financial institutions in order to promote targeted financial products, grants and subsidies, to enhance the energy performance of

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25 Regulation (EU) 2021/523 of the European Parliament and of the Council of 24 March 2021 establishing the InvestEU Programme and amending Regulation (EU) 2015/1017 (OJ L 107, 26.3.2021, p. 30).

buildings housing vulnerable households, as well as to owners in worst-performing multi-dwelling buildings and buildings in rural areas, and other groups having difficulty to access finances or get traditional mortgages. Member States should ensure that those groups benefit from cost neutral renovation schemes, for instance through fully subsidised renovation schemes, or blends between grants and energy performance contracting and on-bill schemes. It is necessary to provide for a special renovation instrument, the "EU Renovation Loan", at Union level, to provide homeowners with access to Union, long-term borrowing costs for deep renovation.

(46b) Financing plays a key role in achieving the Union 2030 energy and climate targets. To reduce the investment gap as well as to improve financing and to increase energy efficiency and the roll-out of renewable energy sources in buildings, a more cost-effective use of existing financing options is needed, as well as developing and introducing innovative financing mechanisms to support investments in building renovations and to assist homeowners as part of national initiatives. Financial mechanisms, incentives and the mobilisation of private investments from financial institutions for energy efficiency renovations in buildings should have a central role in national building renovation plans. Financial institutions should increase dissemination of information on their financial products to informbuildings owners, tenants and users about financial servicesto enhance energy performance. Financial institutions, including credit institutions and other financial market participants that invest in real estate-backed products, as well regulatory authorities should have access to information concerning the energy performance of buildings. Such institutions should be subject to the mortgage portfolio standards.

(46c) Green mortgage loans and green retail loans can significantly contribute to transforming the economy and reducing carbon emissions. Member States should adjust the applicable legislation and develop supporting measures to facilitate the uptake of green mortgage loans and green retail loans as well as systematic data collection.

(46d) Member States should prioritise the allocation of part of the European Social Fund to the technical training of workers in energy efficiency for the construction and renovation sectors. Member States should establish registries of their construction value-chain professionals, detailing the availability of skills and skilled professionals on the market. Those registries should be be publicly accessible and updated regularly.

(46e) The benefits of the 'pay-as-you-save financial scheme' in the medium-term, following the repayment of the loan, imply a net benefit for the household owners in terms of annual energy cost savings and an increased value of the property.

(47) Financing alone will not deliver on the renovation needs. ▌Setting up accessible and transparent advisory tools and assistance instruments such as ***independent*** one-stop shops that provide ***free*** integrated energy renovation services or facilitators ***and advice***, as well as implementing other measures and initiatives such as those referred to in the Commission's Smart Finance for Smart Buildings Initiative, is indispensable to provide the right enabling framework and break barriers to renovation***. The central importance of local actors, such as municipal authorities, energy agencies and renewable and citizen energy communities, to delivering national renovation needs should be recognised. Other collaborative measures such as public-private partnerships play an important role and should be actively promoted and supported by Member States. In addition to financing and technical support, Member States should take up neighbourhood and district approaches to building renovation and renewable heating and cooling in their national building renovation plans and actively promoted them. Local initiatives, such as citizen-led renovation programmes at neighbourhood or municipal level, should also be provided with financial and technical support, as such initiatives enhance citizens' engagement in the energy transition, preserve local social patterns, have an economy of scale effect and provide solutions fitting with the local context and needs.***

(47a) Access to trusted advice and information increases confidence and eases the process of improving energy efficiency in existing buildings, especially for private citizens. In that regard, one-stop shops could play an important role in connecting potential projects with market actors, including citizens, public authorities and project developers, in particular smaller-scale projects as well as guidance on permit procedures, promoting access to funding for building renovation, and helping to disseminate information on terms and conditions. Locally operated one-stop-shops could also help ensure coordination of supply and demand. They can help building owners and managers with the renovation projects and help integrate individual projects into the broader strategy of the cities. They can also help prioritise worst performance buildings by establishing timelines and providing targeted support to different portions of the building stock based on construction years. One-stop shops are also important to encourage citizens to start renovation projects by

providing advice and research options, facilitating the search for contractors, helping to navigate through tenders and quotations, and providing support during the renovations. Increased technical assistance is necessary to set up and develop one-stop shops and mobilise the right expertise.

(48) Inefficient buildings are often linked to energy poverty and social problems. Vulnerable households are particularly exposed to increasing energy prices as they spend a larger proportion of their budget on energy products. By reducing excessive energy bills, building renovation can lift people out of energy poverty and also prevent it. At the same time, building renovation does not come for free, and it is essential to ensure that the social impact of the costs for building renovation, ***in particular*** on vulnerable households, is ***limited***. The Renovation Wave should leave no one behind and be seized as an opportunity to improve the situation of vulnerable ***households and people living in social housing***, and a fair transition towards climate neutrality should be ensured. Therefore, financial incentives and other policy measures should as a priority target vulnerable households ▌ and people living in social housing, and Member States should ***outline in their national building renovation plans*** measures ***to be taken*** to prevent evictions because of renovation, ***such as rental price breaks and rent caps measures***. The Commission proposal for a Council Recommendation on ensuring a fair transition towards climate neutrality provides a common framework and shared understanding of comprehensive policies and investments needed for ensuring that the transition is fair.

(48a) Energy poverty affects women disproportionately throughout the Union and therefore Member States should dedicate the necessary support to alleviate energy poverty among women. Member States should make more effort to compile gender-disaggregated data into theirnational building renovation plans in order to better target policies and measures.

(49) In order to ensure that the energy performance of buildings can be taken into account by prospective buyers or tenants early in the process, buildings or building units which are offered for sale or rent should have an energy performance certificate, and the energy performance class and indicator should be stated in all advertisements**.** The prospective buyer ***or*** tenant of a building or building unit should, in the energy performance certificate, be given correct information about the energy performance of the building and practical advice on improving such performance. The energy performance certificate should also

provide information on its primary energy ***and final*** consumption***, on its energy needs, on its renewable energy production*** on its ***greenhouse gas*** emissions***, on its indoor environmental quality, as well as recommendations for the improvement of the energy performance and the life-cycle GWP***.

(49a) When considering support policies for minimum energy performance standards, special attention should be given to vulnerable households, particularly to those whose security of tenure might be put at risk or those exposed to high energy costs that lack the means to renovate the building they occupy. Member States should provide safeguards at national level, such as social support mechanisms.

(49b) The energy transition represents an opportunity to improve access to better quality housing, provided that renovation costs are balanced as much as possible with energy savings and security of tenure is ensured. It can also help lift households out of energy and transport poverty if subsidies and public funding are made available to those with reduced access to market-price loans. Also, for public housing and rented buildings, participative models are essential for tenants to work together with the housing companies, landlords and owners associations on the scope and cost of renovations. It can help balancing costs and reinforce security of tenure. Capacity-building opportunities for local housing providers should be created for better uptake of participative models and a more coordinated approach across sectors at national, regional and local level.

(50) The monitoring of the building stock is facilitated by the availability of data collected by digital tools, thereby reducing administrative costs. Therefore, national databases for energy performance of buildings should be set up, and the information contained therein should be transferred to the EU Building Stock Observatory.

(51) Buildings occupied by public authorities and buildings frequently visited by the public should set an example by showing that environmental and energy considerations are being taken into account and therefore those buildings should be subject to energy certification on a regular basis. The dissemination to the public of information on energy performance should be enhanced by clearly displaying those energy performance certificates, in particular in buildings of a certain size which are occupied by public authorities or which are frequently visited by the public, such as town halls, schools, shops and shopping centres, supermarkets, restaurants, theatres, banks and hotels.

(51a) The Commission should establish technical guidelines for the renovation of historical heritage buildings and historic centres to ensure that ecological ambitions are met and cultural heritage is safeguarded. The establishment of national renovation plans must provide for the structured and permanent consultation of the representative organisations of the subjects operating in the construction sector, including with regard to historic buildings.

(51b) Existing exemptions for heritage and temporary buildings should be maintained for conservation and heritage buildings while new innovative solutions are developed and tested. An exemption should also be provided for heritage buildings that are in the process of becoming officially protected as well as other buildings requiring due conservation as part of a designated environment or because of their special architectural and historic merit, if that process started before the entry into force of this Directive. Technical assistance is essential to boosting the renovation of public buildings, including financial support for replication and upscaling of pilots and demonstration projects, building on experiences developed with Horizon 2020 funding for smart cities. Member States should review their current national processes to class buildings as heritage and historic buildings to allow granting such status in a timely manner by the date of transposition of this Directive.

(52) Recent years have seen a rise in the number of air-conditioning systems in European countries. ***That*** creates considerable problems at peak load times, increasing the cost of electricity and disrupting the energy balance. Priority should be given to strategies which enhance the thermal performance of buildings during the summer period. To that end, there should be focus on measures which avoid overheating, such as shading and sufficient thermal capacity in the building construction, and further development and application of passive cooling techniques, primarily those that improve indoor ***environment*** conditions and the micro-climate around buildings.

(53) Regular maintenance and inspection of heating***, electrical installations, fire extinction***, ***ventilation*** and air-conditioning systems by qualified personnel contributes to maintaining their correct adjustment in accordance with the product specification and in that way ensures optimal performance from an environmental, safety and energy point of view. An independent assessment of the entire heating, ***electrical installations, fire extinction,*** ventilation and air-conditioning system should occur at regular intervals during its lifecycle

in particular before its replacement or upgrading. In order to minimise the administrative burden on building owners and tenants, Member States should endeavour to combine inspections and certifications as far as possible.

(54) A common approach to the energy performance certification of buildings, renovation passports, smart readiness indicators and the inspection of heating ***ventilation, air-conditioning systems, electrical installations*** and air-conditioning systems, carried out by qualified or certified experts, whose independence is to be guaranteed on the basis of objective criteria, contribute to a level playing field as regards efforts made in Member States to energy saving in the buildings sector and will introduce transparency for prospective owners or users with regard to energy performance in the Union property market. In order to ensure the quality of energy performance certificates, ***renovation passports, smart readiness indicators*** and of the inspection of ***the thermal characteristics of the building*** heating and air-conditioning ***and controls*** systems throughout the Union, an independent control mechanism should be established in each Member State.

(55) Since local and regional authorities are critical for the successful implementation of this Directive, they should be consulted and involved, as and when appropriate in accordance with applicable national legislation, on planning issues, the development of programmes to provide information, training and awareness-raising, and on the implementation of this Directive at national or regional level. Such consultations may also serve to promote the provision of adequate guidance to local planners and building inspectors to carry out the necessary tasks. Furthermore, Member States should enable and encourage architects and planners to properly consider the optimal combination of improvements in energy efficiency, use of energy from renewable sources and use of district heating and cooling when planning, designing, building and renovating industrial or residential areas ***including via use of 3D based modelling and simulation technologies***. ***In addition, the public consultation on the national building renovation plans should involve other socio-economic partners socio-economic partners including trade unions and housing cooperatives, building owners, landowners and construction industry, entities working with vulnerable households and homeless people, and other civil society partners such as tenants organisations and consumer organisations and establish multi-level dialogues.***

(56) Installers and builders are critical for the successful implementation of this Directive. Therefore, an adequate number of installers and builders should, through training and other

measures, have the appropriate level of competence for the installation and integration of the energy efficient and renewable energy technology required.

(57) In order to further the aim of improving the energy performance of buildings, the power to adopt acts in accordance with Article 290 TFEU should be delegated to the Commission in respect of the adaptation to technical progress of certain parts of the general framework set out in Annex I ***by 31 December 2026,*** in respect of ***the details related to*** the establishment of a methodology framework for calculating cost-optimal levels of minimum energy performance requirements, in respect of ***the adaptation of*** the thresholds for zero-emission buildings and the calculation methodology for life-cycle ***GWP***, in respect of ***minimum indoor environmental quality standards, in respect of*** the establishment of a common European framework for renovation passports and in respect of a Union scheme for rating the smart readiness of buildings. It is of particular importance that the Commission carry out appropriate consultations during its preparatory work, including at expert level, and that those consultations be conducted in accordance with the principles laid down in the Interinstitutional Agreement of 13 April 2016 on Better Law-Making[26]. In particular, to ensure equal participation in the preparation of delegated acts, the European Parliament and the Council receive all documents at the same time as Member States' experts, and their experts systematically have access to meetings of Commission expert groups dealing with the preparation of delegated acts.

(58) In order to ensure an effective implementation of the provisions laid down in this Directive, the Commission supports Member States through various tools, such as the Technical Support Instrument[27] providing tailor-made technical expertise to design and implement reforms, including those aimed at increasing the annual energy renovation rate of residential and non-residential buildings by 2030 and to foster deep energy renovations. The technical support relates to, for example, strengthening of administrative capacity, supporting policy development and implementation, and sharing of relevant best practices.

(59) Since the objectives of this Directive, namely enhancing the energy performance of buildings and reducing the greenhouse gas emissions from buildings, cannot be sufficiently achieved by the Member States, due to the complexity of the buildings sector and the

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26 OJ L 123, 12.5.2016, p. 1.

27 Regulation (EU) 2021/240 of the European Parliament and of the Council of 10 February 2021 establishing a Technical Support Instrument (OJ L 57, 18.2.2021, p. 1).

inability of the national housing markets to adequately address the challenges of energy efficiency, but can rather, by reason of the scale and the effects of the action, be better achieved at Union level, the Union may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty on European Union. In accordance with the principle of proportionality as set out in that Article, this Directive does not go beyond what is necessary in order to achieve those objectives.

(60) The legal basis of this initiative is Article 194(2) TFEU, which empowers the Union to establish the measures necessary to achieve the objectives of the Union with regard to policy on energy. The proposal contributes to the Union's energy policy objectives as outlined in Article 194(1) TFEU, in particular improving the energy performance of buildings and reducing their greenhouse gas emissions, which contributes to preserve and improve the environment.

(61) In accordance with point 44 of the Interinstitutional Agreement on Better Law-Making, Member States should draw up, for themselves and in the interest of the Union, their own tables, illustrating, as far as possible, the correlation between this Directive and the transposition measures, and make them public. In accordance with the Joint Political Declaration of 28 September 2011 of Member States and the Commission on explanatory documents, Member States have undertaken to accompany, in justified cases, the notification of their transposition measures with one or more documents explaining the relationship between the components of a directive and the corresponding parts of national transposition instruments. With regard to this Directive, the legislator considers the transmission of such documents to be justified, in particular following the judgment of the European Court of Justice in Case Commission vs Belgium (case C-543/17).

(62) The obligation to transpose this Directive into national law should be confined to those provisions which represent a substantive amendment as compared to the earlier Directive. The obligation to transpose the provisions which are unchanged arises under the earlier Directive.

(63) This Directive should be without prejudice to the obligations of the Member States relating to the time-limits for the transposition into national law and the dates of application of the Directives set out in Annex VIII, Part B**,**

HAVE ADOPTED THIS DIRECTIVE:

Article 1

Subject matter

1. This Directive promotes the improvement of the energy performance of buildings and the reduction of greenhouse gas emissions from buildings within the Union, with a view to achieving a zero-emission building stock by 2050***,*** taking into account ***the*** outdoor climatic ***conditions, the*** local conditions, ***the requirements for*** indoor ***environmental quality and the contribution of the building stock to demand-side flexibility for the purpose of improving energy system efficiency*** and cost-effectiveness.

2. This Directive lays down requirements as regards:

(a) the common general framework for a methodology for calculating the integrated energy performance of buildings and building units;

(b) the application of minimum requirements to the energy performance of new buildings and new building units;

(c) the application of minimum requirements to the energy performance of:

(i) existing buildings and building units that are subject to major renovation;

(ii) 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;

(iii) technical building systems whenever they are installed, replaced or upgraded;

(d) the application of minimum energy performance standards to existing buildings and existing building units***, in accordance with Articles 3 and 9***;

(da) a harmonised framework for assessing the life-cycle global warming potential;

(db) solar energy in buildings;

(dc) the phasing out of fossil fuel use in buildings;

(e) renovation passports;

(f) national building renovation plans;

(g) sustainable mobility infrastructure in and adjacent to buildings; and

(h) smart buildings;

(ha) nature-based solutions that reinforce the good use and adaptation of the public space surrounding the buildings with elements such as wood materials, greens roofs and facades and solutions that are inspired and supported by nature, which can simultaneously provide environmental, social and economic benefits and help build resilience;

(i) energy performance certification of buildings or building units;

(j) regular inspection of heating, ventilation and air-conditioning systems in buildings;

(k) independent control systems for energy performance certificates, renovation passports, smart readiness indicators and inspection reports***;***

(ka) the indoor environmental quality performance of buildings.

3. The requirements laid down in this Directive are minimum requirements and shall not prevent any Member State from maintaining or introducing more stringent measures. Such measures shall be compatible with the TFEU. They shall be notified to the Commission.

Article 2

Definitions

For the purpose of this Directive, the following definitions apply:

1. 'building' means a roofed construction having walls, for which energy is used to condition the indoor ***environment***;

2. 'zero-emission building' means a building with a very high energy performance, as determined in accordance with ***Annexes*** I ***and III***, ***which contributes to the optimisation of the energy system through demand-side flexibility,*** where ***any*** very low ***residual*** amount of energy still required is fully covered by energy from***:***

(a) renewable sources generated or stored on-site;

(b) renewable sources generated ***nearby off-site and delivered through the gridin accordance with Directive (EU) 2018/2001 [amended RED];***

(c) a renewable energy community within the meaning of Directive (EU) 2018/2001 [amended RED]***;*** or

(d) ***renewable energy and waste heat*** from ***an efficient*** district heating and cooling system ***within the meaning of Directive (EU) .../.... [recast EED],*** in accordance with the requirements set out in Annex III;

3. ‘nearly zero-energy building’ means a building with a very high energy performance, as determined in accordance with Annex I, which cannot be lower than the 2023 cost-optimal level reported by Member States in accordance with Article 6(2) and where the nearly zero or very low amount of energy required is covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby;

3a. ‘worst performing building’ means a building classified in energy performance classes E, F or G;

3b. ‘passive system’ means a design principle or a building element that maintains or improves energy performance or one or more indoor environment parameters with no assistance from an energy source;

4. ‘minimum energy performance standards’ means rules that require existing buildings to meet an energy performance requirement as part of a wide renovation plan for a building stock or at a trigger point on the market (sale or rent), in a period of time or by a specific date, ***in line with the energy efficiency first principle,*** thereby triggering renovation of existing buildings;

4a. ‘energy efficiency first’ means energy efficiency first as defined in Article 2, point (18), of Regulation (EU) 2018/1999;

5. ‘public bodies’ means ***public bodies as defined in*** Article ***2, point (10), of Directive (EU) .../... [recast EED]***; 6. ‘technical building system’ means technical equipment for space heating, space cooling, ventilation, domestic hot water, built-in lighting, building automation and control, ***electrically operated solar shading, electrical installations, electric-vehicles charging stations,*** on-site renewable energy generation and storage, or a combination thereof, including those systems using energy from renewable sources, of a building or building unit;

6a. ‘demand-side flexibility’ means the capacity of active customers to react to external signals and adjust their energy generation and consumption, individually or through aggregation, in a dynamic time-dependent way, which may be provided by smart,

decentralised energy resources, including demand management, energy storage, and distributed renewable generation, to support a more reliable, sustainable and efficient energy system;

6b. 'cooling system' means a combination of passive and active components required to provide a form of indoor air treatment by which the temperature is lowered;

6c. 'electrical installation' means a system composed of fixed components, including switchboards, electrical cables, earthing systems, sockets, switches and light fittings, which have the purpose of distributing electrical power within a building to all points of use or transmit electricity generated on-site;

6d. 'system efficiency' means the selection of energy-efficient solutions which enable a cost-effective decarbonisation pathway, additional flexibility and the efficient use of resources;

6e. 'ventilation system' means a combination of components required to provide a renewal of indoor air by outdoor air;

7. 'building automation and control system' means a system comprising all products, software and engineering services that can support energy efficient, economical and safe operation of technical building systems through automatic controls and by facilitating the manual management of those technical building systems;

8. 'energy performance of a building' means the calculated or metered amount of energy needed to meet the energy demand associated with a typical use of the building, which includes, inter alia, energy used for heating, cooling, ventilation, hot water, ▌ lighting ***and technical building systems***;

9. 'primary energy' means energy from renewable and non-renewable sources which has not undergone any conversion or transformation process;

9a. 'final energy' means energy from renewable or non-renewable sources that has undergone a conversion or transformation process for the purpose of ensuring that it is ready for consumption and supply to end-users;

9b. 'metered' means measured by a relevant device, such as an energy meter, a power meter, a power metering and monitoring device, or an electricity meter;

10. ‘non-renewable primary energy factor’ means non-renewable primary energy for a given energy carrier, including the delivered energy and the calculated energy overheads of delivery to the points of use, divided by the delivered energy;

11. ‘renewable primary energy factor’ means renewable primary energy from an on-site, nearby or distant energy source that is delivered via a given energy carrier, including the delivered energy and the calculated energy overheads of delivery to the points of use, divided by the delivered energy;

12. ‘total primary energy factor’ means the weighted sum of renewable and non-renewable primary energy factors for a given energy carrier;

13. ‘energy from renewable sources’ ***or ‘renewable energy’*** means energy from renewable non-fossil sources ***as defined in Article 2, point (1), of Directive (EU) 2018/2001***;

14. ‘building envelope’ means the integrated elements of a building which separate its interior from the outdoor environment;

15. ‘building unit’ means a section, floor or apartment within a building which is designed or altered to be used separately;

16. ‘building element’ means a technical building system or an element of the building envelope;

17. ‘dwelling’ means ***a physical space consisting of*** a room or suite of rooms in a permanent building or a structurally separated part of a building which is designed for habitation by one private household to ***develop their basic life functions*** all year round;

18. ‘renovation passport’ means a document that provides a tailored roadmap for the ***deep*** renovation of a specific building in ***a maximum number of*** steps that will ***transform the building into a zero emission building by 2050 at the latest***;

19. ‘deep renovation’ means a renovation ***in line with the energy efficiency first principle and efforts to reduce whole life-cycle greenhouse gas emissions generated during the renovation,*** which ***focuses on essential building items, such as wall insulation, roof insulation, low floor insulation, replacement of external joinery, ventilation and heating or heating systems and treatment of thermal bridges, to ensure the necessary comfort of the occupants in summer and winter or a renovation resulting in a reduction of at least 60% primary energy demand for worst-performing buildings for which it is technically***

and economically not feasible to achieve a zero-emission building standard, and which transforms a building or building unit***:***

(a) before 1 January ***2027***, into a nearly zero-energy building;

(b) ***from*** 1 January ***2027***, into a zero-emission building;

20. 'staged deep renovation' means a deep renovation carried out in ***a maximum number of*** steps, following the steps set out in a renovation passport in accordance with Article 10, ***which may include the use of energy performance contracts***;

21. 'major renovation' means the renovation of a building where ***either, depending on the choice of a Member State***:

(a) the total cost of the renovation relating to the building envelope or the technical building systems is higher than 25 % of the value of the building, excluding the value of the land upon which the building is situated; oror

(b) more than 25 % of the surface of the building envelope undergoes renovation;

▌

22. "operational greenhouse gas emissions" means greenhouse gas emissions associated with energy consumption of the technical building systems during use and operation of the building;

23. 'whole life-cycle greenhouse gas emissions' means the combined greenhouse gas emissions associated with the building at all stages of its life-cycle***, considering the benefits from reuse and recycling at the end-of-life***, from the 'cradle' (the extraction of the raw materials that are used in the construction of the building) over the material production and processing, and the building's operation stage, to the ***'end of life***' (the deconstruction of the building and reuse, recycling, other recovery and disposal of its materials);

24. '***life-cycle global warming potential' or 'life-cycle GWP***' means an indicator which quantifies the global warming potential contributions of a building along its full life-cycle;

25. 'split incentives' means split incentives as defined in Article 2(52) of [recast EED];

26. ‘energy poverty’ means energy poverty as defined in Article 2(49) of [recast EED];

27. ‘vulnerable households’ means households in ***or at risk of*** energy poverty or households, including lower middle-income ones, that are particularly exposed to high energy costs and lack the means to renovate the building they occupy;

28. ‘European standard’ ***or ‘EN standard’*** means a standard adopted by the European Committee for Standardisation, the European Committee for Electrotechnical Standardisation or the European Telecommunications Standards Institute and made available for public use;

29. ‘energy performance certificate’ means a certificate recognised by a Member State or by a legal person designated by it, which indicates the energy ***and climate*** performance of a building or building unit, calculated according to a methodology adopted in accordance with Article 4;

30. ‘cogeneration’ means simultaneous generation in one process of thermal energy and electrical or mechanical energy;

31. ‘cost-optimal level’ means the energy performance level which leads to the lowest cost during the estimated economic lifecycle, ***established by applying the cost-optimal methodology*** where:

(a) the lowest cost is determined taking into account:

(i) the category and use of building concerned:

(ii) energy-related investment costs based on official forecasts;

(iii) maintenance and operating costs, including energy costs taking into account the cost of greenhouse gas allowances;

(iv) environmental and health externalities of energy use;

(v) earnings from energy produced on-site, where applicable;

(vi) waste management costs, where applicable;

(via) social externalities of building renovations, construction, demolition including the modification of built areas;(b) the estimated economic lifecycle is determined by each Member State and refers to the remaining estimated economic lifecycle of a building where energy performance requirements are set

for the building as a whole, or to the estimated economic lifecycle of a building element where energy performance requirements are set for building elements.

The cost-optimal level shall lie within the range of performance levels where the cost benefit analysis calculated over the estimated economic lifecycle is positive;

32. ‘recharging point’ means a recharging point as defined in Article 2(41) of [AFIR];

32a. 'pre-cabling' means all measures that are necessary to enable the installation of recharging points, including data transmission, cable routes, spaces for transformers and electricity meters, and upgrade of the electrical board;

33. ‘micro isolated system’ means any system with consumption less than 500 GWh in the year 2022, where there is no connection with other systems;

34. ‘smart charging’ means smart charging as defined in Article 2(14l) of Directive (EU) 2018/2001 [amended RED];

35. ‘bidirectional charging’ means bidirectional charging as defined in Article 2(14n) of Directive (EU) 2018/2001 [amended RED];

35a. ‘digitally connected recharging point’ means a recharging point that can send and receive information in real time, that can communicate bidirectionally with the electricity grid and the electric vehicle, and that can be remotely monitored and controlled, including to start and stop the recharging session and to measure electricity flows;

36. 'mortgage portfolio standards’ means mechanisms ***requiring*** mortgage lenders, ***including banks, investors, and other relevant financial institutions, such as final holders of mortgages housed in special purpose vehicles, securitisation companies and other intermediate bodies, to establish a path*** to increase the median energy performance of the portfolio of buildings covered by their mortgages ***towards 2030 and 2050, with a view*** to ***ensuring reliable, evidence-based and affordable solutions for their*** clients***, in line with*** the Union’s decarbonisation ambition ***and national building renovation plans and*** relevant energy targets in the area of energy consumption in buildings, relying on the definition of sustainable economic activities in the EU Taxonomy ***and in line with energy performance certificates and the life-cycle GWP, in accordance with this Directive; 36a. ‘pay-as-you-save financial scheme’ means a loan scheme dedicated exclusively to energy performance improvements, where the annualised repayments on the loan do not***

exceed the monetary equivalent of the yearly energy savings, taking into account the indexation of the energy cost and loan re-financing;

36b. 'energy building benchmark' means an information platform to publicly disclose energy performance and yearly consumptions of single and multi-unit buildings over time, compared to similar buildings or to modelled simulations of a reference building built to a specific standard, such as minimum energy performance standards, and using the range of energy performance classes;

37. 'digital building logbook' means a common repository for all relevant building data, including data related to energy performance such as energy performance certificates, renovation passports and smart readiness indicators, ***as well as on the life-cycle GWP and indoor environmental quality,*** which facilitates informed decision making and information sharing within the construction sector, among building owners and occupants, financial institutions and public authorities;

38. 'air-conditioning system' means a combination of the components required to provide a form of indoor air treatment, by which temperature is controlled or can be lowered;

39. 'heating system' means a combination of the components required to provide a form of indoor air treatment, by which the temperature is increased;

40. 'heat generator' means the part of a heating system that generates useful heat for uses identified in Annex I, using one or more of the following processes:

(a) the combustion of fuels in, for example, a boiler;

(b) the Joule effect, taking place in the heating elements of an electric resistance heating system;

(c) capturing heat from ambient air, ventilation exhaust air, or a water or ground heat source using a heat pump;

40a. 'heat pump' means a machine, a device or an installation that transfers heat from a source such as the air, water or the ground, to sinks such as buildings or industrial applications, for the purpose of providing heating, cooling or domestic hot water;

41. 'energy performance contracting' means energy performance contracting as defined in Article 2, point (29), of Directive (EU) …/… [recast Energy Efficiency Directive]

42. ‘boiler’ means the combined boiler body-burner unit, designed to transmit to fluids the heat released from burning;

43 ‘effective rated output’ means the maximum calorific output, expressed in kW, specified and guaranteed by the manufacturer as being deliverable during continuous operation while complying with the useful efficiency indicated by the manufacturer;

44. ‘district heating’ or ‘district cooling’ means the distribution of thermal energy in the form of steam, hot water or chilled liquids, from a central source of production through a network to multiple buildings or sites, for the use of space or process heating or cooling;

44a. ‘integrated district’ means a district selected on the basis of an analysis of building stock, taking into account the area-specific potentials for energy efficiency measures by means of clear and measurable objectives and that develops renovation road map templates for similar building types, following an adequate analysis of local conditions, with the aim of a rapid, resource-efficient and mutually coordinated transformation of buildings, as well as other aspects, such as the social structure, the economic and environmental conditions and the energy supply infrastructure of buildings;

45. ‘useful floor area’ means the area of the floor of a building needed as parameter to quantify specific conditions of use that are expressed per unit of floor area and for the application of the simplifications and the zoning and (re-)allocation rules***, taking into account national, European and international standards***;

45a. ‘waste heat’ means unavoidable heat generated as by-product in industrial or power generation installations, or in the tertiary sector, which would be dissipated unused in air or water without access to a district heating or cooling system, where a cogeneration process has been used or will be used or where cogeneration is not feasible;

46. ‘reference floor area’ means the floor area used as reference size for the assessment of the energy performance of a building, calculated as the sum of the useful floor areas of the spaces within the building envelope specified for the energy performance assessment;

47. ‘assessment boundary’ means the boundary where the delivered and exported energy are measured or calculated;

48. ‘on-site’ means the premises and the land on which the building is located and the building itself;

49. ‘energy from renewable sources produced nearby’ means energy from renewable sources produced within a local or district level perimeter of the building assessed, which fulfils all the following conditions:

(a) it can only be distributed and used within that local and district level perimeter through a dedicated distribution network;

(b) it allows for the calculation of a specific primary energy factor valid only for the energy from renewable sources produced within that local or district level perimeter; and

(c) it can be used on-site of the building assessed through a dedicated connection to the energy production source, that dedicated connection requiring specific equipment for the safe supply and metering of energy for self-use of the building assessed;

50. ‘energy performance of buildings (EPB) services’ means the services, such as heating, cooling, ventilation, domestic hot water and lighting and others for which the energy use is taken into account in the energy performance of buildings;

51. ‘energy needs’ means the energy to be delivered to, or extracted from, a conditioned space to maintain the intended space conditions during a given period of time***, taking into account transmission and ventilation losses and solar and internal gains in accordance with EN standards,*** disregarding any technical building system inefficiencies;

52. ‘energy use’ means energy input to a technical building system providing a EPB-service intended to satisfy an energy need;

53. ‘self-used’ means part of on-site or nearby produced renewable energy used ***simultaneously*** by on-site technical systems for EPB services;

54. ‘other on-site uses’ means energy used on-site for uses other than EPB services, and may include appliances, miscellaneous and ancillary loads, ***domestic batteries energy storage systems*** or electro-mobility charging points;

55. ‘calculation interval’ means the discrete time interval used for the calculation of the energy performance;

56. ‘delivered energy’ means energy, expressed per energy carrier, supplied to the technical building systems through the assessment boundary, to satisfy the uses taken into account or to produce the exported energy;

57. ‘exported energy’ means, expressed per energy carrier and per primary energy factor, the proportion of the renewable energy that is exported to the energy grid instead of being used on site for self-use or for other on-site uses.

57a. ‘secondary material’ means material recovered from previous use or from waste which substitutes primary materials as defined in the construction framework standard EN 15643;

57b. ‘bicycle parking space’ means a designated space for at least one bicycle, which provides secure and easy storage for a variety of bicycle types and which may be lit and protected from the weather;

57c. ‘physically adjacent’ means a car park which is intended for the use of residents, visitors, or workers of a building, which is located within the property area of the building or which is in the direct vicinity of the building;

57d. ‘circularity’ means the reduction of the need for extraction of virgin materials through the reduction of demand for new materials, through repair, reuse, repurposing, and recycling of used materials and through the extension of the lifetime of products and buildings;

57e. ‘sufficiency’ means the minimisation of demand for energy, materials, land, water, and other natural resources over the lifecycle of buildings and goods;

57f. ‘bill of materials’ means a record of the type, source and quantity of construction products and materials that are used to construct or renovate a building, which affect its thermal performance and technical system efficiency in accordance with Annex I, as well as its fire performance and indoor environmental quality;

57g. ‘indoor environmental quality’ means a set of parameters relating to a building, including indoor air quality, thermal comfort, lighting, and acoustic affecting the health and wellbeing of its occupants;

57h. ‘healthy indoor climate’ means the indoor environment of a building, which optimises the health, comfort and well-being of occupants in line with specific performance levels, including those related to daylight, indoor air quality and thermal comfort, such as mitigating overheating and enhancing acoustic quality.

Article 3

National building renovation plan

1. Each Member State shall establish 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 objective to transform existing buildings into zero-emission buildings.

Each building renovation plan ***shall comply with the energy efficiency first principle and*** shall encompass:

(a) an overview of the national building stock for different building types, ***including their share in the building stock, in particular of buildings categorised as officially protected as part of a designated environment or because of their special architectural or historical merit,*** construction periods and climatic zones ***of each Member State***, based, as appropriate, on statistical sampling***, energy and life-cycle GWP benchmarking*** and the national database for energy performance certificates pursuant to Article 19, an overview of market barriers and market failures, ***the share of vulnerable households*** and an overview of the capacities in the construction, energy efficiency and renewable energy sectors***, as well as the availability of one-stop shops established pursuant to Article 15a of this Directive and to Article 21(2a) of Directive (EU) .../... [Recast EED]***;

(aa) an overview of implemented and planned policies, including those pursuant to the Pact for Skills set out in the communication of the Commission of 1 July 2020 entitled "European Skills Agenda for sustainable competitiveness, social fairness and resilience", to increase the availability of qualified professionals in the construction, efficiency, and renewable energy sectors, investments in the development of the required skills, including upskilling or reskilling and targeted training and education programmes, for both public and private stake holders, on the basis of a quantitative and qualitative assessment using key performance indicators as set out in Annex II, to meet the targets, in accordance with this Directive and the resulting market needs for skilled professionals in the construction and renovation sector;

(b) a roadmap with nationally established targets and measurable progress indicators, ***and specific timelines for all existing buildings to achieve higher energy***

performance classes by 2030, 2040 and 2050, with a view to the 2050 climate neutrality goal, in order to ensure a highly energy efficient and decarbonised national building stock and the transformation of existing buildings into zero-emission buildings by 2050;

(c) an overview of implemented and planned policies and measures ***including their duration in consistency with*** the implementation of the roadmap pursuant to point (b) ***of this subparagraph, including those set out in the integrated national energy and climate plans notified to the Commission pursuant to Article 3 of Regulation (EU) 2018/1999, with a particular focus on vulnerable households and people living in social housing***;

(d) ***a detailed roadmap up to 2050*** of the investment needs for the implementation of the building renovation plan, ***public and private*** financing sources and measures, and the administrative resources for building renovation, ***including those set out in national energy and climate plans notified to the Commission pursuant to Article 3 of Regulation (EU) 2018/1999;***

(da) a roadmap on the reduction of energy poverty and energy savings achieved among vulnerable households and people living in social housing comprising of nationally established targets and an overview of implemented and planned policies and funding measures supporting theelimination of energy poverty.

1a. The roadmap referred to in ***paragraph 1, second subparagraph,*** point (b)***,*** shall include***:***

(a) national targets ***and whole life-cycle emissions*** for ***different building typologies to be set following the global stock-taking exercise, for the years 2025,*** 2030, ***2035,*** 2040***, in accordance with the ratchet mechanism set out in the Paris Agreement and a 1,5-degree compliant***2050 ***whole life-cycle performance roadmap, as well as indicative national targets aiming to achieve the deep renovation of at least 35 million building units by 2030 to support reaching an*** annual energy renovation rate ***of 3 % or more for the period till 2050;***

(b) the estimated availability of construction materials, ***renovation materials, including prefabricated building elements, such as those with insulation, building integrated solar photovoltaics, materials with recycled contents, secondary building***

materials, and, if any, local sustainable materials, as well as national targets for the circular use of materials, recycled contents and secondary materials in accordance with Regulation (EU) No 305/2011[28] [, and sufficiency for every five-year period;

(c) the primary and final energy consumption of the national building stock and its operational greenhouse gas emission reductions;

(d) specific timelines for buildings to achieve higher energy performance classes than those pursuant to Article 9(1), by ***2030 and every five years thereafter*** , in line with the pathway for transforming the national building stock into zero-emission buildings***;***

(e) an overview of the cost effective potential, availability and expected production and consumption of renewable energy used for heating and cooling in buildings, disagreggated bytechnology and fuels;

(f) national targets on the construction and refurbishment of district level heating and cooling systems in accordance with the comprehensive heating and cooling assessment referred to in Article 23 of Directive (EU) …/... [recast Energy Efficiency Directive];

(g) a pathway with numerical targets for the deployment of solar energy and heat pumps in buildings in accordance with Article 9a;

(h) national phase-out plans for fossil fuel use in buildings with a view to a planned phase out by 2035 and if not feasible as demonstrated to the Commission, by 2040 at the latest;

(i) an evidence-based estimate of expected energy savings***, greenhouse gas emission reductions,*** and wider benefits, ***including indoor environmental quality, which may be based on an integrated district approach***;

(j) estimations for the contribution of the building renovation plan to achieving the Member State's binding national target for greenhouse gas emissions pursuant to Regulation (EU).../… [revised Effort Sharing Regulation], the Union’s energy

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28 ***Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC (OJ L 88, 4.4.2011, p. 5).***

efficiency targets in accordance with Directive (EU) …/…. [recast EED], the Union's renewable energy targets, including the ▌ target for the share of energy from renewable sources in the building sector in accordance with Directive (EU) 2018/2001 [amended RED], and the Union's 2030 climate target and 2050 climate neutrality goal in accordance with Regulation (EU) 2021/1119***;***

2. Every five years, each Member State shall prepare and submit to the Commission a draft of its building renovation plan, using the template in Annex II. Each Member State shall submit its draft building renovation plan ***together with*** its draft integrated national energy and climate plan referred to in Article 9 of Regulation (EU) 2018/1999 and ***its comprehensive heating and cooling assessment pursuant to Article 23 of Directive (EU)…/…[recast EED], and***, where the Member States submits a draft update, its draft update referred to in Article 14 of ▌ Regulation ***(EU) 2018/1999***. By way of derogation from Article 9(1) and Article 14(1) of that Regulation, Member States shall submit the first draft building renovation plan to the Commission by 30 June 2024, ***and subject to the separate consultation provided for in paragraph 3 of this Article***.

3. To support the development of its building renovation plan , each Member State ***shall involve regional and local authorities in drafting the building renovation plan to facilitate the inclusion of local actions plans or investments and they*** shall carry out a public consultation on its draft building renovation plan prior to submitting it to the Commission. The public consultation shall involve in particular local and regional authorities and other socio-economic partners including civil society and bodies working with vulnerable households***. The public consultation shall cover ex-ante and ex-post evaluations of the building renovation plan and include options about the design of the public policies, programmes, incentives, as well as social safeguards, which may include those referred to in Article 15, to ensure the accessibility, convenience and affordability of the renovation solutions***. Each Member State shall annex a summary of the results of its public consultation to its draft building renovation plan. ***Each Member State shall take due account of the stakeholders' views expressed in the ex-ante and ex-post evaluations and explain how these were reflected in its final building renovation plan.***

4. The Commission shall assess the national draft building renovation plans, in particular whether:

(a) the level of ambition of the nationally established targets is sufficient and in line with the national commitments on climate and energy laid down in the national integrated energy and climate plans;

(b) the policies and measures are sufficient to achieve the nationally established targets;

(c) the allocation of budgetary and administrative resources is sufficient for the implementation of the plan;

(ca) the conditions for the functioning renovation financing schemes are adequate for the achievement of the national energy poverty mitigation target and for the successful inclusion of energy poor consumers and vulnerable households;

(cb) the plan takes into account the objectives of Directive 2008/50/EC[29] and ensures consistency with applicable legislation and the protection of the environment and human health;

(cc) the plan prioritises worst performing buildings used for residential purposes;

(d) the public consultation pursuant to paragraph 3 has been sufficiently inclusive;

(e) the ***plan complies*** with the requirements of paragraph 1 and the template in Annex II***;***

(ea) national and local authorities need the technical assistance to facilitate the implementation of these plans;

(eb) the plan provides for sufficient skilled workers and effective skilling and training initiatives.

After consulting the Committee established by Article 30, the Commission may issue country-specific recommendations to Member States in accordance with Article 9(2) and Article 34 of Regulation (EU) 2018/1999.

With regard to the first draft building renovation plan, the Commission may issue country-specific recommendations to Member States no later than six months after the Member State has submitted that plan.

5. ***At each revision***, Member State shall take due account of any recommendations from the

[29] Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe (OJ L 152, 11.6.2008, p. 1).

Commission in its final building renovation plan. If the Member State concerned does not address a recommendation or a substantial part thereof, it shall provide a justification to the Commission and make public its reasons.

6. Every five years, each Member State shall submit its building renovation plan to the Commission, using the template in Annex II. Each Member State shall submit its building renovation plan ***together with*** its integrated national energy and climate plan referred to in Article 3 of Regulation (EU) 2018/1999 and, where the Member States submits an update, its update referred to in Article 14 of that Regulation. By way of derogation from Article 3(1) and Article 14(2) of that Regulation, Member States shall submit the first ***draft*** building renovation plan to the Commission by 30 June ***2024 and final building renovation plans by 30 June*** 2025.

7 Each Member State shall annex the details of the implementation of its most recent long-term renovation strategy or building renovation plan to its ▌ final building renovation plan Each Member State shall state whether its national targets have been achieved.

8. Each Member State shall include in its integrated national energy and climate progress reports, in accordance with Articles 17 and 21 of Regulation (EU) 2018/1999, information on the implementation of the national targets referred to in paragraph 1, point (b) of this Article and the contribution of the building renovation plan to achieving the Member State's binding national target for greenhouse gas emissions pursuant to Regulation (EU).../… [revised Effort Sharing Regulation], the Union's energy efficiency targets in accordance with Directive (EU)…/… [recast EED], the Union's renewable energy targets, including the indicative target for the share of energy from renewable sources in the building sector in accordance with Directive (EU) 2018/2001 [amended RED], and the Union's 2030 climate target and 2050 climate neutrality goal in accordance with Regulation (EU) 2021/1119.

Article 3a

An integrated district approach to building renovation

1. Member States may empower regional and local authorities to identify integrated districts in order to roll-out integrated renovation programmes (IRPs) at district level. The IRPs shall address social pattern, energy, mobility, green infrastructures, waste and water treatment, and management and other aspects of urban planning to be

considered at a district level, and shall take into account local and regional resources, circularity and sufficiency.

2. The IRPs shall take into account the comprehensive heating and cooling assessments referred to in Article 14(1) of Directive 2012/27/EU, the refurbishment or construction of efficient heating and cooling systems as referred to in Article 24 of Directive (EU) …/... [recast EED], and the required infrastructure, as well as installations and infrastructures of renewable energy communities. Member States shall consider at a district level the optimisation of the energy system in accordance with the energy efficiency first principle, while promoting demand-side flexibility.

3. Member States shall implement local level integrated mobility plans and sustainable urban mobility plans that are aligned with IRPs and encompass public transport planning and deployment with other means of active and shared mobility, as well as the related infrastructure for operating, recharging, storing and parking.

4. One-stop shops established pursuant to Articles 15a may inform decisions regarding the design of IRPs with a view to revitalising, targeting and supporting communities.

Article 4

Adoption of a methodology for calculating the energy performance of buildings

Member States shall apply a methodology for calculating the energy performance of buildings in accordance with the common general framework set out in Annex I. That methodology shall be adopted at national or regional level.

Article 5

Setting of minimum energy performance requirements

1. Member States shall take the necessary measures to ensure that minimum energy performance requirements for buildings or building units are set with a view to at least achieving cost-optimal levels ***and higher reference values such as nearly zero-energy building requirements and zero-emission buildings requirements***. The energy performance shall be calculated in accordance with the methodology referred to in Article 4. Cost-optimal levels shall be calculated in accordance with the comparative methodology framework referred to in Article 6.

Member States shall take the necessary measures to ensure that minimum energy

performance requirements ***and renovation obligations*** are set for ***all*** building elements that ▌ have a significant impact on the energy performance of the building ▌ when they are replaced or retrofitted, with a view to achieving at least cost-optimal levels ***and higher reference values, such as nearly zero-energy building requirements and zero-emission building requirements***. ***The energy performance of building elements shall be calculated in accordance with the methodology referred to in Article 4.***

When setting requirements, Member States may differentiate between new and existing buildings and between different categories of buildings.

Those requirements shall take account of ***healthy*** indoor climate conditions ***based on optimal indoor environmental quality*** as well as local conditions and the designated function and the age of the 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, the results of the cost-optimal calculation set out in Article 6, and updated national energy and climate targets and policies.

1a. Member States may adopt an intermediate minimum energy performance requirement, including the achievement of a minimum building envelope efficiency level, the maximum energy use per kWh/ m²/y, the readiness to operate low temperature heating, heat pumps or flexible electric space heating, and minimum demand response capacity.

2. Member States may decide to adapt the requirements referred to in paragraph 1 to buildings officially protected as part of a designated environment or because of their special architectural or historical merit, in so far as compliance with certain minimum energy performance requirements would unacceptably alter their character or appearance. ***Member States shall ensure that the renovation of monuments are carried out in accordance with national conservation rules, international conservation standards and the original architecture of the monuments concerned.***

3. Member States may decide not to set or apply the requirements referred to in paragraph 1 to the following categories of buildings:

(a) buildings used as places of worship and for religious activities;

(b) temporary buildings with a time of use of two years or less, industrial sites, workshops***, depots*** and non-residential ***service*** buildings with ***very*** low energy ***and heating or cooling*** demand***, infrastructural supply stations, such as transformer stations, substations, pressure control plants, railway constructions, as well as*** non-residential agricultural buildings which are in use by a sector covered by a national sectoral agreement on energy performance;

(c) residential buildings which are used or intended to be used for either less than four months of the year or, alternatively, for a limited annual time of use and with an expected energy consumption of less than 25 % of what would be the result of all-year use;

(d) stand-alone buildings with a total useful floor area of less than 50 m^2.

Article 6

Calculation of cost-optimal levels of minimum energy performance requirements

1. The Commission is empowered to adopt delegated acts in accordance with Article 29 ***supplementing this Directive by establishing*** a comparative methodology framework for calculating cost-optimal levels of minimum energy performance requirements for buildings and building elements. By 30 June ***2024***, the Commission shall revise the comparative methodology framework for calculating cost-optimal levels of minimum energy performance requirements in existing buildings undergoing major renovation and for individual building elements ***which are in line with the national pathways set out in the national energy and climate plans submitted to the Commission pursuant to Article 14 of Regulation (EU) 2018/1999***.

The comparative methodology framework shall be laid down in accordance with Annex VII and shall differentiate between new and existing buildings and between different categories of buildings.

2. Member States shall calculate cost-optimal levels of minimum energy performance requirements using the comparative methodology framework established in accordance with paragraph 1***, taking into account the life-cycle GWP,*** and relevant parameters, such as climatic conditions and the practical accessibility of energy infrastructure, and compare the results of that calculation with the minimum energy performance requirements in force

2a. ***In every report, Member States shall duly take into account in particular the influence of changes in energy prices, building materials and labour costs in comparison to the preceding report, with a view of adjusting the cost-optimal levels, where relevant. Member States shall correct their calculations for any difference between real market prices and temporary price regulations and direct income support measures and ensure using three-year averages for both energy prices from previous years and expected future prices in their calculations.***

3. If the result of the comparison performed in accordance with paragraph 2 shows that the minimum energy performance requirements in force are more than 15% less energy efficient than cost-optimal levels of minimum energy performance requirements, the Member State concerned shall ***adjust the minimum*** energy performance requirements ***in place within 12 months of the availability of the results of that comparison***.

4. The Commission shall publish a report on the progress of the Member States in reaching cost-optimal levels of minimum energy performance requirements. ***Member States shall report to the Commission and make use of the template provided in Annex III to the Commission Delegated Regulation (EU) No 244/2012[30].***

Article 7

New buildings

1. Member States shall ensure that from the following dates, new buildings are zero-emission buildings in accordance with Annex III:

   (a) ***from*** 1 January ***2026***, new buildings occupied, ***operated*** or owned by public authorities; and

   (b) ***from*** 1 January ***2028***, all new buildings;

   Until the application of the requirements under the first subparagraph, Member States shall ensure that all new buildings are at least nearly zero-energy buildings and meet the minimum energy performance requirements laid down in accordance with Article 5.

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30 ***Commission Delegated Regulation (EU) No 244/2012 of 16 January 2012 supplementing Directive 2010/31/EU of the European Parliament and of the Council on the energy performance of buildings by establishing a comparative methodology framework for calculating cost-optimal levels of minimum energy performance requirements for buildings and building elements (OJ L 81, 21.3.2012, p. 18).***

2. Member States shall ensure that the life-cycle ***GWP*** is calculated in accordance with Annex III and disclosed through the energy performance certificate of the building ▌ as of 1 January ***2027***, for all new builings.

2a. By 31 December 2025 the Commission shall adopt a delegated act in accordance with Article 29 to supplement this Directive by setting out a harmonised EU framework for the calculation of life-cycle GWP, developed in an inclusive stakeholder process and building on the LEVELs framework and standard EN 15978.

2b. By 1 January 2027, to ensure reductions in greenhouse gas emissions, Member States shall publish a roadmap detailing the introduction of limit values on the total cumulative life-cycle GWP of all new buildings and set targets for new buildings from 2030, considering a progressive downward trend, as well as maximum requirements, detailed for different climatic zones and building typologies.

In setting maximum limit values on the total cumulative life-cycle GWP, Member States shall determine appropriate benchmarks based on reported data for the relevant building types, as per the requirements set out in paragraph 2.

The Commission shall issue guidance, share evidence on existing national policies and offer technical support to Member States, at their request, for the purpose of determining appropriate national benchmark values.

Those maximum limit values shall be in line with the Union's objectives to achieve climate neutrality.

3. The Commission is empowered to adopt delegated acts in accordance with Article 29 to supplement this Directive in order to adapt Annex III to technological progress and innovation ***with a view to achieve climate neutrality***, to set adapted maximum energy performance thresholds in Annex III to renovated buildings and to ***subsequently decrease considering cost optimality,***the maximum energy performance thresholds for zero-emission buildings.

4. ***By...[24 months after the date of entry into force],*** Member States shall ***ensure that*** new buildings ***have optimal*** indoor ***environmental quality levels, including air quality, thermal comfort, a high capacity to mitigate and adapt*** to climate change ***through, inter alia, green infrastructure, adhere to*** fire safety ***and safety lighting standards, mitigate*** risks related to intense seismic activity and ***prioritise*** accessibility for persons with

disabilities. Member States shall also address carbon removals associated to carbon storage in or on buildings.

4a. ***Member States shall introduce measures to ensure that the use of fossil fuelheating systems in new buildingsis not authorised from... [date of transpostion of this Directive]. Hybrid heating systems, boilers certified to run on renewable fuels and other technical building systems not exclusively using fossil fuels that comply with the requirements set out in Article 11(1) shall not be considered to be fossil heating systems for the purposes of this paragraph.***

4b. ***By 1 January 2025, the Commission shall adopt a delegated act to supplement this Directive by setting out thresholds for newly constructed zero emission buildings for the purpose of Annex III of this Directive, including a description of the calculation methodology per building type and applied climate on the basis of Annex A of the key European standards on the energy performance of buildings in accordance with Annex I of this Directive. Member States shall notify the Commission about their corresponding national values, including a description of the calculation methodology per building type and applied climate, on the basis of Annex A of the key European standards on the energy performance of buildings in accordance with Annex I of this Directive.***

Article 7a

New European Bauhaus

1. ***Member States shall ensure that developers of building renovation projects are provided with information about the objectives and involvement opportunities in the New European Bauhaus initiative, when they seek advice, apply for funding and building permits.***

2. ***Member States shall empower local authorities to develop dedicated support measures for reference buildings as referred to in Annex VII that are culturally enriching, sustainable and inclusive in line with the New European Bauhaus initiative. Such measures may encompass financial schemes for renovations showcasing how individual buildings or whole neighbourhoods can be transformed into zero emission buildings and districts in an affordable, sustainable and socially inclusive way, while maximising wider benefits, in a participatory and bottom-up approach.***

3. ***Member States shall put in place national industrial roadmaps to increase the***

availability for of locally adaptable prefabricated building elements for building renovation that provide different functions, including aesthetics, insulation energy generation, and green infrastructures, and promote biodiversity, water management, accessibility and mobility.

Article 8

Existing buildings

1. Member States shall take the necessary measures to ensure that when buildings undergo major renovation, the energy performance of the building or the renovated part thereof is upgraded in order to meet minimum energy performance requirements set in accordance with Article 5, in so far as that is technically, functionally and economically feasible.

   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.

2. 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 that is technically, functionally and economically feasible.

2a. Member States shall take the necessary measures to ensure that when a technical building system is retrofitted or replaced, the energy performance of the system is optimised in accordance with Article 11.

2b. Member States shall ensure that the life-cycle GWP of building parts and units undergoing major renovation is calculated on the basis of already available information on the materials supplied, or, if that is not technically or economically feasible, by means of reference values.

3. Member States shall ***ensure***, in relation to buildings undergoing major renovation, ***that the deployment of*** high-efficiency alternative systems ***is encouraged***, in so far as that is technically, functionally and economically feasible. Member States shall ***ensure*** in relation to buildings undergoing major renovation the ***implementation*** of ***passive heating and cooling elements,*** healthy indoor ***environmental quality standards, a high capacity to mitigate and adapt*** to climate change ***through inter alia green infrastructures, carbon***

removals and carbon storage, compliance with fire safety ***standards, the mitigation of*** risks related to intense seismic activity and the removal of hazardous substances including asbestos***. Member States shall ensure***, ***in relation to buildings undergoing major renovation, and buildings undergoing renovations comprising spaces used jointly used spaces such as entries, staircases, lifts and parking, as well as sanitary areas***, the accessibility for persons with disabilities.

3a. Member States shall encourage the use of digital technologies for analysis, simulation and management of buildings, including with regard to deep renovations.

3b. Member States shall introduce measures to ensure that the use of fossil fuelheating systems in buildings undergoing major renovation, deep renovation or renovation of the heating systemis not authorised from ...[date of transposition of this Directive]. Hybrid heating systems, boilers certified to run on renewable fuels and other technical building systems not exclusively using fossil fuels that comply with the requirements set out in Article 11(1) shall not be considered to be fossil heating systems for the purposes of this paragraph.

Member States shall ensure that renovations involving the replacement of fossil fuel based technical building systems prioritise vulnerable households and people living in social housing.

3c. By 1 January 2027, Member States shall take special administrative and financial measures to encourage the deep worst performing buildings with multiple dwellings.

Article 9

Minimum energy performance standards

1. Member States shall ensure that ***all buildings comply with minimum energy performance standards, starting with the worst performing buildings***.

1a. Member States shall ensure that:

(a) buildings and building units owned by public bodies, ***including Union institutions, offices, bodies and agencies and those rented by such bodies after... [the date of entry into force of this Directive]***, achieve at the latest:

(i) ***from*** 1 January 2027, at least energy performance class ***E*** and

(ii) ***from*** 1 January 2030, at least energy performance class ***D***;

(b) non-residential buildings and building units other than those ***referred to in point (a)*** achieve at the latest:

(i) ***from*** 1 January 2027, at least energy performance class ***E***; and

(ii) ***from*** 1 January 2030, at least energy performance class ***D***;

(c) residential buildings and building units achieve at the latest:

(i) ***from*** 1 January 2030, at least energy performance class ***E*** and

(ii) ***from*** 1 January 2033 at least energy performance class ***D***;

In their roadmap referred to in Article 3(1)(b), Member States shall establish ***linear trajectory*** for the ***progressive achievement of higher energy performance classes for*** buildings referred to in this paragraph ▌ by 2040 and 2050, in line with the pathway for transforming the national building stock into zero-emission buildings ***and achieving the climate neutrality target***.

1b. Member States may exempt publicly owned social housing from the obligation referred to in paragraph 1a, point (a),where such renovations are not cost neutral or would lead to rent increases for people living in social housing beyond the economic savings on the energy bill.

1c. The Commission may decide, upon a reasoned request by a Member State included in the national building renovation plan or a subsequent amendment thereto, to allow that a Member State adjust minimum energy performance standards for residential buildings and building units referred to in paragraph 1a, point (c) for specific parts or particular sub-segments of their building stock, for reasons of economic and technical feasibility and the availability of skilled workforce. Member States that intend to adjust their minimum energy performance standards shall notify the Comission of their projected measures and linear energy performance improvements, and report on the progress in achieving equivalent performance improvements in residential buildings as part of the reporting on the integrated national energy and climate progress reports referred to in Article 3(8). Member States shall not disproportionately exempt rental dwellings compared to other building segments when applying any adjustments of the minimum energy performance standards.

1d. The adjustment of minimum energy performance standards referred to in paragraphs 1a

and 1b shall apply to a maximum of 22% of the total residential buildings referred to in paragraph 1a, point (c) and shall not apply after 1 January 2037.

2. In addition to the minimum energy performance standards established pursuant to paragraph 1, each Member State ***shall*** establish minimum energy performance standards for the renovation of all other existing buildings.

▌The minimum energy performance standards shall be designed with a view to the national roadmap and the ▌2040 and 2050 targets contained in the Member State's building renovation plan and to the transformation of the national building stock into zero-emission buildings by 2050.

3. In accordance with Article 15, Member States shall support compliance with minimum energy performance standards by all the following measures:

(a) providing appropriate financial measures, ***including grants***, in particular those targeting vulnerable households, ***middle-income households and*** people ▌ living in social housing, in linewith Article 22 of Directive (EU).../…. [recast EED];

(b) providing technical assistance, including ***information services, administrative support and integrated renovation services*** through one-stop-shops ***with a particular focus on vulnerable households and people living in social housing, in accordance with Article 22 of Directive (EU).../…. [recast EED]***;

(c) designing integrated ***public and private*** financing schemes, ***which provide incentives for deep and staged deep renovations, pursuant to Article 15;***

(d) removing non-economic barriers, including split incentives; ▌

(e) monitoring social impacts, in particular on ▌the most vulnerable ***households;***

(ea) setting the framework to ensure that there is a sufficient and qualified workforce to enable the timely implementation of the minimum energy performance standards in accordance with the national building renovation plans, including by means of a strategy to facilitate the professional education of young people and requalification of workers and creation of more attractive employment opportunities.

4. Where a building is renovated in order to comply with a minimum energy performance standard, Member States shall ensure compliance with the minimum energy performance

requirements for building elements pursuant to Article 5 and, in ***the*** case of major renovation, with the minimum energy performance requirements for existing buildings pursuant to Article

4a. Member States shall promote energy storage for renewable energy to enable renewable energy self-consumption and reduce volatility as well as promote and provide incentives for the cost-effective and early replacement of heaters, and any needed resulting optimisation of the related technical building systems.

5. Member States may decide not to apply the minimum energy performance standards referred to in paragraphs 1 and 2 to the following categories of buildings:

(a) buildings officially protected as part of a designated environment or because of their special architectural or historical merit ***requiring due conservation***, in so far as compliance with the standards would unacceptably alter their character or appearance;

(b) buildings used as places of worship and for religious activities;

(c) temporary buildings with a time of use of two years or less, industrial sites, workshops***, depots*** and non-residential ***infrastructural supply stations, such as transformer stations, substations, pressure control plants, railway constructions, as well as service*** buildings with ***very*** low energy ***and heating or cooling*** demand and non-residential agricultural buildings which are used by a sector covered by a national sectoral agreement on energy performance;

(d) residential buildings which are used or intended to be used for either less than four months of the year or, alternatively, for a limited annual time of use and with an expected energy consumption of less than 25 % of what would be the result of all-year use;

(e) stand-alone buildings with a total useful floor area of less than 50 m^2.

6. Member States shall take the measures necessary to ensure the implementation of minimum energy performance standards referred to in paragraphs 1 and 2, including appropriate monitoring mechanisms***. Member States shall provide appropriate financial support frameworks and social safeguards in accordance with Article 15 to comply with minimum energy performance standards.***

The measures of the financial support framework shall be sufficient, effective, transparent and non-discriminatory, shall support the execution of the substantial improvements in the energy performance of buildings where an improvement is not otherwise economically feasible and shall include targeted measures to support vulnerable households. The measures may include the establishment of an energy performance renovation fund, to act as a leverage for increasing private and public investments for projects improving energy performance of buildings, including energy efficiency and renewable energy in buildings or building components.

Where appropriate, the Commission shall, as part of the Multiannual Financial Framework for 2028-2034, put forward legislative proposals to strengthen existing and propose additional Union financial instruments to support the implementation of this Directive.

Article 9a

Solar Energy in buildings

1. By... [24 months after the date of entry into force], Member States shall ensure that all new buildings are designed to optimise their solar energy generation potential on the basis of the solar irradiance of the site, enabling the subsequent cost-effective installation of solar technologies.

2. Member States shall encourage, through information measures and streamlined permitting schemes, the deployment of suitable solar energy installations in all buildings undergoing major renovation or deep renovation in combination with the renovation of the building envelope, with the replacement of technical building systems and with the installation of equipment with electricity storage, EV-charging infrastructure, heat pump technology, and building automation and control systems.

3. Member States shall ensure the deployment of suitable solar energy installations, if technically suitable and economically and functionally feasible, as follows:

(a) by... [24 months after the date of entry into force], on all new public and new non-residential buildings;

(b) by 31 December 2026, on all existing public and non-residential buildings(c) by 31 December 2028, on all new residential buildings and roofed carparks;

(d) by 31 December 2032, on all buildings undergoing major renovation.

4. Member States shall establish and make publicly available criteria at national level for the practical implementation of the deadlines set out in paragraph 3 and for possible exemptions for specific types of buildings, in accordance with the assessed technical and economic potential of the solar energy installations and the characteristics of the buildings covered by those obligations.5. The deployment of suitable solar energy installations on all new residential buildings and roofed carparks and on all buildings undergoing major renovation as set out in paragraph 3, points (c) and (d) shall be combined with attic and roof insulation where appropriate, taking into account the functioning of the building. The deployment of suitable solar energy installations as set out in paragraph 3 shall be combined with the permit-granting process for the installation of solar energy equipment in artificial structures laid down in Article 16c of Directive (EU) 2018/2001 (amended RED as proposed by COM(2022)0222). For solar installations below 50 kW, Member States shall allow a simple-notification procedure as provided for in Article 17 of Directive (EU) 2018/2001. 6. Member States shall establish a pathway with numerical targets for their national contribution to the deployment of solar energy and heat pumps in buildings in their national building renovation plans.

7. Member States shall ensure that their regulatory frameworks provide the necessary administrative, technical and financial capacities and incentives for the deployment of solar energy in buildings, including in combination with technical building systems such as domestic batteries, heat pumps for self consumption, or large-scale heat pumps distributing heat through district heating systems. Member States shall ensure an equal regulatory playing field for all solar and heating technologies.

8. Member States shall ensure that representatives of national regulatory authorities, distribution system operators, renewable energy communities, consumer organisations storage providers and other stakeholders assess the need for additional measures with regard to the distribution system to achieve the objectives of this Article. That assessment shall include the required connection and procurement of flexible distributed energy generation in line with the provisions of Regulation (EU) 2019/943 of the European

Parliament and of the Council[31] and Directive (EU) 2019/944 of the European Parliament and of the Council[32], in particular considering a necessary levelplaying field and fair remuneration for active customers and energy communities.

9. Member States shall encourage measures to ensure the fire safety of solar energy installations in buildings, including in combination with technical building systems such as domestic batteries or heat pumps for self-consumption.

Article 10

Renovation passport

1. By 31 December 2023, the Commission shall adopt delegated acts in accordance with Article 29 supplementing this Directive by establishing a common European framework for renovation passports, based on the criteria set out in paragraph ***3 of this Article***.

2. By 31 December 2024, Member States shall introduce a scheme of renovation passports ***implementing*** the common framework established in accordance with paragraph 1.

2a. Member States shall ensure that renovation passports are financially supported as part of national building renovation plans in order to not create a barrier, in particular for homeowners who own only the dwelling in which they live. Member States shall ensure that building renovation passports are made available with due financial support for vulnerable households wishing to renovate their buildings in whole or in part.

3. The renovation passport shall comply with all ***of*** the following requirements:

(a) it shall be issued ***in a digital form suitable for printing*** by a qualified and certified expert, following an on-site visit***;***

(b) it shall comprise a ***holistic*** renovation roadmap indicating a ***maximum number*** renovation steps building upon each other ***in line with the energy efficiency first principle to*** achieve a ***deep renovation in line*** with the objective to transform the building into a zero-emission building by 2050 at the latest***, outlining how to achieve***

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31 ***Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (OJ L 158, 14.6.2019, p. 54).***

32 ***Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU (OJ L 158, 14.6.2019, p. 125).***

minimum energy performance standards, and measures to reduce whole life-cycle greenhouse gas emissions in the renovation process;

(c) it shall indicate the expected benefits in terms of energy savings, savings on energy bills and ***whole life-cycle greenhouse gas emissions*** reductions, ***with an indication the renovation steps that are to lead to the relevant improvements;***

(ca) it shall contain information about a potential connection to an efficient district heating network, the share of individual or collective generation and self-consumption of renewable energy;

(cb) it shall contain information on a range of estimated costs for each recommended renovation step, as well as the estimated costs of a one-step deep renovation as a reference scenario;

(cc) it shall comprise the bill of materials, information on construction products circularity as well as wider benefits related to health, comfort, indoor environmental quality, safety such as fire, electrical, and seismic safety, and the improved adaptive capacity of the building to climate change;

(d) it shall contain information about potential financial and technical support ***and updated contact details of the nearest one-stop-shop established pursuant to Article 15a***;

(da) it shall contain information on any major renovations made to the building, as referred to in Article 8(1), and any retrofitting or replacement of a building element that forms part of the building envelope and has a significant impact on the energy performance of the building envelope, as referred to in Article 8(2).

The renovation passport may contain additional information, ***taking into consideration the composition of the household and any planned renovations, including those not relating to energy, in accordance with national law and practice.***

3a. Member States shall facilitate the integration of renovation passports in the digital building logbook, gathering technical and legal information with essential data for property owners to plan and execute deep and staged deep renovations.

Article 11

Technical building systems

1. Member States shall, for the purpose of optimising the energy use of technical building systems, set system requirements ***using energy saving technologies***, in respect of the overall energy performance, the proper installation, and the appropriate dimensioning, adjustment and control of the technical building systems, ***and, where appropiate***, ***hydronic balancing,*** which are installed in new or existing buildings. When setting up the requirements, Member States shall take account of design conditions and typical or average operating conditions and ***shall ensure the use of the equipment that meets the criteria for the highest available energy efficiency classes in accordance with the relevant legal acts of the Union on energy labelling, taking into account system efficiency and the energy efficiency first principle.***

System requirements shall be set for new, replacement and upgrading of technical building systems and shall be applied in so far as they are technically, economically and functionally feasible.

Member States ***shall*** set requirements related to the greenhouse gas emissions of, or to the type of fuel used by heat generators provided that such requirements ***are technologically neutral and in line with the objective to phase out the use of fossil fuels in heating and cooling.***Member States shall ensure that the requirements they set for technical building systems reach at least the latest cost-optimal levels ***and take into account the relevant economic and environmental optimisation standards for the dimensioning***.

Member States shall ensure that the replacement of obsolete and inefficient technical building systems, where technically and economically feasible, is part of the steps set out in a renovation passport, in accordance with the energy efficiency first principle.

2. Member States shall require new buildings ▌ to be equipped with self-regulating devices for the separate regulation of the temperature in each room or, where justified, in a designated heated ***or cooled*** zone of the building unit ***and, where appropiate, with hydronic balancing***. The installation of such self-regulating devices ***and, where appropiate, hydronic balancing in existing buildings*** shall be required when heat ***or cold*** generators are replaced, where technically and economically feasible.,.3. Member States shall require ***the installation of measuring and control devices for the monitoring and regulation of environmental quality at relevant unit level and, where technically and***

economically feasible, in the following buildings:(a) zero emission buildings;

(b) new buildings;

(c) existing buildings ***undergoing a major renovation;***

(d) non-residential buildings with an effective rated output for heating systems, cooling systems or systems for combined space heating and cooling over 70kW;

(e) public buildings and buildings providing social services of general interest, such as education, health and social assistance.

When considering the economic feasibility of an installation as referred to in the first subparagraph, Member States shall also take account of its measurable health benefits.

Member States shall ensure that data on indoor environmental quality and other relevant data collected through measuring and control devices is interoperable with the digital building logbooks pursuant to Article 19(6) and in accordance with Union and national data protection rules.

4. Member States shall ensure that, when a technical building system is installed ***or altered***, the overall energy ***and, where applicable, life-cycle GWP*** performance of the ▌complete ▌system, is ***improved and, where applicable, evidenced by in-use performance data***. The results shall be documented ***in a digital building logbook*** and passed on to the building owner ***and tenant***, so that they remain available and can be used for the verification of compliance with the minimum requirements laid down pursuant to paragraph 1 and the issue of energy performance certificates.

Member States may adopt new incentives and funding to encourage the switch from fossil-fuelled heating and cooling systems to non-fossil fuel based systems, accompanied by investment in housing improving energy efficiency.

4a. Member States shall lay down requirements to ensure that, where technically and economically feasible, non-residential buildings are equipped with building automation and control systems, ***as follows:***

(a) by 31 December 2024, ***non-residential buildings with an effective rated output for heating systems, cooling systems or systems for combined space heating and ventilation of over 290 kW***;

(***b) by 31 December 2029, non-residential buildings with an effective rated output for***

heating systems, cooling systems or systems for combined space heating and ventilation of over 70 kW.

Member States shall set out clear parameters for establishing the economic feasibility of equipping non-residential buildings with building automation and control systems.

4b. The building automation and control systems ***referred to in paragraph 4a*** shall be capable of:

(a) continuously monitoring, logging, analysing and allowing for adjusting energy use;

(b) benchmarking the building's energy efficiency, detecting losses in efficiency of technical building systems, and informing the person responsible for the facilities or technical building management about opportunities for energy efficiency improvement;

(c) allowing communication with connected technical building systems and other appliances inside the building, and being interoperable with technical building systems across different types of proprietary technologies, devices and manufacturers***;***

(d) effective monitoring of indoor environmental quality, to ensure occupants' health and safety.

4c. Member States shall lay down requirements to ensure that, ***where technically and economically feasible,*** from 1 January 2025, new residential buildings and residential buildings undergoing major renovations ***with an effective rated output for heating systems, cooling systems or systems for combined space heating, cooling and ventilation of over 70 kW*** are equipped with ***the following:***

(a) the functionality of continuous electronic monitoring ***of*** systems ***in the building at the relevant building and unit level that measures*** efficiency and informs building owners or managers ***in the case of a significant variation*** and when system servicing is necessary;

(b) effective control ***and balancing*** functionalities to ensure optimum generation, distribution, storage and use of energy***;***

(c) demand-side flexibility;

(d) effective indoor environmental quality monitoring system, to ensure occupants'

health and safety.

4d. In addition to requirements set out in paragraph 4c, residential buildings with a useful floor area larger than 1 000 sqm shall also be equipped with functionality allowing both of the following:

(a) benchmarking of the building's energy efficiency, detecting of losses in efficiency of technical building systems, and informing the person responsible for the facilities or technical building management about opportunities for energy efficiency improvement;

(b) communication with connected technical building systems and other appliances inside the building, and being interoperable with technical building systems across different types of proprietary technologies, devices and manufacturers.

4e. Member States shall require that, where technically and economically feasible, non-residential buildings are equipped with automatic lighting controls. The automatic lighting controls shall be capable of all of the following:

(a) zoned occupancy control for indoor lighting with automatic detection;

(b) zoned automatic dimming of the lighting power based on daylight levels in daylight;

(c) enabling continuous monitoring, logging and fault detection;

(d) allowing end-user control;

(e) allowing communication with relevant connected technical building systems inside the building

Article 11a

Indoor environmental quality

1. Member States shall set requirements for the implementation of adequate indoor environmental quality standards in buildings in order to maintain a healthy indoor climate.

2. By... [24 months after the date of entry into force], Member States shall set requirements according to measurable indicators based on to those of the LEVELs

framework.

Indoor environmental quality indicators shall be measured inside the building and shall at least include:

(a) the level of carbon dioxide;

(b) the temperature and thermal comfort;

(c) the relative humidity;

(d) the level of daylight illumination or adequate daylight levels;

(e) the ventilation rate in air changes per hour;

(f) acoustic indoor comfort, such as the control of the reverberation time and background noise level and speech intelligibility.

Particulate matter of emissions of indoor sources and target pollutant limits from indoor sources, on volatile organic compounds, classified as carcinogenic, mutagenic, or toxic for reproduction according to Regulation (EC) No 1272/200833, including formaldehyde, shall be reported on the basis of the available data at product level, or direct measurement where available, of the relevant sources in relation to the indoor environment of the building.

3. The Commission is empowered to adopt delegated acts in accordance with Article 29 to supplement this Directive by establishing a methodology framework for calculating the indoor environmental quality standards.

4. Member States shall ensure that new buildings and buildings undergoing major renovation comply with adequate indoor environmental quality standards.

Article 12

Infrastructure for sustainable mobility

1. With regard to new non-residential buildings and non-residential buildings undergoing major renovation ***where that renovation includes the car park or the electrical installations of the building***, with more than five parking spaces, ***where the car park is located inside the building, is physically adjacent to, or has a clear link with, the***

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33 ***Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (OJ L 353, 31.12.2008, p. 1).***

building,Member States shall ensure ***the installation of***:

(a) ▌at least one recharging point ***for every five parking spaces***;

(b) ▌pre-cabling for every parking space to enable the installation, at a later stage of recharging points for electric vehicles, ***electrically power-assisted cycles and other L-category vehicles types***; and

(c) ▌ bicycle parking ***spaces representing at least 15% of total user capacity of non-residential buildings, taking into account the space required also for bicycles with larger dimensions than standard bicycles.***

Member States shall ensure that the pre-cabling is dimensioned so as to enable the simultaneous ***and efficient*** use of the expected number of recharging points ***and support, where appropriate, the installation of a load or charging management system, to the extent that this is technically and economically feasible and justifiable***.

By way of derogation from the first subparagraph, point (a), for new office buildings and office buildings undergoing major renovation, with more than five parking spaces, Member States shall ensure the installation of at least one recharging point for every two parking spaces.

2. With regard to all non-residential buildings with more than twenty ***and, if technically and economically feasible, ten*** parking spaces, Member States shall ensure the installation***, by 1 January 2027,*** of at least one recharging point for every ten parking spaces, and ▌bicycle parking space***, representing at least 15% of the total user capacity of the building and with space required also for bicycles with larger dimensions than standard bicycles***. In ***the*** case of buildings owned or occupied by public authorities, Member States shall ensure pre-cabling for at least one in two parking spaces by 1 January 2033.

3. Member States may, ***subject to an assessment by local authorities, taking into account local characteristics, including demographical, geographical and climate conditions,*** adjust requirements for the number of bicycle parking spaces in accordance with paragraphs 1 and 2 for specific categories of non-residential buildings ▌.

4. With regard to new residential buildings and residential buildings undergoing major renovation***, where that renovation includes the car park or the electrical installations of the building***, with more than three parking spaces, ***where the car park is located inside the building or the car park is physically adjacent to, or has a clear link with the building***

Member States shall ensure ***the installation***:

(a) ***in new residential buildings,*** of pre-cabling for every parking space ***and, in residential buildings undergoing major renovation***, of pre-cabling or, ***where technically and economically unfeasible***, ***ducting*** for every parking space to enable the installation, at a later stage, of recharging points for electric vehicles and ***electrically power-assisted cycles and other L-category vehicle types***; Member States shall ensure that the pre-cabling is dimensioned to enable the simultaneous use of recharging points on all parking spaces;

(aa) of at least one recharging point;

(b) at least two bicycle parking spaces for every dwelling ***in new residential buildings;***

(ba) at least two bicycle parking spaces for every dwelling in residential buildings undergoing major renovation, where technologically and economically feasible;

(bb) in new residential buildings with at least three dwellings and where there are no car parking spaces, at least two bicycle parking spaces for every dwelling, where technologically and economically feasible.

By way of derogation from the first subparagraph, Member States may, ***subject to an assessment by local authorities and taking into account local characteristics, including demographical, geographical and climate conditions,*** adjust requirements for the number of bicycle parking spaces.

5. Member States may decide not to apply paragraphs 1, 2 and 4 to specific categories of buildings where the pre-cabling required would rely on micro isolated systems or the buildings are situated in the outermost regions within the meaning of Article 349 TFEU, if this would lead to substantial problems for the operation of the local energy system and would endanger the stability of the local grid.

5a. Following a reasoned request by a Member State, the Commission may decide to allow that Member State to adjust the requirements in paragraphs 1 and 2 for specific categories of buildings where:

(a) the building is owned and occupied by a microenterprise or a small or medium-sized enterprise, as defined in Article 2 of the Annex to Commission

Recommendation 2003/31/EC[34]; or

(b) the buildings only have temporary use in accordance with Article 9.

6. Member States shall ensure that the recharging points referred to in paragraphs 1, 2 and 4 ***of this Article*** are capable of smart charging and, where appropriate bidirectional charging, and that they are operated based on non-proprietary and non-discriminatory communication protocols and standards, in an interoperable manner, and in compliance with any legal standards and protocols in the delegated acts adopted pursuant to Article 19(6) and Article 19(7) of Regulation (EU) …/… [AFIR].

7. Member States shall ***ensure*** that operators of non-publicly accessible recharging points operate them in accordance with Article 5(4) of Regulation (EU).../….[AFIR], where applicable.

8. Member States shall provide for measures in order to ***encourage,*** simplify***, harmonise and accelerate the procedure for the installation*** of recharging points in new and existing residential and ***non-residential*** buildings, ***especially of co-owners associations***, and remove regulatory barriers, including permitting and approval procedures ***from public authorities or grid operators***, without prejudice to the property and tenancy law of the Member States ***and to allow the 'right to plug' for everyone in the Union***. Member States shall remove barriers to the installation of recharging points in residential buildings with parking spaces, in particular the need to obtain consent from the landlord or co-owners for a private recharging point for own use. ***A request by tenants or co-owners to install charging equipment in a parking space may be refused if there are serious and legitimate grounds for such a refusal.***

Member States shall ensure that the time between the application for a recharging point by a tenant or an owner in a building and its installation is reasonable and in any event does not exceed six months.

By 1 January 2025, the Commission shall publish guidelines specifying the standards and protocol to be recommended to national and local public authorities for fire safety in roofed car parks.

Member States shall ensure the availability of technical assistance for building owners and

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[34] Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises (OJ L 124, 20.5.2003, p. 36).

tenants wishing to install recharging points ***and bicycle parking spaces.***

With regard to existing residential buildings with more than three parking spaces, Member States shall introduce measures to ensure the installation of pre-cabling for parking spaces, in proportion to with the number of battery electric light-duty vehicles registered in their territory.

8a. For owners and tenants of buildings, who do not have the possibility to install a recharging point at their place of residence, Member States shall introduce measures to allow them to request the installation of a publicly available recharging point near their place of residence, in accordance with the objectives of Regulation (EU) …/… [AFIR]. Member States shall introduce measures to ensure that the number of publicly accessible recharging points installed corresponds to the number of requests received within the same areas.

9. Member States shall ensure the coherence of policies for buildings, ***active*** and green mobility, ***climate, energy, biodiversity*** and urban planning.

To ensure an effective combination on private e-mobility, active mobility and public transport, Member States shall support local authorities in developing and implementing sustainable urban mobility plans with a particular focus on the integration of housing policies with sustainable mobility and urban planning.

Article 13

Smart readiness of buildings

1. The Commission shall adopt delegated acts in accordance with Article 29 concerning an optional common Union scheme for rating the smart readiness of buildings. The rating shall be based on an assessment of the capabilities of a building or building unit to adapt its operation to the needs of the occupant***, in particular concerning indoor environmental quality*** and the grid and to improve its energy efficiency and overall performance.

In accordance with Annex IV, the optional common Union scheme for rating the smart readiness of buildings shall lay down:

(a) the definition of the smart readiness indicator; ▌

(b) a methodology by which it is to be calculated.

2. ***By 31 December 2024, th***e Commission shall ▌ adopt a delegated act in accordance with

Article 29, ***amending this Directive by*** requiring the ***mandatory*** application***, by the same date,*** of the common Union scheme for rating the smart readiness of buildings, in accordance with Annex IV, to non-residential buildings with an effective rated output for heating systems, ***air-conditioning systems, and*** systems for combined space heating***, air-conditioning*** and ventilation of over 290 kW. ***From 1 January 2030, the common Union scheme shall apply to non-residential buildings with an effective rated output of 70 kW***.

3. The Commission shall, after having consulted the relevant stakeholders, adopt an implementing act detailing the technical modalities for the effective implementation of the scheme referred to in paragraph 1, including a timeline for a non-committal test-phase at national level, and clarifying the complementary relation of the scheme to the energy performance certificates referred to in Article 16.

That implementing act shall be adopted in accordance with the examination procedure referred to in Article 30(3).

4. ***By 31 December 2024***, the Commission shall, ▌ after having consulted the relevant stakeholders, adopt an implementing act detailing the technical modalities for the effective implementation of the application of the scheme referred to in paragraph 2 to non-residential buildings with an effective rated output for heating systems, ***air-conditioning systems,*** or systems for combined heating***, air-conditioning*** and ventilation of over 290 kW.

That implementing act shall be adopted in accordance with the examination procedure referred to in Article 30(3).

Article 14

Data exchange

1. Member States shall ensure that the building owners, tenants and managers can have direct access to their building ***systems*** data, ***including technical building systems data***. ***Upon*** their ***consent,*** the access or data shall be made available to a third party, ***subject to the existing contractual agreement***. Member States shall ***mandate the use of international standards and management formats for data exchanged and*** facilitate the full interoperability of services and of data exchange within the Union in accordance with paragraph***5***. ***The aggregated and anonymised building systems data shall be made publicly available.***

For the purpose of this Directive, building systems data shall include ***relevant raw*** data related to the energy performance of building elements, the energy performance of building services, ***the projected lifespan of the heating systems, sensors,*** building automation and control systems, meters and charging points for e-mobility ***and be linked to the digital building logbook***. ***Both processed and non-processed data shall be considered acceptable for the purposes of this Article, provided that they meet the requirements set out in the first subparagraph.***

1a. Member States shall ensure that local authorities have access to data on energy performance of buildings on their territory as required to facilitate drafting of heating and cooling plans and include operational geographic information systems and the related databases, in accordance with Regulation (EU) 2016/679 of the European Parliament and of the Council[35]. Member States shall ensure that local authorities have the necessary resources for data and information management.

2. When laying down the rules regarding the management and exchange of data, Member States or, where a Member State has so provided, the designated competent authorities, shall ***comply with the harmonised Union*** rules ***set out in the implementing acts provided for in paragraph 5*** and the applicable Union legal framework. ***The rules on the access and any charges shall not constitute a barrier or create discrimination for third parties to access building systems data.***

3. No additional costs shall be charged to the building owner, tenant or manager for access to their data or for a request to make their data available to a third party ***subject to the existing contractual agreement***. Member States shall be responsible for setting the relevant charges for access to data by other eligible parties such as financial institutions, aggregators, energy suppliers, energy services providers and National Statistical Institutes or other national authorities responsible for the development, production and dissemination of European statistics. Member States or, where applicable, the designated competent authorities, shall ensure that any charges imposed by regulated entities that provide data

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35 Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) (OJ L 119, 4.5.2016, p. 1).

services are reasonable and duly justified. ***Member States shall incentivise the sharing of the building systems data.***

4. The rules on access to data and data storage for the purpose of this Directive shall comply with the relevant Union law. The processing of personal data within the framework of this Directive shall be carried out in accordance with Regulation (EU) 2016/679 of the European Parliament and of the Council.

4a. By 31 December 2023, the Commission shall adopt a delegated act in accordance with Article 29 to supplement this Directive by establishing interoperability requirements and non-discriminatory and transparent procedures for access to the data referred to in this Article.

5. ***By 31 December 2023,*** the Commission shall adopt implementing acts detailing interoperability requirements and non-discriminatory and transparent procedures for access to the data ***referred to in this Article***.

Those implementing acts shall be adopted in accordance with the advisory procedure referred to in Article 30(2).

The Commission shall issue a consultation strategy, setting out consultation objectives, targeted stakeholders and the consultation activities for the development of the implementing acts.

Article 15

Financial incentives**,** ***skills*** and market barriers

1. Member States shall provide appropriate financing ***and*** support measures ***in combination with*** other ***Union*** instruments ***such as the Recovery and Resilience Facility, the Social Climate Fund and the cohesion policy funds. They shall ring-fence appropriate amounts in the implementation of Union programmes and in national financing schemes for renovations and dedicate appropriate financing*** to address market barriers and stimulate the necessary investments in energy renovations in line with their national building renovation plan and with a view to the transformation of their building stock into zero-emission buildings by 2050 ***including by promoting and simplifying the use of public-private partnerships.***

Member States shall ensure that application and procedures for financing are simple

and streamlined in order to facilitate the access to financing for households.

1a. Public financing shall address up-front costs associated with renovations faced by households. Member States shall facilitate the access to affordable bank loans, dedicated credit lines, or fully publicly financed renovations.

Financial incentives in the form of grants or guarantees shall take revenue-based parameters into account when allocating financial support to ensure that they target as a priority vulnerable households and people living in social housing, in accordance with Article 22 of Directive (EU).../…. [recast EED]. Member States shall develop dedicated schemes on energy efficiency renovations, in particular financial measures, and shall ensure that every national financial support programme contains dedicated amounts targeted at vulnerable households, , corresponding to their needs. Member States may use the national energy efficiency funds to finance dedicated schemes and programmes pursuant to Article 28 of Directive (EU) ..../…. [recast EED].

2. Member States shall take appropriate regulatory measures to remove non-economic barriers to building renovation. With regard to buildings with more than one building unit, such measures may include removing unanimity requirements in co-ownership structures, ***adapting the mandate and responsibilities of building managers for the handling of the energy renovation projects***, or allowing co-ownership structures to be direct recipients of financial support ***such as loans and grants.***3. Member States shall make best cost-effective use of national financing and financing available established at Union level, in particular the Recovery and Resilience Facility, the Social Climate Fund, cohesion policy funds, InvestEU, auctioning revenues from emission trading pursuant to Directive 2003/87/EC [amended ETS] and other public funding sources. ***Those funding sources shall be deployed consistently with a path to achieving a zero-emission building stock by 2050.***

4. To support the mobilisation of investments, Member States shall ***ensure that*** enabling funding and financial tools ***are effectively put in place, namely*** energy efficiency loans and mortgages for building renovation, energy performance contracting, ***pay-as-you-save financial schemes***, fiscal incentives***, including reduced tax rates on renovation works and materials,*** on-tax schemes, on-bill schemes, guarantee funds, mortgage portfolio standards***, economic instruments to provide incentives for the application of sufficiency and circular measures,*** funds targeting deep renovations, ***and*** funds targeting renovations

with a significant minimum threshold of targeted energy savings and ***targeted whole life-cycle greenhouse gas emission reductions.***

Member States shall ensure that information about available funding and financial tools is made available to the public in an easily accessible and transparent manner, including by digital means.

Member States and the relevant financial authorities shall review the applicable legislation and develop supporting measures to facilitate the uptake of renovation loans and energy efficiency mortgages, and the development of innovative lending products dedicated to the financing of deep renovation and staged deep renovation in line with the steps in renovation passports. The Commission and the European Investment Bank shall ensure access to finance at favourable conditions, facilitating the deployment of financial instruments and innovative schemes, such as a EU renovation loan or a European guarantee fund for building renovations*.*The enabling funding and financial tools shall ***also*** guide investments into an energy efficient public building stock, in line with Eurostat guidance on the recording of Energy Performance Contracts in government accounts.

4a. By... [12 months after the date of entry into force of this Directive], the Commission shall adopt a delegated act in accordance with Article 29 to supplementing this Directive in order to ensure that mortgage portfolio standards effectively encourage financial institutions to increase volumes provided for renovations, to prescribe supportive measures for financial institutions and necessary safeguards against potential counter-productive lending behaviours such as reducing or refusing access to credit to households living in low energy performance class dwellings, or limiting their mortgage lending to consumers purchasing high energy performance class dwellings.

5. Member States shall facilitate the aggregation of projects to enable investor access as well as packaged solutions for potential clients. Member States shall adopt measures to ensure that energy efficiency ***and accessibility*** lending products for building renovations are offered widely and in a non-discriminatory manner by financial institutions and are visible and accessible to consumers. Member States shall ensure that banks and other financial institutions and investors receive information on opportunities to participate in the financing of the improvement of energy performance of buildings.

6. Member States shall ***monitor the availability of skills and skilled professionals in***

accordance with Article 3 and ***develop*** measures and financing to promote education and training ***programmes***, ***including in digital technologies,*** to ***facilitate the professional requalification of workers and creation of employment opportunities*** to ensure that there is a sufficient workforce with the appropriate level of skills corresponding to the needs in the building sector. ***Member States shall put in place measures to promote participation in such programmes, in particular by microenterprises as well as small and medium-sized enterprises (SMEs) and with due regard to the gender dimension***. ***One-stop-shops established pursuant to Article 15a may facilitate access to such programmes and the professional reskilling of workers.***

7. The Commission shall develop common Union standards for innovative financial schemes, in particular a pay-as-you-save scheme, setting mandatory minimum requirements for public and private actors.

8. The Commission shall ▌assist Member States in setting up national or regional financial support programmes with the aim of increasing the energy performance ***and reducing greenhouse gas emissions from*** buildings, especially of existing buildings, ***including*** by supporting the exchange of best practice between the responsible national or regional authorities or bodies. ***To ensure a level playing field and make maximum use of the available investment potential Member States shall ensure that such programmes are developed in a way that is accessible to organisations with lower administrative, financial, and organisational capacities, such as microenterprises and SMEs, energy communities, citizen-led initiatives, local authorities, and energy agencies. Member States shall provide support to local initiatives, such as citizen-led renovation programmes and programmes for renewable of heating and cooling at neighbourhood or municipal level.***

8a. Member States shall provide appropriate financing, support measures and other instruments for implementation of research and development results regarding energy efficient construction systems and materials including manufacturing, in particular by microenterprises and SMEs.

9. Member States shall link their financial measures for energy performance improvements ***and reduced greenhouse gas emissions*** in the renovation of buildings to the targeted ***and*** achieved energy savings ***and improvements***, as determined by one or more of the following criteria:

(a) the energy performance ***and greenhouse gas reduction*** of the equipment or material used for the renovation; in which case, the equipment or material used for the renovation is to be installed by an installer with the relevant level of certification or qualification and shall comply with ***at least*** minimum energy performance or ***higher reference values for improved performance of buildings energy consumption;***

(b) standard values for ***the*** calculation of energy ***and greenhouse gas emission*** savings in buildings;

(c) the improvement achieved due to such renovation by comparing energy performance certificates issued before and after renovation;

(d) the results of an energy audit;

(e) the results of another relevant, transparent and proportionate method that shows the improvement in energy performance, ***including by comparing the energy consumption before and after renovation with smart metering systems***.

Requirements set out in this paragraph shall not apply to financing dedicated to vulnerable households..

10. From 1 January ***2024*** at the latest, Member States shall not provide any financial incentives for the installation of boilers ***using*** fossil fuels ▌.

11. Member States shall incentivise deep renovation and sizeable programmes that address a high number of buildings***, in particular the worst performing buildings, including through integrated district renovation programmes*** and result in an overall reduction of at least ***60*** % of primary energy demand with ***increasing*** financial, fiscal, administrative and technical support ***according to the level of performance achieved, with the higher financial participation reserved for deep renovations or for the groups referred to in paragraph 1a.***

11a. Member States shall complement the promotion of financial incentives with policies and measures to avoid eviction because of renovation.▌

13. When providing financial incentives to owners of buildings or building units for the renovation of rented buildings or building units, Member States shall ensure that the financial incentives benefit both the owners and the tenants. ***Member States shall introduce effective social safeguards, to protect in particular vulnerable households,***

including by providing rent support or by imposing caps on rent increases, ***or by introducing a pay-as-you-save financial scheme for rent increases, ensuring that the rent increase does not exceed the savings on energy bills due to renovation energy savings***.

13a. Member States shall take appropriate measures to remove regulatory, statutory, and administrative barriers to the scaling up housing cooperatives, including not-for-profit cooperatives. Member States shall ensure the eligibility of such housing cooperatives and integrated districts for financial incentives. The Commission shall facilitate the exchange of best practices among Member States on the creation of an operational status for not-for-profit housing cooperatives and shall provide guidance on measures to streamline their introduction.

Article 15a

One-stop-shops for energy efficiency in buildings

1. Member States shall ensure the establishment of technical assistance facilities, including through ***inclusive*** one-stop-shops ***for energy efficiency in buildings,*** targeting all actors involved in building renovations, including home owners and administrative, financial and economic actors, including ***microenterprises and SMEs***. ***Member States shall ensure that the technical assistance facilities are equally available across their territory depending on population distribution by establishing at least one one-stop-shop per region and in any event per 45 000 inhabitants.***

The Commission shall cooperate with the European Investment Bank, Member States and regions to facilitate the functioning and continuity of funding of one-stop-shops for energy efficiency in buildings until at least 31 December 2029.

2. Member States shall cooperate with relevant regional and local authorities as well as private stakeholders for the purpose of establishing one-stop shops for energy efficiency in buildings at national, regional and local levels. Member States may designate the one-stop shops established pursuant to Article 21(2a) of Directive (EU).../... [recast EED] as one-stop shops for the purposes of this Article.

One-stop shops for energy efficiency in buildings shall be independent public entities, cross-sectorial and interdisciplinary and shall provide their service free of charge for the users. They shall provide tailor made advice to different target groups on energy

efficiency in buildings and may accompany integrated district renovation programs. One-stop shops may cooperate with private actors that provide and promote services relevant for energy renovation, such as financing solutions and the execution of energy renovations, and, where appropriate, that connect potential projects, in particular smaller-scale projects, with market actors.

To facilitate the establishment and services of one-stop shops for energy efficiency in buildings, Member States shall review their public procurement rules for energy efficiency renovations tendering.

One-stop shops shall support locally developed projects by providing technical, administrative and financial advice and assistance, such as:

(a) providing legal assistance, reinforced protection to overcome split-incentives in privately rented homes, streamlined information on technical support, tailor-made financial assistance and available funding opportunities in particular grant and subsidy schemes, and solutions to households, microenterprises and SMEs, and public bodies;

(b) connecting potential projects, in particular smaller-scale projects, with market actors;

(c) advising on energy consumption behaviour with the aim of actively engaging the consumers, providing access to affordable energy offers;

(d) providing information and access to training programmes and education, including for local authorities and social services to provide technical assistance, to ensure more energy efficiency professionals and to re-skill and up-skill professionals in order to meet the market needs;

(e) collecting and submitting typology aggregated data to the Commission from energy efficiency projects, facilitated by the one-stop shops,, which shall be published by the Commission in a report by ... [date of transposition of this Directive] and every two years thereafter in order to exchange knowledge and enhance cross-border cooperation between Member States for the purpose of promoting best practice examples from different building, housing and enterprise typologies;

(f) supporting awareness-raising activities, including information on incentives for regulating indoor environmental quality and installing the necessary devices

during major renovations;

(g) providing and developing holistic support to all households, with a special attention to vulnerable householdsand to people living in social housing as well as to those with health problems linked to the worst performing buildings, as well as to accredited companies and installers providing renovation services, adapted to different housing typologies and geographical scope, and providing support covering the different stages of the renovation project in particular to facilitate the implementation of the minimum energy performance standards laid down in Article 9;

(h) providing information on accessibility, availability of renewable energy self consumption, renewable energy communities and other alternatives to fossil heating and cooling in buildings, and information on materials and solutions on energy efficiency, energy storage and renewable energy technologies for buildings;

(i) supporting engagement with relevant local stakeholders and citizens in the evaluation of the impact of minimum energy performance standards on housing affordability and quality.

Member States shall cooperate with local and regional authorities to encourage cooperation among public bodies, energy agencies and community-led initiatives and to promote, develop and up scale one-stop shops through an integrated process. The Commission shall provide guidelines to Member States to develop those one-stop shops with the aim of creating a harmonised approach throughout the Union.

Article 16

Energy performance certificates

1. The energy performance certificate shall include the energy performance of a building expressed by a numeric indicator of primary ***and final*** energy use in kWh/(m^2.y), ***and the life-cycle GWP by a numeric indicator of whole life-cycle greenhouse gas emissions in kgCO_2eq/(m^2)***and reference values such as minimum energy performance requirements, minimum energy performance standards, nearly zero-energy building requirements and zero-emission building requirements, in order to make it possible for owners or tenants of the building or building unit to compare and assess its energy performance. ***The energy performance certificate shall include additional numeric***

indicators, in particular total annual energy consumption (kWh/year), annual energy needs for heating, cooling, ventilation and hot water, energy consumption per square metre per year (kWh/(m^2.y), annual non-renewable primary energy use in kWh/(m^2.y), and final energy for heating, cooling, domestic hot water, ventilation, built-in lighting and other building services, and may include additional efficiency and safety requirements for appliances.

2. By 31 December 2025, the energy performance certificate shall comply with the template in Annex V.

By way of derogation from the first subparagraph, Member States that have revised their system of certification of the energy performance of buildings between 1 January 2019 and ... [date of entry into force of this Directive], may continue to use that system to comply with Article 9(1), and may determine their worst performing buildings using data from their building stock between 1 January 2019 and ... [date of entry into force of this Directive] as a baseline, renovating at least the equivalent number or the equivalent useful floor area of worst performing buildings identified in Article 9(1a), or the equivalent level of energy performance improvement. Where a Member State benefits from the derogation provided for in the second subparagraph, it shall, by 1 January 2030, update its performance classes in accordance with the first subparagraph on the basis of the performance of their national building stock between 1 January 2019 and ... [date of entry into force of this Directive].

Pursuant to the first subparagraph of this paragraph, Member States shall specify the energy performance class of the building, on a closed scale using only letters ▌ A to G. The letter A shall correspond to zero emission buildings as defined in Article 2, point (2). ***Member States may define an A+ energy performance class for buildings that meet all of the following conditions:***

(a) high efficiency standards with energy needs for heating, cooling, ventilation and hot water no higher than 15 kWh/m^2/year;

(b) higher production of kWh renewable energy on-site, based on a monthly average;

(c) carbon positivity regarding the building's life-cycle GWP including building materials and energy installations during manufacturing, installation, use, maintenance, and demolition.

The letter G shall correspond to the 15% worst-performing buildings in the national building stock at the time of the introduction of the scale. Member States shall ensure that the remaining classes ***A*** to F have an even bandwidth distribution of energy performance indicators among the energy performance classes. Member States shall ensure a common visual identity for energy performance certificates on their territory.

2a. Member States may finance the roll out of energy performance certificates as a measure under Article 8 of Directive (EU) ..../…. [recast EED].

2b. Member States shall compile a register of energy performance certificates in accordance with Article 19, including in order to facilitate integrated district renovation schemes in line with the Union's climate objectives.

3. Member States shall ensure the quality, reliability and affordability of energy performance certificates. They shall ensure that energy performance certificates are ***affordable and at no cost for vulnerable households and*** issued by independent experts following an on-site visit. ***The energy performance certificates shall be clear and easily legible and be available in a machine-readable format and in accordance with Annex V.***

4. The energy performance certificate shall include recommendations for the cost effective improvement of the energy performance ***to cost optimal level*** and the reduction of ***whole life-cycle*** greenhouse gases emissions, ***the improvement of indoor environmental quality*** of a building or building unit, ***and recommendations to improve the smart readiness level pursuant to Article 13***, unless the building or building unit already complies with the relevant zero-emission building standard.

   The recommendations included in the energy performance certificate shall cover:

   (a) measures carried out in connection with a major renovation of the building envelope or technical building ▌ systems; and

   (b) measures for individual building elements independent of a major renovation of the building envelope or technical building ▌ systems.

5. The recommendations included in the energy performance certificate shall be technically feasible for the specific building and shall provide an estimate for the energy savings and the reduction of operational greenhouse gas emissions ***over the expected service life of the building and the improvement of indoor environmental quality performance indicators***. They may provide an estimate for the range of payback periods or cost-benefits over its

economic lifecycle ***and information on available financial incentives, administrative and technical assistance along with financial benefits, which are broadly associated with the achievement of the reference values.Once the relevant reporting mechanisms and targets set out in Articles 7, 8 and 11a are in force, the energy performance certificate shall include relevant recommendations.***

6. The recommendations shall include an assessment of ***the remaining lifespan of the space heating systems and the air conditioning systems, and an assessment of*** whether the ***space and water*** heating or air conditioning system can be adapted to operate at more efficient temperature settings, such as low temperature emitters for water based heating systems, including the required design of thermal power output and temperature/flow requirements.

6a. The recommendations shall indicate possible alternatives for the replacement of the technical building systems for heating and cooling where relevant, in line with the 2030 and 2050 climate targets, suitable to that type of building and taking into account local and system-related circumstances.

7. The energy performance certificate shall provide an indication, where the owner or tenant can receive more detailed information, including as regards the cost ***optimality*** of the recommendations made in the energy performance certificate, and ***the contact information and address of the closest one-stop shop established pursuant to Article 15a***. The evaluation of cost ***optimality*** shall be based on a set of standard conditions ***in accordance with Article 6***, such as the assessment of energy savings and underlying energy prices and a preliminary cost forecast. In addition, it shall contain information on the steps to be taken to implement the recommendations, ***and on any available financial support***.
Other information on related topics, such as energy audits or incentives of a financial or other nature and financing possibilities, or advice on how to increase the climate resilience of the building ***and the safety of installed appliances***, may also be provided to the owner or tenant.

8. Certification for building units may be based:

(a) on a common certification of the whole building; or

(b) on the assessment of another representative building unit with the same energy relevant characteristics in the same building.

9. Certification for single-family houses may be based on the assessment of another representative building of similar design and size with a similar actual energy performance quality if such correspondence can be guaranteed by the expert issuing the energy performance certificate.

9a. The Commission shall, after consulting the relevant stakeholders and reviewing existing methodologies and tools, develop a European certification scheme for energy efficiency meters. That certification scheme may be used by Member States to encourage the use of certified energy efficiency metering technologies, and to strengthen energy performance certificates with real-time measurement.

10. The validity of the energy performance certificate shall not exceed five years. However for buildings with an energy performance class ***A+,*** A, B or C established pursuant to paragraph 2, the validity of the energy performance certificate shall not exceed 10 years.

11. Member States shall make simplified procedures for updating an energy performance certificate available where only individual elements are upgraded (single or standalone measures) ***in order to reduce the cost of issuance of the updated certificate***.

Member States shall make simplified procedures for updating an energy performance certificate available where measures identified in a renovation passport are put in place ***in order to reduce the cost of issuance of the updated certificate, or where a building digital twin is used, and data of building performance can be updated***.

Article 17

Issue of energy performance certificates

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

(a) buildings or building units which are constructed, have undergone a major renovation, are sold or rented out to a new tenant or for which a rental contract is renewed ***or which a mortgage is refinanced***;

(b) buildings owned or occupied by public bodies .

The requirement to issue an energy performance certificate ***shall*** not apply where a certificate, issued in accordance with either Directive 2010/31/EU or this Directive, for the building or building unit concerned is available and valid. ***Member States shall ensure that vulnerable households receive financial support for issuing energy performance***

certificates.

2. Member States shall require that, when buildings or building units are constructed, ***have undergone a major renovation***, are sold or rented out or when rental contracts are renewed , ***or which have their mortgage refinanced*** the energy performance certificate is shown to the prospective tenant or buyer and handed over to the buyer or tenant.

3. Where a building is sold or rented out in advance of construction or major renovation, Member States may require the seller to provide an assessment of its future energy performance, as a derogation from paragraphs 1 and 2; in that case, the energy performance certificate shall be issued at the latest once the building has been constructed or renovated and shall reflect the as-built state.

4. Member States shall require that buildings or buildings units which are offered for sale or for rent have a ***valid*** energy performance certificate,and that the energy performance indicator and class of the energy performance certificate of the building or the building unit, as applicable, is stated in online and offline advertisements, including in property search portal websites .

   Member States shall carry out sample checks or other controls to ensure compliance with these requirements.

5. The provisions of this Article shall be implemented in accordance with applicable national rules on joint ownership or common property.

6. The possible effects of energy performance certificates in terms of legal proceedings, if any, shall be decided in accordance with national rules.

7. Member States shall ensure that all energy performance certificates issued are uploaded to the database for energy performance of building referred to in Article 19. The upload shall contain the full energy performance certificate, including all necessary data required for the calculation of the energy performance of the building.

Article 18

Display of energy performance certificates

1. Member States shall ▌ ensure that where ***a non-residential building or*** a building for which an energy performance certificate has been issued in accordance with Article 17(1) is occupied by public authorities and frequently visited by the public, the energy

performance certificate is displayed in a prominent place clearly visible to the public.

2. Member States shall require that where a total useful floor area over 500 m^2 of a building for which an energy performance certificate has been issued in accordance with Article 17(1) is frequently visited by the public, the energy performance certificate is displayed in a prominent place clearly visible to the public.

3. The provisions of paragraphs 1 and 2 do not include an obligation to display the recommendations included in the energy performance certificate.

Article 19

Databases for energy performance of buildings

1. Each Member State shall set up a national database for energy performance of buildings which allows data to be gathered on the energy performance of ***individual*** buildings and on the overall energy performance of the national building stock.

The database shall be interoperable with other relevant online platforms and public services and shall allow data to be gathered ***from all relevant sources*** related to energy performance certificates, inspections, the building renovation passport, the smart readiness indicator, ***energy building benchmarks*** and the calculated or metered energy consumption of the buildings covered. ***In order to populate the database, building typologies and energy building benchmarking may also be gathered. Data may also be gathered and stored on both operational and embodied emissions and overall life-cycle GWP, using metrics based on the LEVELs Framework.***

2. The ***aggregated and anonymised data of building stock*** shall be ***made*** publicly ***available***, in compliance with Union and national data protection rules. ***The data stored shall be machine-readable and accessible via an appropriate digital interface***. Member States shall ensure ***easy and free-of-charge*** access to the full energy performance certificate for building owners, tenants and managers, ***certified experts,*** and to financial institutions as regards the buildings ***exposure to residential or commercial property which have been assigned to their non-trading book***. For buildings offered for rent or sale, Member States shall ensure access to the full energy performance certificate for prospective tenants or buyers ***that have been authorised by the owner of the building***.

3. Member States shall make publicly available information on the share of buildings in the national building stock covered by energy performance certificates and aggregated or

anonymised data on the energy performance, ***the energy consumption and the life-cycle GWP*** of the buildings covered. The public information shall be updated at least twice per year. Member States shall make anonymised or aggregated information available to public and research institutions such as National Statistics Institutes, upon request.

4. At least once per year, Member States shall ensure the transfer of the information in the national database to the Building Stock Observatory.

5. The Commission shall, by 30 June 2024, adopt an implementing act ***for*** a common template for the transfer of the information to the Building Stock Observatory ***with the possibility for constant real-time updates***.

That implementing act shall be adopted in accordance with the examination procedure referred to in Article 30(3).

6. For the purpose of ensuring coherence and consistency of information, Member States shall ensure that the national database for energy performance of buildings is interoperable and integrated with other administrative databases containing information on buildings, such as the national building cadastre and digital building logbooks.

6a. By 31 December 2024, the Commission shall, adopt implementing acts to support the efficient functioning of digital building logbooks by establishing a common template for:

(a) a standardised approach for data collection, data management and interoperability and its legal framework;

(b) linking existing databases.

Those implementing acts shall be adopted in accordance with the advisory procedure referred to in Article 30(2).

6b By... [24 months after the date of entry into force of this Directive], and every two years thereafter, the Commission shall publish by a summary report on the situation and progress of the Union building stock at local, regional and national level. Member States shall use the summary report to target renovations for clusters of inefficient buildings as a means of reducing energy poverty.

Article 20

Inspections

1. Member States shall lay down the necessary measures to establish regular inspections of heating , ventilation and air conditioning systems with an effective rated output of over 70 kW.The effective rating of the system shall be based on the sum of the rated output of the heating and air-conditioning generators.

2. Member States ***may*** establish separate inspection schemes for the inspections of residential and non-residential systems.

3. Member States may set different inspection frequencies depending on the type and effective rated output of the system whilst taking into account the costs of the inspection of the system and the estimated energy cost savings that may result from the inspection. Systems shall be inspected at least every five years. Systems with generators of an effective rated output of more than 290 kW ***and those emitting carbon monoxide*** shall be inspected at least every two years, ***for safety reasons***.

4. The inspection shall include the assessment of ***the heat and air-conditioning*** generator or generators, circulation pumps, ***components of ventilation systems, all air and water distribution systems, hydronic balancing systems, where appropriate,*** and control system. Member States may decide to include in the inspection schemes any additional building systems identified under Annex I.

   The inspection shall include an assessment of the efficiency and sizing of the ***heat and air-conditioning*** generator or generators and of its main components compared with the requirements of the building and consider the capabilities of the system to optimise its performance under typical or average operating conditions***, using available energy saving technologies, and under changing conditions due to use variation***. Where relevant, the inspection shall assess the feasibility of the system to operate under different and more efficient temperature settings, ***such as at low temperature for water-based heating systems, including via the design of thermal power output and temperature and flow requirements,*** while ensuring the safe operation of the system. ***The inspection shall also assess the readiness of technical building systems to work with renewable energy sources and, where relevant, be operated on low temperatures.***

   The inspections scheme shall include the assessment of the sizing of the ventilation system

compared with the requirements of the building and consider the capabilities of the ventilation system to optimise its performance under typical or average operating conditions.

Where no changes have been made to the system or to the requirements of the building following an inspection carried out pursuant to this Article, Member States may choose not to require the assessment of the main component sizing or the assessment of operation under different temperatures to be repeated.

Member States shall ensure that an assessment of the energy efficiency of electrical installations of non-residential buildings is made as part of existing safety inspections schemes, with due regard to the available standard for their optimal design, dimensioning, management and monitoring.

5. Technical building systems that are explicitly covered by an agreed energy performance criterion or a contractual arrangement specifying an agreed level of energy efficiency improvement, such as energy performance contracting, or that are operated by a utility or network operator and therefore subject to performance monitoring measures on the system side, shall be exempt from the requirements laid down in paragraph 1, provided that the overall impact of such an approach is equivalent to that resulting from paragraph 1.

6. ▌Member States may ▌ take measures to ensure the provision of advice to users concerning the replacement of generators, other modifications to the system and alternative solutions to assess the ▌ efficiency and appropriate size of those systems.

▌

9. Buildings that comply with ***Article 11(4b)*** or ***(4c)*** shall be exempt from the requirements laid down in paragraph 1 ***of this Article***.

10. Member States shall put in place inspection schemes ▌ including digital tools ***for industry size installations***, ***and checklists, to verify compliance with the capability requirements set out in Article 11(4b) and (4c)***, ***and*** to certify that the delivered construction and renovation works meet the designed energy performance and are compliant with the minimum energy performance requirements ***operational greenhouse gas emissions, indoor environmental quality, and fire safety*** requirements as laid down in by the building codes ***or equivalent regulations***.

11. Member States shall include a summarised analysis of the inspection schemes and their

results as an annex to the building renovation plan referred to in Article 3. **Article 21**

Reports on the inspection of heating , ventilation and air-conditioning systems

1. An inspection report shall be issued after each inspection of a heating, ventilation***,*** air-conditioning, or ***building automation and control*** system. The inspection report shall contain the result of the inspection performed in accordance with Article 20 and include recommendations for the cost-***optimal*** improvement of the energy performance ***and safety*** of the inspected system.

   Those recommendations may be based on a comparison of the energy performance of the system inspected with that of the best available feasible system***, using energy saving technologies,*** and a system of similar type for which all relevant components achieve the level of energy performance required by the applicable legislation.

2. The inspection report shall be handed over to the owner or tenant of the building.

2a. In the case of fossil fuel powered technical building systems, the recommendations shall provide for alternative renewables based systems or, for any residual demand, for connections to efficient district heating and cooling systems. The recommendations shall consider the economic lifetime of the current installation.

3. The inspection report shall be uploaded into the national database for energy performance of buildings pursuant to Article 19.

Article 22

Independent experts

1. Member States shall ensure that the energy performance certification of buildings, the establishment of renovation passports, the smart readiness assessment, the inspection of heating systems and air-conditioning systems are carried out in an independent manner by qualified or certified ***companies and*** experts, ***using test equipment certified in accordance with EN standards***, whether operating in a self-employed capacity or employed by public bodies or private enterprises.

   Experts shall be certified in accordance with Article 26 of Directive (EU) …/… [recast EED] taking into account their competence.

2. Member States shall make available to the public information on training and certifications. Member States shall ensure that either regularly updated lists of qualified or

certified experts or regularly updated lists of certified companies which offer the services of such experts are made available to the public.

Article 23

Certification of building professionals

1. ***By ...[date set out in Article 26(4) [recast EED]],*** Member States shall ***establish a national action plan to provide a sufficient and adequately skilled workforce and*** ensure the appropriate level of competence for building professionals ***and construction companies***, carrying out integrated renovation works in line with ***the established targets and measurable progress indicators pursuant to Article 3(1) of this Directive and*** Article 26 of [recast EED].

1a. To achieve a sufficient number of professionals in accordance with paragraph 1, Member States shall ensure that sufficient training programmes leading to qualification and certification covering integrated works, including the latest innovative solutions therefore, are made available. Member States shall put in place measures to promote participation in such programmes, in particular by microenterprises, SMEs and self-employed persons.

2. Where appropriate and feasible, Member States shall ensure that certification or equivalent qualification schemes are available for providers of integrated renovation works, ***such as construction companies,*** where this is not covered by Article 18(3) of Directive (EU) 2018/2001 [amended RED] or Article 26 of Directive (EU) …/….[recast EED].

Article 24

Independent control system

1. Member States shall ensure that independent control systems for energy performance certificates are established in accordance with Annex VI, and that independent control systems for renovation passports, smart readiness indicators and reports on the inspection of heating and air-conditioning systems are established. Member States may establish separate systems for the control of energy performance certificates, renovation passports, smart readiness indicators and reports on the inspection of heating and air-conditioning systems.

2. The Member States may delegate the responsibilities for implementing the independent control systems.

Where the Member States decide to do so, they shall ensure that the independent control systems are implemented in compliance with Annex VI.

3. Member States shall require the energy performance certificates, the renovation passports, the smart readiness indicators and the inspection reports referred to in paragraph 1 to be made available to the competent authorities or bodies on request.

Article 25

Review

The Commission, assisted by the Committee referred to in Article 30, shall review this Directive by the end of 2027 at the latest, in the light of the experience gained and progress made during its application, and, if necessary, make proposals.

As part of that review, the Commission shall***:***

(a) assess whether the application of this Directive in combination with other legislative instruments addressing energy efficiency and greenhouse gas emissions from buildings, ***in particular*** through carbon pricing, deliver sufficient progress towards achieving a fully decarbonised, zero-emission building stock by 2050, or whether further binding measures at Union level, in particular mandatory minimum energy performance standards across the whole building stock, need to be introduced***;***

(b) assess the adequate legal instrument, level and timeline of reduction targets for the Union building stock life-cycle GWP, on the basis of the harmonised framework referred to in Article 1(2), point (da);

(c) determine how to take into account in all measures at Union level a holistic approach at all spatial scales, including landscape architecture, urban planning, infrastructure, and design, thus promoting a sustainable built environment.

The Commission shall ▌ examine in what manner Member States ***have applied*** integrated district or neighbourhood approaches in Union building and energy efficiency policy, while ensuring that each building meets the minimum energy performance requirements, ***and including how such approaches can be used to meet Union standards*** by means of ***IRPs*** applying to a number of buildings in a spatial context instead of a single building.

Article 26

Information

1. Member States shall ***prepare and carry out information and awareness-raising campaigns on an ongoing basis in order to promote public interest and support for the improvement of energy efficiency of buildings and the achievement of the objectives of this Directive. They shall*** take the necessary measures to inform the owners ***and*** tenants of buildings or building units and all relevant market actors***, including local and regional authorities and energy communities,*** of the different methods and practices that serve to enhance energy performance***, such as energy management services, energy performance contracting, and the one-stop shops established pursuant to Article 15a***. In particular, Member States shall take the necessary measures to provide tailor-made information to vulnerable households. ***That information shall also be passed through local authorities and civil society organisations***.

Member States shall inform the owners, tenants and facility managers of buildings of the different methods and practices that serve to enhance the energy and emission performance, fire, electrical, and seismic safety of a building.

2. Member States shall in particular provide information to the owners or tenants of buildings on energy performance certificates, including their purpose and objectives, on ***cost-optimal*** measures and, where appropriate, financial instruments, to improve the energy performance of the building, and on replacing fossil fuel boilers with more sustainable alternatives. Member States shall provide the information through accessible and transparent advisory tools such as renovation advice and ***the*** one-stop shops ***established pursuant to Article 15a, paying particular attention to vulnerable households***.

At the request of the Member States, the Commission shall assist Member States in staging information campaigns for the purposes of paragraph 1 and the first subparagraph of this paragraph, which may be dealt with in Union programmes.

3. Member States shall ensure that guidance and training, ***including a gender perspective***, are made available, for those responsible for implementing this Directive. Such guidance and training shall address the importance of improving energy performance, and shall enable consideration of the optimal combination of improvements in energy efficiency, reduction of greenhouse gas emissions, **[**use of energy from renewable sources and use of district heating and cooling**]** when planning, designing, building and renovating industrial or

residential areas. Such guidance and training ***shall*** also address structural improvements, adaptation to climate change, fire safety, risks related to intense seismic activity, the removal of hazardous substances including asbestos, air pollutant emissions (including fine particulate matter), ***indoor environmental quality*** and accessibility for persons with disabilities. ***Member States shall endeavour to allocate funding for training to local and regional authorities, renewable energy communities and citizen energy communities that promote energy performance improvements, energy efficiency, renewable energy and the reduction of greenhouse gas emissions at a neighbourhood level and in particular, to vulnerable households.***

4. The Commission ***shall*** continuously improve its information services, in particular the website that has been set up as a European portal for energy efficiency in buildings directed towards citizens, professionals and authorities, in order to assist Member States in their information and awareness-raising efforts. Information displayed on that website might include links to relevant ▌Union ***law*** and national, regional and local ***rules***, links to Europa websites that display the National Energy Efficiency Action Plans, links to available financial instruments, as well as best practice examples at national, regional and local level***, including with regard to the one-stop shops established pursuant to Article 15a.*** In the context of the European Regional Development Fund, the Cohesion Fund and the Just Transition Fund***, the Social Climate Fund, and the Recovery and Resilience Facility***, the Commission shall continue and further intensify its information services with the aim of facilitating the use of available funds by providing assistance and information, ***including through the European Local Energy Assistance facility in cooperation with the European Investment Bank*** to interested stakeholders, including national, regional and local authorities, on funding possibilities, taking into account the ***latest changes in the regulatory framework.***

Article 27

Consultation

In order to facilitate the effective implementation of this Directive, Member States shall consult the stakeholders involved, including local and regional authorities, in accordance with the national legislation applicable and as relevant. Such consultation is of particular importance for the application of Article 26.

Article 28

Adaptation of Annex I to technical progress

The Commission shall adopt delegated acts in accordance with Article 29:

(a) amending this Directive by adapting points 4 and 5 of Annex I to technical progress; ***and***

(b) Supplementing this Directive by including guidance to Members States about the assessment of the energy performance of transparent building elements that form part of the building envelope.

Article 29

Exercise of the delegation

1. The power to adopt delegated acts is conferred on the Commission subject to the conditions laid down in this Article.

2. The power to adopt delegated acts referred to in Articles ***6*** 7, 10, ***11a, 13, 14(4a), 15*** and 28 shall be conferred on the Commission for ***an*** indeterminate period of time from ... [date of entry into force of this Directive].

3. The delegation of power referred to in Articles ***6***,*7*, 10, ***11a, 13,, 14(4a), 15*** and 28 may be revoked at any time by the European Parliament or by the Council. A decision to revoke shall put an end to the delegation of the power specified in that decision. It shall take effect the day following the publication of the decision in the *Official Journal of the European Union* or at a later date specified therein. It shall not affect the validity of any delegated acts already in force.

4. Before adopting a delegated act, the Commission shall consult experts designated by each Member State in accordance with the principles laid down in the Interinstitutional Agreement of 13 April 2016 on Better Law-Making.

5. As soon as it adopts a delegated act, the Commission shall notify it simultaneously to the European Parliament and to the Council.

6. A delegated act adopted pursuant to Article 6, 7, 10, ***11a,*** 13***, 14(4a), 15,*** or 28 shall enter into force only if no objection has been expressed either by the European Parliament or the Council within a period of two months of notification of that act to the European Parliament and the Council or if, before the expiry of that period, the European Parliament

and the Council have both informed the Commission that they will not object. That period shall be extended by two months at the initiative of the European Parliament or of the Council.

Article 30

Committee procedure

1. The Commission shall be assisted by a committee. That committee shall be a committee within the meaning of Regulation (EU) No 182/2011.

2. Where reference is made to this paragraph, Article 4 of Regulation (EU) No 182/2011 shall apply.

3. Where reference is made to this paragraph, Article 5 of Regulation (EU) No 182/2011 shall apply.

I

Article 32

Transposition

1. Member States shall, bring into force the laws, regulations and administrative provisions necessary to comply with Articles 1 to 3, 5 to 26, 29 and 32 and Annexes I to III and V to IX by ... [***24 months after the date of entry into force of this Directive].*** They shall immediately communicate the text of those measures and a correlation table to the Commission.

When Member States adopt those measures, they shall contain a reference to this Directive or be accompanied by such a reference on the occasion of their official publication. They shall also include a statement that references in existing laws, regulations and administrative provisions to the Directive repealed by this Directive shall be construed as references to this Directive. Member States shall determine how such reference is to be made and how that statement is to be formulated.

2. Member States shall communicate to the Commission the text of the main provisions of national law which they adopt in the field covered by this Directive.

Article 33

Repeal

Directive 2010/31/EU, as amended by the acts listed in Annex VIII, Part A, is repealed with effect from […], without prejudice to the obligations of the Member States relating to the time-limits for the transposition into national law and the dates of application of the Directives set out in Annex VIII, Part B.

References to the repealed Directive shall be construed as references to this Directive and shall be read in accordance with the correlation table in Annex IX.

Article 34

Entry into force

This Directive shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

Articles 4, 27, 28, 30, 31 and 33 to 35 and Annex IV shall apply from [the day after the date of transposition/24 months after the date of entry into force plus 1 day].

Article 35

Addressees

This Directive is addressed to the Member States.

Done at,

For the European Parliament
The President

For the Council
The President

ANNEX I

COMMON GENERAL FRAMEWORK FOR THE CALCULATION OF ENERGY PERFORMANCE OF BUILDINGS

(referred to in Article 4)

1. The energy performance of a building shall be determined on the basis of calculated or metered energy use and shall reflect typical energy use for space heating, space cooling, domestic hot water, ventilation, built-in lighting and other technical building systems. Member States shall ensure that the typical energy use is representative of actual operating conditions for each relevant typology and reflects the typical user behaviour. ▌ Typical energy use and typical user behaviour shall be based on available national statistics, building codes and metered data.

Where metered energy is the basis for calculating the energy performance of buildings, the calculation methodology shall be capable of identifying the influence of the behaviour of occupants and the local climate, which shall not be reflected in the result of the calculation. Metered energy to be used for the purposes of calculating the energy performance of buildings shall require readings of at least hourly intervals and must differentiate between energy carriers.

Member States may use metered energy consumption under typical operating conditions to verify the correctness of the calculated energy use and enable comparison between calculated and actual performance. Metered energy consumption for the purposes of verification and comparison may be based on monthly readings.

The energy performance of a building shall be expressed by a numeric indicator of primary energy use per unit of reference floor area per year, in kWh/(m^2.y) for the purpose of both energy performance certification and compliance with minimum energy performance requirements. ***Numeric indicators of final energy use per unit of reference floor area per year, in kWh/(m^2.y) and of energy needs according to ISO 52000 in kWh/(m^2.y) shall be used.*** The methodology applied for the determination of the energy performance of a building shall be transparent and open to innovation ***and reflect best practices, in particular from additional indicators***.

Member States shall describe their national calculation methodology based on Annex A of the key European standards on energy performance of buildings, namely EN ISO 52000-1, EN ISO 52003-1, EN ISO 52010-1,EN ISO 52016-1, EN ISO 52018-1,EN 16798-1, ***EN 52120-1*** and EN 17423 or superseding documents This provision shall not constitute a legal codification of those standards.

Member States shall take the necessary measures to ensure that, where buildings are supplied by district heating or cooling systems, the benefits of such supply are recognised and accounted for in the calculation methodology ***in particular the renewable energy share*** through individually certified or recognised primary energy factors.

2. 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 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 ***costs***, health, indoor ***environmental*** quality and comfort levels defined by Member States at national or regional level. ***The calculation shall include an estimation of the thermal responsiveness of the building and its capacity to offer flexibility to the energy grid.***

Where product-specific regulations for energy-related products adopted under Regulation

2009/125/EC include specific product information requirements for the purpose of the calculation of energy performance ***and life-cycle GWP*** under this Directive, national calculation methods shall not require additional information.

The calculation of primary energy shall be based on ***dynamic and forward-looking*** primary energy factors, (distinguishing non-renewable, renewable and total) per energy carrier, which have to be recognised by the national authorities ***and taking into account the expected energy mix on the basis of its national energy and climate plan***. Those primary energy factors may be based on national, regional or local information. Primary energy factors may be set on an annual, seasonal, monthly,daily or hourly basis or on more specific information made available for individual district systems

The choices made and data sources shall be reported according to EN 17423 or any superseding document. Member States ***shall use a*** primary energy factor for electricity reflecting the electricity mix in the country. ***When defining those factors, Member States shall ensure that the optimal energy performance of the building envelope is pursued.***

3. For the purpose of expressing the energy performance of a building, Member States ***shall*** define additional numeric indicators of total, non-renewable and renewable primary energy use, and of operational ***and embodied*** greenhouse gas emissions produced in $kgCO_2eq/(m^2.y)$ ***over the expected service life of the building***.

3a. In the calculation of the primary energy factors for the purpose of calculating the energy performance of buildings, Member States may take into account renewable energy sources supplied and renewable energy sources that are generated and used onsite.

4. The methodology shall be laid down taking into consideration at least the following aspects:

(a) the following actual thermal characteristics of the building including its internal partitions:

(i) thermal capacity;

(ii) insulation;

(iii) passive heating;

(iv) cooling elements;

(v) thermal bridges;

(b) heating installation and hot water supply, including their insulation characteristics***;***

(ba) capacity of installed on-site renewables, bidirectional electric vehicle charging infrastructure, demand-response and storage;

(c) air-conditioning installations;

(d) natural and mechanical ventilation which may include air-tightness ***and heat recovery***;

(e) built-in lighting installation (mainly in the non-residential sector);

(f) the design, positioning and orientation of the building, including outdoor climate;

(g) passive solar systems and solar protection;

(h) indoor climatic conditions, including the designed indoor climate;

(i) internal loads;

(ia) building automation and control systems and their capabilities to monitor, control and optimise energy performance;

(ib) efficiency of electrical installations (IEC EN 60364-8-1).

5. The positive influence of the following aspects shall be taken into account:

(a) local solar exposure conditions, active solar systems and other heating and electricity systems based on energy from renewable sources;

(b) electricity produced by cogeneration;

(c) district or block heating and cooling systems;

(d) natural lighting;

(da) demand-side flexibility capability (EN 50491-12-1).

6. For the purpose of the calculation buildings should be adequately classified into the following categories:

(a) single-family houses of different types;

(b) apartment blocks;

(c) offices;

(d) educational buildings;

(e) hospitals;

(f) hotels and restaurants;

(g) sports facilities;

(h) wholesale and retail trade services buildings;

(i) other types of energy-consuming buildings

ANNEX II

TEMPLATE FOR THE NATIONAL BUILDING RENOVATION PLANS

(referred to in Article 3)

EPBD Article 3	Mandatory Indicators	Optional Indicators / comments
(a) Overview of the national building stock	Number of buildings and total floor area (m^2): — per building type (including public buildings and social housing) — per energy performance class — NZEB — worst-performing (including a definition classes E, F, G) ***Overview of energy source types for space and water heating, cooling and estimated obsolesence dates of heating and cooling systems*** — ***annual replacement rates for heating and cooling appliances for space and water heating and cooling*** — ***- number and type of appliances replaced every year (over the previous 5 years covered by the plan);*** — ***type of appliances newly installed*** ***Overview of the total share, number and location of unoccupied buildings, and vacant properties in common-property buildings***	Number of buildings and total floor area (m2): — per building age — per building size — per climatic zone — demolition (number and total floor area)

	Number of buildings categorised as officially protected as part of a designated environment or because of their special architectural or historical merit as compared to 2020.	
	Number of energy performance certificates: — per building type (including public buildings) — per energy performance class	Number of energy performance certificates: - per construction period
	Annual renovation rates: number and total floor area (m^2) — per building type — to nearly zero-energy ***and to zero-emission*** building levels — per renovation depth (weighted average renovation) — deep renovations — public buildings	
	Primary and final annual energy consumption (ktoe) and ***(annual demand in ktoe and seasonal peak demand in GWh/day):*** — per building type — per end use Energy savings (Ktoe):	Reduction in energy costs (EUR) per household (average) Primary energy demand of a building corresponding to the top 15% (substantial contribution threshold) and the top 30% (do no significant harm threshold) of the national building stock, as per the EU Climate Taxonomy

	— per building type — public buildings Share of renewable energy in the building sector (MW generated): — for different uses — on-site — off-site	Delegated Act Share of heating system in the building sector per boiler/heating system type
	Annual ***operational*** greenhouse gas emissions (kgCO2eq/(m^2.y): — per building type (including public buildings) Annual ***operational*** greenhouse gas emission reduction (kgCO2eq/(m^2.y): — per building type (including public buildings) ***Annual life-cycle GWP ($kgCO_2eq/(m^2.y)$):*** ***— — per building type*** ***Annual life-cycle GWP reduction ($kgCO_2eq/(m^2.y)$):*** ***— — per building type***	

	Market barriers and failures (description): — Split incentives — Capacity of construction and energy sector Overview of the capacities in the construction, energy efficiency and renewable energy sectors ***Number of:*** — ***energy service companies*** — ***construction companies*** — ***architects and engineers*** — ***skilled workers*** — ***mircoenterprises and SMEs in the construction/renovation sector*** — ***training programmes and facilities focused on energy renovation*** — ***one-stop shops per 45 000 inhabitants*** — ***renewable energy communities and citizen energy communities***	Market barriers and failures (description): — Administrative — Financial — Technical — Awareness — Other Projections of the construction workforce: - Architects/engineers/skilled workers retired - Architects/engineers/skilled workers entering the market - ***installers and/or installation companies of heating systems*** - ***maintenance personnel of heating systems*** - Young people in the sector - Women in the sector Overview and forecast of the evolution of prices of construction materials and national market developments
	Energy poverty ***(disaggregated by gender)***: — % of people affected by energy poverty — proportion of disposable household income spent on energy — population living in inadequate dwelling conditions (e.g. leaking roof) or with inadequate thermal	

	comfort conditions	
	Primary energy factors: — per energy carrier — non-renewable primary energy factor — renewable primary energy factor — total primary energy factor	
	Definition of nearly-zero energy building for new and existing buildings ***Description of regions belonging to which climatic zone in accordance with Annex III and number of zero emission buildings per climate zone***	an overview of the legal and administrative framework
	Cost-optimal minimum requirements for new and existing buildings	
(b) Roadmap for 2030, 2040, 2050	Targets for annual renovation rates: number and total floor area (m^2): — per building type — worst-performing — ***deep renovations*** ***Targets for expected share (%) of renovated buildings:*** — ***per building type*** — ***per renovation depth*** — ***per measures for building elements that form part of the building envelope and technical building systems, that***	

	have a significant impact of the energy performance of the building	
	Target for expected primary and final annual energy consumption (ktoe) and ***annual demand in ktoe and seasonal peak demand in GWh/day***: – per building type – per end use Expected energy savings: – per building type ***— share of energy from renewable sources in the building sector (MW generated)*** ***— numerical targets for the deployment of solar energy and heat pumps in buildings*** ***Targets for the replacement of old and inefficient heaters;*** ***Targets for phasing out fossil fuels from heating and cooling systems*** ***per building type*** ***as a proportion of total renovation*** ***for building achieving over EPC D rating*** ***Milestones and trajectories for buildings to achieve the***	

	performance classes pursuant to Article 9(1) and higher energy performance classes in line with the climate neutrality goal ***Targets for increase of share of renewable energy in line with the target for the share of energy from renewable sources in the building sector set out in Directive (EU) .../... [amended RED]*** ***Targets for the decarbonisation of heating and cooling, including through district heating and cooling networks using renewable energy and waste heat in line with the requirements set in Articles 23 and 24 of Directive (EU) .../... [amended EED] and requirements set in Articles 15, 15a, 20, 23 and 24 that Directive.***	
	Targets for expected ***operational*** greenhouse gas emissions ($kgCO_2eq/(m^2.y)$: – per building type ***Targets for expected whole life-cycle greenhouse gas emission ($kgCO_2eq/(m^2.y)$ with five year milestones:*** ***— per building type*** ***Targets for expected whole life-cycle greenhouse gas emission reduction (%) with five year milestones:*** ***— per building type*** ***Targets aligned to Regulation (EU) No 305/2011for circular use of materials, recycled contents and secondary materials, and sufficiency with five year milestones, if any***	Split between emissions covered by Chapter III [stationary installations], Chapter IVa [new emissions trading for buildings and road transport] of Directive 2003/87/EC, and other stock;

	Targets to increase carbon removals associated to the temporary storage of carbon in or on buildings	
	Expected wider benefits — Creation of new jobs — % reduction of people affected by energy poverty ***- % reduction of people living in inadequate indoor environment and reduction of costs for health systems due to health improvements through improved indoor environmental quality after renovation*** ***— resource efficiency, including efficiency of water usage***	— Increase of GDP (share and billion Euros)
	Contribution to Member State's binding national target for greenhouse gas emissions pursuant to [revised Effort Sharing Regulation]	
	Contribution to the Union's energy efficiency targets in accordance with Directive (EU) …/…. [recast EED] (share and figure in ktoe, primary and final consumption): ***— against the overall energy efficiency target***	

	Contribution to the Union's renewable energy targets in accordance with Directive (EU) 2018/2001 [amended RED] (share, MW generated): — against the overall target for energy from renewable sources — against the ▌ target for the share of energy from renewable sources in the building sector	
	Contribution to Union's 2030 climate target and 2050 climate neutrality goal in accordance with Regulation (EU) 2021/1119 (share and figure in ($kgCO_2eq/(m^2.y)$): — against the overall decarbonisation target	
(c) Overview of implemented and planned policies and measures	Policies and measures with regard to the following elements: (a) the identification of cost-***optimal*** approaches to renovation for different building types and climatic zones, considering potential relevant trigger points in the lifecycle of the building; (b) national minimum energy performance standards pursuant to Article 9 and other policies and actions to target the worst-performing segments of the national building stock; (c) the promotion of deep renovation of buildings, including staged deep renovation; ***(ca) high indoor environmental quality both in new and renovated buildings;***	Policies and measures with regard to the following elements: (a) the increase of climate resilience of buildings; (b) the promotion of the energy services market; (c) the increase of fire safety; (d) the increase of resilience against disaster risks, including risks related to intense seismic activity; (e) the removal of hazardous substances including asbestos; and (f) accessibility for persons with disabilities.

	(d) empowering and protecting vulnerable customers and the alleviation of energy poverty, including policies and measures pursuant to Article 22 of Directive (EU) …/… [recast EED], and housing affordability; (e) the creation of one-stop shops or similar mechanisms for the provision of technical, administrative and financial advice and assistance; (f) the decarbonisation of heating and cooling, including through ***efficient*** district heating and cooling networks ***in alignment with [revised EED],*** and the phase out of fossil fuels in heating and cooling ***in buildings*** with a view to a ***planned*** phase-out by ***2035 and, if not feasible as demonstrated to the Commission, by 2040 at the latest(fa) the roadmap to the phase out of fossil fuel use in buildings by 2035 and if not feasible as demonstrated to the Commission, by 2040 at the latest*; (g) the promotion of renewable energy sources in buildings in line with the target for the share of energy from renewable sources in the building sector set in Article 15a(1) of Directive (EU) 2018/2001 [amended RED]; ***(ga) the deployment of solar energy installations on buildings;*** (h) the reduction of whole life-cycle greenhouse gas emissions for the construction, renovation, operation and end of life of buildings, and the uptake of carbon removals; ***(ha) the reduction of the overall environmental footprint of all parts and components of buildings, including through the use of sustainable, secondary, preferably***	For all policies and measures: - administrative resources and capacities - area(s) covered: — worst-performing — minimum energy performance standards — energy poverty, social housing — public buildings — residential (single-family, multi family) — non-residential — industry — renewable energy sources — phase-out of fossil fuels in heating and cooling — whole life-cycle greenhouse gas emissions — circular economy and waste — one-stop shops — renovation passports — smart technologies — sustainable mobility in buildings — district and neighbourhood approaches — skills, training — awareness campaigns and advisory tools

	locally sourced construction and renovation products; (i) prevention and high-quality treatment of construction and demolition waste in line with Directive 2008/98/EC, ***in particular*** as regards the waste hierarchy, and the objectives of the circular economy; ***(ia) increase in the coverage of the building stock with energy performance certificates including towards low income households;*** (j) district and neighbourhood approaches, including the role of renewable energy communities and citizen energy communities; (k) the improvement of buildings owned by public bodies, including policies and measures pursuant to Articles 5, 6 and 7 of the [recast EED]; (l) the promotion of smart technologies and infrastructure for sustainable mobility in buildings; (m) addressing market barriers and market failures; (n) addressing skills gaps and mismatches in human capacities, and promoting education, training, upskilling and reskilling in the construction, sector and energy efficiency and renewable energy sectors ***including with a gender dimension***; and ***(na) Key performance indicators for upskilling and/or reskilling actions, as well as jobs created*** (o) awareness raising campaigns and other advisory tools. ***(oa) new the promotion of smart technologies for monitoring, analysis and simulation of buildings' energy***	***- Indicating the number of people being trained within the construction industry in their Member State;*** ***- Geographic coverage of vocational education and training (VETs)*** ***- Number of companies that provide training and apprenticeships*** ***- Participation of women and youth in VET and apprenticeships programs*** ***- Apprenticeship and VET programmes started and completed*** ***- Number of awareness raising campaigns for VET opportunities completed***

	performance across the whole-life cycle, including 3D modelling technologies; ***(ob) new inspection schemes including digital tools and checklists, to verify compliance with Building Automation and Control capabilities;*** ***(oc) the promotion of energy management solutions, such as Energy Performance Contracts (EnPCs);*** ***(od) measures to increase the coverage of the building stock with energy performance certificates or alternative real time measurement systems;*** ***(oe) new development and support of citizen-led energy efficiency and renovation initiatives, in particular the role of renewable energy communities and citizen energy communities;*** For all policies and measures: — Name of policy or measure — Short description (precise scope, objective and modalities of operation) — Quantified objective — Type of policy or measure (such as legislative; economic; fiscal; training, awareness) — Planned budget and funding sources — Entities responsible for implementing the policy — Expected impact — Status of implementation — Date of entry into force	

	— Implementation period	
(d) ***Detailed roadmap*** of the investment needs, the budgetary sources and the administrative resources	— Total investment needs for 2030, 2040, 2050 (million EUR) — Public investments (million EUR) — Private investments (million EUR), ***including energy efficiency loans, mortgages for building renovation, bond issuance or other financing mechanisms*** — Budgetary resources — Secured budget	
(da) roadmap on energy poverty	— ***targets for reducing energy poverty rates*** — ***number of households in energy poverty*** — ***list implemented and planned policies to reduce energy poverty*** — ***list of implemented and planned funding measures to reduce energy poverty***	

ANNEX III

REQUIREMENTS FOR NEW AND RENOVATED ZERO-EMISSION BUILDINGS AND CALCULATION OF LIFE-CYCLE GWP

(referred to in Article 2(2) and Article 7)

I. Requirements for zero-emission buildings

The total annual primary energy use of a new zero-emission building shall comply with the maximum thresholds indicated in the table below.

Member States may choose to classify internal regions in different climatic zones on the basis of Eurostat data on climatic conditions, in so far as it complies with the table below.

	requirements for ***existing*** buildings		
EU climatic zone	**Residential building**	**Office building**	**Other non-residential building***
Mediterranean	<60 kWh/(m^2.y)	<70 kWh/(m^2.y)	< NZEB total primary energy use defined at national level
Oceanic	<60 kWh/(m^2.y)	<85 kWh/(m^2.y)	< NZEB total primary energy use defined at national level
Continental	<65 kWh/(m^2.y)	<85 kWh/(m^2.y)	< NZEB total primary energy use defined at national level

Nordic	<75 kWh/(m^2.y)	<90 kWh/(m^2.y)	< NZEB total primary energy use defined at national level

**Note: the threshold should be smaller than the threshold for total primary energy use established at the Member State level for nearly zero-energy non-residential buildings type other than offices*

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The total annual primary energy use of a new or renovated zero-emission building shall be fully covered, on a net annual ***or seasonal*** basis, by

– energy from renewable sources generated ***or stored*** on-site and fulfilling the criteria of Article 7 of Directive (EU) 2018/2001 [amended RED],

– ***energy for self-consumption and joined self-consumption within the meaning of Directive (EU) 2018/2001 [amended RED] or local sharing of*** renewable energy ***production, including through a third-party market actor, or*** from a renewable energy community within the meaning of Article 22 of Directive (EU) 2018/2001 [amended RED], or

– renewable energy from ***district heating and cooling system or waste heat.***

A zero-emission building shall not cause any on-site carbon emissions from fossil fuels. ***Where***, due to the nature of the building or lack of access to renewable energy communities or eligible district heating and cooling systems ***or waste heat***, it is technically not feasible to ***fully comply with*** the requirements under the first paragraph, ***the remaining share or all of*** the total annual primary energy use may also be covered by ***renewable*** energy from the grid, ***documented with power purchase agreements and renewable heating and cooling purchase agreements as referred to in Directive (EU) 2018/2001 [amended RED], or renewable energy from an efficient district heating and cooling system in accordance with Article 24(1) of Directive (EU) …/… [recast EED].. The Commission shall issue guidance on how to implement and verify the those*** criteria ***with special attention to technical feasibility***.

II. Calculation of life-cycle ▌GWP ▌of new buildings pursuant to Article 7(2).

For the calculation of the life-cycle ▌GWP ▌ of new buildings pursuant to Article 7(2), the GWP is communicated as a numeric indicator for each life-cycle stage expressed as kgCO_2e/m^2 (of useful floor area) averaged for one year of a reference study period of 50 years. The data selection, scenario definition and calculations shall be carried out in accordance with EN 15978 (EN 15978:2011. Sustainability of construction works. Assessment of environmental performance of buildings. Calculation method). The scope of building elements and technical equipment is as defined in the Level(s) common EU framework for indicator 1.2. Where a national calculation tool exists, or is required for making disclosures or for obtaining building permits, that tool may be used to provide the

required disclosure Other calculation tools may be used if they fulfill the minimum criteria laid down by the Level(s) common EU framework data regarding specific construction products and ***technical building systems as well as*** their ***environmental product declarations***, ***and*** calculated in accordance with [revised Construction Products Regulation] shall be used when available.

ANNEX IV

COMMON GENERAL FRAMEWORK FOR RATING THE SMART READINESS OF BUILDINGS

1. The Commission shall establish the definition of the smart readiness indicator and a methodology by which it is to be calculated, in order to assess the capabilities of a building or building unit to adapt its operation to the needs of the occupant and of the grid and to improve its energy efficiency and overall performance.

The smart readiness indicator shall cover features for enhanced energy savings, benchmarking and flexibility, enhanced functionalities and capabilities resulting from more interconnected and intelligent devices.

The methodology shall take into account the existence of a digital twin of the building allowing a better ongoing reporting and management of the building's energy consumption.

The methodology shall take into account features such as smart meters, building automation and control systems, self-regulating devices for the regulation of indoor air temperature, built-in home appliances, recharging points for electric vehicles, energy storage and detailed functionalities and the interoperability of those features, as well as benefits for the indoor climate condition, energy efficiency, performance levels and enabled flexibility.

2. The methodology shall rely on ***the following*** key functionalities relating to the building and its technical building systems:

(a) the ability to maintain energy performance and operation of the building through the adaptation of energy consumption for example through use of energy from renewable sources;

(b) the ability to adapt its operation mode in response to the needs of the occupant while paying due attention to the availability of user-friendliness, maintaining healthy indoor climate conditions and the ability to report on energy use; and

(c) the flexibility of a building's overall ***energy*** demand, including its ability to enable participation in active and passive as well as implicit and explicit demand response, ***and through storing and releasing energy back*** to the grid, for example through flexibility and load shifting capacities ***and energy storage;***

(ca) the ability to improve its energy efficiency and overall performance through the use of energy saving technologies.

3. The methodology may further take into account:

(a) the interoperability between systems (smart meters, building automation and control systems, built-in home appliances, self-regulating devices for the regulation of indoor air temperature within the building and indoor air quality sensors and ventilations); and

(b) the positive influence of existing communication networks, in particular the existence of high-speed-ready in-building physical infrastructure, such as the voluntary 'broadband ready' label, and the existence of an access point for multi-dwelling buildings, in accordance with Article 8 of Directive 2014/61/EU of the European Parliament and of the Council 2.

4. The methodology shall not negatively affect existing national energy performance certification schemes and shall build on related initiatives at national level, while taking into account the principle of occupant ownership, data protection, privacy and security, in compliance with relevant Union data protection and privacy law as well as best available techniques for cyber security.

5. The methodology shall set out the most appropriate format of the smart readiness indicator parameter and shall be simple, transparent, and easily understandable for consumers, owners, investors and demand-response market participants.

ANNEX V

TEMPLATE FOR ENERGY PERFORMANCE CERTIFICATES

(referred to in Article 16)

1. On its front page, the energy performance certificate shall display at least the following elements:

(a) the energy performance class;
(b) the calculated annual primary energy use in kWh/(m^2 year);
(c) the calculated annual primary energy consumption in kWh or MWh;
(d) the calculated annual final energy use in kWh/(m^2 year);
(e) the calculated annual final energy consumption in kWh or MWh;
(f) renewable energy production in kWh or MWh;
(g) renewable energy in % of energy use;
(h) operational greenhouse gas emissions (kg CO_2/(m^2 year));
(i) the greenhouse gas emission class (if applicable);
(ia) the calculated energy needs in accordance with EN standards in kWh/(m^2.y) and final energy consumption in kWh or MWh;
(ib) expected remaining economic lifetime of the space and water heating and/or cooling systems and appliances;
(ic) a clear mention indicating whether or not the current building or dwelling can flexibly use energy.

2. In addition, the energy performance certificate ***shall*** include the following indicators:

(a) energy use, peak load, size of generator or system, main energy carrier and main type of element for each of the uses: heating, cooling, domestic hot water, ventilation and in-built lighting;
(b) renewable energy produced on site, main energy carrier and type of renewable energy source;
(c) a yes/no indication whether a calculation of the ***life-cycle GWP*** has been carried out for the building;
(d) the value of the life-cycle ***GWP*** (if available);
(e) information on carbon removals associated to the temporary storage of carbon in or on buildings;
(e) a yes/no indication whether a renovation passport is available for the building;
(f) the average U-value for the opaque elements of the building envelope;
(g) the average U-value for the transparent elements of the building envelope;
(h) type of most common transparent element (e.g. double glazed window);
(i) results of the analysis on overheating risk (if available);
(j) the presence of fixed sensors that monitor the levels of indoor ***environmental*** quality;
(k) the presence of fixed controls that respond to the levels of indoor ***environmental*** quality;
(l) number and type of charging points for electric vehicles;
(m) presence, type and size of energy storage systems;
(n) feasibility of adapting the heating system ***and domestic hot water system*** to operate at more efficient temperature settings;
(o) feasibility of adapting the air-conditioning system to operate at more efficient temperature settings;
(p) metered energy consumption;

(pa) a yes/no indication whether the heat distribution system inside the building is designed to work at low temperature levels;
(pb) the presence of a connection to a district heating and cooling network, including up-coming the evolution of nearby energy grids within the following five years;
(pc) local primary energy factors and related carbon emission factors of the connected local district heating and cooling network;
(q) operational fine particulate matter (PM2.5) emissions and ***performance indicators for the main categories of indoor environmental quality once the relevant provisions apply;***
(qa) a yes/no indication whether the building has demand side flexibility capabilities;
(qb) contact details of the closest one-stop shop for renovation advice;
The energy performance certificate ***shall*** include the following links with other initiatives ***in so far as the following*** apply :
(a) a yes/no indication whether an smart readiness assessment has been carried out for the building;
(b) the value of the smart readiness assessment (if available)***, including the value of supporting energy saving technologies***;
(c) a yes/no indication whether a digital building logbook is available for the building.
Persons with disabilities shall have equal access to the information in energy performance certificates.
2 a. The energy performance certificate shall include a dedicated section on financing, listing available financing options and grouping indicators most relevant to financial institutions, mortgage providers, national promotional banks and other relevant institutions providing access to funding.

ANNEX VI

INDEPENDENT CONTROL SYSTEMS FOR ENERGY PERFORMANCE CERTIFICATES

1. Definition of quality of energy performance certificate

Member States shall provide a clear definition of what is considered a valid energy performance certificate.

The definition of a valid energy performance certificate shall ensure:

(a) a validity check of the input data (including on-site checks) of the building used to issue the energy performance certificate and the results stated in the certificate;

(b) the validity of the calculations;

(c) a maximum deviation for the energy performance of a building, preferably expressed by the numeric indicator of primary energy use (kWh/(m^2 year));

(d) a minimum number of elements differing from default or standard values.

Member States may include additional elements in the definition of a valid energy performance certificate, such as maximum deviation for specific input data values.

2. Quality of the control system for energy performance certificates

Member States shall provide a clear definition of the quality objectives and the level of statistical confidence that the energy performance certificate framework should achieve. The independent control system shall ensure at least 90% of valid issued energy performance certificates with a statistical confidence of 95% for the evaluated period, which shall not exceed one year.

The level of quality and the level of confidence shall be measured using random sampling and shall account for all elements provided in the definition of a valid energy performance certificate. Member States shall require third-party verification for the evaluation of at least 25% of the random sample when the independent control systems have been delegated to non-governmental bodies.

The validity of the input data shall be verified with information provided by the independent expert. Such information may include product certificates, specifications or building plans that include details on the performance of the different elements included in the energy performance certificate.

The validity of the input data shall be verified by on-site visits in at least 10% of the energy performance certificates that are part of the random sampling used to assess the overall quality of the scheme.

In addition to the minimum random sampling to determine the overall level of quality, Member States may use different strategies to specifically detect and target poor quality in energy performance certificates with the objective to improve the overall quality of the scheme. Such targeted analysis cannot be used as the basis to measure the overall quality of the scheme.

Member States shall deploy pre-emptive and reactive measures to ensure the quality of the overall energy performance certificate framework. Those measures may include additional

training for independent experts, targeted sampling, obligation to re-submit energy performance certificates, proportional fines and temporary or permanent bans for experts.

Where information is added to a database it shall be possible for national authorities to identify the originator of the addition, for monitoring and verification purposes.

3. Availability of energy performance certificates

The independent control system shall verify the availability of energy performance certificates to prospective buyers and tenants in order to ensure that it is possible to consider the energy performance of the building in their decision to buy or rent.

The independent control system shall verify the visibility of the energy performance indicator and class in advertising media.

4. Treatment of building typologies

The independent control system shall account for different building typologies, particularly for those building typologies that are most prevalent in the real estate market, such as single residential, multi-residential, offices or retail.

5. Public disclosure

Member States shall regularly publish, on the national database on energy performance certificates, at least the following information on the quality system:

(a) the definition of quality in energy performance certificates;

(b) quality objectives for the energy performance certificate scheme;

(c) results of the quality assessment, including number of certificates evaluated and relative size to the total number of issued certificates in the given period (per typology);

(d) contingency measures to improve the overall quality of energy performance certificates.

ANNEX VII

COMPARATIVE METHODOLOGY FRAMEWORK TO IDENTIFY COST-OPTIMAL LEVELS OF ENERGY PERFORMANCE REQUIREMENTS FOR BUILDINGS AND BUILDING ELEMENTS

The comparative methodology framework shall enable Member States to determine the energy and emission performance of buildings and building elements and the economic aspects of measures relating to the energy and emission performance, and to link them with a view to identifying the cost-optimal level ***to achieve the 2030 emission reduction and climate neutrality goals, as well as a zero emission building stock by 2050 at the latest***.

The comparative methodology framework shall be accompanied by guidelines outlining how to apply that framework in the calculation of cost-optimal performance levels.

The comparative methodology framework shall allow for taking into account use patterns, outdoor climate ▌conditionsand their future changes according to best available climate science, investment costs, building category, maintenance and operating costs (including energy costs and savings), earnings from energy ***exported***, where applicable, environmental, ***economic*** and health externalities of energy use, ***social externalities of building renovations, construction, demolition or the modification of residential area*** and waste management costs, where applicable ***and technological developments***. It should be based on relevant European standards relating to this Directive.

As regards the wider environmental, economic and health externalities of improved building performance, these shall include at least:

- reduced greenhouse gas emissions from buildings;

- reduced pollution from buildings and its effects at building and local level, improved air quality;

- improvement on standards of living and productivity due to better indoor environmental quality resulting in better living and working conditions;

- reduced costs for health and social security systems;

- integration of buildings in the energy grid through grid flexibility, including through the use of smart charging points for electric vehicles;

- increased security of supply through higher energy performance and the deployment of solar technologies on buildings;

- reduced negative externalities such as avoided cost of carbon emissions, avoided climate change impacts and damage (climate mitigation and adaptation);

- impact on carbon pricing, including levels, volatility and sensitivity;

- stimulation of the local, regional and national economies, including local job creation and with a specific focus on microenterprises and SMEs in the construction and renovation sectors.

The environmental, energy, economy and health externalities shall be calculated starting from the report due in 2025.

The Commission shall also provide:

– guidelines to accompany the comparative methodology framework; those guidelines will serve to enable the Member States to undertake the steps listed below;

– information on estimated long-term energy ***and green-house gas emission*** price developments ***as well as volatility and sensitivity***.

The energy and emission performance shall be carried out using the calculation methodology on the basis of this Directive. For the application of the comparative methodology framework by Member States, general conditions, expressed by parameters, shall be laid down at Member State level. ***The Commission shall issue recommendations to Member States regarding their cost optimality levels and their coherence with the climate trajectories***

The comparative methodology framework shall require Member States to:

– define reference buildings that are characterised by and representative of their functionality and geographic location, including indoor and outdoor climate conditions. The reference buildings shall cover residential and non-residential buildings, both new and existing ones;

– define energy efficiency measures to be assessed for the reference buildings. Those may be measures for individual buildings as a whole, for individual building elements, or for a combination of building elements;

– assess the final and primary energy need and resulting emissions of the reference buildings with the defined energy efficiency measures applied;

– calculate the costs (i.e. the net present value) of the energy efficiency measures (as referred to in the second indent) during the expected economic lifecycle applied to the reference buildings (as referred to in the first indent) by applying the comparative methodology framework principles;

– ***calculate the global costs from a financial and macroeconomic perspective.***

By calculating the costs of the energy efficiency measures during the expected economic lifecycle, the cost-effectiveness of different levels of minimum energy performance requirements is assessed by the Member States. That will allow the determination of cost-optimal levels of energy performance requirements.

ANNEX VIII

PART A

Repealed Directive
with list of the successive amendments thereto
(referred to in Article 33)

Directive 2010/31/EU of the European Parliament and of the Council (OJ L 153, 18.6.2010, p. 13)	
Directive (EU) 2018/844 of the European Parliament and of the Council (OJ L 156, 19.6.2018, p. 75)	only Article 1
Regulation (EU) 2018/1999 of the European Parliament and of the Council (OJ L 328, 21.12.2018, p. 1)	only Article 53

PART B

Time-limits for transposition into national law and dates of application

(referred to in Article 33)

Directive	Time-limit for transposition	Dates of application
2010/31/EU	9 July 2012	as far as Articles 2, 3, 9, 11, 12, 13, 17, 18, 20 and 27 are concerned, 9 January 2013; as far as Articles 4, 5, 6, 7, 8, 14, 15 and 16 are concerned, 9 January 2013 with regard to buildings occupied by the public authorities and 9 July 2013 with regard to other buildings
(EU) 2018/844	10 March 2020	

ANNEX IX

Correlation table	
Directive 2010/31/EU	This Directive
Article 1	Article 1
Article 2, point (1)	Article 2, point 1
—	Article 2, point (2)
Article 2, point (2)	Article 2, point (3)
—	Article 2, points (4) and (5)
Article 2, points (3), (3a), (4) and (5)	Article 2, point (6), (7), (8) and (9)
—	Article 2, points (10), (11) and (12)
Article 2, points (6), (7), (8) and (9)	Article 2, points (13), (14), (15) and (16)
—	Article 2, points (17), (18), (19) and (20)
Article 2, point (10)	Article 2, point (21)
—	Article 2, points (22), (23), (24), (25), (26) and (27)
Article 2, points (11), (12), (13) and (14)	Article 2, points (28), (29), (30) and (31)
—	Article 2, points (32), (33), (34), (35), (36) and (37)
Article 2, point (15)	Article 2, point (37)

Article 2, points (15), (15a), (15b), (15c), (16) and (17)	Article 2, points (38), (39), (40), (41), (42) and (43)
Article 2, point (18)	—
Article 2, point (19)	Article 2, point (44)
—	Article 2, points (45), (46), (47), (48), (49), (50), (51), (52), (53), (54), (55), (56) and (57)
Article 2, point (20)	—
Article 2a	Article 3
Article 3	Article 4
Article 4	Article 5
Article 5	Article 6
Articles 6 and 9	Article 7
Article 7	Article 8
—	Article 9
—	Article 10
Article 8(1), (9)	Article 11
Article 8(2) to (8)	Article 12
Article 8(10), (11)	Article 13
—	Article 14

Article 10	Article 15
Article 11	Article 16
Article 12	Article 17
Article 13	Article 18
—	Article 19
Articles 14 and 15	Article 20
Article 16	Article 21
Article 17	Article 22
—	Article 23
Article 18	Article 24
Article 19	Article 25
Article 19a	—
Article 20	Article 26
Article 21	Article 27
Article 22	Article 28
Article 23	Article 29
Article 26	Article 30
Article 27	Article 31

Article 28	Article 32
Article 29	Article 33
Article 30	Article 34
Article 31	Article 35
Annex I	Annex I
—	Annex II
—	Annex III
Annex IA	Annex IV
—	Annex V
Annex II	Annex VI
Annex III	Annex VII
Annex IV	Annex VIII
Annex V	Annex IX

Justification

Amendments to parts of the proposal which remain unchanged ('white parts') were necessary for pressing reasons relating to the internal logic of the text or because the amendments are inextricably linked to other admissible amendments.

EXPLANATORY STATEMENT

The Spring of 2022 has brought into sharp focus the urgent need to reduce the European Union's dependence on fossil fuels. While threats from climate change and biodiversity loss have focused EU efforts on the European Green Deal, Russia's attack on Ukraine has reinforced the need to enhance the Union's energy security by increasing rates of energy efficiency and use of renewables. Recent price increases in oil and gas, in part a result of this war, have caused difficulty to consumers across the EU. Meanwhile, buildings are consuming 40% of the EU's energy and almost 75% of the bloc's building stock is energy inefficient. The recent global pandemic has also amplified the importance of homes with good indoor environmental quality. Consequently, ambitious and deep renovations of our building stock are urgently required. The revision of the Energy Performance of Buildings Directive is the key tool in achieving this.

The 'Fit for 55' legislative package aims to reduce the EU's greenhouse gas emissions by 55% by 2030, compared to 1990 levels. Buildings are responsible for 36% of these greenhouse gas emissions. Despite the inefficiency of Europe's building stock, only 0.4-1.2% of homes are renovated each year. Unless we tackle the low renovation rate of EU buildings with a strong legislative framework, we risk not meeting our climate obligations. Therefore, actions to increase energy efficiency, reduce energy use, and decrease the use of fossil fuels in buildings, can greatly assist in achieving climate neutrality, as well as assist in restoring EU energy sovereignty. The recently announced REPowerEU plan is also helping to accelerate efforts to reduce our dependence on Russian fossil fuel in the years ahead, and tackle high energy price rises, which are fuelling inflation, and increasing energy poverty.

A revised Energy Performance of Buildings Directive can reduce energy poverty, decrease our dependence on fossil fuels, and help meet our climate targets. It should promote the deployment of renewable energy in buildings, as well as incentivise deep renovations. It should include minimum energy performance requirements to raise standards for new and existing buildings. One-Stop Shops for renovation advice should provide clear and impartial information to empower consumers into taking action. Finally, targeted loans and grants will be essential to spur the renovation wave.

Social safeguards for minimum energy performance standards

Households in energy poverty often inhabit the worst performing buildings. It is not acceptable to expose the most vulnerable to the financial and health risks associated with leaky homes and inefficient appliances, causing the highest energy bills. Therefore, your rapporteur proposes to apply Minimum Energy Performance Standards first in worst performing buildings. Mandating renovations must come with safeguards for households, protecting them from burdensome debt, losing their homes or against rent increases. Costs and benefits must be shared fairly and financial support has to be mobilised, alongside the introduction of other social safeguards. Only then can we engage whole communities in renovations and ensure increasing the quality of people's lives.

Deep renovations and renewable energy to phase out fossil fuel dependency in housing

Deep renovations play a key role in breaking free from fossil fuel dependency. It is essential that deep renovations become the standard form of renovation so that households can profit from more substantial energy savings and switch from fossil fuel based heating and cooling to renewables based systems.

The European Commission's RePowerEU Initiative called for an increased roll out of solar energy in buildings, underlined the role of citizen led energy communities, and an expansion of heat pumps as a means of increasing EU energy sovereignty. The RePowerEU Initiative mandates solar energy installations in buildings. The Rapporteur proposes to expand the provision to include the installation of heat pumps in line with the Commission proposal to roll out 10 million heat pumps in the next five years. This will improve energy security for households, combat their dependence on increasingly volatile fossil fuel prices, and empowers them to play an active part in the energy transition

Mobilise financing the renovations, in particular to combat energy poverty

A strong and coherent financing framework is the key to unlocking the energy saving potential of the EPBD. Member States can steer investments into energy savings, energy efficiency in buildings, and renewable energy sources. This will stimulate economic recovery by creating quality jobs.

The rapporteur proposes to increase technical and practical assistance through free advicein one-stop-shops for renovations. EU funds such as the Social Climate Fund or the Recovery and Resilience Facility should be used as guarantees and as revolving funds to ensure access to financing for those groups that have difficulties in benefitting from traditional mortgages or loans. The fight against energy poverty is central to this Directive. Energy performance contracting and on-bill schemes, grants and subsidised integrated building renovation programmes at local level shall target vulnerable groups and lead to affordable or even cost neutral renovations.

Holistic renovations, indoor environmental quality and a neighbourhood approach

The rapporteur encourages Member States to adopt a neighbourhood approach to renovations that promotes energy communities, the use of renewables based district heating and cooling systems and citizen led renovations. Other aspects such as mobility, social inclusion, green spaces and water management can equally be addressed more efficiently at a district level.

Holistic renovations considering aspects such as climate footprint, vegetated surfaces or indoor environmental quality boost the wider benefits of energy renovations. For example, improving Indoor environmental quality (IEQ) goes hand in hand with improving people's health and wellbeing. People spend 90% of their time indoors, and the WHO estimates that 120,000 Europeans die prematurely every year due to poor IEQ. The rapporteur proposes to address this through measures that monitor and improve IEQ, which will lead to safer homes.

Increasing the EU's rate of renovation makes sense both economically and environmentally. In order to achieve EU climate-neutrality, it is necessary to not only monitor but also to reduce the climate footprint of buildings, including through the choice of construction materials. Zero emission buildings must become the new standard. This ensures that homes can be self-sufficient, operate on renewables, or even produce excess energy for other uses.

If we do not seize this opportunity now, we not only fail to meet our climate obligations but also simply pass our responsibilities onto future generations.
The rapporteur thanks all those that helped in providing input to this report and looks forward to the challenge ahead.

ANNEX: LIST OF ENTITIES OR PERSONS FROM WHOM THE RAPPORTEUR HAS RECEIVED INPUT

Entity and/or person
Agora Energiewende
Architect Council Europe
Association of the European cement industry-CEMBUREAU
BEUC- The European Consumer Organisation
BIBM - Federation of the European Precast Concrete Industry
Buildings Performance Institute Europe – BPIE
CEFACD-The European Committee of Manufacturers of Domestic Heating and Cooking Appliances
CEMEP- European Committee of Manufacturers of Electrical Machines and Power Electronics
ChargeUp Europe
CLER - Réseau pour la transition énergétique
Climate Action Network Europe
Climate Strategy & Partners
Coalition for Energy Savings
Council of Gas Detection and Environmental Monitoring- CoGDEM
Danfoss
DENEFF- Deutsche Unternehmensinitiative Energieeffizienz
DigitalEurope
ECOS - Environmental Coalition on Standards
EEB- European Environmental Bureau
EHI- The European heating industry
EHPA- European Heat Pump Association
EjendomDanmark, The Danish Property Federation
EUBAC- European Building Automation and Controls Association
EuroAce- the European Alliance of Companies for Energy Efficiency in Buildings
Eurocities
Euroheat and Power
Europacable
European Alliance to Save Energy- EU-ASE
European Aluminium
European Association for Electromobility- AVERE
European Association for Wastewater Heat Recovery- EuroWWHR
European Association of Real Estate Professions- CEPI
European Climate Foundation
European Commission: DG ENER, DG CLIMA, DG GROW, DG REFORM
European Committee of Electrical Installation Equipment Manufacturers- CECAPI
European Construction Industry Federation- FIEC
European Copper Institute
European Cyclists Federation- ECF
European Disability Forum

European electrical contracting sector – EuropeOn
European Federation of Intelligent Energy Efficiency Services (EFIEES)
European federation of renewable energy cooperatives – Rescoop
European Mortgage Federation - European Covered Bond Council (EMF-ECBC)
European Partnership for Energy and the Environment- EPEE
European Solar Shading Organisation- ESSO
European Union of Electrical Wholesalers- EUEW
European Ventilation Industry Association- EVIA
Fastighetsägarna Sverige, The Swedish Property Federation
FEANTSA- the European Federation of National Organisations Working with the Homeless
Federal Chamber of German Architects- BAK
Fire Safe Europe (FSEU)
Friends of the Earth Europe – FOEE
German Bausparkassen
German Credit Industry Committee (GBIC)
Glass for Europe
Green Transition Denmark
Groupement du Mur Manteau
Habitat for Humanity
Housing Europe
Iberdrola
Ingka Group
International Union of Property Owners- UIPI
International Union of Tenants (IUT)
Knauf Energy Solutions
Knauf Insulations
Lighting Europe
Metals For Buildings
Modern Building Alliance
Norsk Eiendom, The Norwegian Property Federation
PGE Polska Grupa Energetyczna S.A.
Positive Money Europe
RAKLI, The Finnish Association of Property Owners and Construction Clients
Regulatory Assistance Project – RAP
Renovate Europe
RightToEnergy Coalition
Rockwool
Schneider Electric
Smart Energy Europe – SmartEn
SolarPower Europe
SWM – Stadtwerke München
The Association of European Renewable Energy Research Centres- EUREC
The European Association for Storage of Energy - EASE
The international association of the Testing, Inspection and Certification (TIC) sector
Trane Technologies
Transport and Environment

Union Francaise de l’Electricité- UFE
Verbraucherzentrale Bundesverbands (vzbv)
Viessman
World Green Building Council
World Green Infrastructure Network
WWF- World Wildlife Fund

8.11.2022

LETTER OF THE COMMITTEE ON LEGAL AFFAIRS

Mr Cristian-Silviu Buşoi
Chair
Committee on Industry, Research and Energy
BRUSSELS

Subject: Opinion on a Proposal for a directive of the European Parliament and of the Council on the energy performance of buildings (recast) (COM(2021)0802 – C9-0469/2021 – 2021/0426(COD))

Dear Mr Chair,

The Committee on Legal Affairs has examined the proposal referred to above pursuant to Rule 110 on Recasting of Parliament's Rules of Procedure.

Paragraph 3 of that Rule reads as follows:

"If the committee responsible for legal affairs considers that the proposal does not entail any substantive changes other than those identified as such in the proposal, it shall inform the committee responsible for the subject matter thereof.

In such a case, over and above the conditions laid down in Rules 180 and 181, amendments shall be admissible within the committee responsible for the subject-matter only if they concern those parts of the proposal which contain changes.

However, amendments to parts of the proposal which remain unchanged may, by way of exception and on a case-by-case basis, be accepted by the Chair of the committee responsible for the subject matter if he or she considers that this is necessary for pressing reasons relating to the internal logic of the text or because the amendments are inextricably linked to other admissible amendments. Such reasons must be stated in a written justification to the amendments."

Following the here attached opinion of the Consultative Working Party of the Legal Services of the Parliament, the Council and the Commission, which has examined the recast proposal, and in keeping with the recommendations of the Rapporteur, the Committee on Legal Affairs considers that the proposal in question does not include any substantive changes other than those identified as such and that, as regards the codification of the unchanged provisions of the earlier act with those substantive amendments, the proposal contains a straightforward codification of the existing text, without any change in its substance.

In conclusion, at its meeting of 27 October 2022, the Committee on Legal Affairs, with 21

votes in favour, none against and two abstentions[1] decided to recommend that the Committee on Constitutional Affairs (AFCO), as the committee responsible, proceed to examine the above proposal in accordance with Rule 110.

Yours sincerely,

Adrián Vázquez Lázara

[1]The following were present for the final vote: Sergey Lagodinsky (Vice-Chair), Marion Walsmann (Vice-Chair), Raffaele Stancanelli, Barry Andrews (for Adrián Vázquez Lázara pursuant to Rule 209(7)), Pascal Arimont, Patrick Breyer, Isabel Carvalhais (for Maria-Manuel Leitão-Marques pursuant to Rule 209(7)), Ilana Cicurel, Ibán García Del Blanco, Geoffroy Didier, Pascal Durand, Angel Dzhambazki, Virginie Joron, Pierre Larrouturou (for Lara Wolters pursuant to Rule 209(7)), Gilles Lebreton, Karen Melchior, Theresa Muigg, Ljudmila Novak (for Jiří Pospíšil pursuant to Rule 209(7)), Anne-Sophie Pelletier (for Manon Aubry pursuant to Rule 209(7)), Sabrina Pignedoli, Luisa Regimenti, Franco Roberti, Marie Toussaint, Axel Voss, Tiemo Wölken, and Javier Zarzalejos.

CONSULTATIVE WORKING PARTY
OF THE LEGAL SERVICES

Brussels, 29 September 2022

OPINION

FOR THE ATTENTION OF THE EUROPEAN PARLIAMENT
THE COUNCIL
THE COMMISSION

Proposal for a directive of the European Parliament and of the Council on the energy performance of buildings (recast)
COM(2021)802 of 15.12.2021 – 2021/0426(COD)

Having regard to the Inter-institutional Agreement of 28 November 2001 on a more structured use of the recasting technique for legal acts, and in particular to point 9 thereof, the Consultative Working Party consisting of the respective legal services of the European Parliament, the Council and the Commission met on 11 and 30 March 2022 for the purpose of examining, among others, the aforementioned proposal submitted by the Commission.

At those meetings[2], an examination of the proposal for a Directive of the European Parliament and of the Council recasting Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings resulted in the Consultative Working Party's establishing, by common accord, that the following should have been marked with the grey-shaded type generally used for identifying substantive amendments:
- in recital 57, the adding of the initial words '*In order to further the aim of improving the energy performance of buildings*';
- in recital 61, the replacement of the indication '*point 34*' with '*point 44*', and of the words '*are encouraged to'* with the word '*should'*;
- in Article 12(1), first subparagraph, the deletion of Article 8(2), first subparagraph, point (a), of Directive 2010/31/EU;
- in Article 12(4), first subparagraph, the deletion of Article 8(5), point (a), of Directive 2010/31/EU;
- in Article 17(1), first subparagraph, point (b), the replacement of the words *'a public authority'* with the words *'public bodies'*,
- in Article 20(4), second subparagraph, the deletion of the word '*heat'* appearing before the word '*generator*' in Article 14(1), first subparagraph, of Directive 2010/31/EU;
- in Article 20(4), second and fourth subparagraphs, the deletion of the word '*heating'* appearing

[2] The Consultative Working Party worked on the basis of the English language version of the proposal, being the master-copy language version of the text under discussion.

before the words '*requirements*' and '*system*' in Article 14(1), first and second subparagraphs, of Directive 2010/31/EU;
- in Article 20(6), first subparagraph, the deletion of the initial wording '*As an alternative to paragraph 1*' and of the words '*heat'* preceding '*generators*' and '*heating'* preceding '*system*' in Article 14(3), first subparagraph, of Directive 2010/31/EU;
- in Article 27, the deletion of a reference to Article 9 of Directive 2010/31/EU currently contained in Article 20 of that act.

In consequence, examination of the proposal has enabled the Consultative Working Party to conclude, without dissent, that the proposal does not comprise any substantive amendments other than those identified as such. The Working Party also concluded, as regards the codification of the unchanged provisions of the earlier act with those substantive amendments, that the proposal contains a straightforward codification of the existing legal text, without any change in its substance.

F. DREXLER Jurisconsult	T. BLANCHET Jurisconsult	D. CALLEJA CRESPO Director-General

28.11.2022

OPINION OF THE COMMITTEE ON THE ENVIRONMENT, PUBLIC HEALTH AND FOOD SAFETY

for the Committee on Industry, Research and Energy

on the proposal for a directive of the European Parliament and of the Council on the energy performance of buildings (recast)
(COM(2021)0802 – C9-0469/2021 – 2021/0426(COD))

Rapporteur for opinion: Radan Kanev

SHORT JUSTIFICATION

Buildings are responsible for 40% of total energy consumption and respective share of overall household spending and 36% of energy-related Greenhouse Gas emissions in the EU. Therefore, the building stock is of vital importance to deliver on net neutrality in 2050. Besides achieving our international commitments, a more energy-efficient building stock leads to improved energy security and reduced imports of energy to the EU, lower energy bills for consumers, healthier living conditions as well as increased growth, avant-garde technologies and jobs made in Europe.

Several aspects are currently hindering the full energy savings potential from being untapped:

The complex interplay between EU legislation, national building codes, behavioural practices, economic and financial barriers and the diverging ownership structure of the building stock in the Member States (split-incentives) leave the deep renovation - which reduces energy consumption by at least 60% - at a rate of 0.2% of the building stock per year.

Affordability - Pay-as-you-Save

Renovation is key for reducing the energy consumption of buildings, for bringing down emissions and for reducing rising energy bills. According to the Renovation Wave Communication 275 billion Euros per year of additional investments are needed to meet the building renovation contribution to the 2030 emission reduction target of 55% Greenhouse Gas Emissions in comparison to 1990. These costs might be borne by every day European citizens: renters - young and elderly alike - or single-family households. The Rapporteur is convinced that the transformation of the EU building stock will only succeed with a large support of EU citizens. To make renovations more attractive he proposes a novel financial support instruments - the so-called “Pay-as-you-Save”, guaranteeing that the repayment bills on the loan never exceed energy savings. The implementation by Member States is a prerequisite for the renovation obligation of existing one-family buildings. He adds economical safeguards in

regards to the requirements for deep renovation to zero emission buildings as of 2030: These renovations should transform a building to a zero-emission building or the best results that a renovation costing up to 50% of the value of the respective building could provide for. For the rapporteur it is clear that vulnerable households and low-income owners should be given the clear priority when it comes to financial support and technical assistance. As these groups tend to live in worst-performing buildings, the Rapporteur changes the definition of class G (worst performing buildings) - from “the last 15%” to "minimum last 15%".

Holistic tailor-made local approach

Climatic difference, local conditions and diverging building stocks necessitate for a holistic tailor-made approach - at local level instead of one-size-fits-all approach -. The Rapporteur thus introduces the consideration of such factors as well as the possibility for a different approach in regards to historic buildings and the prioritizing of renovations of public buildings such as schools and hospital. He strengthens the role of the one-stop-shops to support renovations of multi-apartment buildings and privately rented homes. Lastly, he takes due account of Member Sates’ different renewable mix in order to promote all renewables - including the ones from the grid. . While emphasizing a local implementation, the rapporteur sees the necessity for the Member States to provide an adequate framework to incentivize renovations: For him, it is vital to extent the national renovation strategies to include corrections measures in case of underachievement and sufficient financial support.

Indoor Air Quality

Today, people spend a considerable time indoors. The pandemic has intensified the concept of working-and-living under the same roof. According to estimates, tens of millions of Europeans suffer from bad indoor air quality. This can have several reasons such as mould or dampness. Construction and maintenance of buildings can thus have huge effects on public health and the well-being of the whole population. The rapporteur thus proposes a holistic definition of indoor air quality.

AMENDMENTS

The Committee on the Environment, Public Health and Food Safety calls on the Committee on the Industry, Research and Energy, as the committee responsible, to take into account the following amendments:

Amendment 1

Proposal for a directive
Recital 2 a (new)

Text proposed by the Commission	*Amendment*
	(2a) Climate change is a challenge that transcends borders and requires immediate and ambitious action. The transition to a climate-neutral economy by 2050 represents a great opportunity as well as a challenge for the Union, its Member States, citizens and business from every sector. To this aim, cohesion policy is a crucial tool in delivering a fair transition to a climate-neutral economy by leaving no one behind.

Amendment 2

Proposal for a directive
Recital 3

Text proposed by the Commission	*Amendment*
(3) As announced in the Green Deal, the Commission presented its Renovation Wave strategy on 14 October 2020[30] . The strategy contains an action plan with concrete regulatory, financing and enabling measures, with the objective to at least double the annual energy renovation rate of buildings by 2030 and to foster deep renovations. The revision of the Energy Performance of Buildings Directive is necessary as one of the vehicles to deliver on the Renovation Wave. It will also contribute to delivering on the ***New European Bauhaus initiative and the***	(3) As announced in the Green Deal, the Commission presented its Renovation Wave strategy on 14 October 2020[30] . The strategy contains an action plan with concrete regulatory, financing and enabling measures, with the objective to at least double the annual energy renovation rate of buildings by 2030 and to foster deep renovations ***by more than 35 million building and the creation up to 160 000 jobs in the construction sector, making renovation affordable for all households, including those with a limited ability to cover upfront costs***. The revision of the

European mission on climate-neutral and smart cities.

Energy Performance of Buildings Directive is necessary as one of the vehicles to deliver on the Renovation Wave. It will also contribute to delivering on the European mission on climate-neutral***,*** ***green*** and smart cities***, and should follow the pathway drawn by the New European Bauhaus as a previous phase of the Building Renovation Wave. With the New European Bauhaus, three core pillars should be respected as a holistic approach for achieving a better energy performance of buildings and a decarbonised building stock by 2050 at the latest: a) sustainability, i.e. climate goals, circular economy, zero pollution, greening and biodiversity; b) aesthetics, i.e. quality of experience and style beyond functionality; c) inclusion, i.e. valuing diversity and social progress, secure accessibility and affordability for all; the New European Bauhaus movement will set the basis for new ways of thinking that are clear and inclusive, generating greater security and comfort for our citizens, supporting cultural movements to foster local and global knowledge that will generate culturally-based social dynamism needed to avoid only elite actors actions.***

[30] A Renovation Wave for Europe - greening our buildings, creating jobs, improving lives, COM/2020/662 final.

[30] A Renovation Wave for Europe - greening our buildings, creating jobs, improving lives, COM/2020/662 final.

Amendment 3

Proposal for a directive
Recital 4

Text proposed by the Commission	*Amendment*
(4) Regulation (EU) 2021/1119 of the European Parliament and of the Council[31] , the 'European Climate Law', enshrines the target of economy-wide climate neutrality by 2050 in legislation and establishes a binding Union domestic reduction	(4) Regulation (EU) 2021/1119 of the European Parliament and of the Council[31] , the 'European Climate Law', enshrines the target of economy-wide climate neutrality by 2050 ***at the latest and of achieving negative emissions thereafter*** in legislation

commitment of net greenhouse gas emissions (emissions after deduction of removals) of at least 55 % below 1990 levels by 2030.

and establishes a binding Union domestic reduction commitment of net greenhouse gas emissions (emissions after deduction of removals) of at least 55 % below 1990 levels by 2030.

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[31] Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law') (OJ L 243, 9.7.2021, p. 1).

[31] Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law') (OJ L 243, 9.7.2021, p. 1).

Amendment 4

Proposal for a directive
Recital 5

Text proposed by the Commission	*Amendment*
(5) The "Fit for 55" legislative package announced in the European Commission 2021 Work Programme aims to implement those objectives. It covers a range of policy areas including energy efficiency, renewable energy, land use, land change and forestry, energy taxation, effort sharing, emissions trading and alternative fuels infrastructure. The revision of Directive 2010/31/EU is an integral part of that package.	(5) The "Fit for 55" legislative package announced in the European Commission 2021 Work Programme aims to implement those objectives. It covers a range of policy areas including energy efficiency, renewable energy, land use, land change and forestry, energy taxation, effort sharing, emissions trading and alternative fuels infrastructure. The revision of Directive 2010/31/EU is an integral part of that package. ***As the energy efficiency first principle is at the core of a more circular economy system, the Commission should pay greater attention to the building sector which accounts for more than 40 % of final energy consumption in the Union, not to mention that 75 % of Union buildings are still energy-inefficient. By better integrating circularity in the building sector, the infrastructures and technical capabilities of a building in an overall holistic approach would secure longer life spans as well as lower energy consumption, while setting concrete decarbonisation and depollution pathways for this sector. The revision of Directive***

2003/87/EC (EU-ETS) to expand carbon emissions trading to road transport and buildings, with the view of aiming for a carbon price signal for the whole economy, has the potential to replace costly and ineffective regulatory requirements for energy efficiency in buildings in the long term.

Amendment 5

Proposal for a directive
Recital 5 a (new)

Text proposed by the Commission	*Amendment*
	(5a) The dilemma between affordable housing and climate protection requires technological neutrality and the innovative power of business and science. The price signal of carbon emission trading unleashes competition and guides action so that emission reduction takes place where it is most cost-effective, thus reducing the overall cost of the climate transition for the Union and its citizens. Under the European Green Deal, the Commission therefore proposed revising Directive 2003/87/EC (EU-ETS) to expand carbon emissions trading to road transport and buildings, with the view of aiming for a carbon price signal for the whole economy. This inclusion of buildings in emissions trading has the potential to replace costly and ineffective regulatory requirements for energy efficiency in buildings in the long term.

Justification

The EU Emission Trading System is a cornerstone of the EU's policy to combat climate change and its key tool for reducing greenhouse gas emissions cost-effectively.

Amendment 6

Proposal for a directive

Recital 5 b (new)

Text proposed by the Commission	*Amendment*
	(5b) The REPower EU Plan, launched by the Commission on 18 May 2022 to rapidly reduce dependence on Russian fossil fuels and fast forward the green transition, has energy efficiency of buildings as well as building-integrated renewable energy, at its core. In its communication of 18 May 2022 entitled "REPowerEU Plan", the Commission invited the European Parliament and Council to enable additional savings and energy efficiency gains in buildings through the Energy Performance of Buildings Directive.

Justification

Necessary to reflect latest developments.

Amendment 7

Proposal for a directive
Recital 6

Text proposed by the Commission	*Amendment*
(6) Buildings account for 40 % of final energy consumption in the Union and 36% of its energy-related greenhouse gas emissions. Therefore, reduction of energy consumption ***, in line with the energy efficiency first principle as laid down in Article 3 [revised EED] and defined in Article 2(18) of Regulation (EU) 2018/1999 of the European Parliament and of the Council[32] and*** the use of energy from renewable sources in the buildings sector constitute important measures needed to reduce the Union's greenhouse gas emissions. Reduced energy consumption ***and*** an increased use of energy from renewable sources also have an important part to play in reducing the	(6) Buildings account for 40 % of final energy consumption in the Union ***and respective share of overall household spending*** and 36% of its energy-related greenhouse gas emissions. Therefore, reduction of energy consumption ***and household energy spending***, ***including*** the use of energy from renewable sources in the buildings sector***,*** constitute important measures needed to reduce the Union's greenhouse gas emissions ***and the extent of energy poverty***. Reduced energy consumption ***coupled with*** an increased use of energy from renewable sources also have an important part to play in reducing the Union's energy dependency, promoting security of energy ***supplies, in particular***

Union's energy dependency, promoting security of energy ***supply*** and technological developments and in creating opportunities for employment and regional development, in particular in islands and rural areas.	***the ambitions set out in REPowerEU, cost efficiency of heating and cooling of buildings*** and technological developments and in creating opportunities for employment and regional development, in particular in islands and rural areas.
[32] Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council (OJ L 328, 21.12.2018, p. 1).	[32] Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council (OJ L 328, 21.12.2018, p. 1).

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text. The "energy efficiency first" principle should not be an end in itself. The reduction of energy consumption can be a possible instrument to achieve the EU climate targets. However, it is not necessarily the most cost-effective and can lead to considerable inefficiencies. With the Emission Trading System, the EU already has a cost-effective instrument to decarbonise. Energy poverty and the high costs of renovations especially for vulnerable groups are important issue that should be consistently addresses throughout this Directive.

Amendment 8

Proposal for a directive
Recital 6 a (new)

Text proposed by the Commission	*Amendment*
	(6a) The European housing stock is very diverse in terms of age, size, use, insulation level, heating sources, demand and access to energy. Several factors, such as the broad variety of technical issues, the high costs entailed and the number of stakeholders involved

	contribute to making the decarbonisation of buildings a complex and sensitive topic. A one-size-fits-all approach to decarbonising buildings would fail to meet consumers' needs and to address decarbonisation concerns. A more tailored strategy that takes into account both local and system-level factors is needed.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text. The flexibility in the array of measures proposed in this recast should be reflected in the recital accordingly.

Amendment 9

Proposal for a directive
Recital 6 b (new)

Text proposed by the Commission	*Amendment*
	(6b) Energy efficiency of the building stock and renovation of buildings play an enormous social, economic and environmental role and has a significant positive impact on national and Union-level efforts to reduce energy dependency and thus promote national security. Investment in energy efficiency should therefore be regarded as high priority at both private and public level.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 10

Proposal for a directive
Recital 6 c (new)

Text proposed by the Commission	*Amendment*
	(6c) In order to ensure that all citizens

benefit from improved energy performance of buildings, and associated living quality, environmental, economic and health benefits, a proper regulatory and financial framework should be put in place to support renovations for low and medium-income households and households suffering from energy poverty, who often live in the worst-performing buildings in both urban and rural areas.

Justification

Necessary for the internal logic of the text.

Amendment 11

Proposal for a directive
Recital 6 d (new)

Text proposed by the Commission	*Amendment*
	(6d) It should be taken into account, however, that the social and economic effect of building renovation and increasing of energy performance standards depend on the incentives and investment capabilities of low-income households, who suffer from energy poverty and in general live in the least-performing buildings in both urban and rural areas. Furthermore, the number of buildings with poor energy performance is much higher than the number of those with better standards, thus contributing far more for increased energy consumption and additional greenhouse gas emissions.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 12

Proposal for a directive

Recital 6 e (new)

Text proposed by the Commission	*Amendment*
	(6e) The introduction of minimum energy performance standards, accompanied with social and financial safeguards, will improve the quality of life of the most vulnerable and poorest citizens.

Justification

Necessary for the internal logic of the text.

Amendment 13

Proposal for a directive
Recital 6 f (new)

Text proposed by the Commission	*Amendment*
	(6f) It is essential, therefore, that the public effort is directed towards the increase of the energy efficiency and energy performance of least-performing buildings, in which the lower two deciles of the population of each Member States lives.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 14

Proposal for a directive
Recital 7

Text proposed by the Commission	*Amendment*
(7) Buildings are responsible for greenhouse gas emissions before, during and after their operational lifetime. The 2050 vision for a decarbonised building stock goes beyond the current focus on	(7) Buildings are responsible for greenhouse gas emissions before, during and after their operational lifetime. The 2050 vision for a decarbonised building stock goes beyond the current focus on

operational greenhouse gas emissions. The whole life-cycle emissions of buildings should therefore progressively be ***taken into account***, ***starting with new buildings***. Buildings are a significant material bank, being repositories for resources over many decades, and the design options largely influence the whole life-cycle emissions both for new buildings and renovations. The whole life-cycle performance of buildings should be taken into account not only in new construction, but also in renovations through the inclusion of policies ***for the*** reduction of whole life-cycle greenhouse gas emissions in Member States' building renovation plans.

operational greenhouse gas emissions. The whole life-cycle emissions of buildings should therefore progressively be ***reduced***, ***with targets to be set by the Commission on the basis of a common and harmonised methodology***. Buildings are a significant material bank, being repositories for resources over many decades, and the design options largely influence the whole life-cycle emissions both for new buildings and renovations. The whole life-cycle performance of buildings should be taken into account not only in new construction, but also in renovations through the inclusion of policies ***and*** reduction ***targets*** of whole life-cycle greenhouse gas emissions in Member States' building renovation plans.

Amendment 15

Proposal for a directive
Recital 7 a (new)

Text proposed by the Commission	*Amendment*
	(7a) Member States should take into account the impact and the whole life-cycle (WLC) of its buildings material-bank within the calculations and indicators of the incidence of energy efficiency in buildings in order to aim for more reuse and recycling as outlined in the principles of the circular economy. In this regard, a link should be made with the leading role of the New European Bauhaus that wants to promote greater circularity in the built environment, by promoting renovation and adaptive re-use over demolition and new built, as appropriate.

Amendment 16

Proposal for a directive
Recital 7 b (new)

Text proposed by the Commission	*Amendment*
	(7b) The introduction of whole life-cycle requirements will encourage industrial innovation, local value creation and circularity, for instance through the increase in the use of local, traditional natural materials, such as stones and wood as well as secondary raw materials.

Justification

Necessary for the internal logic of the text.

Amendment 17

Proposal for a directive
Recital 7 c (new)

Text proposed by the Commission	*Amendment*
	(7c) It is crucial to promote and include the use of more sustainable construction materials, in particular bio- and geo-sourced materials, as well as simple passive low-tech and locally tested building techniques to support and promote the use of and research into material technologies that contribute to the ideal insulation and structural support of buildings, thus achieving a reduction in energy consumption that translates into energy efficiency and more resilient buildings. In view of the climate crisis and the increased probability of summer heat waves, special consideration should be given to heat protection for buildings.

Amendment 18

Proposal for a directive
Recital 7 d (new)

Text proposed by the Commission	*Amendment*
	(7d) A holistic approach of addressing the energy performance of buildings includes environmental, social and economic benefits and impacts. Renovations in the building sector should be a holistic reform of the whole building structure such as building envelopes (roof and facade), shading and ventilation control. It would lead to lower energy demand, especially in buildings constructed since World War II, thus taking into account in a more efficient way the population at risk of exclusion, avoiding a possible imposition of more expensive housing prices and the consequent greenhouse gas emission impact by increasing the use of private transport.

Amendment 19

Proposal for a directive
Recital 7 e (new)

Text proposed by the Commission	*Amendment*
	(7e) High-quality built environment is the result of the work of skilled professionals in the construction sector and creative and cultural industries that can only be the outcome of quality processes, in particular public procurement procedures.

Amendment 20

Proposal for a directive
Recital 8

Text proposed by the Commission	*Amendment*
(8) Minimizing the whole life-cycle greenhouse gas emissions of buildings requires resource efficiency and circularity. This can also be combined with turning	(8) Minimizing the whole life-cycle greenhouse gas emissions of buildings requires resource efficiency***, sufficiency,*** and circularity. This can also be combined

parts of the building stock into a temporary carbon sink.	with turning parts of the building stock into a temporary carbon sink ***by adding recycled and nature-based solution elements such as wood materials, greens roofs and facades and solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience***. ***Such solutions bring more diversity, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions by respecting as well biodiversity.***

Amendment 21

Proposal for a directive
Recital 9

Text proposed by the Commission	*Amendment*
(9) The global warming potential over the whole life-cycle indicates the building's overall contribution to emissions that lead to climate change. It brings together greenhouse gas emissions embodied in construction products with direct and indirect emissions from the use stage. A requirement to calculate the life-cycle global warming potential of new buildings therefore constitutes a first step towards increased consideration of the whole life-cycle performance of buildings and a circular economy.	(9) The global warming potential over the whole life-cycle indicates the building's overall contribution to emissions that lead to climate change. It brings together greenhouse gas emissions embodied in construction products with direct and indirect emissions from the use ***and deconstruction*** stage. A requirement to calculate the life-cycle global warming potential of new buildings therefore constitutes a first step towards increased consideration of the whole life-cycle performance of buildings and a circular economy. ***Deconstruction stage recycling capability of materials should therefore be also accounted for.***

Amendment 22

Proposal for a directive
Recital 10

Text proposed by the Commission	*Amendment*
(10) Buildings are responsible for about half of primary fine particulate matter (PM2.5) emissions in the EU that cause premature death and illness. Improving energy performance of buildings can and should reduce pollutant emissions at the same time, in line with Directive (EU) 2016/2284 of the European Parliament and the Council[33] .	(10) Buildings are responsible for about half of primary fine particulate matter (PM2.5) emissions in the EU that cause premature death and illness. Improving energy performance ***and the use of adequate nature-based and healthier constructions materials*** of buildings can and should reduce pollutant emissions at the same time, in line with Directive (EU) 2016/2284 of the European Parliament and the Council[33].
[33] Directive (EU) 2016/2284 of the European Parliament and of the Council of 14 December 2016 on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC (OJ L 344, 17.12.2016, p.1).	[33] Directive (EU) 2016/2284 of the European Parliament and of the Council of 14 December 2016 on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC (OJ L 344, 17.12.2016, p.1).

Amendment 23

Proposal for a directive
Recital 10 a (new)

Text proposed by the Commission	*Amendment*
	(10a) Management of energy demand is an important tool enabling the Union to influence the global energy market and hence the security of energy supply in the medium and long term.

Justification

Reintroduction of recital removed by the Commission

Amendment 24

Proposal for a directive
Recital 10 b (new)

Text proposed by the Commission	*Amendment*
	(10b) The promotion of deep and efficient research in new material technologies may help with this purpose.

Amendment 25

Proposal for a directive
Recital 11

Text proposed by the Commission	*Amendment*
(11) Measures to improve further the energy performance of buildings should take into account climatic conditions, including adaptation to climate change, local conditions as well as indoor climate ***environment*** and cost-effectiveness. Those measures should ***not affect*** other requirements concerning buildings such as accessibility , fire safety and seismic safety and the intended use of the building.	(11) Measures to improve further the energy performance of buildings should take into account climatic conditions, including adaptation to climate change, ***and*** local conditions***,*** as well as indoor climate***, indoor environmental quality, sufficiency and circularity*** and cost-effectiveness. Those measures should ***go hand in hand with*** other requirements concerning buildings such as accessibility, fire***, heating and electrical installation*** safety and seismic safety and the intended use of the building. ***Moreover, they should ensure that the situation of vulnerable and low-income households, people affected by energy poverty and people living in social housing is improved.***

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 26

Proposal for a directive
Recital 12

Text proposed by the Commission	*Amendment*
(12) The energy performance of buildings should be calculated on the basis of a methodology, which may be	(12) The energy performance of buildings should be calculated on the basis of a methodology, which may be

differentiated at national and regional level. That includes, in addition to thermal characteristics, other factors that play an increasingly important role such as heating and air-conditioning installations, application of energy from renewable sources, building automation and control systems, smart solutions, passive heating and cooling elements, shading, indoor air-quality, adequate natural light and design of the building. The methodology for calculating energy performance should be based not only on the season in which heating or air-conditioning is required, but should cover the annual energy performance of a building. That methodology should take into account existing European standards. The methodology should ensure the representation of actual operating conditions and enable the use of metered energy to verify correctness and for comparability, and the methodology should be based on hourly or sub-hourly time-steps. In order to encourage the use of renewable energy on-site, and in addition to the common general framework, Member States should take the necessary measures so that the benefits of maximising the use of renewable energy on-site, including for other-uses (such as electric vehicle charging points), are recognised and accounted for in the calculation methodology.	differentiated at national and regional level. That includes, in addition to thermal characteristics, other factors that play an increasingly important role such as heating and air-conditioning installations, application of energy from renewable sources, building automation and control systems, smart solutions, ***heat recovery from wastewater, ventilation and cooling*** passive heating and cooling elements, shading, indoor air-quality, adequate natural light and design of the building. The methodology for calculating energy performance should be based not only on the season in which heating or air-conditioning is required, but should cover the annual energy performance of a building. That methodology should take into account existing European standards. The methodology should ensure the representation of actual operating conditions and enable the use of metered energy to verify correctness and for comparability, and the methodology should be based on hourly or sub-hourly time-steps. In order to encourage the use of renewable energy on-site ***including roof solar panels in line with the European Solar Rooftops Initiative***, and in addition to the common general framework, Member States should take the necessary measures so that the benefits of maximising the use of renewable energy on-site, including for other-uses (such as electric vehicle charging points), are recognised and accounted for in the calculation methodology.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 27

Proposal for a directive
Recital 14

Text proposed by the Commission	*Amendment*
(14) Two-thirds of the energy used for heating and cooling of buildings still comes from fossil fuels. In order to decarbonise the building sector, it is of particular importance to phase out fossil fuel in heating and cooling. Therefore, Member States should indicate their national policies and measures to phase out fossil fuels in heating and cooling in their building renovation plans, and no financial incentives should be given for the installation of fossil fuel boilers ***under the next Multiannual Financial Framework*** as of 2027, with the exception of those selected for investment, before 2027, under the European Regional Development Fund and on the Cohesion Fund. A clear legal basis for the ban of heat generators based on their greenhouse gas emissions or the type of fuel used should support national phase-out policies and measures.	(14) Two-thirds of the energy used for heating and cooling of buildings still comes from fossil fuels***, which are further more characterized by price volatility and insecurity of supply. This is especially valid for buildings with poor energy performance, in which low-incomes households live, thus increasing social inequalities and the risk of social exclusion, especially in times of high energy prices and increasing cost of living***. In order to decarbonise the building sector, it is of particular importance to phase out fossil fuel in heating and cooling***, to set clear and effective strategies for this phasing-out process, to define the best techniques for it***. Therefore, Member States should indicate their national policies and measures to phase out fossil fuels in heating and cooling in their building renovation plans, and no financial incentives should be given for the installation of fossil fuel boilers as of 202***4***, with the exception of those selected for investment, before 202***4***, under the European Regional Development Fund and on the Cohesion Fund ***and of those that are able to run on renewable energy sources***. A clear legal basis for the ban of heat generators based on their greenhouse gas emissions or the type of fuel used should support national phase-out policies and measures.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text. The rapid decarbonisation of heating and cooling requires a technological neutral approach. Boilers that are able to run on renewable energy sources constitute a cost-efficient way to decarbonise and should, thus, remain eligible for financial incentives.

Amendment 28

Proposal for a directive

Recital 14 a (new)

Text proposed by the Commission	*Amendment*
	(14a) Efficient use of waste heat from domestic hot water systems represents significant energy saving opportunity. Hot water preparation is the main source of energy consumption for new buildings and normally this heat is wasted and not reused. Knowing that most of the hot water consumed comes from showers, harvesting heat from shower drains in buildings could be a simple and cost-effective way to save final energy consumption and related CO_2 and methane emissions of domestic hot water production.

Amendment 29

Proposal for a directive
Recital 17

Text proposed by the Commission	*Amendment*
(17) The Commission should lay down a comparative methodology framework for calculating cost-optimal levels of minimum energy performance requirements. A review of this framework should enable the calculation of both energy and emission performance and should take into account environmental and health externalities, as well as the ETS extension and carbon prices. Member States should use that framework to compare the results with the minimum energy performance requirements which they have adopted. Should significant discrepancies, i.e. exceeding 15 %, exist between the calculated cost-optimal levels of minimum energy performance requirements and the minimum energy performance requirements in force, Member States should justify the difference or plan appropriate steps to reduce the discrepancy. The estimated economic	(17) The Commission should lay down a comparative methodology framework for calculating cost-optimal levels of minimum energy performance requirements. A review of this framework should enable the calculation of both energy and emission performance and should take into account environmental***, safety*** and health externalities, as well as the ***possibility of the*** ETS extension and carbon prices***, if applicable. The New European Bauhaus has the potential to reshape the way policies are conceived to define the environment of the future by meeting the need for spaces adapted to new ways of life***. Member States should use that framework to compare the results with the minimum energy performance requirements which they have adopted. Should significant discrepancies, i.e. exceeding 15 %, exist between the calculated cost-optimal levels of minimum

lifecycle of a building or building element should be determined by Member States, taking into account current practices and experience in defining typical economic lifecycles. The results of that comparison and the data used to reach those results should be regularly reported to the Commission. Those reports should enable the Commission to assess and report on the progress of Member States in reaching cost-optimal levels of minimum energy performance requirements.	energy performance requirements and the minimum energy performance requirements in force, Member States should justify the difference or plan appropriate steps to reduce the discrepancy. The estimated economic lifecycle of a building or building element should be determined by Member States, taking into account current practices and experience in defining typical economic lifecycles. The results of that comparison and the data used to reach those results should be regularly reported to the Commission. Those reports should enable the Commission to assess and report on the progress of Member States in reaching cost-optimal levels of minimum energy performance requirements.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text. NEB should be taken into account when defining regulatory frameworks which affect to building sector, as it can provide information in areas that are outside the scope of purely energy regulation.

Amendment 30

Proposal for a directive
Recital 19

Text proposed by the Commission	*Amendment*
(19) The enhanced climate and energy ambition of the Union requires a new vision for buildings: the zero-emission building, the very low energy demand of which is fully covered by energy from renewable sources where technically feasible. All new buildings should be zero-emission buildings, and all existing buildings should be transformed into zero-emission buildings by 2050.	(19) The enhanced climate and energy ambition of the Union requires a new vision for buildings: the zero-emission building, the very low energy demand of which is fully covered by energy from renewable sources where technically feasible. All new buildings***, prioritizing schools, kindergartens and hospitals*** should be zero-emission buildings, and all existing buildings should be transformed into zero-emission buildings by 2050.

Amendment 31

Proposal for a directive
Recital 19 a (new)

Text proposed by the Commission	*Amendment*
	(19a) As up to 90 % of the 2050 built environment already exists, more ambitious efforts are needed to accelerate the rate of renovating and decarbonising the existing building stock. The incentives and standards set today will ultimately define whether the Union will reach its long-term climate and energy goals.

Amendment 32

Proposal for a directive
Recital 19 b (new)

Text proposed by the Commission	*Amendment*
	(19b) Affordability and social fairness is key to achieve a green and just transition for a decarbonised building stock by 2050 at the latest. Creditworthiness of consumers needs to be assessed in line with current Union legislation. It is crucial that the scope of financial instruments fits the needs of the potential beneficiaries: lowest income and most vulnerable households should benefit from 100 % subsidised retrofit works.

Amendment 33

Proposal for a directive
Recital 19 c (new)

Text proposed by the Commission	*Amendment*
	(19c) The principle of "pay-as-you-save" should ensure social fairness and economic attractiveness and has to be seen as an accompanying measure without undermining the overall climate

ambitions. The Commission should ensure when establishing standards for pay-as-you-save that the priorities as set out in the European Climate Law and the strategy "A Renovation Wave for Europe – Greening our buildings, creating jobs, improving lives" are not jeopardised.

Amendment 34

Proposal for a directive
Recital 20

Text proposed by the Commission	*Amendment*
(20) Different options are available to cover the energy needs of an efficient building by energy from renewable sources: on-site renewables such as solar thermal, solar photovoltaics, heat pumps and biomass, renewable energy provided by renewable energy communities or citizen energy communities, ***and*** district heating and cooling based on renewables or waste heat.	(20) Different options are available to cover the energy needs of an efficient building by energy from renewable sources: on-site renewables such as solar thermal, solar photovoltaics, heat pumps and biomass, renewable energy provided by renewable energy communities or citizen energy communities, ***or other partners in the neighbourhood,*** district heating and cooling based on renewables or waste heat ***recovery from waste water, sanitary hot water or air, and distributed grid-based renewables***.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text. Large companies are excluded from participation in energy communities according to RED. This disadvantage should be levelled out by allowing other forms of shared energy use within the neighbourhood, besides energy communities.

Amendment 35

Proposal for a directive
Recital 21

Text proposed by the Commission	*Amendment*
(21) The necessary decarbonisation of the Union building stock requires energy renovation at a large scale: almost 75% of	(21) The necessary decarbonisation of the Union ***public and private*** building stock ***including the buildings of the Union***

that building stock is inefficient according to current building standards, and 85-95% of the buildings that exist today will still be standing in 2050. However, the weighted annual energy renovation rate is persistently low at around 1%. At the current pace, the decarbonisation of the building sector would require centuries. Triggering and supporting building renovation, including a shift towards emission-free heating systems, is therefore a key goal of this Directive.	***institutions, bodies and agencies,*** requires energy renovation at a large scale: almost 75% of that building stock is inefficient according to current building standards, and 85-95% of the buildings that exist today will still be standing in 2050. However, the weighted annual energy renovation rate is persistently low at around 1%. At the current pace, the decarbonisation of the building sector would require centuries. Triggering and supporting building renovation, including a shift towards emission-free heating systems, is therefore a key goal of this Directive.

Amendment 36

Proposal for a directive
Recital 22

Text proposed by the Commission	*Amendment*
(22) Minimum energy performance standards are the essential regulatory tool to trigger renovation of existing buildings on a large scale, as they tackle the key barriers to renovation such as split incentives and co-ownership structures, which cannot be overcome by economic incentives. The introduction of minimum energy performance standards should lead to a gradual phase-out of the worst-performing buildings and a continuous improvement of the national building stock, contributing to the long-term goal of a decarbonised building stock by 2050.	(22) Minimum energy performance standards are the essential regulatory tool to trigger renovation of existing buildings on a large scale, as they tackle the key barriers to renovation such as split incentives and co-ownership structures, which cannot be overcome by economic incentives. The introduction of minimum energy performance standards should lead to a gradual phase-out of the worst-performing buildings and a continuous improvement of the national building stock ***including the Union institutions and bodies***, contributing to the long-term goal of a decarbonised building stock by 2050.

Amendment 37

Proposal for a directive
Recital 23

Text proposed by the Commission	*Amendment*
(23) Minimum energy performance	(23) Minimum energy performance

standards set at Union level should focus on the renovation of the buildings with the highest potential in terms of decarbonisation, energy poverty alleviation and extended social and economic benefits, in particular on the very worst-performing buildings, which need to be renovated as a priority.	standards set at Union level should focus on the renovation of the buildings with the highest potential in terms of decarbonisation, energy poverty alleviation and extended social and economic benefits, in particular on the very worst-performing buildings, which need to be renovated as a priority, ***including the possibility for hybrid heat pumps when no other feasible fossil-free solution is available***.

Amendment 38

Proposal for a directive
Recital 23 a (new)

Text proposed by the Commission	*Amendment*
	(23a) In order to achieve a complete and detailed map of the current situation of the building stock which allows to determine exactly where the worst-performing buildings are located, an audit of the Union building stock should be done by the Commission in order to focus well on the Union efforts and investments.

Amendment 39

Proposal for a directive
Recital 25

Text proposed by the Commission	*Amendment*
(25) The introduction of minimum energy performance standards should be accompanied by an enabling framework including technical assistance and financial measures. Minimum energy performance standards set at national level do not amount to "Union standards" within the meaning of State aid rules, while Union-wide minimum energy performance standards might be considered constituting such "Union standards". In line with revised State aid rules, Member States may grant State aid to building renovation to	(25) The introduction of minimum energy performance standards should be accompanied by an enabling framework including technical assistance and financial measures***, with a specific consideration for renovation programmes for low-income, vulnerable and energy poor households***. Minimum energy performance standards set at national level do not amount to "Union standards" within the meaning of State aid rules, while Union-wide minimum energy performance standards might be considered constituting such

comply with the Union-wide energy performance standards, namely to achieve a certain energy performance class, until those Union-wide standards become mandatory. Once the standards are mandatory, Member States may continue to grant State aid for the renovation of buildings and building units falling under the Union-wide energy performance standards as long as the building renovation aims at a higher standard than the specified minimum energy performance class.

"Union standards". In line with revised State aid rules, Member States may grant State aid to building renovation to comply with the Union-wide energy performance standards, namely to achieve a certain energy performance class, until those Union-wide standards become mandatory. Once the standards are mandatory, Member States may continue to grant State aid for the renovation of buildings and building units falling under the Union-wide energy performance standards as long as the building renovation aims at a higher standard than the specified minimum energy performance class ***or is following a renovation passport scheme***.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text. Financial measures shall cover buildings with clear roadmap of achieving zero-emission level within a set timeframe. Renovation Passport scheme is a framework to secure it by indicating a sequence of renovation steps building upon each other, with the objective to transform the building into a zero-emission building by 2050 at the latest

Amendment 40

Proposal for a directive
Recital 26

Text proposed by the Commission	*Amendment*
(26) The EU Taxonomy classifies environmentally sustainable economic activities across the economy, including for the building sector. Under the EU Taxonomy Climate Delegated Act, building renovation is considered a sustainable activity where it achieves at least 30% energy savings, complies with minimum energy performance requirements for major renovation of existing buildings, or consists of individual measures related to the energy performance of buildings, such as the installation, maintenance or repair of energy efficiency equipment or of instruments and devices	(26) The EU Taxonomy classifies environmentally sustainable economic activities across the economy, including for the building sector. Under the EU Taxonomy Climate Delegated Act, building renovation is considered a sustainable activity where it achieves at least 30% energy savings, complies with minimum energy performance requirements for major ***or significant*** renovation of existing buildings, or consists of individual measures related to the energy performance of buildings, such as the installation, maintenance or repair of energy efficiency equipment or of

for measuring, regulating and controlling the energy performance of buildings, where such individual measures comply with the criteria set out. Building renovation to comply with Union-wide minimum energy performance standards is typically in line with the EU Taxonomy criteria related to building renovation activities.

instruments and devices for measuring, regulating and controlling the energy performance of buildings, where such individual measures comply with the criteria set out. Building renovation to comply with Union-wide minimum energy performance standards is typically in line with the EU Taxonomy criteria related to building renovation activities.

Amendment 41

Proposal for a directive
Recital 29

Text proposed by the Commission	*Amendment*
(29) To achieve a highly energy efficient and decarbonised building stock and the transformation of existing buildings into zero-emission buildings by 2050, Member States should establish national building renovation plans, which replace the long-term renovation strategies and become an even stronger, fully operational planning tool for Member States, with a stronger focus on financing and ensuring that ***appropriately skilled*** workers are available for carrying out building renovations. In their building renovation plans, Member States should set their own national building renovation targets. In line with Article 21(b)(7) of Regulation (EU) 2018/1999 and with the enabling conditions set under Regulation (EU) 2021/60 of the European Parliament and of the Council[36] , Member States should provide an outline of financing measures, as well as an outline of the investment needs and the administrative resources for the implementation of their building renovation plans.	(29) To achieve a highly energy efficient and decarbonised building stock and the transformation of existing buildings into zero-emission buildings by 2050, Member States should establish national building renovation plans, which replace the long-term renovation strategies and become an even stronger, fully operational planning tool for Member States, with a stronger focus on ***administrative support,*** financing and ensuring that ***highly qualified*** workers ***from the construction sector and creative and cultural industries,*** are available for carrying out building renovations ***and quality processes, in particular public procurement procedures***. In their building renovation plans, Member States should set their own national building renovation targets. In line with Article 21(b)(7) of Regulation (EU) 2018/1999 and with the enabling conditions set under Regulation (EU) 2021/60 of the European Parliament and of the Council[36], Member States should provide an outline of financing measures, as well as an outline of the investment needs and the administrative resources for the implementation of their building renovation plans.
[36] Regulation (EU) 2021/1060 of the	[36] Regulation (EU) 2021/1060 of the

European Parliament and of the Council of 24 June 2021 laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, the Just Transition Fund and the European Maritime, Fisheries and Aquaculture Fund and financial rules for those and for the Asylum, Migration and Integration Fund, the Internal Security Fund and the Instrument for Financial Support for Border Management and Visa Policy (OJ L 231, 30.6.2021, p. 159).

European Parliament and of the Council of 24 June 2021 laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, the Just Transition Fund and the European Maritime, Fisheries and Aquaculture Fund and financial rules for those and for the Asylum, Migration and Integration Fund, the Internal Security Fund and the Instrument for Financial Support for Border Management and Visa Policy (OJ L 231, 30.6.2021, p. 159).

Amendment 42

Proposal for a directive
Recital 32

Text proposed by the Commission	*Amendment*
(32) Staged renovation can be a solution to address the issues of high upfront costs and hassle for the inhabitants that may occur when renovating ‘in one go’. However, such staged renovation needs to be carefully planned in order to avoid that one renovation step precludes necessary subsequent steps. Renovation passports provide a clear roadmap for staged renovation, helping owners and investors plan the best timing and scope for interventions. Therefore, renovation passports should be made available as a voluntary tool to building owners across all Member States.	(32) ***One-step deep renovation is the most cost-effective and lowest carbon budget option for the timely achievement of the objectives of turning Europe’s building stock.*** Staged renovation can be a solution to address the issues of high upfront costs and hassle for the inhabitants that may occur when renovating ‘in one go’. However, such staged renovation needs to be carefully planned in order to avoid that one renovation step precludes necessary subsequent steps. Renovation passports provide a clear roadmap for staged renovation, helping owners and investors plan the best timing and scope for interventions. Therefore, renovation passports should be made available as a voluntary tool to building owners across all Member States. ***Renovation passports should not become an economic or administrative burden for building owners and should be provided without cost to all low-income property owners and to all owners of a property which constitutes their principal residence. To minimise bureaucracy and avoid duplications, Member States may decide to integrate***

building renovation passports into energy performance certificates.

Amendment 43

Proposal for a directive
Recital 33

Text proposed by the Commission	*Amendment*
(33) The concept of 'deep renovation' has not yet been defined in Union legislation. With a view to achieving the long-term vision for buildings, deep renovation should be defined as a renovation that transforms buildings into zero-emission buildings; in a first step, as a renovation that transforms buildings into nearly zero-energy buildings. This definition serves the purpose of increasing the energy performance of buildings. A deep renovation for energy performance purposes is a prime opportunity to address other aspects such as living conditions of vulnerable households, increasing climate resilience, resilience against disaster risks including seismic resilience, fire safety, the removal of hazardous substances including asbestos, and accessibility for persons with disabilities.	(33) The concept of 'deep renovation' has not yet been defined in Union legislation. With a view to achieving the long-term vision for buildings, deep renovation should be defined as a renovation that transforms buildings into zero-emission buildings; in a first step, as a renovation that transforms buildings into nearly zero-energy buildings. This definition serves the purpose of increasing the energy performance of buildings. A deep renovation for energy performance purposes is a prime opportunity to address other aspects such as ***the Indoor Environmental Quality (IEQ),*** living conditions of vulnerable households, increasing climate resilience, resilience against disaster risks including seismic resilience, fire***, heating and electrical installations*** safety ***and ventilation***, the removal of hazardous substances including asbestos, and accessibility for persons with disabilities ***and the elderly***. ***Deep renovations that improve the energy performance of a building by at least 60 % are currently annually carried out only in 0.2 % of the building stock, and in only a fifth of the cases, energy efficiency is significantly improved.***

Amendment 44

Proposal for a directive
Recital 34

Text proposed by the Commission	*Amendment*
(34) In order to foster deep renovation, which is one of the goals of the Renovation Wave strategy, Member States should ***give*** enhanced financial and administrative support ***to*** deep renovation.	(34) In order to foster deep renovation, which is one of the goals of the Renovation Wave strategy, Member States should ***prioritise*** enhanced financial and administrative support ***for*** deep renovation***, with focus on citizens suffering from energy poverty and low income households, as well as on the worst-performing buildings***.

Amendment 45

Proposal for a directive
Recital 35 a (new)

Text proposed by the Commission	*Amendment*
	(35a) The Commission should establish technical guidelines on historical buildings to facilitate and ensure the implementation of this Directive while safeguarding cultural heritage.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 46

Proposal for a directive
Recital 35 b (new)

Text proposed by the Commission	*Amendment*
	(35b) The Commission should establish technical guidelines on historical heritage buildings and historic centres to ensure that ecological ambitions are met and cultural heritage is safeguarded.

Amendment 47

Proposal for a directive

Recital 35 c (new)

Text proposed by the Commission	*Amendment*
	(35c) Building renovation to increase energy efficiency often involves handling materials such as roofs, walls or electric settings, which could contain asbestos if they were constructed before the Union and national regulation or ban of the use of asbestos. The introduction of requirements for the safe removal of asbestos must be socially fair and must be accompanied by appropriate measures to support building owners to finance the needed renovations, as well as accompanying capacity-building measures for small and medium-sized enterprises (SMEs) conducting works. The European Strategy for the Removal of All Asbestos should include a proposal to update Directive 2009/148/EC in order to strengthen Union measures for protecting workers from the threat of asbestos and to prevent a new wave of asbestos victims in the course of the Renovation Wave, as well as a proposal to update Directive 2010/31/EU with a view to introducing a requirement for the mandatory screening and subsequent removal of asbestos and other dangerous substances before renovation works can start, in order to protect the health of construction workers.

Amendment 48

Proposal for a directive
Recital 35 d (new)

Text proposed by the Commission	*Amendment*
	(35d) There is an urgent need to reduce the dependence on fossil fuels in buildings and to accelerate efforts to decarbonise and electrify their energy consumption. In order to enable the cost-effective installation of solar technologies at a later stage, all new buildings should

	be "solar ready", that is, designed to optimise the solar generation potential on the basis of the site's solar irradiance, enabling the fruitful installation of solar technologies without costly structural interventions. In addition, Member States should ensure the deployment of suitable solar installations on new buildings, both residential and non-residential, and on existing non-residential buildings. In order to efficiently exploit the potential of solar installations on buildings, Member States should define criteria for the implementation of, and possible exemptions from, the deployment of solar installations on buildings in line with the assessed technical and economic potential of the solar energy installations and the characteristics of the buildings covered by this obligation.

Amendment 49

Proposal for a directive
Recital 35 e (new)

Text proposed by the Commission	*Amendment*
	(35e) Consideration of the water-energy nexus is particularly important to address the interdependent energy and water use and the increasing pressure on both resources. The effective management and reuse of water can make a significant contribution to energy savings, yielding climate, but also economic and social, benefits.

Amendment 50

Proposal for a directive
Recital 35 f (new)

Text proposed by the Commission	*Amendment*
	(35f) When assessing the potential for efficient heating and cooling, Member States should take wider environmental, health and safety aspects into account. Due to the role of heat pumps for realising energy efficiency potentials in heating and cooling, the risks of negative environmental impacts from refrigerants that are persistent, bioaccumulative or toxic should be minimised.

Amendment 51

Proposal for a directive
Recital 37

Text proposed by the Commission	*Amendment*
(37) Combined with an increased share of renewable electricity production, electric vehicles produce fewer greenhouse gas emissions. Electric vehicles constitute an important component of a clean energy transition based on energy efficiency measures, alternative fuels, renewable energy and innovative solutions for the management of energy flexibility. Building codes can be effectively used to introduce targeted requirements to support the deployment of recharging infrastructure in car parks of residential and non-residential buildings. Member States should remove barriers such as split incentives and administrative complications which individual owners encounter when trying to install a recharging point on their parking space.	(37) Combined with an increased share of renewable electricity production, electric vehicles produce fewer greenhouse gas emissions. Electric vehicles constitute an important component of a clean energy transition based on energy efficiency measures, alternative fuels, renewable energy and innovative solutions for the management of energy flexibility. Building codes can be effectively used to introduce targeted requirements to support the deployment of recharging infrastructure in car parks of residential and non-residential buildings. Member States should remove barriers such as ***grid connection and capacity bottlenecks,*** split incentives and administrative complications which individual owners encounter when trying to install a recharging point on their parking space.

Amendment 52

Proposal for a directive
Recital 39

Text proposed by the Commission	*Amendment*
(39) Smart charging and bidirectional charging enable the energy system integration of buildings. Recharging points where electric vehicles typically park for extended periods of time, such as where people park for reasons of residence or employment, are highly relevant to energy system integration, therefore smart charging functionalities need to be ensured. In situations where bidirectional charging would assist further penetration of renewable electricity by electric vehicle fleets in transport and the electricity system in general, such functionality should also be made available.	(39) Smart charging and bidirectional charging enable the energy system integration of buildings. Recharging points where electric vehicles typically park for extended periods of time, such as where people park for reasons of residence or employment, are highly relevant to energy system integration, therefore smart charging functionalities need to be ensured ***in case of all new recharging points in and adjacent to buildings***. In situations where bidirectional charging would assist further penetration of renewable electricity by electric vehicle fleets in transport and the electricity system in general, such functionality should also be made available.

Amendment 53

Proposal for a directive
Recital 40

Text proposed by the Commission	*Amendment*
(40) Promoting green mobility is a key part of the European Green Deal and buildings can play an important role in providing the necessary infrastructure, not only for recharging of electric vehicles but also for bicycles. A shift to soft mobility such as cycling can significantly reduce greenhouse gas emissions from transport. As set out in the 2030 Climate Target Plan, increasing the modal shares of clean and efficient private and public transport, such as cycling, will drastically lower pollution from transport and bring major benefits to individual citizens and communities. The lack of bike parking spaces is a major barrier to the uptake of cycling, both in residential and non-residential buildings. Building codes can effectively support the transition to cleaner mobility by establishing requirements for a minimum	(40) Promoting green mobility is a key part of the European Green Deal and buildings can play an important role in providing the necessary infrastructure, not only for recharging of electric vehicles but also for bicycles. A shift to ***active*** mobility such as cycling can significantly reduce greenhouse gas emissions from transport***. With the rapid uptake of the sales of electric bicycles and electric cargo bikes, space and basic charging infrastructure for these types of vehicles also need to be provided to facilitate their regular use***. As set out in the 2030 Climate Target Plan, increasing the modal shares of clean and efficient private and public transport, such as cycling, will drastically lower pollution from transport and bring major benefits to individual citizens and communities. The lack of bike parking spaces is a major barrier to the uptake of cycling, both in

number of bicycle parking spaces.	residential and non-residential buildings. Building codes can effectively support the transition to cleaner mobility by establishing requirements for a minimum number of bicycle parking spaces.

Amendment 54

Proposal for a directive
Recital 40 a (new)

Text proposed by the Commission	*Amendment*
	(40a) Member States should support local authorities in developing and implementing Sustainable Urban Mobility Plans (SUMPs) with a particular focus on the integration of housing policies, sustainable mobility, the uptake of energy storage facilities to support EV integration and urban planning.

Amendment 55

Proposal for a directive
Recital 41

Text proposed by the Commission	*Amendment*
(41) The agendas of the Digital Single Market and the Energy Union should be aligned and should serve common goals. The digitalisation of the energy system is quickly changing the energy landscape, from the integration of renewables to smart grids and smart-ready buildings. In order to digitalise the building sector, the Union's connectivity targets and ambitions for the deployment of high-capacity communication networks are important for smart homes and well-connected communities. Targeted incentives should be provided to promote smart-ready systems and digital solutions in the built environment. This would offer new	(41) The agendas of the Digital Single Market and the Energy Union should be aligned and should serve common goals. The digitalisation of the energy system is quickly changing the energy landscape, from the integration of renewables to smart grids and smart-ready buildings. In order to digitalise the building sector, the Union's connectivity targets and ambitions for the deployment of high-capacity communication networks are important for smart homes and well-connected communities. Targeted incentives should be provided to promote smart-ready systems and digital solutions in the built environment. ***Energy security and***

opportunities for energy savings, by providing consumers with more accurate information about their consumption patterns, and by enabling the system operator to manage the grid more effectively.

efficiency should be promoted by encouraging investment and incentivising low-tech, low-energy solutions and could facilitate the digital transition by improving connectivity to mitigate the digital divide. Thus, the collaboration of the New European Bauhaus is important to this and to fight against energy poverty through innovative solutions for the building, construction, industrial and materials sectors. This would offer new opportunities for energy savings, by providing consumers with more accurate information about their consumption patterns, and by enabling the system operator to manage the grid more effectively.

Amendment 56

Proposal for a directive
Recital 42

Text proposed by the Commission	*Amendment*
(42) In order to facilitate a competitive and innovative market for smart building services that contributes to efficient energy use and integration of renewable energy in buildings and support investments in renovation, Member States should ensure direct access to building systems' data by interested parties. To avoid excessive administrative costs for third parties, Member States shall facilitate the full interoperability of services and of the data exchange within the Union.	(42) In order to facilitate a competitive and innovative market for smart building services that contributes to efficient energy use and integration of renewable energy in buildings***, including rooftop solar panels*** and support investments in renovation, Member States should ensure direct access to building systems' data by interested parties. To avoid excessive administrative costs for third parties, Member States shall facilitate the full interoperability of services and of the data exchange within the Union.

Amendment 57

Proposal for a directive
Recital 43

Text proposed by the Commission	*Amendment*
(43) The smart readiness indicator	(43) The smart readiness indicator

should be used to measure the capacity of buildings to use information and communication technologies and electronic systems to adapt the operation of buildings to the needs of the occupants and the grid and to improve the energy efficiency and overall performance of buildings. The smart readiness indicator should raise awareness amongst building owners and occupants of the value behind building automation and electronic monitoring of technical building systems and should give confidence to occupants about the actual savings of those new enhanced-functionalities. The smart readiness indicator is particularly beneficial for large buildings with high energy demand. For other buildings, the scheme for rating the smart readiness of buildings should be optional for Member States.

should be used to measure the capacity of buildings to use information and communication technologies and electronic systems to adapt the operation of buildings to the needs of the occupants and the grid and to improve the energy efficiency and overall performance of buildings. The smart readiness indicator should raise awareness amongst building owners and occupants of the value behind building automation and electronic monitoring of technical building systems and should give confidence to occupants about the actual savings of those new enhanced-functionalities. The smart readiness indicator is particularly beneficial for large buildings with high energy demand. For other buildings, the scheme for rating the smart readiness of buildings should be optional for Member States***, while respecting data protection legislation***.

Amendment 58

Proposal for a directive
Recital 44

Text proposed by the Commission	*Amendment*
(44) Access to sufficient funding is crucial to meet the 2030 and 2050 energy efficiency targets. Union financial instruments and other measures have been put into place or adapted with the aim of supporting the energy performance of buildings . The most recent initiatives to increase the availability of financing at Union level include, inter alia, the 'Renovate' flagship component of the Recovery and Resilience Facility established by Regulation (EU) 2041/241 of the European Parliament and the Council[39] and the Social Climate Fund established by Regulation (EU) …/…. Several other key EU programmes can support energy renovation under the 2021-2027 Multiannual Financial Framework, including the cohesion policy funds and the	(44) Access to sufficient funding is crucial to meet the 2030 and 2050 energy efficiency targets. Union financial instruments and other measures have been put into place or adapted with the aim of supporting the energy performance of buildings . The most recent initiatives to increase the availability of financing at Union level include, inter alia, the 'Renovate' flagship component of the Recovery and Resilience Facility established by Regulation (EU) 2041/241 of the European Parliament and the Council[39] and the Social Climate Fund established by Regulation (EU) …/…. Several other key EU programmes can support energy renovation under the 2021-2027 Multiannual Financial Framework, including the cohesion policy funds and the

InvestEU Fund established by Regulation (EU) 2021/523 of the European Parliament and of the Council[40] . Through Framework Programmes for research and innovation, the Union invests in grants or loans to push the best technology and improve the energy performance of buildings, including through partnerships with industry and Member States such as the Clean Energy Transition and Built4People European Partnerships.	InvestEU Fund established by Regulation (EU) 2021/523 of the European Parliament and of the Council[40] . Through Framework Programmes for research and innovation, the Union invests in grants or loans to push the best technology and improve the energy performance of buildings, including through partnerships with industry and Member States such as the Clean Energy Transition and Built4People European Partnerships. ***In accordance with Regulation (EU) 2021/1119 of the European Parliament and of the Council[40a], the Commission should establish sector-specific energy transition partnerships within the building sector by bringing together key stakeholders.***
[39] Regulation (EU) 2021/241 of the European Parliament and of the Council of 12 February 2021 establishing the Recovery and Resilience Facility (OJ L 57, 18.2.2021)	[39] Regulation (EU) 2021/241 of the European Parliament and of the Council of 12 February 2021 establishing the Recovery and Resilience Facility (OJ L 57, 18.2.2021)
[40] Regulation (EU) 2021/523 of the European Parliament and of the Council of 24 March 2021 establishing the InvestEU Programme and amending Regulation (EU) 2015/1017 (OJ L 107, 26.3.2021, p. 30).	[40] Regulation (EU) 2021/523 of the European Parliament and of the Council of 24 March 2021 establishing the InvestEU Programme and amending Regulation (EU) 2015/1017 (OJ L 107, 26.3.2021, p. 30).
	[40a] Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law')(OJ L 243, 9.7.2021, p.1).

Justification

According to the European Climate Law, the Commission should facilitate sector-specific climate dialogues and partnerships also within the building sector.

Amendment 59

Proposal for a directive

Recital 46

Text proposed by the Commission	*Amendment*
(46) Financial mechanisms, incentives and the mobilisation of financial institutions for energy renovations in buildings should play a central role in national building renovation plans and be actively promoted by Member States. Such measures should include encouraging energy efficient mortgages for certified energy efficient building renovations, promoting investments for public authorities in an energy efficient building stock, for example by public-private partnerships or energy performance contracts or reducing the perceived risk of the investments.	(46) Financial mechanisms***, grants and subsidies***, incentives and the mobilisation of financial institutions for energy renovations in buildings***, tailored to the needs of different building owners and tenants,*** should play a central role in national building renovation plans and be actively promoted by Member States. Such measures should include encouraging energy efficient mortgages for certified energy efficient building renovations, promoting investments for public authorities in an energy efficient building stock, for example by public-private partnerships or energy performance contracts or reducing the perceived risk of the investments. ***Financial schemes should give an important premium to deep renovations, so as to make them financially attractive.***

Amendment 60

Proposal for a directive
Recital 46 a (new)

Text proposed by the Commission	*Amendment*
	(46a) Green mortgage loans and green retail loans can significantly contribute to transforming the economy, reducing carbon emissions. The Mortgage Credit Directive does not hinder the uptake of green mortgages, but it also does not provide any specific measures to encourage their uptake. Moreover, not many mortgage credit providers systematically collect the data for which a mortgage loan was taken. The lack of systematic data on energy efficiency or "greenness" of residential real estate cause issues that may hinder achieving the objectives of European Green Deal. The Union and Member States should

adjust relevant legislation and develop supporting measures to facilitate the uptake of green mortgage loans and green retail loans as well as data collection.

Amendment 61

Proposal for a directive
Recital 46 b (new)

Text proposed by the Commission	*Amendment*
	(46b) No Union financial instrument is provided for Pay-as-you-Save financial schemes, but the Commission should develop a common Union standard for Pay-as-you-Save financial schemes, setting mandatory minimum requirements for public and private actors, in order for this standard to be granted.

Amendment 62

Proposal for a directive
Recital 47

Text proposed by the Commission	*Amendment*
(47) Financing alone will not deliver on the renovation needs. Together with financing, setting up accessible and transparent advisory tools and assistance instruments such as one-stop-shops that provide integrated energy renovation services or facilitators, as well as implementing other measures and initiatives such as those referred to in the Commission's Smart Finance for Smart Buildings Initiative, is indispensable to provide the right enabling framework and break barriers to renovation.	(47) Financing alone will not deliver on the renovation needs. Together with financing, setting up accessible and transparent advisory tools and ***administrative*** assistance instruments such as one-stop-shops that provide integrated energy renovation services or facilitators, as well as implementing other measures and initiatives such as those referred to in the Commission's Smart Finance for Smart Buildings Initiative, is indispensable to provide the right enabling framework and break barriers to renovation. ***One-stop-shops should be equipped to support renovations of multi-apartment buildings and privately rented homes. Support to local initiatives, such as citizen-led renovation programmes and programmes for the decarbonisation of heating and***

cooling at neighbourhood or municipal level, should also be provided, as such programmes enhance citizen's engagement in the energy transition, have an economy of scale effect and provide solutions fitting with the local context and needs.

Amendment 63

Proposal for a directive
Recital 48

Text proposed by the Commission	*Amendment*
(48) Inefficient buildings are often linked to energy poverty and social problems. Vulnerable households are particularly exposed to increasing energy prices as they spend a larger proportion of their budget on energy products. By reducing excessive energy bills, building renovation can lift people out of energy poverty and also prevent it. At the same time, building renovation does not come for free, and it is essential to ensure that the social impact of the costs for building renovation, notably on vulnerable households, is kept in check. The renovation wave should leave no one behind and be seized as an opportunity to improve the situation of vulnerable households, and a fair transition towards climate neutrality should be ensured. Therefore, financial incentives and other policy measures should as a priority target vulnerable households, people affected by energy poverty and people living in social housing, and Member States should take measures to prevent evictions because of renovation. The Commission proposal for a Council Recommendation on ensuring a fair transition towards climate neutrality provides a common framework and shared understanding of comprehensive policies and investments needed for ensuring that the transition is fair.	(48) Inefficient buildings are often linked to energy poverty and social problems. Vulnerable households are particularly exposed to increasing ***fossil-based*** energy prices as they spend a larger proportion of their budget on energy products. By reducing excessive energy bills, building renovation can lift people out of energy poverty and also prevent it. At the same time, building renovation does not come for free, and it is essential to ensure that the social impact of the costs for building renovation, notably on vulnerable households, is kept in check. The renovation wave should leave no one behind and be seized as an opportunity to improve the situation of vulnerable ***and low-income*** households***, people affected by energy poverty and people living in social housing***, and a fair transition towards climate neutrality should be ensured. Therefore, financial incentives and other policy measures should as a priority target vulnerable ***and low-income*** households, people affected by energy poverty***, low-income property owners, elderly and retired property-owners*** and people living in social housing, and Member States should take measures to prevent evictions because of renovation. The Commission proposal for a Council Recommendation on ensuring a fair transition towards climate neutrality provides a common

framework and shared understanding of comprehensive policies and investments needed for ensuring that the transition is fair.

Amendment 64

Proposal for a directive
Recital 49

Text proposed by the Commission	*Amendment*
(49) In order to ensure that the energy performance of buildings can be taken into account by prospective buyers or tenants early in the process, buildings or building units which are offered for sale or rent should have an energy performance certificate, and the energy performance class and indicator should be stated in all advertisements. The prospective buyer or tenant of a building or building unit should, in the energy performance certificate, be given correct information about the energy performance of the building and practical advice on improving such performance. The energy performance certificate should also provide information on its primary energy consumption , on its renewable energy production and on its operational greenhouse gas emissions.	(49) In order to ensure that the energy performance of buildings can be taken into account by prospective buyers or tenants early in the process, buildings or building units which are offered for sale or rent ***on a commercial basis*** should have an energy performance certificate, and the energy performance class and indicator should be stated in all advertisements. The prospective buyer or tenant of a building or building unit should, in the energy performance certificate, be given correct information about the energy performance of the building and practical advice on improving such performance. The energy performance certificate should also provide information on its primary energy consumption***, existing Pay-as-you-Save financial schemes for the property***, on its renewable energy production and on its operational greenhouse gas emissions.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 65

Proposal for a directive
Recital 50

Text proposed by the Commission	*Amendment*
(50) The monitoring of the building stock is facilitated by the availability of data collected by digital tools, thereby	(50) The monitoring of the building stock is facilitated by the availability of data collected by digital tools, ***development***

reducing administrative costs. Therefore, national databases for energy performance of buildings should be set up, and the information contained therein should be transferred to the EU Building Stock Observatory.

and maximization of digital technologies to achieve more efficient, inclusive, accessible and eco-sustainable solutions: stresses that such technologies should be used to improve the social well-being of citizens and do not translate into the creation of digital surveillance of people and thereby reducing administrative costs. Therefore, national databases for energy performance of buildings should be set up, and the information contained therein should be transferred to the EU Building Stock Observatory.

Amendment 66

Proposal for a directive
Recital 51

Text proposed by the Commission	*Amendment*
(51) Buildings occupied by public authorities and buildings frequently visited by the public should set an example by showing that environmental and energy considerations are being taken into account and therefore those buildings should be subject to energy certification on a regular basis. The dissemination to the public of information on energy performance should be enhanced by clearly displaying those energy performance certificates, in particular in buildings of a certain size which are occupied by public authorities or which are frequently visited by the public, such as town halls, schools, shops and shopping centres, supermarkets, restaurants, theatres, banks and hotels.	(51) Buildings occupied by public authorities and buildings frequently visited by the public should set an example by showing that environmental and energy considerations are being taken into account and therefore those buildings should be subject to energy certification on a regular basis. The dissemination to the public of information on energy performance should be enhanced by clearly displaying those energy performance certificates, in particular in buildings of a certain size which are occupied by public authorities or which are frequently visited by the public, such as town halls, schools, shops and shopping centres, supermarkets, restaurants, theatres, banks and hotels. ***To ensure the exemplary role of public authorities and promote visibility of sustainability measures, public governmental buildings without historic or cultural value should strive towards setting up solar panels on their respective buildings.***

Justification

Visibility of the energy transition should be enhanced by using buildings of public authorities as an exemplary example.

Amendment 67

Proposal for a directive
Recital 51 a (new)

Text proposed by the Commission	*Amendment*
	(51a) The Union and its Member States need to take note of the readiness and attitudes of the general public for engaging in renovation of the buildings;

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 68

Proposal for a directive
Recital 53

Text proposed by the Commission	*Amendment*
(53) Regular maintenance and inspection of heating , ventilation and air-conditioning systems by qualified personnel contributes to maintaining their correct adjustment in accordance with the product specification and in that way ensures optimal performance from an environmental, safety and energy point of view. An independent assessment of the entire heating, ventilation and air-conditioning system should occur at regular intervals during its lifecycle in particular before its replacement or upgrading. In order to minimise the administrative burden on building owners and tenants, Member States should endeavour to combine inspections and certifications as far as possible.	(53) Regular maintenance and inspection of heating, ventilation and air-conditioning systems***, and electrical installations*** by qualified personnel contributes to maintaining their correct adjustment in accordance with the product specification and in that way ensures optimal performance from an environmental, safety and energy point of view. An independent assessment of the entire heating, ventilation and air-conditioning system ***and electrical installations*** should occur at regular intervals during its lifecycle in particular before its replacement or upgrading***, free of charge for tenants, low-income owners and all owners, without prejudice to income criteria, for the property which constitutes their principal residence***. In

	order to minimise the administrative burden on building owners and tenants, Member States should endeavour to combine inspections and certifications as far as possible.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text. Energy poverty and the high costs of renovations especially for vulnerable groups are important issue that should be consistently addresses throughout this Directive. Regular maintenance, inspection and independent assessment of electrical systems ensure optimal performance from an environmental, safety and energy point of view.

Amendment 69

Proposal for a directive
Recital 53 a (new)

Text proposed by the Commission	*Amendment*
	(53a) Poor ventilation in confined indoor spaces is associated with the increased transmission of respiratory tract infections such as influenza, tuberculosis and rhinovirus infection. Similarly, SARS-CoV-2 transmission is particularly effective in closed spaces. Therefore, indoor air quality is key for preventing the spreading of air-transmissible diseases. Heating, ventilation and air-conditioning systems can provide a good indoor air quality and decrease the transmission of diseases in closed indoor spaces by increasing the rate of air exchange, decreasing recirculation of air and increasing the use of outdoor air, and using adequate types of filter.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text. The amendment supports the requirements on ventilation - as set out already under the old EPBD.

Amendment 70

Proposal for a directive
Recital 54

Text proposed by the Commission	*Amendment*
(54) A common approach to the energy performance certification of buildings , renovation passports, smart readiness indicators and the inspection of heating ***and*** air-conditioning systems***,*** carried out by qualified or certified experts, whose independence is to be guaranteed on the basis of objective criteria, contribute to a level playing field as regards efforts made in Member States to energy saving in the buildings sector and will introduce transparency for prospective owners or users with regard to energy performance in the Union property market. In order to ensure the quality of energy performance certificates , renovation passports, smart readiness indicators and of the inspection of heating and air-conditioning systems throughout the Union, an independent control mechanism should be established in each Member State.	(54) A common approach to the energy performance certification of buildings , renovation passports, smart readiness indicators and the inspection of heating***, ventilation,*** air-conditioning systems ***and electrical installations*** carried out by qualified or certified experts, whose independence is to be guaranteed on the basis of objective criteria, contribute to a level playing field as regards efforts made in Member States to energy saving in the buildings sector and will introduce transparency for prospective owners or users with regard to energy performance in the Union property market. In order to ensure the quality of energy performance certificates , renovation passports, smart readiness indicators and of the inspection of heating and air-conditioning systems throughout the Union, an independent control mechanism should be established in each Member State.

Justification

Inspections must also cover electrical installations so as to improve energy efficiency according to available standard (IEC/HD 60364-8-1:2019). Ventilation is covered by Article 20 but missing in this Recital.

Amendment 71

Proposal for a directive
Recital 57

Text proposed by the Commission	*Amendment*
(57) In order to further the aim of improving the energy performance of buildings, the power to adopt acts in accordance with Article 290 TFEU should be delegated to the Commission in respect of the adaptation to technical progress of certain parts of the general framework set out in Annex I, in respect of the	(57) In order to further the aim of improving the energy performance of buildings, the power to adopt acts in accordance with Article 290 TFEU should be delegated to the Commission in respect of the adaptation to technical progress of certain parts of the general framework set out in Annex I, in respect of the

establishment of a methodology framework for calculating cost-optimal levels of minimum energy performance requirements , in respect of adapting the thresholds for zero-emission buildings and the calculation methodology for life-cycle Global Warming Potential, in respect of the establishment of a common European framework for renovation passports and in respect of a Union scheme for rating the smart readiness of buildings . It is of particular importance that the Commission carry out appropriate consultations during its preparatory work, including at expert level , and that those consultations be conducted in accordance with the principles laid down in the Interinstitutional Agreement of 13 April 2016 on Better Law-Making[41] . In particular, to ensure equal participation in the preparation of delegated acts, the European Parliament and the Council receive all documents at the same time as Member States' experts, and their experts systematically have access to meetings of Commission expert groups dealing with the preparation of delegated acts .	establishment of a methodology framework for calculating cost-optimal levels of minimum energy performance requirements , in respect of adapting the thresholds for zero-emission buildings and the calculation methodology for life-cycle Global Warming Potential, in respect of the establishment of a common European framework for renovation passports and in respect of a Union scheme for rating the smart readiness of buildings***, and approving of standards for Pay-as-you-Save financial schemes***. It is of particular importance that the Commission carry out appropriate consultations during its preparatory work, including at expert level , and that those consultations be conducted in accordance with the principles laid down in the Interinstitutional Agreement of 13 April 2016 on Better Law-Making[41] . In particular, to ensure equal participation in the preparation of delegated acts, the European Parliament and the Council receive all documents at the same time as Member States' experts, and their experts systematically have access to meetings of Commission expert groups dealing with the preparation of delegated acts .
[41] OJ L 123, 12.5.2016, p. 1.	[41] OJ L 123, 12.5.2016, p. 1.

Amendment 72

Proposal for a directive
Recital 58

Text proposed by the Commission	*Amendment*
(58) In order to ensure an effective implementation of the provisions laid down in this Directive, the Commission supports Member States through various tools, such as the Technical Support Instrument[42] providing tailor-made technical expertise to design and implement reforms, including those aimed at increasing the	(58) In order to ensure an effective implementation of the provisions laid down in this Directive, the Commission supports Member States through various tools, such as the Technical Support Instrument[42] providing tailor-made technical expertise to design and implement reforms, including those aimed at increasing the

annual energy renovation rate of residential and non-residential buildings by 2030 and to foster deep energy renovations. The technical support relates to, for example, strengthening of administrative capacity, supporting policy development and implementation, and sharing of relevant best practices.	annual energy renovation rate of residential and non-residential buildings ***to at least 3 % from 2025*** and to foster deep energy renovations. The technical support relates to, for example, strengthening of administrative capacity, supporting policy development and implementation, and sharing of relevant best practices. ***Member States should ensure the accessibility of technical support to low income households.***
[42] Regulation (EU) 2021/240 of the European Parliament and of the Council of 10 February 2021 establishing a Technical Support Instrument (OJ L 57, 18.2.2021, p. 1).	[42] Regulation (EU) 2021/240 of the European Parliament and of the Council of 10 February 2021 establishing a Technical Support Instrument (OJ L 57, 18.2.2021, p. 1).

Justification

In order to stay in line with the long-term 2050 target of achieving net zero emissions in the EU, the building sector must raise its ambition by increasing the annual renovation rates to at least 3 %.

Amendment 73

Proposal for a directive
Article 1 – paragraph 1

Text proposed by the Commission	*Amendment*
1. This Directive promotes the improvement of the energy performance of buildings and the reduction of greenhouse gas emissions from buildings within the Union, with a view to achieving a zero-emission building stock by 2050 taking into account outdoor climatic and local conditions, as well as indoor climate requirements and cost-effectiveness.	1. This Directive promotes the improvement of the energy performance of buildings and the reduction of greenhouse gas emissions from buildings within the Union, with a view to achieving a zero-emission ***and a smarter and more sustainable*** building stock by ***latest*** 2050 taking into account outdoor climatic and local conditions, as well as indoor climate requirements***, indoor environmental quality, the socioeconomic impact*** and cost-effectiveness.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 74

Proposal for a directive
Article 1 – paragraph 2 – point f

Text proposed by the Commission	*Amendment*
(f) national building renovation plans;	(f) national building renovation plans***, for both public and private buildings which should contain measures for circularity improving the main building components such as the facade and the roof***;

Amendment 75

Proposal for a directive
Article 1 – paragraph 2 – point f a (new)

Text proposed by the Commission	*Amendment*
	(fa) the phase out of fossil fuel based technical building systems;

Amendment 76

Proposal for a directive
Article 1 – paragraph 2 – point g

Text proposed by the Commission	*Amendment*
(g) sustainable mobility infrastructure in and adjacent to buildings; and	(g) sustainable ***and active*** mobility infrastructure in and adjacent to buildings; and

Amendment 77

Proposal for a directive
Article 1 – paragraph 2 – point h a (new)

Text proposed by the Commission	*Amendment*
	(ha) smart and sustainable buildings for achieving the digital and sustainable transition goals;

Amendment 78

Proposal for a directive
Article 1 – paragraph 2 – point k a (new)

Text proposed by the Commission	*Amendment*
	(ka) minimum requirements for the electric grids in order to ensure the effectiveness and the capacity for efficiently implementing building renovation measures.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 79

Proposal for a directive
Article 2 – paragraph 1 – point 2

Text proposed by the Commission	*Amendment*
2. ‘zero-emission building’ means a building with a very high energy performance, as determined in accordance with Annex I, where the very low amount of energy still required is fully covered by energy from renewable sources generated on-site, from a renewable energy community within the meaning of Directive (EU) 2018/2001 [amended RED] ***or from a*** district heating and cooling system, in accordance with the requirements set out in Annex III;	2. ‘zero-emission building’ means a building with a very high energy performance, as determined in accordance with Annex I, where the very low amount of energy still required is fully covered by energy from renewable sources generated on-site, from a renewable energy community within the meaning of Directive (EU) 2018/2001 [amended RED]***, or renewable energy and waste heat from an efficient*** district heating and cooling system***, or subsidiarily distributed grid-based renewables certified in accordance with Directive(EU) 2018/2001 [amended RED]***, in accordance with the

	requirements set out in Annex III ***or stored on-site***;

Amendment 80

Proposal for a directive
Article 2 – paragraph 1 – point 3

Text proposed by the Commission	*Amendment*
3. ‘nearly zero-energy building’ means a building with a very high energy performance, as determined in accordance with Annex I , which cannot be lower than the 2023 cost-optimal level reported by Member States in accordance with Article 6(2) and where the nearly zero or very low amount of energy required is covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site ***or*** nearby;	3. ‘nearly zero-energy building’ means a building with a very high energy performance, as determined in accordance with Annex I , which cannot be lower than the 2023 cost-optimal level reported by Member States in accordance with Article 6(2) and where the nearly zero or very low amount of energy required is covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site***,*** nearby ***or from a efficient district heating and cooling system in accordance with the requirements set out in Annex III, or subsidiarily from the grid certified in accordance with Directive(EU) 2018/2001 [amended RED] or stored on-site***;

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 81

Proposal for a directive
Article 2 – paragraph 1 – point 4

Text proposed by the Commission	*Amendment*
4. ‘minimum energy performance standards’ means rules that require existing buildings to meet an energy performance requirement as part of a wide renovation plan for a building stock or at a trigger point on the market (sale or rent), in a period of time or by a specific date, thereby	4. ‘minimum energy performance standards’ means rules that require existing buildings to meet an energy performance requirement as part of a wide renovation plan for a building stock or at a trigger point on the market (sale or rent), in a period of time or by a specific date, thereby

triggering renovation of existing buildings***;***	triggering renovation of existing buildings ***that respects the Energy Efficiency First Principle as defined by [recast EED]***

Amendment 82

Proposal for a directive
Article 2 – paragraph 1 – point 4 a (new)

Text proposed by the Commission	*Amendment*
	4a. 'New European Bauhaus' means to connect to the Renovation Wave as a preliminary phase, taking advantage of the innovative solutions that the project offers in the comprehensive renovation of our building stock, going beyond energy efficiency, accessibility, and security, achieving a truly holistic and quality renovation of the building stock, mindful of the site specific contexts and surrounding neighbourhood by respecting sustainability, aesthetics and inclusion;

Amendment 83

Proposal for a directive
Article 2 – paragraph 1 – point 6

Text proposed by the Commission	*Amendment*
6. 'technical building system' means technical equipment for space heating, space cooling, ventilation, domestic hot water, built-in lighting, building automation and control, on-site renewable energy generation ***and*** storage , or a combination thereof, including those systems using energy from renewable sources, of a building or building unit;	6. 'technical building system' means technical equipment for space heating, space cooling, ventilation, ***indoor air quality,*** domestic hot water, built-in lighting, building automation and control, ***solar shading, electrical installations, monitoring of electrical installations, electric-vehicles bidirectional charging stations, if economically feasible,*** on-site renewable energy ***including rooftop solar panels*** generation***,*** storage, ***energy from renewable sources produced nearby that can be used on-site of the building assessed through a dedicated connection to the energy production source, waste***

	heat recovery system or a combination thereof, including those systems using energy from renewable sources, of a building or building unit;

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 84

Proposal for a directive
Article 2 – paragraph 1 – point 8

Text proposed by the Commission	*Amendment*
8. 'energy performance of a building' means the calculated or metered amount of energy needed to meet the energy demand associated with a typical use of the building, which includes, inter alia, energy used for heating, cooling, ventilation, hot water and lighting;	8. 'energy performance of a building' means the calculated or metered amount of energy needed to meet the energy demand associated with a typical use of the building, which includes, inter alia, energy used for heating, cooling, ventilation, hot water and lighting ***and technical building systems***;

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 85

Proposal for a directive
Article 2 – paragraph 1 – point 9 a (new)

Text proposed by the Commission	*Amendment*
	9a. 'Metered' means the measurement of energy by a relevant device, an energy meter, a power meter, a power metering and monitoring device, or an electricity meter;

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 86

Proposal for a directive
Article 2 – paragraph 1 – point 11

Text proposed by the Commission	*Amendment*
11. 'renewable primary energy factor' means renewable primary energy from an on-site, nearby or distant energy source that is delivered via a given energy carrier, including the delivered energy and the calculated energy overheads of delivery to the points of use, divided by the delivered energy;	11. 'renewable primary energy factor' means renewable primary energy from an on-site, nearby or distant energy source that is delivered via a given energy carrier, including the delivered energy and the calculated energy overheads of delivery to the points of use, divided by the delivered energy***, including rooftop solar panels***;

Amendment 87

Proposal for a directive
Article 2 – paragraph 1 – point 13

Text proposed by the Commission	*Amendment*
13. 'energy from renewable sources' means energy from renewable ***non-fossil*** sources***, namely wind, solar (solar thermal and solar photovoltaic) , and geothermal energy , ambient energy, tide, wave and other ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas, and biogas;***	13. 'energy from renewable sources' means energy from renewable sources ***as set out in Directive (EU) .../….[amended RED];***

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 88

Proposal for a directive
Article 2 – paragraph 1 – point 18

Text proposed by the Commission	*Amendment*
18. 'renovation passport' means a document that provides a tailored roadmap for the renovation of a specific building in ***several*** steps that will significantly improve its energy performance;	18. 'renovation passport' means a document that provides a tailored roadmap for the renovation of a specific building in ***one or a few*** steps that will significantly improve its energy performance***, its indoor***

environmental quality;

Amendment 89

Proposal for a directive
Article 2 – paragraph 1 – point 19 – introductory part

Text proposed by the Commission	*Amendment*
19. ‘deep renovation’ means a renovation ***which transforms a building or*** building ***unit***	19. ‘deep renovation’ means a renovation ***focused on the following essentials items: wall insulation, roof insulation, low floor insulation, replacement of external joinery, airtightness, vapour permeability, treatment of thermal bridges, ventilation and heating/cooling systems, and*** building ***automation. Treating these items would therefore ensure healthy environmental indoor air quality, a non-pathogenic environment, and the comfort of the occupants in summer and winter with transparent information tools that the user of buildings assess their actual energy performance:***

Amendment 90

Proposal for a directive
Article 2 – paragraph 1 – point 19 – point a

Text proposed by the Commission	*Amendment*
(a) before 1 January ***2030***, into a nearly zero-energy building;	(a) before 1 January ***2028***, into a nearly zero-energy building;

Amendment 91

Proposal for a directive
Article 2 – paragraph 1 – point 19 – point b

Text proposed by the Commission	*Amendment*
(b) as of 1 January ***2030***, into a zero-emission building;	(b) as of 1 January ***2028***, into a zero-emission building;

Amendment 92

Proposal for a directive
Article 2 – paragraph 1 – point 19 – point b a (new)

Text proposed by the Commission	*Amendment*
	(ba) enhances in a holistic approach the Indoor Environmental Quality (IEQ) and ensuring healthy indoor air quality, a free pathogenic environment and the necessary comfort of the occupants in summer and winter with special consideration to heat protection for buildings in summer;

Amendment 93

Proposal for a directive
Article 2 – paragraph 1 – point 20

Text proposed by the Commission	*Amendment*
20. 'staged deep renovation' means a deep renovation carried out in ***several*** steps, following the steps set out in a renovation passport in accordance with Article 10;	20. 'staged deep renovation' means a deep renovation carried out in ***a few*** steps, following the steps set out in a renovation passport in accordance with Article 10***, and may include hybrid heat pumps if no other feasible fossil-free solution is available***;

Amendment 94

Proposal for a directive
Article 2 – paragraph 1 – point 20 a (new)

Text proposed by the Commission	*Amendment*
	20a. 'one-step deep renovation' means a deep renovation carried out in one step, following objectives set out in a renovation passport in accordance with Article 10, and a proper detailed project of the building;

Amendment 95

Proposal for a directive
Article 2 – paragraph 1 – point 21 – subparagraph 2

Text proposed by the Commission	*Amendment*
Member States may choose to apply option (a) ***or (b).***	Member States may choose to apply option (a), ***(b) or both.***

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 96

Proposal for a directive
Article 2 – paragraph 1 – point 23

Text proposed by the Commission	*Amendment*
23. 'whole life-cycle greenhouse gas emissions' means the combined greenhouse gas emissions associated with the building at all stages of its life-cycle, from the 'cradle' (the extraction of the raw materials that are used in the construction of the building) over the material production and processing, and the building's operation stage, to the '***grave***' (the deconstruction of the building and reuse, recycling, other recovery and disposal of its materials);	23. 'whole life-cycle greenhouse gas emissions' means the combined greenhouse gas emissions associated with the building at all stages of its life-cycle***, the materials used in one-site or off-site parking spaces, also considering the benefits from reuse and recycling at end-of-life***, from the 'cradle' (the extraction of the raw materials that are used in the construction of the building) over the material production and processing, and the building's operation stage, to the '***end of life***' (the deconstruction of the building and reuse, recycling, other recovery and disposal of its materials);

Amendment 97

Proposal for a directive
Article 2 – paragraph 1 – point 24

Text proposed by the Commission	*Amendment*
24. 'Life-cycle Global Warming Potential (GWP)' means an indicator	24. 'Life-cycle Global Warming Potential (GWP)' means an indicator

which quantifies the global warming potential contributions of a building along its ***full*** life-cycle;	which quantifies the global warming potential contributions of a building along its ***whole*** life-cycle;

Amendment 98

Proposal for a directive
Article 2 – paragraph 1 – point 26

Text proposed by the Commission	*Amendment*
26. 'energy poverty' ***means energy poverty as defined in Article 2(49) of*** [recast EED];	26. 'energy poverty' means energy poverty ***as set out in*** [recast EED];

Amendment 99

Proposal for a directive
Article 2 – paragraph 1 – point 26 a (new)

Text proposed by the Commission	*Amendment*
	26a. 'indoor environmental quality' means a set of parameters including indoor air quality, thermal comfort, lighting, damp conditions and acoustic with the view of improving the health and wellbeing of occupants as described in standard EN 16798-1 and standard EN 16516 and standardised in-situ testing methods where available to ensure a healthy indoor climate;

Amendment 100

Proposal for a directive
Article 2 – paragraph 1 – point 27

Text proposed by the Commission	*Amendment*
27. 'vulnerable households' means households in energy poverty or households, including lower middle-income ones, that are particularly exposed to high energy costs and lack the means to	27. 'vulnerable households' means households in ***risk of*** energy poverty or households, including lower middle-income ones, that are particularly exposed to high energy costs and lack the means to

renovate the building they occupy;	renovate the building they occupy ***as defined with the indicators of Article 8(3) [recast EED]***;

Amendment 101

Proposal for a directive
Article 2 – paragraph 1 – point 27 a (new)

Text proposed by the Commission	*Amendment*
	27a. 'nature-based solutions' means to reinforce in a holistic manner, in accordance with recital 8, the good use and adaptation of the public space surrounding the buildings.

Amendment 102

Proposal for a directive
Article 2 – paragraph 1 – point 29

Text proposed by the Commission	*Amendment*
29. 'energy performance certificate' means a certificate recognised by a Member State or by a legal person designated by it, which indicates the energy performance of a building or building unit, calculated according to a methodology adopted in accordance with Article 4;	29. 'energy performance certificate' means a certificate recognised by a Member State or by a legal person designated by it, which indicates the energy performance of a building or building unit, calculated according to a methodology adopted in accordance with Article 4***, as well as recommendations for the improvement of the energy performance and the GWP***;

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 103

Proposal for a directive
Article 2 – paragraph 1 – point 31 – point a – point iii

Text proposed by the Commission	*Amendment*
iii) maintenance and operating costs, including energy costs taking into account the cost of greenhouse gas allowances;	iii) maintenance and operating costs, including energy costs ***in the whole lifecycle of the building*** taking into account the cost of greenhouse gas allowances ***as well as the cost associated with materials and processes needed to maintain the building during use, for example renovations***;

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 104

Proposal for a directive
Article 2 – paragraph 1 – point 31 – point a – point iv

Text proposed by the Commission	*Amendment*
iv) environmental and health externalities of energy use;	iv) environmental and health externalities of energy use ***and the cost of fulfilling indoor environmental quality performance requirements***;

Justification

Necessary for the internal logic of the text.

Amendment 105

Proposal for a directive
Article 2 – paragraph 1 – point 31 – point a – point v

Text proposed by the Commission	*Amendment*
v) earnings from energy produced on-site , where applicable;	v) earnings from energy produced on-site, where applicable***, and savings resulting from the fulfilment of indoor environmental quality performance requirements***;

Justification

Necessary for the internal logic of the text.

Amendment 106

Proposal for a directive
Article 2 – paragraph 1 – point 36 a (new)

Text proposed by the Commission	*Amendment*
	36a. 'digitally-connected recharging point' means a recharging point that can send and receive information in real time, communicate bi-directionally with the electricity grid and the electric vehicle, and that can be remotely monitored and controlled, including to start and stop the recharging session and to measure electricity flows;

Justification

In order to ensure alignment of definitions between the EPBD, AFIR and RED proposals.

Amendment 107

Proposal for a directive
Article 2 – paragraph 1 – point 37

Text proposed by the Commission	*Amendment*
37. 'digital building logbook' means a common repository for all relevant building data, including data related to energy performance such as energy performance certificates, renovation passports and smart readiness indicators, which facilitates informed decision making and information sharing within the construction sector, among building owners and occupants, financial institutions and public authorities;	37. 'digital building logbook' means a common repository for all relevant building data, including data related to ***indoor environmental quality*** energy performance such as energy performance certificates, renovation passports and smart readiness indicators, which facilitates informed decision making and information sharing within the construction sector, among building owners and occupants, financial institutions and public authorities;

Amendment 108

Proposal for a directive
Article 2 – paragraph 1 – point 37 a (new)

Text proposed by the Commission	*Amendment*
	37a. 'bicycle parking space' means a designated space for one bicycle;

Amendment 109

Proposal for a directive
Article 2 – paragraph 1 – point 40 – introductory part

Text proposed by the Commission	*Amendment*
40. 'heat generator' means the part of a heating system that generates useful heat for uses identified in Annex I, using one or more of the following processes:	40. 'heat generator' means the part of a heating system that generates ***or captures*** useful heat for uses identified in Annex I, using one or more of the following processes:

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 110

Proposal for a directive
Article 2 – paragraph 1 – point 40 – point c

Text proposed by the Commission	*Amendment*
(c) capturing heat from ambient ***air***, ventilation exhaust air, or ***a*** water or ground heat source using a heat pump;	(c) capturing heat from ***the*** ambient ***environment and from within a building or a building unit, from air, including***, ventilation exhaust air, or ***water, including wastewater and sanitary hot*** water***,*** or ground heat source***, including when*** using a heat pump;

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 111

Proposal for a directive
Article 2 – paragraph 1 – point 40 a (new)

Text proposed by the Commission	*Amendment*
	40a. 'electrical installation' means the system composed of all the fixed components, such as switchboards, cables, earthing systems, sockets, switches and light fittings, aiming to distribute electrical power within a building to all points of use or transmit electricity generated on-site;

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 112

Proposal for a directive
Article 2 – paragraph 1 – point 40 b (new)

Text proposed by the Commission	*Amendment*
	40b. 'waste heat recuperation' means a device or system used to capture and transmission of energy within the indoor environment of buildings or building units and allows for use of this energy;

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 113

Proposal for a directive
Article 2 – paragraph 1 – point 41 a (new)

Text proposed by the Commission	*Amendment*
	41a. 'Pay-as-you-Save financial scheme' means a loan scheme dedicated

	exclusively or solely to energy performance enhancement, guaranteeing that the repayment costs on the loan does not exceed energy saving on a monthly or yearly average in order to ensure and facilitate the implementation of Regulation (EU) 2021/1119 of the European Parliament and of the Council ('European Climate Law');

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 114

Proposal for a directive
Article 2 – paragraph 1 – point 42 a (new)

Text proposed by the Commission	*Amendment*
	42a. 'heat pump' means a machine, a device or installation that transfers heat from/to sources/sinks such as air, water or ground to or from buildings, for the purpose of providing heating, cooling or domestic hot water;

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 115

Proposal for a directive
Article 2 – paragraph 1 – point 49 – introductory part

Text proposed by the Commission	*Amendment*
49. 'energy from renewable sources produced nearby' means energy from renewable sources produced within a local or district level perimeter of the building assessed, which fulfils all the following conditions:	49. 'energy from renewable sources produced nearby' means energy from renewable sources produced within a local or district level perimeter of the building assessed***, including rooftop solar panels***, which fulfils all the following conditions:

Amendment 116

Proposal for a directive
Article 2 – paragraph 1 – point 50

Text proposed by the Commission	*Amendment*
50. ‘energy performance of buildings (EPB) services’ means the services, such as heating, cooling, ventilation, domestic hot water and lighting and others ***for*** which the energy use is taken into account in the energy performance of buildings;	50. ‘energy performance of buildings (EPB) services’ means the services ***which aim is to improve the optimization of system usage***, such as heating, cooling, ventilation, domestic hot water and lighting and others which ***improve in*** the energy use is taken into account in the energy performance of buildings;

Amendment 117

Proposal for a directive
Article 2 – paragraph 1 – point 53

Text proposed by the Commission	*Amendment*
53. ‘self-used’ means part of on-site or nearby produced renewable energy used by on-site technical systems for EPB services;	53. ‘self-used’ means part of on-site or nearby produced renewable energy used by on-site technical systems for EPB services***, including rooftop solar panels***;

Amendment 118

Proposal for a directive
Article 2 – paragraph 1 – point 57 a (new)

Text proposed by the Commission	*Amendment*
	57a. ‘circularity measures’ means the measures aiming at reducing the need and extraction of virgin materials by reducing demand for new materials, by rethinking, repairing, reusing, repurposing, and recycling used materials and by extending the lifetime of products and buildings.

Amendment 119

Proposal for a directive
Article 3 – paragraph 1 – subparagraph 1

Text proposed by the Commission	*Amendment*
Each Member State shall establish 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 objective to transform existing buildings into zero-emission buildings.	Each Member State shall establish a national building renovation plan ***to support reaching an annual deep renovation rate, including staged deep renovation, of at least 2.5 % per year or on average per year, in line with the Commission communication from the Commission of 14 October 2020 entitled 'A Renovation Wave for Europe - greening our buildings, creating jobs, improving lives' on the Renovation Wave**** 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 objective to transform existing buildings into zero-emission ***and, if technically feasible, positive energy buildings in a cost optimal way. The building renovation plan shall provide higher targets for each next consecutive period of time within the timeframe of the plan, based on increased economic capacity for deep renovation, aiming at an average deep renovation rate of 3 % or more for the period till 2050. Such plan shall guarantee that renovations of residential buildings with low economic value are affordable for example by not exceeding half of the value of the building or building unit for the households occupying those*** buildings. ***Prior to the preparation of the national plan, each Member State as well as the Union institutions shall carry out an audit of the building stock including energy efficiency emissions and other environmental parameters;*** _____ ****COM 2020/662 final.***

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 120

Proposal for a directive
Article 3 – paragraph 1 – subparagraph 2 – introductory part

Text proposed by the Commission	*Amendment*
Each building renovation plan shall encompass:	Each building renovation plan shall ***be aligned with the energy efficiency first principle, as defined in Regulation (EU) 2018/1999 and outlined in Directive [recast EED] and shall*** encompass:

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 121

Proposal for a directive
Article 3 – paragraph 1 – subparagraph 2 – point c

Text proposed by the Commission	*Amendment*
(c) an overview of implemented and planned policies and measures, supporting the implementation of the roadmap pursuant to point (b)***; and***	(c) an overview of implemented and planned policies and measures, supporting the implementation of the roadmap pursuant to point (b) ***including measures for the reduction of the overall environmental footprint of the components of buildings and the promotion of the use of sustainable, secondary, locally sourced construction and renovation products and***

Amendment 122

Proposal for a directive
Article 3 – paragraph 1 – subparagraph 2 – point d

Text proposed by the Commission	*Amendment*
(d) an outline of the investment needs for the implementation of the building renovation plan, the financing sources and measures, and the administrative resources for building renovation.	(d) an outline of the investment needs for the implementation of the ***integral*** building renovation plan, the financing sources and measures ***for each type of building in the national plan and the financial models used, in particular if economic operators are involved***, and the administrative resources for building renovation.

Amendment 123

Proposal for a directive
Article 3 – paragraph 1 – subparagraph 2 – point d a (new)

Text proposed by the Commission	*Amendment*
	(da) Minimum requirements for the electric grids in order to ensure the effectiveness and the capacity for efficiently implementing building renovation measures;

Amendment 124

Proposal for a directive
Article 3 – paragraph 1 – subparagraph 2 – point d b (new)

Text proposed by the Commission	*Amendment*
	(db) A detailed overview of the total share, number and location of unoccupied buildings, and vacant properties in common-property buildings and a national draft strategy for full-fledged participation of the owners of such properties in building renovation measures.

Amendment 125

Proposal for a directive
Article 3 – paragraph 1 – subparagraph 2 – point d c (new)

Text proposed by the Commission	*Amendment*
	(dc) the reskilling and upskilling of workers, in particular in jobs related to building renovation including sustainable working techniques;

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 126

Proposal for a directive
Article 3 – paragraph 1 – subparagraph 3

Text proposed by the Commission	*Amendment*
The roadmap referred to in point (b) shall include national targets for 2030, 2040 and 2050 as regards the annual energy renovation rate, the primary and final energy consumption of the national building stock and its operational greenhouse gas emission reductions***;*** specific ***timelines*** for buildings to achieve higher energy performance classes than those pursuant to Article 9(1), by 2040 and 2050, in line with the pathway for transforming the national building stock into zero-emission buildings; an evidence-based estimate of expected energy savings and wider benefits; and estimations for the contribution of the building renovation plan to achieving the Member State's binding national target for greenhouse gas emissions pursuant to Regulation (EU) .../… [revised Effort Sharing Regulation], the Union's energy efficiency targets in accordance with Directive (EU) …/…. [recast EED], the Union's renewable energy targets, including the indicative target for the share of energy from renewable sources in the building sector in accordance with Directive (EU) 2018/2001	The roadmap referred to in point (b) shall include national targets for 2030, 2040 and 2050 as regards the annual energy renovation rate, the primary and final energy consumption of the national building stock and its operational greenhouse gas emission reductions***, the share of renewable energy, the phase-out of financial support for fossil fuels for heating by 2024***; specific ***milestones*** for buildings to achieve higher energy performance classes than those pursuant to Article 9(1), by 2040 and 2050, in line with the pathway for transforming the national building stock into zero-emission buildings; an evidence-based estimate of expected energy savings and wider benefits***; such as those related to health and indoor air quality***; and estimations for the contribution of the building renovation plan to achieving the Member State's binding national target for greenhouse gas emissions pursuant to Regulation (EU) .../… [revised Effort Sharing Regulation], the Union's energy efficiency targets in accordance with Directive (EU) …/…. [recast EED], the Union's renewable

[amended RED], and the Union's 2030 climate target and 2050 climate neutrality goal in accordance with Regulation (EU) 2021/1119.	energy targets, including the indicative target for the share of energy from renewable sources in the building sector in accordance with Directive (EU) 2018/2001 [amended RED], and the Union's 2030 climate target and 2050 climate neutrality goal in accordance with Regulation (EU) 2021/1119. ***The roadmap referred to in point (b) shall also set out national targets for constructing bicycle parking spaces.***

Amendment 127

Proposal for a directive
Article 3 – paragraph 1 – subparagraph 3 a (new)

Text proposed by the Commission	*Amendment*
	The roadmap shall include an overview of the air quality indicators for the zones and agglomerations, including the colour coding map indicating the zones and agglomerations where certain type of renewables in heating and cooling or in co-generation may create disproportionate costs to ensure that concentrations of PM2.5 in ambient air do not exceed the target value in accordance with Directive 2008/50/EC on ambient air quality.

Justification

Ensuring synergies and coherence with environmental acquis related to air quality, and applicable for the Annex II- Table

Amendment 128

Proposal for a directive
Article 3 – paragraph 4 – subparagraph 1 – point a a (new)

Text proposed by the Commission	*Amendment*
	(aa) the plan duly takes into account the objectives of the Directive 2008/50/EC and ensures the coherence with the respective legislation and high level of the

protection of the environment and human health;

Amendment 129

Proposal for a directive
Article 3 – paragraph 4 – subparagraph 1 – point a b (new)

Text proposed by the Commission	*Amendment*
	(ab) renewable energy sources for heating and cooling have been sufficiently considered and analysed;

Amendment 130

Proposal for a directive
Article 3 – paragraph 4 – subparagraph 1 – point c a (new)

Text proposed by the Commission	*Amendment*
	(ca) the conditions under the functioning renovation financing schemes are adequate for the execution of the national energy poverty mitigation target and for the successful inclusion of energy poor and vulnerable consumers so that no one is left behind;

Amendment 131

Proposal for a directive
Article 3 – paragraph 6

Text proposed by the Commission	*Amendment*
6. Every five years, each Member State shall submit its building renovation plan to the Commission, using the template in Annex II. Each Member State shall submit its building renovation plan as part of its integrated national energy and climate plan referred to in Article 3 of Regulation (EU) 2018/1999 and, where the Member States submits an update, its	6. Every five years, each Member State shall submit its building renovation plan to the Commission, using the template in Annex II. Each Member State shall submit its building renovation plan as part of its integrated national energy and climate plan referred to in Article 3 of Regulation (EU) 2018/1999 and, where the Member States submits an update, its

update referred to in Article 14 of that Regulation. By way of derogation from Article 3(1) and Article 14(2) of that Regulation, Member States shall submit ***the first*** building renovation plan to the Commission by 30 June 2025.	update referred to in Article 14 of that Regulation. By way of derogation from Article 3(1) and Article 14(2) of that Regulation, Member States shall submit building renovation plan to the Commission by 30 June 2025. ***Member States shall ensure the alignment and integration of their building renovation plan with the Union renovation finance received from the entry into force of this Directive until the official submission of their plan.***

Amendment 132

Proposal for a directive
Article 3 – paragraph 7

Text proposed by the Commission	*Amendment*
7. Each Member State shall annex the details of the implementation of its most recent long-term renovation strategy or building renovation plan to its next final building renovation plan . Each Member State shall state whether its national targets have been achieved.	7. Each Member State shall annex the details of the implementation of its most recent long-term renovation strategy or building renovation plan to its next final building renovation plan. Each Member State shall state whether its national targets have been achieved***, and which correction measures are provisioned in case of underachievement***.

Amendment 133

Proposal for a directive
Article 3 – paragraph 7 a (new)

Text proposed by the Commission	*Amendment*
	7a. Member States shall take the necessary measures to ensure the implementation of the measures included in the building renovation plans, foreseeing appropriate monitoring mechanisms and penalties, in accordance with Article 31.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 134

Proposal for a directive
Article 3 – paragraph 8 a (new)

Text proposed by the Commission	*Amendment*
	8a. The Commission shall establish a European energy transition partnership within the building sector by bringing together key stakeholders in an inclusive and representative manner. The partnership shall facilitate climate dialogues and encourage the sector to draw up an "energy transition roadmap" in order to map available measures and technological options to improve the energy performance and indoor climate of buildings as well as reduce greenhouse gas emissions from buildings. Such a roadmap could make a valuable contribution in assisting the sector in planning the necessary investments needed to reach the objectives of this directive and the EU Climate Target Plan;

Amendment 135

Proposal for a directive
Article 4 – paragraph 1

Text proposed by the Commission	*Amendment*
Member States shall apply a methodology for calculating the energy performance of buildings in accordance with the common general framework set out in Annex I.	Member States shall apply a methodology for calculating the energy performance of buildings ***and building elements that form part of the building envelope,*** in accordance with the common general framework set out in Annex I.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 136

Proposal for a directive
Article 5 – paragraph 1 – subparagraph 2

Text proposed by the Commission	*Amendment*
Member States shall take the necessary measures to ensure that minimum energy performance requirements are set for 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, with a view to achieving at least cost-optimal levels.	Member States shall take the necessary measures to ensure that minimum energy performance requirements are set for 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, with a view to achieving at least cost-optimal levels. ***The energy performance of building elements shall be calculated in accordance with the methodology referred to in Article 4.***

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 137

Proposal for a directive
Article 5 – paragraph 1 – subparagraph 2 a (new)

Text proposed by the Commission	*Amendment*
	Member States shall take the necessary measures to ensure that minimum and reference energy performance requirements are set for the building systems that have a significant impact on the energy performance of the building when they are replaced or modernised, with a view to achieving at least cost-optimal levels.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 138

Proposal for a directive
Article 5 – paragraph 1 – subparagraph 4

Text proposed by the Commission	*Amendment*
Those requirements shall take account of ***general*** indoor climate conditions, in order to avoid possible negative effects ***such as*** inadequate ventilation, as well as local conditions and the designated function and the age of the building.	Those requirements shall take account of ***the necessity to ensure appropriate*** indoor climate conditions ***based on optimal indoor environmental quality levels***, in order to ***ensure healthy indoor climate and environment quality conditions and*** avoid possible negative effects ***due to*** inadequate ventilation, ***lack of daylight, overheating, noise, humidity*** as well as local conditions and the designated function and the age of the building.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 139

Proposal for a directive
Article 5 – paragraph 3 – point a a (new)

Text proposed by the Commission	*Amendment*
	(aa) single buildings officially protected as part of a designated environment or because of their special architectural or cultural and historical merit, representing the European culture, identity and values, in so far as compliance with certain minimum energy performance requirements would unacceptably alter their character or appearance and where alternatives have been assessed, where compliance can only be achieved by highly disproportionate measures and while taking into account the ecological

ambition;

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 140

Proposal for a directive
Article 5 – paragraph 3 – point b

Text proposed by the Commission	*Amendment*
(b) temporary buildings with a time of use of two years or less, industrial sites, workshops and non-residential agricultural buildings with low energy demand ***and*** non-residential agricultural buildings which are in use by a sector covered by a national sectoral agreement on energy performance;	(b) temporary buildings with a time of use of two years or less, industrial sites, workshops***, depots*** and non-residential agricultural ***and service*** buildings with low energy ***and heating or cooling*** demand***, infrastructural supply stations, such as transformer stations, substations, pressure control plants, railway constructions, as well as*** non-residential agricultural buildings which are in use by a sector covered by a national sectoral agreement on energy performance;

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 141

Proposal for a directive
Article 7 – paragraph 2 – introductory part

Text proposed by the Commission	*Amendment*
2. Member States shall ensure that the life-cycle Global Warming Potential (GWP) ***is calculated*** in accordance with Annex III and disclosed through the energy performance certificate of the building:	2. Member States shall ensure that the life-cycle Global Warming Potential (GWP) is calculated in accordance with Annex III and disclosed through the energy performance certificate of the building:

Amendment 142

Proposal for a directive
Article 7 – paragraph 2 – point b

Text proposed by the Commission	*Amendment*
(b) as of 1 January ***2030,*** for all new buildings.	(b) as of 1 January ***2029*** for all new buildings ***and major renovations ,including staged, of public buildings and public projects and buildings with a useful floor area larger than 2 000 square meters***.

Amendment 143

Proposal for a directive
Article 7 – paragraph 2 a (new)

Text proposed by the Commission	*Amendment*
	2a. Investment projects for new buildings shall take into account the technical, environmental and economic feasibility of alternative high-efficiency installations and systems for:
	(a) decentralized production and consumption of energy from renewable sources;
	(b) highly-efficient co-generation of heat and electricity;
	(c) central or local heating and cooling, including full or partial use of renewable energy;
	(d) heat pumps;
	(e) centralized heating or cooling, mounted horizontally over each floor;
	(f) domestic hot water.

Amendment 144

Proposal for a directive
Article 7 – paragraph 3

Text proposed by the Commission	*Amendment*
3. The Commission is ***empowered*** to adopt delegated acts in accordance with Article 29 to supplement this Directive in order to adapt Annex III to technological progress and innovation, to set adapted maximum energy performance thresholds in Annex III to renovated buildings ***and to adapt the*** maximum energy performance thresholds for zero-emission buildings.	3. The Commission is empowered to adopt delegated acts in accordance with Article 29 to supplement this Directive in order to adapt Annex III to technological progress and innovation, to set ***minimum indoor environmental quality standards applicable to zero-emission buildings, to set*** adapted maximum energy performance thresholds in Annex III to renovated buildings***, to set lower*** maximum energy performance thresholds for zero-emission buildings.

Amendment 145

Proposal for a directive
Article 7 – paragraph 3 a (new)

Text proposed by the Commission	*Amendment*
	3a. After the entry into force of the revision of the construction product Regulation (2019/1020) and at the latest by 31 December 2028, the Commission shall adopt a delegated act in accordance with Article 29 to supplement this Directive by setting out a Union-wide methodology for the calculation of whole life-cycle GWP, including embodied carbon, developed in an inclusive stakeholder process and building on the LEVELs framework according to standard EN 15978, as well as the EU Whole Life Carbon Roadmap and the Bill of Materials.
	Five years after the adoption of this delegated act at the latest, Member States shall introduce maximum limits on the total cumulative life-cycle global warming potential that are allowed in new buildings. On this basis, the Commission is empowered to adopt delegated acts in accordance with Article 29 to set targets for the cumulative life-cycle GWP

	including embodied carbon for new buildings.
	The Commission shall issue guidance, share evidence on existing national policies and offer technical support to Member States as requested for the purpose of determining appropriate national limits.

Amendment 146

Proposal for a directive
Article 7 – paragraph 4

Text proposed by the Commission	*Amendment*
4. Member States shall address***, in relation to*** new buildings***, the issues of healthy*** indoor climate conditions, adaptation to climate change, fire safety, risks related to intense seismic activity and accessibility ***for*** persons with disabilities. Member States shall also address carbon removals associated to carbon storage in or on buildings.	4. Member States shall address ***that*** new buildings ***have high*** indoor climate conditions***, optimal indoor environmental quality levels***, adaptation to climate change, ***through, inter alia, nature-based solutions,*** fire safety ***and emergency lighting***, risks related to intense seismic activity and ***provide easy*** accessibility ***to*** persons with disabilities. Member States shall also address ***linearity to achieve higher levels of circularity for example by requirements for the use of secondary material and*** carbon removals associated to carbon storage in or on buildings ***through for example vegetated surfaces***.

Amendment 147

Proposal for a directive
Article 8 – paragraph 1 – subparagraph 1

Text proposed by the Commission	*Amendment*
Member States shall take the necessary measures to ensure that when buildings undergo major renovation, the energy performance of the building or the renovated part thereof is upgraded in order to meet minimum energy performance requirements set in accordance with Article	Member States shall take the necessary measures to ensure that when buildings undergo major renovation, the energy performance of the building or the renovated part thereof is ***significantly*** upgraded in order to meet minimum energy performance requirements set in

5 in so far as that is technically, functionally and economically feasible.	accordance with Article 5 ***and low temperature heating fit*** in so far as that is technically, functionally and economically feasible. ***The renovation shall be reported as a step in the staged deep renovation passport scheme in accordance with Article 10.***

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 148

Proposal for a directive
Article 8 – paragraph 3

Text proposed by the Commission	*Amendment*
3. Member States shall encourage, in relation to buildings undergoing major renovation, high-efficiency alternative systems, in so far as that is technically, functionally and economically feasible. Member States shall ***address , in relation to*** buildings undergoing major renovation***,*** ***the issues of healthy*** indoor ***climate conditions,*** adaptation to climate change, fire safety, risks related to intense seismic activity ***, the removal of*** hazardous substances including asbestos ***and*** accessibility ***for*** persons with disabilities .	3. Member States shall encourage, in relation to buildings undergoing major renovation, high-efficiency alternative systems, in so far as that is technically, functionally and economically feasible. ***This includes an assessment of the technical,environmental and economic feasibility of alternative high-efficiency installations and systems for:*** ***(a) decentralized production and consumption of energy from renewable sources;*** ***(b) highly-efficient co-generation of heat and electricity, including full or maximum use of renewable energy, in line with (recast Directive 2018/2002 on Energy Efficiency);*** ***(c) central or local heating and***

cooling, including full or maximum use of renewable energy;

(d) heat pumps;

(e) centralized heating or cooling, mounted horizontally over each floor;

(f) domestic hot water.

Member States shall ensure that buildings undergoing major renovation ***have increased*** indoor ***air quality according to minimal indoor environmental quality standards and*** adaptation to climate change, ***through, inter alia, nature-based solutions, improved*** fire safety, ***and are more resilient to*** risks related to intense seismic activity***, do not contain*** hazardous substances including asbestos***, provide easy*** accessibility ***to*** persons with disabilities. ***Member States shall encourage low emissions renovations, renovations which are designed for easy dismantling and reversibility of buildings, and renovations using secondary material, to achieve high levels of circularity.***

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 149

Proposal for a directive
Article 8 – paragraph 3 a (new)

Text proposed by the Commission	*Amendment*
	3a. Member States shall encourage the renovation and exploitation of buildings, which are not currently used, especially in sparsely populated, remote and rural areas, as well as building units in worst-performing multi-apartment buildings, through special financial measures.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 150

Proposal for a directive
Article 8 – paragraph 3 b (new)

Text proposed by the Commission	*Amendment*
	3b. Member States shall ensure that electrical installations of all dwellings are inspected during normatively required building inspections and also when important pieces of electrical equipment are added, such as electrical vehicle charging points, home batteries, photovoltaic installations, heat pumps, etc.

Justification

It is estimated that a minimum of 130 million dwellings, built before 1990, have not undergone an electrical system upgrade, readiness of existing electrical installations to cope with new renewable, energy efficiency, and e-vehicle charging demands is not proven in the EU domestic building stock. While the energy transition, decarbonisation and energy efficiency will drive electrification of buildings the integration of highly efficient equipment or on-site renewable generation & storage can be impossible with obsolete electrical installations. European building stock renovation must therefore integrate electrical inspection regime and upgrades.*source: https://www.feedsnet.org/*

Amendment 151

Proposal for a directive
Article 9 – paragraph 1 – subparagraph 1 – point a – introductory part

Text proposed by the Commission	*Amendment*
(a) buildings and building units owned by public bodies achieve at the latest	(a) buildings and building units owned by public bodies***, including buildings owned, operated or occupied by Union institutions and agencies,*** achieve at the latest

Amendment 152

Proposal for a directive
Article 9 – paragraph 1 – subparagraph 1 – point a – point i

Text proposed by the Commission	*Amendment*
(i) after 1 January 2027, at least energy performance class ***F; and***	(i) after 1 January 2027 , at least energy performance class ***E; and***

Amendment 153

Proposal for a directive
Article 9 – paragraph 1 – subparagraph 1 – point a – point ii

Text proposed by the Commission	*Amendment*
(ii) after 1 January ***2030,*** at least energy performance class ***E***;	(ii) after 1 January ***2033*** at least energy performance class ***D***;

Amendment 154

Proposal for a directive
Article 9 – paragraph 1 – subparagraph 1 – point a – point ii a (new)

Text proposed by the Commission	*Amendment*
	(iia) after 1 January 2035, at least energy performance class C;

Amendment 155

Proposal for a directive
Article 9 – paragraph 1 – subparagraph 1 – point b – point i

Text proposed by the Commission	*Amendment*
(i) after 1 January ***2027,*** at least energy performance class ***F***; ***and***	(i) after 1 January ***2029*** at least energy performance class ***E***;

Amendment 156

Proposal for a directive
Article 9 – paragraph 1 – subparagraph 1 – point b – point ii

Text proposed by the Commission	*Amendment*
(ii) after 1 January ***2030***, at least energy performance class ***E***;	(ii) after 1 January ***2033***, at least energy performance class ***D***;

Amendment 157

Proposal for a directive
Article 9 – paragraph 1 – subparagraph 1 – point b – point ii a (new)

Text proposed by the Commission	*Amendment*
	(iia) after 1 January 2035, at least energy performance class C;

Amendment 158

Proposal for a directive
Article 9 – paragraph 1 – subparagraph 1 – point c – introductory part

Text proposed by the Commission	*Amendment*
(c) residential buildings and building units achieve at the latest	(c) residential buildings and building units achieve ***based on the principle of cost-optimality and in line with Article 15*** at the latest

Amendment 159

Proposal for a directive
Article 9 – paragraph 1 – subparagraph 1 – point c – point i

Text proposed by the Commission	*Amendment*
(i) after 1 January 2030**,** at least energy performance class ***F; and***	(i) after 1 January 2030 at least energy performance class ***E; and***

Amendment 160

Proposal for a directive
Article 9 – paragraph 1 – subparagraph 1 – point c – point ii

Text proposed by the Commission	*Amendment*
(ii) after 1 January ***2033,*** at least energy performance class ***E***;	(ii) after 1 January ***2035*** at least energy performance class ***D***;

Amendment 161

Proposal for a directive
Article 9 – paragraph 1 – subparagraph 1 – point c – point ii a (new)

Text proposed by the Commission	*Amendment*
	(iia) after 1 January 2037 at least energy performance class C;

Amendment 162

Proposal for a directive
Article 9 – paragraph 1 – subparagraph 2

Text proposed by the Commission	*Amendment*
In their roadmap referred to in Article 3(1)(b), Member States shall establish ***specific timelines*** for the buildings referred to in this paragraph to achieve higher energy performance classes by 2040 and 2050, in line with the pathway for transforming the national building stock into zero-emission buildings.	In their roadmap referred to in Article 3(1)(b), Member States shall establish ***linear trajectories with milestones*** for the buildings referred to in this paragraph to achieve higher energy performance classes by 2040 and 2050, in line with the pathway for transforming the national building stock into zero-emission buildings. ***In this regard, the compliance to minimum performance standards shall be governed by renovation passports, in accordance with Article 10.***

Amendment 163

Proposal for a directive
Article 9 – paragraph 1 – subparagraph 2 a (new)

Text proposed by the Commission	*Amendment*
	At the request of a Member State, the Commission may allow Member States a

	derogation up to a maximum of 3 years to adjust the minimum energy performance standards by setting different deadlines or adjusting requirements for energy performance classes for specific segments of the building stock. In such cases the Member State shall propose alternative measures with at least equivalent or stronger effect on the overall performance of the national building stock, while providing owners and/or tenants of the building stock affected by the derogation with compensation measures under, inter alia, Regulation (Social Climate Fund). The Commission shall decide on the request of the Member State within three months of its receipt. Member States shall document the equivalence in their roadmap referred to in Article 3(1)(b).

Amendment 164

Proposal for a directive
Article 9 – paragraph 3 – point a

Text proposed by the Commission	*Amendment*
(a) providing appropriate financial measures, in particular those targeting vulnerable households, people affected by energy poverty or living in social housing, in line with Article 22 of Directive (EU) .../…. [recast EED];	(a) providing appropriate financial measures, in particular those targeting vulnerable***, low- and medium-income*** households, people affected by energy poverty or living in social housing, in line with Article 22 of Directive (EU) .../…. [recast EED];

Amendment 165

Proposal for a directive
Article 9 – paragraph 3 – point b

Text proposed by the Commission	*Amendment*
(b) providing technical assistance, including through one-stop-shops;	(b) providing technical assistance, including ***information services, administrative support and integrated renovation services*** through one-stop-

	shops ***at a neighbourhood level to reach out to energy poor households, with a particular attention to low-income and vulnerable homeowners and renovation passport scheme***;

Amendment 166

Proposal for a directive
Article 9 – paragraph 3 – point b a (new)

Text proposed by the Commission	*Amendment*
	(ba) extending the use of building renovation passports in accordance with Article 10 at no cost to low and medium income households, vulnerable customers, including final users, people facing or risking energy poverty and people living in social housing;

Amendment 167

Proposal for a directive
Article 9 – paragraph 3 – point c

Text proposed by the Commission	*Amendment*
(c) designing integrated financing schemes;	(c) designing integrated financing schemes***, which incentivise deep renovations including, inter alia, Pay-as-you-Save financial schemes covering the common Union standard***;

Amendment 168

Proposal for a directive
Article 9 – paragraph 3 – point e a (new)

Text proposed by the Commission	*Amendment*
	(ea) setting the framework to ensure that there is a sufficient workforce with the appropriate level of skills to allow for the timely implementation of the

requirements.

Amendment 169

Proposal for a directive
Article 9 – paragraph 3 – point e b (new)

Text proposed by the Commission	*Amendment*
	(eb) promoting and incentivising the cost-effective early replacement of heaters, and any needed resulting optimisation of the related technical building systems.

Amendment 170

Proposal for a directive
Article 9 – paragraph 3 – point e c (new)

Text proposed by the Commission	*Amendment*
	(ec) promoting nature-based solutions primarily for climate change adaptation.

Amendment 171

Proposal for a directive
Article 9 – paragraph 3 – point e d (new)

Text proposed by the Commission	*Amendment*
	(ed) promoting energy storage for renewable energy to enable renewable energy self-consumption and reduce volatility;

Amendment 172

Proposal for a directive
Article 9 – paragraph 5 – point b

Text proposed by the Commission	*Amendment*
(b) buildings used as places of worship and for religious activities;	(b) buildings used as places of worship and for religious activities ***in so far as compliance with the standards would unacceptably alter their character or appearance***;

Amendment 173

Proposal for a directive
Article 9 – paragraph 5 – point c

Text proposed by the Commission	*Amendment*
(c) temporary buildings with a time of use of two years or less, industrial sites, workshops and non-residential ***agricultural*** buildings with low energy demand and ***non-residential*** agricultural buildings which are used by a sector covered by a national sectoral agreement on energy performance;	(c) temporary buildings with a time of use of two years or less, industrial sites, workshops and ***depots,*** non-residential ***buildings such as service*** buildings with low energy ***and heating or cooling*** demand and ***infrastructural supply stations, such as transformer stations, substations, pressure control plants, railway constructions, as well as*** agricultural buildings which are used by a sector covered by a national sectoral agreement on energy performance;

Amendment 174

Proposal for a directive
Article 9 – paragraph 5 a (new)

Text proposed by the Commission	*Amendment*
	5a. Members States shall establish the necessary actions to:
	a) preserve the historical and cultural heritage;
	b) renovate their historical buildings and to this, it is essential to apply methodologies to preserve the interior, in order to stimulate the identification, protection and preservation of cultural and natural heritage considered to be of

extraordinary value to humanity;

Amendment 175

Proposal for a directive
Article 9 a (new)

Text proposed by the Commission	*Amendment*
	Article 9a
	Solar energy in buildings
	In line with the EU Solar Energy Strategy, Member States shall ensure that all new buildings are designed to optimise their solar energy generation potential on the basis of the solar irradiance of the site, enabling the cost-effective installation of solar technologies.
	Member States shall ensure the deployment of suitable solar energy installations: .
	(a) by the date of transposition of this Directive on all new public and commercial buildings with useful floor area larger than 250 square meters;
	(b) by 31 December 2026, on all existing public and commercial buildings with useful floor area larger than 250 square meters; and
	(c) the date of transposition of this Directive, on all new residential buildings.
	Member States shall define, and make publicly available, criteria at national level for the practical implementation of these obligations, and for possible exemptions for specific types of buildings, in accordance with the assessed technical and economic potential of the solar energy installations and the characteristics of the buildings covered by this obligation.

Amendment 176

Proposal for a directive
Article 10 – paragraph 3 – point b

Text proposed by the Commission	*Amendment*
(b) it shall comprise a renovation roadmap indicating ***a sequence of*** renovation ***steps building upon each other,*** with the ***objective*** to transform the building into a zero-emission building by 2050 at the latest;	(b) it shall comprise a renovation roadmap ***as a part of the energy performance certificate,*** indicating ***the*** renovation***, in line*** with the ***energy efficiency first principle,*** to transform the building into a zero-emission building by 2050 at the latest;

Amendment 177

Proposal for a directive
Article 10 – paragraph 3 – point c

Text proposed by the Commission	*Amendment*
(c) it shall indicate the expected benefits in terms of energy savings, savings on energy bills and operational greenhouse emission reductions as well as wider benefits related to health and comfort and the improved adaptive capacity of the building to climate change***; and***	(c) it shall indicate ***the expected cost of investments as well as*** the expected benefits in terms of energy savings, savings on energy bills and operational greenhouse emission reductions as well as wider benefits related to health***, safety (fire, electrical and seismic)*** and comfort ***in terms of indoor environmental quality, indoor air quality, thermal and acoustic comfort, daylight conditions*** and the improved adaptive capacity of the building to climate change***, and***

Amendment 178

Proposal for a directive
Article 10 – paragraph 3 a (new)

Text proposed by the Commission	*Amendment*
	3a. Member States shall ensure that the renovation passport does not create an economic or non-economic barrier for building owners, particularly for low and medium income households, vulnerable

	customers, including final users, people facing or risking energy poverty and people living in social housing low-income and vulnerable households, and– that renovation passports are specifically issued free of charge to homeowners, for which the dwelling is a sole residential property.

Amendment 179

Proposal for a directive
Article 11 – paragraph 1 – subparagraph 1

Text proposed by the Commission	*Amendment*
Member States shall, for the purpose of optimising the energy use of technical building systems, set system requirements in respect of the overall energy performance, the proper installation, and the appropriate dimensioning, adjustment and control of the technical building systems which are installed in new or existing buildings. When setting up the requirements, Member States shall ***take account of design conditions and typical or average operating conditions.***	Member States shall, for the purpose of optimising the energy use of technical building systems, set system requirements in respect of the overall energy performance, the proper installation, and the appropriate dimensioning, adjustment and control of the technical building systems which are installed in new or existing buildings. When setting up the requirements, Member States shall ***require the use of technologies in the five highest efficiency classes as per REG 811/2013 and REG 812/2013.***

Amendment 180

Proposal for a directive
Article 11 – paragraph 1 – subparagraph 3

Text proposed by the Commission	*Amendment*
Member States may set requirements related to the greenhouse gas emissions of, or to the type of fuel used by heat generators provided that such requirements do not constitute an unjustifiable market barrier.	Member States may set requirements related to the greenhouse gas emissions of, or to the type of fuel used by heat generators***, in line with Articles 3 and 15,*** provided that such requirements do not constitute an unjustifiable market barrier ***and are technologically neutral***.

Amendment 181

Proposal for a directive
Article 11 – paragraph 1 – subparagraph 4

Text proposed by the Commission	*Amendment*
Member States shall ensure that the requirements they set for technical building systems reach at least the latest cost-optimal levels.	Member States shall ensure that the requirements they set for technical building systems reach at least the latest cost-optimal levels ***and point to the relevant economic and environmental optimisation standards for their dimensioning when available***.

Amendment 182

Proposal for a directive
Article 12 – paragraph 1 – point c

Text proposed by the Commission	*Amendment*
(c) at least one bicycle parking space for every car parking space;	(c) at least one bicycle parking space for every car parking space***, and at least a bicycle parking space for every car parking space in all office buildings and buildings owned or occupied by public authorities***;

Amendment 183

Proposal for a directive
Article 12 – paragraph 1 – point c a (new)

Text proposed by the Commission	*Amendment*
	(ca) for every 10 bicycle parking spaces there shall be one parking space designed for bicycles with larger dimensions than standard bicycles, such as cargo bikes, tricycles, and bicycles with trailers, with a minimum of one space;

Amendment 184

Proposal for a directive
Article 12 – paragraph 1 – subparagraph 1

Text proposed by the Commission	*Amendment*
where the car park is physically adjacent to the building, and, for major renovations, renovation measures include the car park or the electrical infrastructure of the car park.	where the car park is physically ***inside or*** adjacent to the building, and, for major renovations, renovation measures include the car park or the electrical infrastructure of the car park.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 185

Proposal for a directive
Article 12 – paragraph 1 – subparagraph 2

Text proposed by the Commission	*Amendment*
Member States shall ensure that the pre-cabling is dimensioned so as to enable the simultaneous use of the expected number of recharging points.	Member States shall ensure that the pre-cabling ***and the electrical installation*** is dimensioned so as to enable ***economically optimised*** the simultaneous use of the expected number of recharging points.

Amendment 186

Proposal for a directive
Article 12 – paragraph 2

Text proposed by the Commission	*Amendment*
2. With regard to all non-residential buildings with more than twenty parking spaces, Member States shall ensure the installation of at least one recharging point for every ten parking spaces***, and*** at least ***one*** bicycle parking space for every car parking space, by 1 January 2027. In case of buildings owned or occupied by public authorities, Member States shall ensure pre-cabling for at least one in two parking spaces by 1 January 2033.	2. With regard to all non-residential buildings with more than twenty parking spaces, ***and buildings owned by public authorities with more than 10 parking spaces,*** Member States shall ensure by 1 January 2027:

(a) the installation of at least one recharging point for every ten parking spaces***;***

(b) at least ***one*** bicycle parking space for every car parking space***;***

(c) at least for every 10 bicycle parking spaces, one shall be designed for bicycles with larger dimensions than standard bicycles, such as cargo bikes, tricycles, and bicycles with trailers.

In case of buildings owned or occupied by public authorities, Member States shall ensure pre-cabling for at least one in two parking spaces by 1 January 2033.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 187

Proposal for a directive
Article 12 – paragraph 3

Text proposed by the Commission	*Amendment*
3. Member States may adjust requirements for the number of bicycle parking spaces in accordance with paragraphs 1 and 2 for specific categories of non-residential buildings where bicycles are typically less used as a means of transport.	3. Member States may adjust requirements for the number of bicycle parking spaces in accordance with paragraphs 1 and 2 for specific categories of non-residential buildings where bicycles are typically less used as a means of transport ***and according to local needs and characteristics***. ***Member States applying such adjustments shall do so after consultation with active mobility experts and civil society.***

Amendment 188

Proposal for a directive
Article 12 – paragraph 4 – subparagraph 1 – point a a (new)

Text proposed by the Commission	*Amendment*
	(aa) that in communal bike parking spaces for every 10 bicycle parking spaces there shall be one parking space designed for bicycles with larger dimensions than standard bicycles, such as cargo bikes, tricycles, and bicycles with trailers, with a minimum of one space;

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 189

Proposal for a directive
Article 12 – paragraph 4 – subparagraph 1 – point b

Text proposed by the Commission	*Amendment*
(b) at least two bicycle parking spaces for every dwelling.	***deleted***

Amendment 190

Proposal for a directive
Article 12 – paragraph 4 – subparagraph 2

Text proposed by the Commission	*Amendment*
the car park is physically adjacent to the building, and, for major renovations, renovation measures include the car park or the electrical infrastructure of the car park.	the car park is physically ***inside or*** adjacent to the building, and, for major renovations, renovation measures include the car park or the electrical infrastructure of the car park.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 191

Proposal for a directive
Article 12 – paragraph 4 – subparagraph 3

Text proposed by the Commission	*Amendment*
Member States shall ensure that the pre-cabling is dimensioned to enable the simultaneous use of recharging points on all parking spaces. Where, in the case of major renovation, ensuring two bicycle parking spaces for every dwelling is not feasible, Member States shall ensure as many bicycle parking spaces as appropriate.	Member States shall ensure that the pre-cabling ***and electrical installation*** is dimensioned to enable ***economically optimised*** the simultaneous use of recharging points on all parking spaces. Where, in the case of major renovation, ensuring two bicycle parking spaces for every dwelling is not feasible, Member States shall ensure as many bicycle parking spaces as appropriate.

Amendment 192

Proposal for a directive
Article 12 – paragraph 5

Text proposed by the Commission	*Amendment*
5. Member States may decide not to apply paragraphs 1, 2 and 4 to specific categories of buildings ***wherethe*** pre-cabling required would rely on micro isolated systems or the buildings are situated in the outermost regions within the meaning of Article 349 TFEU, if this would lead to substantial problems for the operation of the local energy system and would endanger the stability of the local grid.	5. Member States may decide not to apply paragraphs 1, 2 and 4 to specific categories of buildings ***where the*** pre-cabling required would rely on micro isolated systems or the buildings are situated in the outermost regions within the meaning of Article 349 TFEU, if this would lead to substantial problems for the operation of the local energy system and would endanger the stability of the local grid ***considering the potential of energy storage facilities***.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 193

Proposal for a directive
Article 12 – paragraph 6 a (new)

Text proposed by the Commission	*Amendment*
	6a. Existing private recharging points and recharging points referred to in paragraphs 1, 2 and 4 shall be subject to an assessment by the regulatory authority in consultation with relevant stakeholders, such as distribution system operators, e-mobility operators and flexibility aggregators, to determine if the installation of bidirectional recharging functionalities and supporting energy storage facilities are appropriate.

Amendment 194

Proposal for a directive
Article 12 – paragraph 8 – subparagraph 1

Text proposed by the Commission	*Amendment*
Member States shall provide for measures in order to simplify the deployment of recharging points in new and existing residential and non-residential buildings and remove regulatory barriers, including permitting and approval procedures, without prejudice to the property and tenancy law of the Member States. Member States shall remove barriers to the installation of recharging points in residential buildings with parking spaces, in particular the need to obtain consent from the landlord or co-owners for a private recharging point for own use.	Member States shall provide for measures in order to simplify the deployment of recharging points ***and bicycle parking spaces*** in new and existing residential and non-residential buildings and remove regulatory barriers, including permitting and approval procedures, without prejudice to the property and tenancy law of the Member States. Member States shall remove barriers to the installation of recharging points ***and bicycle parking spaces*** in residential buildings ***and/or housing*** with parking spaces, in particular the need to obtain consent from the landlord or co-owners for a private recharging point for own use.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 195

Proposal for a directive

Article 12 – paragraph 8 – subparagraph 2

Text proposed by the Commission	*Amendment*
Member States shall ensure the availability of technical assistance for building owners and tenants wishing to install recharging points.	Member States shall ensure the availability of technical assistance for building owners and tenants wishing to install recharging points ***and bicycle parking spaces*..**

Amendment 196

Proposal for a directive
Article 12 – paragraph 9

Text proposed by the Commission	*Amendment*
9. Member States shall ensure the coherence of policies for buildings, ***soft*** and green mobility and urban planning.	9. Member States shall ensure the coherence of policies for buildings, ***active*** and green mobility and urban planning. ***Member States shall introduce amendments to existing building codes on the technical requirements for the installation of bicycle parking spaces in all new residential and non-residential buildings.***

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 197

Proposal for a directive
Article 14 – paragraph 1 – subparagraph 1

Text proposed by the Commission	*Amendment*
Member States shall ensure that the building owners, tenants and managers can have direct access to ***their*** building systems' data. At their request, the access or data shall be made available to a third party. Member States shall facilitate the full interoperability of services and of data exchange within the Union in accordance	Member States shall ensure that the building owners, tenants and managers can have direct access to ***the respective*** building systems' data. At their ***justified*** request, the access or data shall be made available to a third party. Member States shall facilitate the full interoperability of services and of data exchange within the

with paragraph 6.	Union in accordance with paragraph 6.

Amendment 198

Proposal for a directive
Article 14 – paragraph 5

Text proposed by the Commission	*Amendment*
5. The Commission shall adopt implementing acts detailing interoperability requirements and non-discriminatory and transparent procedures for access to the data. Those implementing acts shall be adopted in accordance with the advisory procedure referred to in Article 30(2).	5. The Commission shall adopt implementing acts detailing interoperability requirements and non-discriminatory and transparent procedures for access to the data. Those implementing acts shall be adopted in accordance with the advisory procedure referred to in Article 30(2) ***before 31 December 2023***. ***A consultation strategy shall be prepared setting out consultation objectives, targeted stakeholders and the consultation activities for preparing the implementing acts.***

Amendment 199

Proposal for a directive
Article 15 – paragraph 1

Text proposed by the Commission	*Amendment*
1. Member States shall provide appropriate financing, support measures and other instruments able to address market barriers and stimulate the necessary investments in energy renovations in line with their national building renovation plan and with a view to the transformation of their building stock into zero-emission buildings by 2050.	1. Member States shall provide appropriate ***subsidies and*** financing ***schemes***, support measures and other instruments***, tailored to the needs of different building owners and tenants,*** able to address market barriers and stimulate the necessary investments in energy renovations ***and low lifecycle emissions construction using clean energy*** in line with their national building renovation plan and with a view to the transformation of their building stock into zero-emission buildings by 2050 ***and with a view to reaching high levels of circularity***. ***In case of deep renovation in residential buildings costing more than 50***

% of value of the building or building unit, Member States shall provide a specific funding mechanism. Priority shall be given to low and medium income households, vulnerable customers, including final users, people facing or risking energy poverty and people living in social housing.

Amendment 200

Proposal for a directive
Article 15 – paragraph 4

Text proposed by the Commission	*Amendment*
4. To support the mobilisation of investments, Member States shall promote the roll-out of enabling funding and financial tools, such as energy efficiency loans and mortgages for building renovation, energy performance contracting, fiscal incentives, on-tax schemes, on-bill schemes, guarantee funds, funds targeting deep renovations, funds targeting renovations with a significant minimum threshold of targeted energy savings and mortgage portfolio standards. They shall guide investments into an energy efficient public building stock, in line with Eurostat guidance on the recording of Energy Performance Contracts in government accounts.	4. To support the mobilisation of investments, Member States shall promote the roll-out of enabling funding and financial tools, such as energy efficiency loans and mortgages for building renovation, energy performance contracting, ***Pay-as-you-Save financial scheme,*** fiscal incentives***, conditioned to the positive evolution of the energy efficiency certificate of the building that wants to benefit from this incentive***, on-tax schemes, on-bill schemes, guarantee funds, funds targeting deep renovations, funds targeting renovations with a significant minimum threshold of targeted energy savings ***and mortgage portfolio standards and economic instruments to provide incentives for the application of circular measures such as the comprehensive list sets out in Annex II***. They shall guide investments into an energy efficient public building stock, in line with Eurostat guidance on the recording of Energy Performance Contracts in government accounts. ***Member States shall ensure that information about available funding and financial tools are made available to the public in an easily accessible and transparent manner.***

Amendment 201

Proposal for a directive
Article 15 – paragraph 5 – subparagraph 1

Text proposed by the Commission	*Amendment*
Member States shall facilitate the aggregation of projects to enable investor access as well as packaged solutions for potential clients.	Member States shall facilitate the aggregation of projects to enable investor access as well as packaged solutions for potential clients. ***Member States shall provide support to local initiatives, such as citizen-led renovation programmes and programmes for the decarbonisation of heating and cooling at neighbourhood or municipal level.***

Amendment 202

Proposal for a directive
Article 15 – paragraph 5 – subparagraph 2

Text proposed by the Commission	*Amendment*
Member States shall adopt measures to ensure that energy efficiency lending products for building renovations are offered widely and in a non-discriminatory manner by financial institutions and are visible and accessible to consumers. Member States shall ensure that banks and other financial institutions and investors receive information on opportunities to participate in the financing of the improvement of energy performance of buildings.	Member States shall adopt measures to ensure that energy efficiency lending products for building renovations are offered widely and in a non-discriminatory manner by financial institutions and are visible and accessible to consumers. Member States shall ensure that banks and other financial institutions and investors receive information on opportunities to participate in the financing of the improvement of energy performance of buildings ***and develop specific products for low and medium income households, vulnerable customers, including final users, people facing or risking energy poverty and people living in social housing***.

Amendment 203

Proposal for a directive
Article 15 – paragraph 6

Text proposed by the Commission	*Amendment*
6. Member States shall ensure the establishment of technical assistance facilities, including through one-stop-shops, targeting all actors involved in building renovations, including home owners and administrative, financial and economic actors, including small- and medium-sized enterprises.	6. Member States shall ensure the establishment of technical assistance facilities, including through ***all-inclusive*** one-stop-shops, targeting all actors involved in building renovations, including home owners and administrative, financial and economic actors, including small- and medium-sized enterprises. ***Member States shall ensure the functioning of at least one one-stop-shop per region across the Union. The Commission shall work closely with the European Investment Bank, Member States, and regions to ensure the continuity of funding for one-stop-shops throughout the duration of the Renovation Wave.***

Amendment 204

Proposal for a directive
Article 15 – paragraph 7 – subparagraph 1 a (new)

Text proposed by the Commission	*Amendment*
	Member States shall prioritise the allocation of part of the European Social Fund to the upskilling of blue-collar workers in energy efficiency for the construction sector including sustainable working techniques with a focus on health aspects such as asbestos. Member States shall establish registries of their construction value-chain professionals, detailing the availability of skills and skilled professionals on the market. These registries shall be updated annually, and their data shall be publicly accessible.

Amendment 205

Proposal for a directive
Article 15 – paragraph 8 a (new)

Text proposed by the Commission	*Amendment*
	8a. The Commission shall develop a common Union standard for "Pay-as-you-Save" financial schemes in line with Article 2 of this Directive, setting mandatory minimum requirements for public and private actors.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 206

Proposal for a directive
Article 15 – paragraph 9 – introductory part

Text proposed by the Commission	*Amendment*
9. Member States shall link their financial measures for energy performance improvements in the renovation of buildings to the targeted ***or*** achieved energy savings, as determined by one or more of the following criteria:	9. Member States shall link their financial measures for energy ***positive improvement of energy*** performance ***proved by the appropriated certificates which allows*** improvements in the renovation of buildings to the targeted ***and*** achieved energy savings, as determined by one or more of the following criteria:

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 207

Proposal for a directive
Article 15 – paragraph 9 – point a

Text proposed by the Commission	*Amendment*
(a) the energy performance of the equipment or material used for the renovation; in which case, the equipment or material used for the renovation is to be	(a) the energy performance of the equipment or material used for the renovation; in which case, the equipment or material used for the renovation is to be

installed by an installer with the relevant level of certification or qualification and shall comply with minimum energy performance requirements for ***building elements*** ;	installed by an installer with the relevant level of certification or qualification and shall comply with minimum energy performance requirements for ***improved performance of buildings energy consumption***;

Justification

Financial measures are paramount to stimulate the energy renovation market. Such supportive measures have to go beyond the system of energy-savings obligations. (since energy savings obligation usually target commoditized products and not look at the overall performance/management of building). A report by the Building Performance Institute in Europe found that a combination of different tools may be more effective than single measures over the long-term. Attention shall be paid to the effective leverage of public money spend on energy efficiency measures in buildings. A recent study by the European Court of Auditors show that it is not possible to know how much energy will have been saved by investing a total of €6.6 billion of 2014-2020 public spending in residential buildings at EU level since the cost-effectiveness of the investments have not been measured.

Amendment 208

Proposal for a directive
Article 15 – paragraph 9 – point d a (new)

Text proposed by the Commission	*Amendment*
	(da) the results of ex-post monitoring;

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 209

Proposal for a directive
Article 15 – paragraph 9 – point d b (new)

Text proposed by the Commission	*Amendment*
	(db) the results of achieved smart readiness indicator (SRI) performance;

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 210

Proposal for a directive
Article 15 – paragraph 9 – point e a (new)

Text proposed by the Commission	*Amendment*
	(ea) improved indoor environmental quality.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 211

Proposal for a directive
Article 15 – paragraph 10

Text proposed by the Commission	*Amendment*
10. From 1 January ***2027*** at the latest, Member States shall not provide any financial incentives for the installation of boilers powered by fossil fuels, with the exception of those selected for investment, before 2027, in accordance with Article 7(1)(h)(i) third hyphen of Regulation (EU) 2021/1058 of the European Parliament and the Council[45] on the European Regional Development Fund and on the Cohesion Fund and with Article 73 of Regulation (EU) 2021/2115 of the European Parliament and the Council[46] on the CAP Strategic Plans.	10. From 1 January ***2024*** at the latest, Member States shall not provide any financial incentives for the installation of boilers ***that are not certified to run on renewable and decarbonised energy and are*** powered by fossil fuels, with the exception of those selected for investment, before ***2024***, in accordance with Article 7(1)(h)(i) third hyphen of Regulation (EU) 2021/1058 of the European Parliament and the Council[45] on the European Regional Development Fund and on the Cohesion Fund and with Article 73 of Regulation (EU) 2021/2115 of the European Parliament and the Council[46] on the CAP Strategic Plans. ***Boilers, to be installed in combination with renewable technologies (not 'stand-alone'), shall always be eligible for incentives.***

[45] Regulation (EU) 2021/1058 of the European Parliament and of the Council of 24 June 2021 on the European Regional Development Fund and on the Cohesion Fund (OJ L 231, 30.6.2021, p. 60).

[46] Regulation (EU) 2021/2115 of the European Parliament and of the Council of 2 December 2021 establishing rules on support for strategic plans to be drawn up by Member States under the common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulations (EU) No 1305/2013 and (EU) No 1307/2013 (OJ L 435, 6.12.2021, p. 1).

[45] Regulation (EU) 2021/1058 of the European Parliament and of the Council of 24 June 2021 on the European Regional Development Fund and on the Cohesion Fund (OJ L 231, 30.6.2021, p. 60).

[46] Regulation (EU) 2021/2115 of the European Parliament and of the Council of 2 December 2021 establishing rules on support for strategic plans to be drawn up by Member States under the common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulations (EU) No 1305/2013 and (EU) No 1307/2013 (OJ L 435, 6.12.2021, p. 1).

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text. While accelerating fuel switching in buildings is essential, all technologies ready to use renewable and decarbonise energy should be able to contribute to buildings' decarbonisation. It is important to distinguish between technologies and the fuels they utilise: boilers on the market today can already use 100 % renewable energies (biomethane) and variable shares of hydrogen. It is essential to ensure that boilers that work in combination with renewable-based technologies and support the increasing uptake of renewable energy, such as hybrid heaters and solar thermal systems, remain fully eligible for incentives.

Amendment 212

Proposal for a directive
Article 15 – paragraph 10 a (new)

Text proposed by the Commission	*Amendment*
	10a. Member States shall not provide any financial incentives for the installation of certain type of heat generators in zones and agglomerations where it may create disproportionate costs to ensure that concentrations of PM2.5 in ambient air do not exceed the target value, in accordance with Directive 2008/50/EC, or in zones and

agglomerations where exceedance has been measured, in order to ensure high level of protection of the environment and human health.

Justification

ensuring synergies and coherence with environmental acquis related to air quality. air pollution is responsible for hundreds of thousands of deaths in the EU. renovation wave and dedicated funding should not exacerbate the problem of air pollution and should provide only for win win solutions.

Amendment 213

Proposal for a directive
Article 15 – paragraph 11 – subparagraph 1

Text proposed by the Commission	*Amendment*
Member States shall ***incentivise*** deep renovation and sizeable programmes that address a high number of buildings and result in an overall reduction of at least ***30 %*** of primary energy demand with higher financial, fiscal, administrative and technical support.	Member States shall ***prioritise*** deep renovation and sizeable programmes that address a high number of buildings and result in an overall reduction of at least ***40 % ,*** of primary energy demand with higher financial, fiscal, administrative and technical support. ***Member States shall ensure that deep or staged-deep renovations bringing buildings to class A or B - if A is not technically feasible - receive the highest public financing rate.***

Amendment 214

Proposal for a directive
Article 15 – paragraph 12

Text proposed by the Commission	*Amendment*
12. Financial incentives shall target as a priority ***vulnerable*** households, people ***affected by*** energy poverty and people living in social housing, in line with Article 22 of Directive (EU) .../…. [recast EED].	12. Financial incentives shall target as a priority ***low and medium income*** households, ***vulnerable customers, including final users,*** people ***facing or risking*** energy poverty and people living in social housing ***,***, in line with Article 22 of Directive (EU) .../…. [recast EED]. ***Member States shall ensure that these***

	consumers benefit from cost neutral renovation schemes.

Amendment 215

Proposal for a directive
Article 15 – paragraph 13

Text proposed by the Commission	*Amendment*
13. When providing financial incentives to owners of buildings or building units for the renovation of rented buildings or building units, Member States shall ensure that the financial incentives benefit both the owners and the tenants, in particular by providing rent support or by ***imposing caps*** on rent increases.	13. When providing financial incentives to owners of buildings or building units for the renovation of rented buildings or building units, Member States shall ensure that the financial incentives benefit both the owners and the tenants, in particular by providing rent support or by ***introducing, in line with Article 2 of this Directive, Pay-as-you-Save financial schemes conditionality*** on rent increases***, guaranteeing that the rent increase does not exceed the savings, due to renovation energy savings***. ***They shall introduce effective social safeguards and guarantees, in particular to protect vulnerable households and households suffering from energy poverty.***

Amendment 216

Proposal for a directive
Article 16 – paragraph 1 – subparagraph 1

Text proposed by the Commission	*Amendment*
Member States shall lay down the necessary measures to establish a system of certification of the energy performance of buildings.	Member States shall lay down the necessary measures to establish a system of certification of the energy performance of buildings***, with the goal to cover the entire building stock at latest by 2035 in an affordable and efficient manner***.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 217

Proposal for a directive
Article 16 – paragraph 1 – subparagraph 2

Text proposed by the Commission	*Amendment*
The energy performance certificate shall include the energy performance of a building expressed by a numeric indicator of primary energy use in kWh/(m2.y), and reference values such as minimum energy performance requirements , minimum energy performance standards, nearly zero-energy building requirements and zero-emission building requirements, in order to make it possible for owners or tenants of the building or building unit to compare and assess its energy performance.	The energy performance certificate shall include the energy performance of a building expressed by a numeric indicator of primary ***and final*** energy use in kWh/(m2.y), and reference values such as minimum energy performance requirements , minimum energy performance standards, nearly zero-energy building requirements and zero-emission building requirements, in order to make it possible for owners or tenants of the building or building unit to compare and assess its energy performance.

Amendment 218

Proposal for a directive
Article 16 – paragraph 2

Text proposed by the Commission	*Amendment*
2. By 31 December 2025 at the latest, the energy performance certificate shall comply with the template in Annex V. It 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 as defined in Article 2, point (2) and the letter G shall correspond to the 15% worst-performing buildings in the national building stock at the time of the introduction of the scale. Member States shall ensure that the remaining classes (B to F) have an even bandwidth distribution of energy performance indicators among the energy performance classes. Member States shall ensure a common visual identity for energy performance certificates on their territory.	2. By 31 December 2025 at the latest, the energy performance certificate shall comply with the template in Annex V. It 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 as defined in Article 2, point (2) and the letter G shall correspond to ***the minimum of*** the 15% worst-performing buildings in the national building stock at the time of the introduction of the scale. Member States shall ensure that the remaining classes (B to F) have an even bandwidth distribution of energy performance indicators among the energy performance classes. Member States shall ensure a common visual identity for energy performance certificates on their territory. ***Member States shall add an additional class A+ to correspond to***

positive energy buildings without prejudice to zero-emission buildings as defined in Article 2 of this Directive. Member States shall set a letter in the medium classes to correspond to performance levels allowing for minimum demand response capacity, reflecting the implementation of sufficient envelope efficiency by latest 2035 for residential and 2032 for non-residential buildings. This envelope shall be suitable either for the installation of flexible electric space heating, water heating and air conditioning systems or for the connection to a low-temperature district heating, to allow for both thermal comfort and flexible operation of the power grids. The Commission shall issue detailed guidelines on energy performance certificates, including a template with common visual identity and common logo, in accordance with Annex V, to improve their quality and ensure the credibility and comparability of data across the Union.

Amendment 219

Proposal for a directive
Article 16 – paragraph 3

Text proposed by the Commission	*Amendment*
3. Member States shall ensure the quality, reliability and affordability of energy performance certificates. They shall ensure that energy performance certificates are issued by independent experts following an on-site visit.	3. Member States shall ensure the quality, reliability and affordability of energy performance certificates. They shall ensure that energy performance certificates are ***affordable for low-income households and for all units, used as a sole residence, without prejudice to the income criteria, and*** issued by ***qualified and*** independent experts following an on-site visit ***and that the template for energy performance certificates is based on clear logos, pictograms and easily readable sections indicating a range of projected costs***. ***After the adoption of the delegated act in***

	accordance with Article 7, the energy performance certificates shall encompass additional information on the Global Warming Potential, in line with Article 7, for new buildings and buildings owned, operated or occupied by Union institutions and agencies in a comprehensive manner in order to achieve a simple and unified certificate.

Amendment 220

Proposal for a directive
Article 16 – paragraph 4 – subparagraph 1

Text proposed by the Commission	*Amendment*
The energy performance certificate shall include recommendations for the cost-effective improvement of the energy performance and the reduction of ***operational*** greenhouse gases emissions of a building or building unit, unless the building or building unit already complies with the relevant zero-emission building standard .	The energy performance certificate shall include recommendations for the cost-effective improvement of the energy performance and the reduction of greenhouse gases emissions of a building or building unit, unless the building or building unit already complies with the relevant zero-emission building standard***, and the improvement of the smart readiness indicator score for buildings which have to be equipped with the indicator as required by the article 13 of this Directive***.

Amendment 221

Proposal for a directive
Article 16 – paragraph 5

Text proposed by the Commission	*Amendment*
5. The recommendations included in the energy performance certificate shall be technically feasible for the specific building and shall provide an estimate for the energy savings and the reduction of ***operational*** greenhouse gas emissions. They ***may*** provide an estimate for the range of payback periods or cost-benefits over its	5. The recommendations included in the energy performance certificate shall be technically feasible for the specific building and shall provide an estimate for the energy savings and the reduction of greenhouse gas emissions. They ***shall*** provide an estimate for the range of payback periods or cost-benefits over its

economic lifecycle.	economic lifecycle.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 222

Proposal for a directive
Article 16 – paragraph 6

Text proposed by the Commission	*Amendment*
6. The recommendations shall include an assessment of whether the heating or air-conditioning system can be adapted to operate at more efficient temperature settings, such as low temperature emitters for water based heating systems, including the required design of thermal power output and temperature/flow requirements.	6. The recommendations shall include ***a well-displayed indication of the remaining lifespan of the space and water heating systems and the air conditioning systems, and*** an assessment of whether the ***space and water*** heating or air-conditioning system can be adapted to operate at more efficient temperature settings, such as low temperature emitters for water based heating systems, including the required design of thermal power output and temperature/flow requirements.

Amendment 223

Proposal for a directive
Article 16 – paragraph 10

Text proposed by the Commission	*Amendment*
10. The validity of the energy performance certificate shall not exceed ***five*** years. However for buildings with an energy performance class A, B or C established pursuant to paragraph 2, the validity of the energy performance certificate shall not exceed 10 years.	10. The validity of the energy performance certificate shall not exceed ***7*** years. However for buildings with an energy performance class A, B or C established pursuant to paragraph 2, the validity of the energy performance certificate shall not exceed 10 years.

Amendment 224

Proposal for a directive
Article 16 – paragraph 11 – subparagraph 1

Text proposed by the Commission	*Amendment*
Member States shall make simplified procedures for updating an energy performance certificate available where only individual elements are upgraded (single or standalone measures).	Member States shall make simplified procedures for updating an energy performance certificate available where only individual elements are upgraded (single or standalone measures) ***in order to reduce the cost of issuance of the updated certificate***.

Amendment 225

Proposal for a directive
Article 16 – paragraph 11 – subparagraph 2

Text proposed by the Commission	*Amendment*
Member States shall make simplified procedures for updating an energy performance certificate available where measures identified in a renovation passport are put in place.	Member States shall make simplified procedures for updating an energy performance certificate available where measures identified in a renovation passport are put in place***, or in cases where a Building Digital Twin is used, in order to reduce the cost of issuance of the updated certificate***.

Amendment 226

Proposal for a directive
Article 16 – paragraph 11 a (new)

Text proposed by the Commission	*Amendment*
	11a. In addition to the energy performance certificates framework referred to in this article, Member States shall define standards for different building archetypes as well as maximum limits on energy need for heating that would allow buildings to be heated with low temperatures heating by 31 December 2025 at the latest. The Commission shall publish guidance for the development of such a metric.

Amendment 227

Proposal for a directive
Article 17 – paragraph 1 – subparagraph 1 – point a

Text proposed by the Commission	*Amendment*
(a) buildings or building units which are constructed , have undergone a major renovation, are sold or rented out to a new tenant ***or for which a rental contract is renewed*** ; and	(a) buildings or building units which are constructed , have undergone a major renovation, are sold or rented out to a new tenant; and

Amendment 228

Proposal for a directive
Article 17 – paragraph 2

Text proposed by the Commission	*Amendment*
2. Member States shall require that, when buildings or building units are constructed, sold or rented out ***or when rental contracts are renewed*** , the energy performance certificate is shown to the prospective tenant or buyer and handed over to the buyer or tenant.	2. Member States shall require that, when buildings or building units are constructed, sold or rented out, the energy performance certificate is shown to the prospective tenant or buyer and handed over to the buyer or tenant.

Amendment 229

Proposal for a directive
Article 19 – paragraph 5 – subparagraph 1

Text proposed by the Commission	*Amendment*
The Commission shall, by 30 June 2024, adopt an implementing act with a common template for the transfer of the information to the Building Stock Observatory.	The Commission shall, by 30 June 2024, adopt an implementing act with a common template for the transfer of the information to the Building Stock Observatory. ***By this date, the Member States shall initiate, based on Commission guidance, an audit of the state of the Union stock in order to determine where the vulnerable areas with low socio-economic indicators and poor energy performing buildings are located, in line with the EED. In this way,***

	the effort of economic and professional support will target to the most vulnerable society promoting an increase in the rate of renovation of buildings in the Union, equitable and harmonised for all Member States.

Amendment 230

Proposal for a directive
Article 19 – paragraph 6 a (new)

Text proposed by the Commission	*Amendment*
	6a. The Commission will publish every 2 years, starting with the second year after publication of this Directive, a summary report on the situation and progress of the Union building stock at local, regional and national level.

Amendment 231

Proposal for a directive
Article 20 – paragraph 4 – subparagraph 3

Text proposed by the Commission	*Amendment*
The inspections scheme shall include the assessment of the sizing of the ventilation system compared with the requirements of the building and consider the capabilities of the ventilation system to optimise its performance under typical or average operating conditions.	The inspections scheme shall include the assessment of the sizing of the ventilation system compared with the requirements of the building and consider the capabilities of the ventilation system to optimise its performance under typical or average operating conditions. ***The inspections shall also include an assessment of the indoor air quality.***

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 232

Proposal for a directive

Article 20 – paragraph 7 – subparagraph 1

Text proposed by the Commission	*Amendment*
Member States shall lay down requirements to ensure that, where technically and economically feasible, non-residential buildings with an effective rated output for heating systems or systems for combined space heating and ventilation of over 290 kW are equipped with building automation and control systems 31 December 2024 by. The threshold for the effective rated output shall be lowered to 70 kW by31 December 2029.	Member States shall lay down requirements to ensure that, where technically and economically feasible, non-residential buildings with an effective rated output for heating systems***, cooling systems*** or systems for combined space heating***, cooling*** and ventilation of over 290 kW are equipped with building automation and control systems 31 December 2024 by. The threshold for the effective rated output shall be lowered to 70 kW by31 December 2029.

Justification

The scope (290kW) in the current EPBD is calculated referring to space heating and ventilation (Art. 14, par.4) but it also covers space cooling (Art.15, par.4). The proposed revision does not match the current BACS provisions, which the Member States are already implementing

Amendment 233

Proposal for a directive
Article 22 – paragraph 2

Text proposed by the Commission	*Amendment*
2. Member States shall make available to the public information on training and certifications . Member States shall ensure that either regularly updated lists of qualified or certified experts or regularly updated lists of certified companies which offer the services of such experts are made available to the public.	2. Member States ***shall ensure that the certification or equivalent qualification schemes for independent experts providing energy performance certification of buildings, the establishment of renovation passports, the smart readiness assessment, the inspection of heating systems and air-conditioning systems are accessible, affordable and properly functioning, and*** shall make available to the public ***the*** information on training and certifications ***opportunities***. Member States shall ensure that either regularly updated lists of qualified or certified experts or regularly updated lists of certified companies which

	offer the services of such experts are made available to the public.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 234

Proposal for a directive
Article 23 – paragraph 1

Text proposed by the Commission	*Amendment*
1. Member States shall ensure ***the appropriate level of competence*** for building professionals carrying out integrated renovation works in line with Article 26 [recast EED].	1. Member States shall ensure ***a national plan for developing high skill competences*** for building professionals carrying out integrated renovation works in line with Article 26 [recast EED].

Amendment 235

Proposal for a directive
Article 23 – paragraph 2 a (new)

Text proposed by the Commission	*Amendment*
	2a. Member States shall promote programs for requalification schemes for employees in fossil fuels mining, energy production, distribution and energy accounting firms whose production of energy and activities will be subject to subsequent phasing-out in the light of Union decarbonization efforts. Such an approach shall integrate in a positive way those important stakeholders in the process of the Union energy sector decarbonisation.

Amendment 236

Proposal for a directive
Article 25 – paragraph 2

Text proposed by the Commission	*Amendment*
As part of that review, the Commission shall assess whether the application of this Directive in combination with other legislative instruments addressing energy efficiency and greenhouse gas emissions from buildings, notably through carbon pricing, deliver sufficient progress towards achieving a fully decarbonised, zero-emission building stock by 2050, or whether further binding measures at Union level, in particular mandatory minimum energy performance standards across the whole building stock, need to be introduced. The Commission shall also examine in what manner Member States could apply integrated district or neighbourhood approaches in Union building and energy efficiency policy, while ensuring that each building meets the minimum energy performance requirements, for example by means of overall renovation schemes applying to a number of buildings in a spatial context instead of a single building.	As part of that review, the Commission shall assess whether the application of this Directive in combination with other legislative instruments addressing energy efficiency and greenhouse gas emissions from buildings, notably through carbon pricing, deliver sufficient progress towards achieving a fully decarbonised, zero-emission building stock by 2050, or whether further binding measures at Union level, in particular mandatory minimum energy performance standards across the whole building stock, need to be introduced. ***In addition to this, a holistic approach at all spatial scales, including: landscape architecture, urban planning, infrastructure, design, thus promoting more sustainable, inclusive and innovative ways of living in line with the evolution of our built environment, in order to adapt to new needs and ensure decent and quality housing for all, should be taken into account in the measures at Union level.*** The Commission shall also examine in what manner Member States could apply integrated district or neighbourhood approaches in Union building and energy efficiency policy, while ensuring that each building meets the minimum energy performance requirements, for example by means of overall renovation schemes applying to a number of buildings in a spatial context instead of a single building.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 237

Proposal for a directive
Article 26 – paragraph 1

Text proposed by the Commission	*Amendment*
1. Member States shall take the necessary measures to inform the owners or tenants of buildings or building units and all relevant market actors of the different methods and practices that serve to enhance energy performance. In particular, Member States shall take the necessary measures to provide tailor-made information to vulnerable households.	1. Member States shall ***endorse information and awareness-rising campaigns in order to promote the interest and the support of the public for the improvement of the energy efficiency of buildings directive and*** take the necessary measures to inform the owners or tenants of buildings or building units and all relevant market actors of the different methods and practices that serve to enhance energy performance. In particular, Member States shall take the necessary measures to provide tailor-made information to vulnerable households***, households suffering from energy poverty, people living in social housing, vulnerable areas in line with the EED, and to provide information at neighbourhood level to reach out to these consumers***.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 238

Proposal for a directive
Article 26 – paragraph 2 – subparagraph 1

Text proposed by the Commission	*Amendment*
Member States shall in particular provide information to the owners or tenants of buildings on energy performance certificates, including their purpose and objectives, on cost-effective measures and, where appropriate, financial instruments, to improve the energy performance of the building, and on replacing fossil fuel boilers with more sustainable alternatives. Member States shall provide the information through accessible and transparent advisory tools such as renovation advice and one-stop-shops.	Member States shall in particular provide information to the owners or tenants of buildings on energy performance certificates, including their purpose and objectives, on cost-effective measures and, where appropriate, financial instruments, to improve the energy performance of the building, and on replacing fossil fuel boilers with more sustainable alternatives. Member States shall provide the information through accessible and transparent advisory tools such as renovation advice and one-stop-shops.

	Access to such advisory tools shall be specifically adapted to low-income and vulnerable households, households suffering from energy poverty, people living in social housing.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 239

Proposal for a directive
Annex I – point 1 – paragraph 3

Text proposed by the Commission	*Amendment*
The energy performance of a building shall be expressed by a numeric indicator of primary energy use per unit of reference floor area per year, in kWh/(m^2.y) for the purpose of both energy performance certification and compliance with minimum energy performance requirements. The methodology applied for the determination of the energy performance of a building shall be transparent and open to innovation.	The energy performance of a building shall be expressed by a numeric indicator of primary ***and final*** energy use per unit of reference floor area per year, in kWh/(m^2.y) for the purpose of both energy performance certification and compliance with minimum energy performance requirements. The methodology applied for the determination of the energy performance of a building shall be transparent and open to innovation.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text in order to have greater clarity for tenants and thereby foster energy efficiency and renovations.

Amendment 240

Proposal for a directive
Annex I – point 1 – paragraph 4

Text proposed by the Commission	*Amendment*
Member States shall describe their national calculation methodology based on Annex A of the key European standards on energy performance of buildings , namely EN ISO	Member States shall describe their national calculation methodology based on Annex A of the key European standards on energy performance of buildings , namely EN ISO

52000-1, EN ISO 52003-1, EN ISO 52010-1, EN ISO 52016-1, EN ISO 52018-1, EN 16798-1 and EN 17423 or superseding documents . This provision shall not constitute a legal codification of those standards.	52000-1, EN ISO 52003-1, EN ISO 52010-1, EN ISO 52016-1, EN ISO 52018-1, EN ***ISO 52120-1, EN*** 16798-1 and EN 17423 or superseding documents . This provision shall not constitute a legal codification of those standards.

Justification

BACS impact is essential for the energy performance of buildings. EN ISO 52120-1 is an EPB standard within the M480 mandate and provides important inputs in the calculation of energy performance in buildings. Moreover, as buildings electrification is expected to increase, new electrical loads will add to the energy consumption.

Amendment 241

Proposal for a directive
Annex I – point 3

Text proposed by the Commission	*Amendment*
3. For the purpose of expressing the energy performance of a building, Member States ***may*** define additional numeric indicators of total, non-renewable and renewable primary energy use, and of operational greenhouse gas emissions ***produced*** in.	3. For the purpose of expressing the energy performance of a building, Member States ***shall*** define additional numeric indicators of total, non-renewable and renewable primary energy use, and of operational ***and embodied*** greenhouse gas emissions in ***over the expected service life of the building***.

Justification

This amendment is necessary to ensure that the EPBD covers both energy performance and the reduction of greenhouse gas emissions as indicated in Art 1, paragraph 1. Include additional numeric indicators of greenhouse gas embodied emissions (production and/or construction of buildings) in the aspects to consider to assess the energy performance of buildings and the obligation to provide information on embodied emissions related to the use of construction products and materials.

Amendment 242

Proposal for a directive
Annex I – point 4 – point b

Text proposed by the Commission	*Amendment*
(b) heating installation and hot water supply, including their insulation characteristics;	(b) heating installation and hot water supply, including their insulation ***and heat recovery*** characteristics;

Justification

heat recovery can be an important part of the measures leading to energy efficiency and energy savings, but might be less attractive if their benefit is not considered when calculating the energy consumption of the building according to the EPBD.

Amendment 243

Proposal for a directive
Annex I – point 4 – point b a (new)

Text proposed by the Commission	*Amendment*
	(ba) capacity of installed decentralised energy resources, including on-site renewables, bidirectional electric vehicle charging infrastructure, demand-response and storage;

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 244

Proposal for a directive
Annex I – point 4 – point h

Text proposed by the Commission	*Amendment*
(h) indoor climatic conditions, including the designed indoor climate;	(h) indoor climatic conditions, including the designed indoor climate ***and indoor air quality***;

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text in regards to ventilation and public health.

Amendment 245

Proposal for a directive
Annex I – point 4 – point i a (new)

Text proposed by the Commission	*Amendment*
	(ia) building automation and technical building management capabilities to monitor, control and optimize energy performance;

Justification

Monitoring is key to spark continuous improvement of energy performance, especially in regard to the rise of EV charging stations at home. Monitoring typically could lead in average to 10% energy savings; however, energy monitoring is not yet recognized as a Technical Building System in the current EPBD definition

Amendment 246

Proposal for a directive
Annex I – point 4 – point i b (new)

Text proposed by the Commission	*Amendment*
	(ib) efficiency of electrical installations (IECEN 60364-8-1).

Justification

In order to cover efficiency of electrical installations, an obligation to minimize energy losses in the electrical installations should be introduced, alongside performance requirements for those solutions in line with existing and recognized standards (IEC EN 60364-8-1).

Amendment 247

Proposal for a directive
Annex II – point a – first row

Text proposed by the Commission		
Template for the national building renovation plans (referred to in Article 3)		
EPBD Article 3	Mandatory Indicators	Optional Indicators /

		comments
a) Overview of the national building stock	Number of buildings and total floor area (m2):	Number of buildings and total floor area (m2):
	- per building type (including public buildings and social housing)	- per building age
	- per energy performance class	- per building size
	- NZEB	- per climatic zone
	- worst-performing (including a definition)	- demolition (number and total floor area)
Amendment		
Template for the national building renovation plans (referred to in Article 3)		
EPBD Article 3	Mandatory Indicators	Optional Indicators / comments
a) Overview of the national building stock	Number of buildings and total floor area (m2):	Number of buildings and total floor area (m2):
	- per building type (including public buildings and social housing)	- per building age
	- per energy performance class	- per building size
	- NZEB	- per climatic zone
	- worst-performing (including a definition)	***- per income level of the households***
	- per its current function as a primary/secondary residence	- demolition (number and total floor area)

Amendment 248

Proposal for a directive
Annex II – column 2 – point a – row 7 – indent 3

Text proposed by the Commission	*Amendment*
- population living in inadequate dwelling conditions (e.g. leaking roof or with inadequate thermal comfort	- population living in inadequate dwelling conditions (e.g. leaking roof, ***unsafe electrical installations*** or with

conditions	inadequate thermal comfort conditions

Justification

PTFE and PVC are not considered as a green listed waste at the international level. Both are subject to scrutiny in the EU because of their properties. The PTFE is in scope of the current PFAS restriction work, while there is also ongoing work on the restriction of PVC.

Amendment 249

Proposal for a directive
Annex II – column 2 – point a – row 9

Text proposed by the Commission	*Amendment*
Definition of nearly-zero energy building for new and existing buildings	Definition of nearly-zero energy ***and zero-emission*** building for new and existing buildings

Amendment 250

Proposal for a directive
Annex II – column 2 – point b – row 1

Text proposed by the Commission	*Amendment*
Targets for annual renovation rates: number and total floor area (m^2):	Targets for annual renovation rates: number and total floor area (m^2):
- per building type	- per building type
- worst-performing	- worst-performing
	Targets for expected share (%) of renovated buildings:
	- per building type
	- per renovation depth

Amendment 251

Proposal for a directive
Annex II – column 2 – point c – row 1 – subparagraph 1 – point d

Text proposed by the Commission	*Amendment*
(d) empowering and protecting vulnerable	(d) empowering and protecting vulnerable

customers and the alleviation of energy poverty, including policies and measures pursuant to Article 22 of Directive (EU) …/… [recast EED], and housing affordability;	customers and the alleviation of energy poverty, ***including a set of measures for preferential financing of building renovation for energy poor and vulnerable households and a national target for energy poverty mitigation via building renovation measures*** pursuant to Article 22 of Directive (EU) …/… [recast EED], and housing affordability;

Amendment 252

Proposal for a directive
Annex II – column 2 – point c – row 1 – subparagraph 1 – point e

Text proposed by the Commission	*Amendment*
(e) the creation of one-stop-shops or similar mechanisms for the provision of technical, administrative and financial advice and assistance;	(e) the creation of ***local-level*** one-stop-shops or similar mechanisms for the provision of ***tailored*** technical, administrative and financial advice, ***assistance and integrated building renovation services to property owners***;

Amendment 253

Proposal for a directive
Annex II – column 2 – point c – row 1 – subparagraph 1 – point n

Text proposed by the Commission	*Amendment*
(n) addressing skills gaps and mismatches in human capacities, and promoting education, training, upskilling and reskilling in the construction, sector and energy efficiency and renewable energy sectors; and	(n) addressing skills gaps and mismatches in human capacities, and promoting education, training, upskilling and reskilling in the construction, sector and energy efficiency and renewable energy sectors ***by obligatory implementation of continuous professional development systems, skills registers, and national targets for qualification and upskilling of building professionals, alligned, where applicable, to national qualification roadmaps developed under the EU BUILD UP Skills initiative and/or under the Construction Blueprint initiative.***

Amendment 254

Proposal for a directive
Annex II – column 2 – point c – row 1 – subparagraph 1 – point o

Text proposed by the Commission	*Amendment*
(o) awareness raising campaigns and other advisory tools.	(o) ***large-scale*** awareness raising campaigns ***promoting the benefits of buildings' efficiency and the accessible support measures conducted at national, regional, local and community level, as well as*** other advisory tools.

Amendment 255

Proposal for a directive
Annex II – column 2 – point c – row 1 – subparagraph 2

Text proposed by the Commission	*Amendment*
— Name of policy or measure	— Name of policy or measure
— Short description (precise scope, objective and modalities of operation)	— Short description (precise scope, objective and modalities of operation)
— Quantified objective	— Quantified objective
— Type of policy or measure (such as legislative; economic; fiscal; training, awareness)	— Type of policy or measure (such as legislative; economic; fiscal; training, awareness)
— Planned budget and funding sources	— Planned budget and funding sources
— Entities responsible for implementing the policy	— Entities responsible for implementing the policy
— Expected impact	— Expected impact
— Status of implementation	— Status of implementation
— Date of entry into force	— Date of entry into force
— Implementation period	— Implementation period
	— ***Monitoring mechanisms***
	— ***Penalties in case of non-compliance and/or underperformace***

Justification

1) subparagraph d) is amended to ensure the practical implementation of national-level

financial schemes targeted to energy poor and vulnerable households as per the applicable definition pursuant to the proposed amendments of the EED

2) subparagraph e) is amended to ensure accessible tailored services efficiently reaching the local communities, which are the main beneficiaries of the OSS concept. The suggested amendments also include the provision of integrated renovation services overcoming the issues related to the fragmentation of the construction sector in general and specifically of the renovation process, which is often cited as one of the major barriers to large-scale building retrofitting.

3) subparagraph n) is amended to ensure the application of streamlined instruments which are key for the life-long learning progress and regular upgrade of the skills and knowledge of building professionals in a quickly changing technological environment. Additionally, it brings coherence with the most effective and widely recognized EU initiatives in the area, thus avoiding duplication of measures and reduction of costs.

4) subparagraph o) is amended to ensure ambitious scope and outreach of the communication and awareness raising campaigns, which are expected to integrate national coverage by the public media and local community-oriented communication action to achieve highest impact.

5) additionally, monitoring mechanisms and penalties in case of non-compliance or underperformance are required to ensure coherent implementation at national level

Amendment 256

Proposal for a directive
Annex II – column 2 – point c – row 1 – subparagraph 1 – point f a (new)

Text proposed by the Commission	*Amendment*
	(fa) the modernization of the heating and cooling stock via the installation of technologies ready to work with renewables and decarbonized energy sources;

Amendment 257

Proposal for a directive
Annex II – column 2 – point c – row 1 – subparagraph 1 – point f b (new)

Text proposed by the Commission	*Amendment*
	(fb) the increase of electrical safety;

Amendment 258

Proposal for a directive
Annex III – point I – paragraph 3 – indent 1

Text proposed by the Commission	*Amendment*
— energy from renewable sources generated on-site and fulfilling the criteria of Article 7 of Directive (EU) 2018/2001 [amended RED],	— energy from renewable sources generated on-site ***or supplied from the grid*** and fulfilling the criteria of Article 7 of Directive (EU) 2018/2001 [amended RED],

Amendment 259

Proposal for a directive
Annex III – point I – paragraph 4

Text proposed by the Commission	*Amendment*
A zero-emission building shall not cause any ***on-site carbon*** emissions from fossil fuels.	A zero-emission building shall not cause any emissions from fossil fuels.

Amendment 260

Proposal for a directive
Annex III – point II – paragraph 1

Text proposed by the Commission	*Amendment*
For the calculation of the life-cycle global warming potential (GWP) of new buildings pursuant to Article 7(2), the GWP is communicated as a numeric indicator for each life-cycle stage expressed as kgCO2e/m2 (of useful floor area) averaged for one year of a reference study period of 50 years. The data selection, scenario definition and calculations shall be carried out in accordance with EN 15978 (EN 15978:2011. Sustainability of construction works. Assessment of environmental performance of buildings. Calculation method). The scope of building elements and technical equipment is as defined in the Level(s) common EU framework for	For the calculation of the life-cycle global warming potential (GWP) of new buildings pursuant to Article 7(2), the GWP is communicated as a numeric indicator for each life-cycle stage ***also considering the benefits from reuse and recycling at end-of-life,*** expressed as kgCO2e/m2 (of useful floor area) averaged for one year of a reference study period of 50 years. The data selection, scenario definition and calculations shall be carried out in accordance with EN 15978 (EN 15978:2011. Sustainability of construction works. Assessment of environmental performance of buildings. Calculation method). The scope of building elements

indicator 1.2. Where a national calculation tool exists, or is required for making disclosures or for obtaining building permits, that tool may be used to provide the required disclosure. Other calculation tools may be used if they fulfil the minimum criteria laid down by the Level(s) common EU framework. Data regarding specific construction products calculated in accordance with [revised Construction Products Regulation] shall be used when available.	and technical equipment is as defined in the Level(s) common EU framework for indicator 1.2. Where a national calculation tool exists, or is required for making disclosures or for obtaining building permits, that tool may be used to provide the required disclosure. Other calculation tools may be used if they fulfil the minimum criteria laid down by the Level(s) common EU framework. Data regarding specific construction products calculated in accordance with [revised Construction Products Regulation] shall be used when available.

Justification

Considering the importance to promote a circular building ecosystem, it is essential to also report the additional environmental benefits resulting from reuse and recycling at the end of life stage of the building

Amendment 261

Proposal for a directive
Annex IV – point 2 – point c a (new)

Text proposed by the Commission	*Amendment*
	(ca) the ability of a building to store energy and release it back into the building or to the grid as electricity when it is required allowing for the active participation of buildings in the electricity system.

Justification

Amendment necessary for pressing reasons relating to the internal logic of the text.

Amendment 262

Proposal for a directive
Annex V – point 1 – point h a (new)

Text proposed by the Commission	*Amendment*
	(ha) operational fine particulate matter (PM2.5) emissions;

Justification

indicators moved from paragraph 2 as an element to be displayed mandatorily.

Amendment 263

Proposal for a directive
Annex V – point 1 – point i

Text proposed by the Commission	*Amendment*
(i) the greenhouse gas emission class ***(if applicable)***.	(i) the greenhouse gas emission class.

Amendment 264

Proposal for a directive
Annex V – point 1 – point i a (new)

Text proposed by the Commission	*Amendment*
	(ia) energy use, peak load, size of generator or system, main energy carrier and main type of element for each of the uses: heating, cooling, domestic hot water, ventilation and in-built lighting;

Justification

indicators moved from paragraph 2 of Annex V as an element to be displayed mandatorily.

Amendment 265

Proposal for a directive
Annex V – point 1 – point i b (new)

Text proposed by the Commission	*Amendment*

	(ib) Status of electricalinstallation (reference to latest inspection);

Amendment 266

Proposal for a directive
Annex V – point 2 – point b

Text proposed by the Commission	*Amendment*
(b) renewable energy produced on site, main energy carrier and type of renewable energy source;	(b) renewable energy produced on site, main energy carrier and type of renewable energy source ***and readiness to install new renewable generation capacity (e.g. available space, orientation, electrical system)***;

Amendment 267

Proposal for a directive
Annex V – point 2 – point g

Text proposed by the Commission	*Amendment*
(g) the average U-value for the opaque elements of the building envelope;	(g) the average U-value ***and the average g-value*** for the opaque elements of the building envelope;

Justification

National requirements too often focus on insulation (U-value) while other aspects are equally important to assess the performance of transparent elements of the building envelope, in particular the solar energy transmittance (g-value).

Amendment 268

Proposal for a directive
Annex V – point 2 – point j a (new)

Text proposed by the Commission	*Amendment*
	(ja) result of the analysis of indoor air quality;

Justification

Studies show that indoor climate improvements are among the key incentives for building owners to conduct energy renovations.

Amendment 269

Proposal for a directive
Annex V – point 2 – point j b (new)

Text proposed by the Commission	*Amendment*
	(jb) result of analysis of daylight conditions;

Justification

Studies show that indoor climate improvements are among the key incentives for building owners to conduct energy renovations.

Amendment 270

Proposal for a directive
Annex V – point 2 – point m

Text proposed by the Commission	*Amendment*
(m) number and type of charging points for electric vehicles;	(m) number and type of charging points for electric vehicles ***and readiness of electrical infrastructure toad new charging points***; ***;***

Justification

Energy Performance Certificates (EPCs) must integrate information about the latest inspection of the electrical installations and its readiness to install new major equipment. The proposed template for EPCs suggests including information about the presence of heat-pump, EV charging, storage or on-site renewable generation, but should also include information about the readiness and latest safety check of the electrical installations to integrate such equipment. Every dwelling owner or tenant should have an easy access to information about the status and readiness of the electrical installations particularly in the view of electrification of heating and transport and the possibility to add new equipment, such as EV charging point, heat pump, on-site renewable generation, and storage.

Amendment 271

Proposal for a directive
Annex V – point 2 – point n

Text proposed by the Commission	*Amendment*
(n) presence, type and size of energy storage systems;	(n) presence, type and size of energy storage systems ***and readiness to add new storage capacity***;

Justification

Energy Performance Certificates (EPCs) must integrate information about the latest inspection of the electrical installations and its readiness to install new major equipment. The proposed template for EPCs suggests including information about the presence of heat-pump, EV charging, storage or on-site renewable generation, but should also include information about the readiness and latest safety check of the electrical installations to integrate such equipment. Every dwelling owner or tenant should have an easy access to information about the status and readiness of the electrical installations particularly in the view of electrification of heating and transport and the possibility to add new equipment, such as EV charging point, heat pump, on-site renewable generation, and storage.

Amendment 272

Proposal for a directive
Annex V – point 2 – point r a (new)

Text proposed by the Commission	*Amendment*
	(ra) readiness to switch off fossil fuels;

Justification

Energy Performance Certificates (EPCs) must integrate information about the latest inspection of the electrical installations and its readiness to install new major equipment. The proposed template for EPCs suggests including information about the presence of heat-pump, EV charging, storage or on-site renewable generation, but should also include information about the readiness and latest safety check of the electrical installations to integrate such equipment. Every dwelling owner or tenant should have an easy access to information about the status and readiness of the electrical installations particularly in the view of electrification of heating and transport and the possibility to add new equipment, such as EV charging point, heat pump, on-site renewable generation, and storage.

Amendment 273

Proposal for a directive
Annex V – point 2 – point r b (new)

Text proposed by the Commission	*Amendment*
	(rb) the flexibility of a building's overall electricity demand, including its ability to demand ***response in relation to the grid, and load shifting capacities.***

Justification

Energy Performance Certificates (EPCs) must integrate information about the latest inspection of the electrical installations and its readiness to install new major equipment. The proposed template for EPCs suggests including information about the presence of heat-pump, EV charging, storage or on-site renewable generation, but should also include information about the readiness and latest safety check of the electrical installations to integrate such equipment. Every dwelling owner or tenant should have an easy access to information about the status and readiness of the electrical installations particularly in the view of electrification of heating and transport and the possibility to add new equipment, such as EV charging point, heat pump, on-site renewable generation, and storage.

PROCEDURE – COMMITTEE ASKED FOR OPINION

Title	Energy performance of buildings (recast)
References	COM(2021)0802 – C9-0469/2021 – 2021/0426(COD)
Committee responsible Date announced in plenary	ITRE 14.2.2022
Opinion by Date announced in plenary	ENVI 14.2.2022
Rapporteur for the opinion Date appointed	Radan Kanev 11.3.2022
Discussed in committee	17.5.2022
Date adopted	3.10.2022
Result of final vote	+: 33 –: 8 0: 27
Members present for the final vote	Mathilde Androuët, Bartosz Arłukowicz, Simona Baldassarre, Marek Paweł Balt, Aurélia Beigneux, Hildegard Bentele, Sergio Berlato, Alexander Bernhuber, Simona Bonafè, Delara Burkhardt, Pascal Canfin, Sara Cerdas, Mohammed Chahim, Nathalie Colin-Oesterlé, Esther de Lange, Bas Eickhout, Agnès Evren, Heléne Fritzon, Malte Gallée, Andreas Glück, Catherine Griset, Anja Hazekamp, Martin Hojsík, Pär Holmgren, Jan Huitema, Yannick Jadot, Petros Kokkalis, Ewa Kopacz, Joanna Kopcińska, Peter Liese, César Luena, Liudas Mažylis, Tilly Metz, Silvia Modig, Alessandra Moretti, Ville Niinistö, Grace O'Sullivan, Jessica Polfjärd, Nicola Procaccini, Frédérique Ries, María Soraya Rodríguez Ramos, Silvia Sardone, Christine Schneider, Günther Sidl, Ivan Vilibor Sinčić, Maria Spyraki, Nils Torvalds, Edina Tóth, Véronique Trillet-Lenoir, Alexandr Vondra, Mick Wallace, Pernille Weiss, Michal Wiezik, Tiemo Wölken, Anna Zalewska
Substitutes present for the final vote	Michael Bloss, Biljana Borzan, Asger Christensen, Matthias Ecke, Radan Kanev, Ondřej Knotek, João Pimenta Lopes, Christel Schaldemose, Sarah Wiener
Substitutes under Rule 209(7) present for the final vote	Abir Al-Sahlani, Attila Ara-Kovács, Krzysztof Hetman, Niklas Nienaß

FINAL VOTE BY ROLL CALL IN COMMITTEE ASKED FOR OPINION

33	+
PPE	Bartosz Arłukowicz, Alexander Bernhuber, Nathalie Colin-Oesterlé, Agnès Evren, Krzysztof Hetman, Radan Kanev, Ewa Kopacz, Peter Liese, Liudas Mažylis, Maria Spyraki
RENEW	Abir Al-Sahlani, Pascal Canfin, Asger Christensen, Martin Hojsík, Frédérique Ries, María Soraya Rodríguez Ramos, Nils Torvalds, Véronique Trillet-Lenoir, Michal Wiezik
S&D	Attila Ara-Kovács, Marek Paweł Balt, Simona Bonafè, Biljana Borzan, Delara Burkhardt, Sara Cerdas, Mohammed Chahim, Matthias Ecke, Heléne Fritzon, César Luena, Alessandra Moretti, Christel Schaldemose, Günther Sidl, Tiemo Wölken

8	-
ID	Mathilde Androuët, Simona Baldassarre, Aurélia Beigneux, Catherine Griset, Silvia Sardone
RENEW	Andreas Glück, Jan Huitema, Ondřej Knotek

27	0
ECR	Sergio Berlato, Joanna Kopcińska, Nicola Procaccini, Alexandr Vondra, Anna Zalewska
NI	Ivan Vilibor Sinčić, Edina Tóth
PPE	Hildegard Bentele, Esther de Lange, Jessica Polfjärd, Christine Schneider, Pernille Weiss
THE LEFT	Anja Hazekamp, Petros Kokkalis, Silvia Modig, João Pimenta Lopes, Mick Wallace
VERTS/ALE	Michael Bloss, Bas Eickhout, Malte Gallée, Pär Holmgren, Yannick Jadot, Tilly Metz, Niklas Nienaß, Ville Niinistö, Grace O'Sullivan, Sarah Wiener

Key to symbols:
+ : in favour
- : against
0 : abstention

PROCEDURE – COMMITTEE RESPONSIBLE

Title	Energy performance of buildings (recast)
References	COM(2021)0802 – C9-0469/2021 – 2021/0426(COD)
Date submitted to Parliament	15.12.2021
Committee responsible Date announced in plenary	ITRE 14.2.2022
Committees asked for opinions Date announced in plenary	ENVI TRAN 14.2.2022 14.2.2022
Associated committees Date announced in plenary	TRAN 9.6.2022
Rapporteurs Date appointed	Ciarán Cuffe 14.2.2022
Discussed in committee	27.6.2022
Date adopted	9.2.2023
Result of final vote	+: 49 –: 18 0: 6
Members present for the final vote	Nicola Beer, François-Xavier Bellamy, Hildegard Bentele, Tom Berendsen, Michael Bloss, Paolo Borchia, Marc Botenga, Markus Buchheit, Martin Buschmann, Cristian-Silviu Buşoi, Jerzy Buzek, Maria da Graça Carvalho, Ignazio Corrao, Beatrice Covassi, Ciarán Cuffe, Josianne Cutajar, Nicola Danti, Marie Dauchy, Pilar del Castillo Vera, Christian Ehler, Valter Flego, Lina Gálvez Muñoz, Jens Geier, Nicolás González Casares, Bart Groothuis, Christophe Grudler, András Gyürk, Henrike Hahn, Robert Hajšel, Ivo Hristov, Ivars Ijabs, Romana Jerković, Seán Kelly, Izabela-Helena Kloc, Łukasz Kohut, Miapetra Kumpula-Natri, Marisa Matias, Eva Maydell, Iskra Mihaylova, Johan Nissinen, Mauri Pekkarinen, Mikuláš Peksa, Tsvetelina Penkova, Morten Petersen, Markus Pieper, Clara Ponsatí Obiols, Robert Roos, Sara Skyttedal, Maria Spyraki, Beata Szydło, Grzegorz Tobiszowski, Patrizia Toia, Henna Virkkunen, Pernille Weiss, Carlos Zorrinho
Substitutes present for the final vote	Damian Boeselager, Jakop G. Dalunde, Matthias Ecke, Cornelia Ernst, Klemen Grošelj, Elena Kountoura, Dace Melbārde, Alin Mituța, Jutta Paulus, Massimiliano Salini
Substitutes under Rule 209(7) present for the final vote	Marco Campomenosi, Rosanna Conte, Jarosław Duda, France Jamet, Aušra Maldeikienė, Tilly Metz, Alessandro Panza, Rovana Plumb
Date tabled	16.2.2023

FINAL VOTE BY ROLL CALL IN COMMITTEE RESPONSIBLE

49	+
NI	Martin Buschmann, Clara Ponsatí Obiols
PPE	Hildegard Bentele, Cristian-Silviu Buşoi, Jerzy Buzek, Maria da Graça Carvalho, Pilar del Castillo Vera, Jarosław Duda, Christian Ehler, Seán Kelly, Aušra Maldeikienė, Eva Maydell, Dace Melbārde, Maria Spyraki, Pernille Weiss
Renew	Valter Flego, Klemen Grošelj, Christophe Grudler, Iskra Mihaylova, Alin Mituța, Morten Petersen
S&D	Beatrice Covassi, Josianne Cutajar, Matthias Ecke, Lina Gálvez Muñoz, Jens Geier, Nicolás González Casares, Robert Hajšel, Ivo Hristov, Romana Jerković, Łukasz Kohut, Miapetra Kumpula-Natri, Tsvetelina Penkova, Rovana Plumb, Patrizia Toia, Carlos Zorrinho
The Left	Marc Botenga, Cornelia Ernst, Elena Kountoura, Marisa Matias
Verts/ALE	Michael Bloss, Damian Boeselager, Ignazio Corrao, Ciarán Cuffe, Jakop G. Dalunde, Henrike Hahn, Tilly Metz, Jutta Paulus, Mikuláš Peksa

18	-
ECR	Izabela-Helena Kloc, Robert Roos, Beata Szydło, Grzegorz Tobiszowski
ID	Paolo Borchia, Markus Buchheit, Marco Campomenosi, Rosanna Conte, Marie Dauchy, France Jamet, Alessandro Panza
PPE	François-Xavier Bellamy, Tom Berendsen, Markus Pieper, Massimiliano Salini, Sara Skyttedal
Renew	Nicola Beer, Bart Groothuis

6	0
ECR	Johan Nissinen
NI	András Gyürk
PPE	Henna Virkkunen
Renew	Nicola Danti, Ivars Ijabs, Mauri Pekkarinen

Key to symbols:
+ : in favour
- : against
0 : abstention