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NOTE

From:	General Secretariat of the Council
To:	Permanent Representatives Committee
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Subject:	Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the energy performance of buildings (recast) - General approach

I. INTRODUCTION

1. The Commission submitted a proposal for a recast of the Energy Performance of Buildings Directive on 15 December 2021. The Directive forms part of the Commission Work Programme 'Fit for 55' package, setting the vision for achieving a zero-emission building stock by 2050. It is also a key component of the Renovation Wave Strategy published in October 2020. In addition, the Commission published the REPowerEU plan on 18 May 2022.

2. This Directive is a key legislative instrument for delivering on the 2030 and 2050 decarbonisation objectives. The proposal is particularly important because buildings account for 40 % of energy consumed and 36 % of energy-related direct and indirect greenhouse gas emissions in the EU. It therefore constitutes one of the levers necessary for delivering on the Renovation Wave with specific regulatory, financing and enabling measures, with the objective of at least doubling the annual energy renovation rate of buildings by 2030 and fostering deep renovations. An important new feature of the revision is the introduction of minimum energy performance standards to trigger the required transformation of the sector, in particular for the worst-performing buildings.

II. EXAMINATION BY THE OTHER INSTITUTIONS

3. The European Parliament appointed the Committee on Industry, Research and Energy (ITRE) as the committee responsible for this proposal and Mr Ciarán CUFFE (IE, Grees/EFA) as raporteur and is expected to adopt its report in mid-December 2022.

4. The Economic and Social Committee adopted its opinion in its plenary session on 23 March 2022.

5. The Committee of the Regions adopted its opinion in its plenary session on 19 March 20212.

III. STATE OF PLAY IN THE COUNCIL

6. The Working Party on Energy has been examining the proposal for a Directive since January 2022. The progress report was presented by the French Presidency at the 27 June 2022 TTE (Energy) Council.

7. On the basis of the observations and the comments received from the Member States, on 13 July 2022 the Czech Presidency prepared a draft compromise text (REV 2). After subsequent discussions in the Energy Working Party and comments received, the Presidency prepared and issued a new draft compromise text (REV 3) on 14 September 2022. After subsequent discussions in the Energy Working Party, the Permanent Representatives Committee was asked for guidance for further work, in their meeting on 28 September. Following the exchange in the Permanent Representatives Committee and comments received, on 30 September, the Presidency issued a new compromise draft text (REV4).

8. The Presidency analysed comments, including two non-papers and on 12 October, the Permanent Representatives Committee was asked for guidance for further work, in particular on Article 9.

9. Based on the latest observations, comments received from the Member States, including two joint non-papers, the Presidency prepared a new compromise text (REV 5, which is annexed to this note. Compared to the previous compromise proposal, the Presidency introduced a few changes. Given the varied preferences stated by Member States, the Presidency proposes, in the spirit of compromise, to leave different approaches for residential and non-residential buildings. Nevertheless, at the same time addressing the main issues Member States voiced.

10. In Article 9, regarding non-residential buildings, it was added that the maximum energy performance thresholds shall be established on the basis of the non-residential building stock on 1 January 2020, based on available information and, where appropriate, on statistical sampling. Also, the maximum energy performance thresholds may be differentiated between different building types and categories. Member States may also set criteria to exempt individual buildings, in light of the expected future use of the building or in the case of an unfavourable cost-benefit assessment.

11. In the same article, regarding residential buildings, to ensure the right level of ambition, it was clarified that the energy performance corresponding to the levels of energy performance classes B and D, would need to be at least as high as at the time of entry into force of this Directive.

12. In Article 9a on solar energy in buildings, which is from the REPowerEU Proposal, the Presidency added that relevant factors should be taken into account, such as structural integrity, biodiversity and stability of the electricity network.

13. The necessity of reducing operational greenhouse gas emissions was stressed in Article 11 on the technical building systems, where a reference to replacing the fossil-fuelled heat generators in existing buildings was added. The Article 9 on the minimum energy performance standards newly takes into account the Article 15a on mainstreaming renewable energy in buildings from the Renewable Energy Directive.

14. In Article 12, on sustainable mobility, ducting (conduits for electric cables) was added as a requirement for all non-residential buildings with more than twenty parking spaces by 2027, for at least 50% of the parking spaces to enable the installation at a later stage. This change is to accommodate plans for locally shared mobility infrastructure or to account for slower uptake of sustainable mobility infrastructure in certain buildings. The possibility of ducting allows for quick development in the future if required.

15. Article 16 on energy performance classes now stipulates, that member states which have rescaled their energy performance classes only recently are given time until 31 December 2029 to fully comply with the article.

16. A possibility to conduct on-site visits through virtual means was added to the article 10 on renovation passport and to the article 16 on energy performance classes in order to limit the costs, the administrative burden, and to help to enable the digital transition and make the whole text future-proof.

17. All new text relating to ST 12961 2022 (REV 4) is "***underlined in bold italics***". Deletions are "***~~strikethrough and highlighted in bold italics~~***". Previous additions are "*underlined in italics*". Previous deletions are "*~~strikethrough and highlighted in italics~~*". Text previously deleted and re-inserted in REV5, as presented in the annex to this note, is marked by "wave underlined".

IV. CONCLUSION

18. In light of the above, the Committee of Permanent Representatives is invited to:

- examine the compromise text annex to this note, in view to a general approach;

- recommend to the Council to reach a general approach on 25 October 2022 at the TTE (Energy) Council meeting, on the proposal for a Directive of the European Parliament and of the Council on the energy performance of buildings (recast).

↓ 2010/31/EU

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[1],

Having regard to the opinion of the Committee of the Regions[2],

Acting in accordance with the ordinary legislative procedure,

Whereas:

[1] OJ C […], […], p. […].
[2] OJ C […], […], p. […].

↓ 2010/31/EU recital 1 (adapted)

(1) Directive ~~2002/91/EC~~ ⌦ 2010/31/EU ⌫ of the European Parliament and of the Council[1] ~~of 16 December 2002 on the energy performance of buildings~~[2] has been ⌦ substantially ⌫ amended ⌦ several times ⌫[3]. Since further ~~substantive~~ amendments are to be made, ~~it~~ ⌦ that Directive ⌫ should be recast in the interests of clarity.

⇩ new

(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. Reaching the objectives of the Paris Agreement is at the core of the Commission Communication on "The European Green Deal" of 11 December 2019[4]. 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[5]. 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 European mission on climate-neutral and smart cities.

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1 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 ~~OJ L 1, 4.1.2003, p. 65.~~

3 See Annex VIII~~IV~~, Part A.

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

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

(4) Regulation (EU) 2021/1119 of the European Parliament and of the Council[1], the 'European Climate Law', enshrines the target of economy-wide climate neutrality by 2050 in legislation 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 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.

↓ 2010/31/EU recital 2

~~An efficient, prudent, rational and sustainable utilisation of energy applies, inter alia, to oil products, natural gas and solid fuels, which are essential sources of energy, but also the leading sources of carbon dioxide emissions.~~

[1] 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).

↓ 2010/31/EU recital 3 (adapted)
⇨ new

(6) Buildings account for 40 % of ⌦ final ⌫ ~~total~~ energy consumption in the Union ⇨ and 36% of its energy-related greenhouse gas emissions ⇦ . ~~The sector is expanding, which is bound to increase its energy consumption.~~ 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[1] ⇦ and the use of energy from renewable sources in the buildings sector constitute important measures needed to reduce the Union's ~~energy dependency and~~ greenhouse gas emissions. ~~Together with an increased use of energy from renewable sources, measures taken to reduce energy consumption in the Union would allow the Union to comply with the Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC), and to honour both its long term commitment to maintain the global temperature rise below 2 °C, and its commitment to reduce, by 2020, overall greenhouse gas emissions by at least 20 % below 1990 levels, and by 30 % in the event of an international agreement being reached.~~ Reduced energy consumption and 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 supply, ⌦ and ⌫ technological developments and in creating opportunities for employment and regional development, in particular in ⇨ islands and ⇦ rural areas.

[1] 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).

⇩ new

(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.

(8) Minimizing the whole life-cycle greenhouse gas emissions of buildings requires resource efficiency and circularity. This can also be combined with turning parts of the building stock into a temporary carbon sink.

(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.

(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[1].

[1] 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).

↓ 2010/31/EU recital 4

~~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.~~

↓ 2010/31/EU recital 5 (adapted)

~~The European Council of March 2007 emphasised the need to increase energy efficiency in the Union so as to achieve the objective of reducing by 20 % the Union's energy consumption by 2020 and called for a thorough and rapid implementation of the priorities established in the Commission Communication entitled 'Action plan for energy efficiency: realising the potential'. That action plan identified the significant potential for cost-effective energy savings in the buildings sector. The European Parliament, in its resolution of 31 January 2008, called for the strengthening of the provisions of Directive 2002/91/EC, and has called at various times, on the latest occasion in its resolution of 3 February 2009 on the Second Strategic Energy Review, for the 20 % energy efficiency target in 2020 to be made binding. Moreover, Decision No 406/2009/EC of the European Parliament and of the Council of 23 April 2009 on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020[1], sets national binding targets for CO_2 reduction for which energy efficiency in the building sector will be crucial, and Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources[2] provides for the promotion of energy efficiency in the context of a binding target for energy from renewable sources accounting for 20 % of total Union energy consumption by 2020.~~

↓ 2010/31/EU recital 6 (adapted)

~~The European Council of March 2007 reaffirmed the Union's commitment to the Union-wide development of energy from renewable sources by endorsing a mandatory target of a 20 % share of energy from renewable sources by 2020. Directive 2009/28/EC establishes a common framework for the promotion of energy from renewable sources.~~

1 ~~OJ L 140, 5.6.2009, p. 136.~~
2 ~~OJ L 140, 5.6.2009, p. 16.~~

↓ 2010/31/EU recital 7 (adapted)

~~It is necessary to lay down more concrete actions with a view to achieving the great unrealised potential for energy savings in buildings and reducing the large differences between Member States' results in this sector.~~

↓ 2010/31/EU recital 8 (adapted)
⇨ new

(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 environment and cost-effectiveness. ~~These~~ ⌦ Those ⌫ measures should not affect other requirements concerning buildings such as accessibility ⇨ , fire safety and seismic ⇦ safety and the intended use of the building.

↓ 2010/31/EU recital 9
⇨ new

(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*~~ *use* 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 *monthly*, 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. ⇦

↓ 2010/31/EU recital 10 (adapted)
⇨ new

(13) ~~It is the sole responsibility of~~ Member States ⇨ should ⇦ ~~to~~ set minimum requirements for the energy performance of buildings and building elements~~.~~ ~~Those requirements should be set~~ 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.

↓ 2010/31/EU recital 11

~~The objective of cost-effective or cost-optimal energy efficiency levels may, in certain circumstances, for example in the light of climatic differences, justify the setting by Member States of cost-effective or cost-optimal requirements for building elements that would in practice limit the installation of building products that comply with standards set by Union legislation, provided that such requirements do not constitute an unjustifiable market barrier.~~

⇩ new

(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 *2025* ~~*2027*~~, with the exception of those selected for investment, before *2025* ~~*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.

🡻 2010/31/EU recital 12
⇨ new

(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. ⇦ 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 ~~of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products~~[1] and ~~Directive 2010/30/EU19 May 2010 on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products~~[2] Regulation (EU) 2017/1369 of the European Parliament and of the

[1] Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products (OJ L 285, 31.10.2009, p. 10).

[2] ~~See page 1 of this Official Journal.~~

Council[1], with a view to ensuring coherence with related initiatives and minimise, to the extent possible, potential fragmentation of the market.

↓ 2010/31/EU recital 13

(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.

↓ 2010/31/EU recital 14 (adapted)
⇨ new

(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 ~~this~~ ⌦ 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 ~~this~~ ⌦ that ⌫ comparison and the data used to reach ~~these~~ ⌦ those ⌫ results should be regularly reported to the Commission. ~~These~~ ⌦ 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.

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1 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).

↓ 2010/31/EU recital 15

~~Buildings have an impact on long-term energy consumption. Given the long renovation cycle for existing buildings, new, and existing buildings that are subject to major renovation, should therefore meet minimum energy performance requirements adapted to the local climate. As the application of alternative energy supply systems is not generally explored to its full potential, alternative energy supply systems should be considered for new buildings, regardless of their size, pursuant to the principle of first ensuring that energy needs for heating and cooling are reduced to cost-optimal levels.~~

↓ 2010/31/EU recital 16

(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. 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.

↓ 2010/31/EU recital 17

~~Measures are needed to increase the number of buildings which not only fulfil current minimum energy performance requirements, but are also more energy efficient, thereby reducing both energy consumption and carbon dioxide emissions. For this purpose Member States should draw up national plans for increasing the number of nearly zero-energy buildings and regularly report such plans to the Commission.~~

⇩ new

(19) The enhanced climate and energy ambition of the Union requires a new vision for buildings: the zero-emission building, *with* ~~*the*~~ very low energy demand, *zero on-site carbon emissions from fossil fuels and zero or a very low amount of operational greenhouse gas emissions*~~*of which is fully covered by energy from renewable sources where technically feasible*~~. All new buildings should be zero-emission buildings ***by 2030***, and ~~***all***~~ existing buildings should be transformed into zero-emission buildings by 2050.

(19a) When existing building is altered, it is not considered to be a new building.

(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.

(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, including a shift towards emission-free heating systems, is therefore a key goal of this Directive.

(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 ***for non-residential buildings should be*** set at Union level ***and*** should focus on the renovation of the ***worst-performing*** buildings, ***which have 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***~~ **and therefore** need to be renovated as a priority.

(23a) For residential buildings, Member States should have the flexibility to design minimum energy performance standards at the national level, adapted to national conditions and based on a national trajectory with intermediate milestones for the average energy performance of the residential building stock. Having different ownership structures, there is a need to allow for a separate treatment of single-family houses, when establishing minimum energy performance standards in the residential sector so that Member States are able to choose the best approach to focus on this sector.

(24) ~~*As regards the rest of the national building stock, Member States are free to decide whether they wish to introduce minimum energy performance standards, designed at national level and adapted to national conditions.*~~ 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.

(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 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 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. Large scale deployment of solar energy on buildings would make a major contribution to shielding more effectively consumers from increasing

and volatile prices of fossil fuels, reduce the exposure of vulnerable citizens 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, ***also taking into account the principle of technology neutrality and the combination of solar installations with other roof uses, such as green roofs or other building services installations*** *As the obligation to deploy solar installations on individual buildings depends on the criteria specified by Member States, the provisions on solar energy on buildings* ~~***should***~~ ***do*** *notqualify as a "Union standard" within the meaning of State aid rules.*

(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[1], 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.

(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.

[1] 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).

(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 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.

(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~~ 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 *may also be* ~~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.

(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.

(35) Member States should support energy performance upgrades of existing buildings that contribute to achieving a healthy indoor environment, including through 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[1] and (EU) 2016/2284[2] of the European Parliament and of the Council.

(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 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. Charging in relation to buildings is particularly important, since this is where electric vehicles park regularly and for long periods of time. Slow charging is economical and the installation of recharging points in private spaces can provide energy storage to the related building and integration of smart charging services and system integration services in general.

(37) Combined with an increased share of renewable electricity production, electric vehicles produce ~~*fewer*~~ *less* 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 *aim to* remove barriers such as split incentives and administrative complications which individual owners encounter when trying to install a recharging point on their parking space.

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[1] 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).

[2] 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).

(38) Pre-cabling ***and ducting*** provides ~~s~~ 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. Where technically feasible, 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. 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.

(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 number of bicycle parking spaces.

(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.

↓ 2010/31/EU recital 18 (adapted) ⇨ new

(44) ⇨ Access to sufficient funding is crucial to meet the 2030 and 2050 energy efficiency targets. ⇦ Union financial instruments and other measures ~~are being~~ ⌦ have been ⌫ put into place or adapted with the aim of ⇨ supporting the energy performance of buildings ⇦ ~~stimulating energy efficiency-related measures~~. ⇨ 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[1] 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[2]. 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. ⇦ ~~Such financial instruments at Union level include, inter alia, Regulation (EC) No 1080/2006 of the European Parliament and of the Council of 5 July 2006 on the European Regional Development Fund[3], amended to allow increased investments in energy efficiency in housing; the public-private partnership on a 'European energy-efficient buildings' initiative to promote green technologies and the development of energy-efficient systems and materials in new and renovated buildings; the EC-European Investment Bank (EIB) initiative 'EU sustainable energy financing initiative' which aims to enable, inter alia, investments for energy efficiency and the EIB-led 'Marguerite Fund': the 2020 European Fund for Energy, Climate Change and Infrastructure; Council Directive 2009/47/EC of 5 May 2009 amending Directive 2006/112/EC as regards reduced rates of value added tax[4],~~

[1] 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)

[2] 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).

[3] ~~OJ L 210, 31.7.2006, p. 1.~~

[4] ~~OJ L 116, 9.5.2009, p. 18.~~

~~structural and cohesion funds instrument Jeremie (Joint European Resources for micro to medium enterprises); the Energy Efficiency Finance Facility; the Competitiveness and Innovation Framework Programme including the Intelligent Energy Europe II Programme focused specifically on removing market barriers related to energy efficiency and energy from renewable sources through for example the technical assistance facility ELENA (European Local Energy Assistance); the Covenant of Mayors; the Entrepreneurship and Innovation programme; the ICT Policy Support Programme 2010, and the Seventh Research Framework Programme. The European Bank for Reconstruction and Development also provides funding with the aim of stimulating energy efficiency related measures.~~

↓ 2010/31/EU recital 19 ⇨ new

(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 ⇦ ~~efficiency measures~~. 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.

⇩ new

(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*~~ *bodies* in an energy efficient building stock, for example by public-private partnerships or energy performance contracts or reducing the perceived risk of the investments.

(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.

(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.

↓ 2010/31/EU recital 20

~~In order to provide the Commission with adequate information, Member States should draw up lists of existing and proposed measures, including those of a financial nature, other than those required by this Directive, which promote the objectives of this Directive. The existing and proposed measures listed by Member States may include, in particular, measures that aim to reduce existing legal and market barriers and encourage investments and/or other activities to increase the energy efficiency of new and existing buildings, thus potentially contributing to reducing energy poverty. Such measures could include, but should not be limited to, free or subsidised technical assistance and advice, direct subsidies, subsidised loan schemes or low interest loans, grant schemes and loan guarantee schemes. The public authorities and other institutions which provide those measures of a~~

~~financial nature could link the application of such measures to the indicated energy performance and the recommendations from energy performance certificates.~~

↓ 2010/31/EU recital 21

~~In order to limit the reporting burden on Member States it should be possible to integrate the reports required by this Directive into the Energy Efficiency Action Plans referred to in Article 14(2) of Directive 2006/32/EC of the European Parliament and of the Council of 5 April 2006 on energy end-use efficiency and energy services[1]. The public sector in each Member State should lead the way in the field of energy performance of buildings, and therefore the national plans should set more ambitious targets for the buildings occupied by public authorities.~~

(48a) Energy performance certificates for buildings have been in use since 2002. However, the use of different scales and formats hinders the comparability between different national schemes. Greater comparability of energy performance certificates across the Union facilitates the use of energy performance certificates by financial institutions, thereby steering financing towards more energy-performant buildings and building renovation. The EU Green Taxonomy relies on the use of energy performance certificates and accentuates the need to improve their comparability. Introducing a common scale of energy performance classes and a common template should ensure sufficient comparability between energy performance certificates across the Union.

(48b) A number of Member States have recently modified their energy performance certification schemes. In order to avoid disruption, those Member States should have additional time to adapt their schemes.

~~1 OJ L 114, 27.4.2006, p. 64.~~

↓ 2010/31/EU recital 22 (adapted)
⇨ new

(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 ⌫ ~~and~~ 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. ~~Information campaigns may serve to further encourage owners and tenants to improve the energy performance of their building or building unit. Owners and tenants of commercial buildings should also be encouraged to exchange information regarding actual energy consumption, in order to ensure that all the data are available to make informed decisions about necessary improvements.~~ The energy performance certificate should also provide information ~~about the actual impact of heating and cooling on the energy needs of the building,~~ on its primary energy consumption ⇨ , on its renewable energy production ⇦ and on its ⇨ operational greenhouse gas ⇦ ~~carbon dioxide~~ emissions.

⇩ new

(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.

↓ 2010/31/EU recital 23

~~Public authorities should lead by example and should endeavour to implement the recommendations included in the energy performance certificate. Member States should include within their national plans measures to support public authorities to become early adopters of energy efficiency improvements and to implement the recommendations included in the energy performance certificate as soon as feasible.~~

↓ 2010/31/EU recital 24 (adapted)
⇨ new

(51) Buildings occupied by public ~~*authorities*~~ *bodies* 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 ~~these~~ ⌦ those ⌫ energy performance certificates, in particular in buildings of a certain size which are occupied by public ~~*authorities*~~ *bodies* or which are frequently visited by the public, such as ⇨ town halls, schools, ⇦ shops and shopping centres, supermarkets, restaurants, theatres, banks and hotels.

↓ 2010/31/EU recital 25 (adapted)

(52) Recent years have seen a rise in the number of air-conditioning systems in European countries. ~~This~~ ⌦ 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 climatic conditions and the micro-climate around buildings.

↓ 2010/31/EU recital 26
⇨ new

(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 specifications 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.

↓ 2010/31/EU recital 27 (adapted)
⇨ new

(54) A common approach to the energy performance certification of buildings ⇨ , renovation passports, smart readiness indicators ⇦ and ~~to~~ the inspection of heating and air-conditioning systems, carried out by qualified ~~and/~~or ⇨ certified ⇦ ~~accredited~~ experts, whose independence is to be guaranteed on the basis of objective criteria, ~~will~~ 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.

(54a) A sufficient number of reliable professionals competent in the field of energy renovation should be available to ensure sufficient capacity to carry out quality renovation works at ~~in~~ the required scale. Member States should therefore where appropriate and feasible put in place certification schemes for integrated renovation works, which require expertise in ~~on~~ multiple building elements or systems such as building insulation, electricity and heating systems and the installation of solar panels; professionals involved may include designers, general contractors, specialist contractors and installers.

↓ 2010/31/EU recital 28

(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.

↓ 2010/31/EU recital 29

(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.

↓ 2010/31/EU recital 30

~~Member States should take account of Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications[1] with regard to the mutual recognition of professional experts which are addressed by this Directive, and the Commission should continue its activities under the Intelligent Energy Europe Programme on guidelines and recommendations for standards for the training of such professional experts.~~

~~1 OJ L 255, 30.9.2005, p. 22.~~

↓ 2010/31/EU recital 31 (adapted)

~~In order to enhance the transparency of energy performance in the Union's non-residential property market, uniform conditions for a voluntary common certification scheme for the energy performance of non-residential buildings should be established. In accordance with Article 291 TFEU, rules and general principles concerning mechanisms for control by Member States of the Commission's exercise of implementing powers shall be laid down in advance by a regulation adopted in accordance with the ordinary legislative procedure. Pending the adoption of that new regulation, Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission[1] continues to apply, with the exception of the regulatory procedure with scrutiny, which is not applicable.~~

↓ 2010/31/EU recital 32 (adapted)
⇨ new

(57) ⌦ In order to further the aim of improving the energy performance of buildings, the power ⌫ ~~The Commission should be empowered~~ to adopt ~~delegated~~ 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, ~~and~~ 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, ***provided that the report on smart readiness of building is positive,*** 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[2]. 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

1 ~~OJ L 184, 17.7.1999, p. 23.~~
2 OJ L 123, 12.5.2016, p. 1.

experts systematically have access to meetings of Commission expert groups dealing with the preparation of delegated acts ⌫ .

⇩ new

(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[1] 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.

🡻 2010/31/EU recital 33 (adapted)
⇨ new

(59) Since the ~~objective~~ ⌦ objectives ⌫ of this Directive, namely ~~of~~ 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 inability of the national housing markets to adequately address the challenges of energy efficiency, ~~and~~ ⌦ but ⌫ can ⌦ rather, ⌫ by ~~the~~ 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~~s~~ of proportionality, as set out in that Article, this Directive does not go beyond what is necessary in order to achieve ~~that objective~~ ⌦ those objectives ⌫ .

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[1] 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).

⇩ new

(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.

🡻 2010/31/EU recital 36 (adapted)
⇨ new

(61) In accordance with point 4434 of the Interinstitutional Agreement on Bbetter Llaw-Mmaking[1], Member States ~~are encouraged to~~ ⌦ 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). ⇦

🡻 2010/31/EU recital 34 (adapted)

(62) The obligation to transpose this Directive into national law should be confined to those provisions which represent a substantive ~~change~~ ⌦ amendment ⌫ as compared ~~with~~ ⌦ to the earlier ⌫ Directive ~~2002/91/EC~~. The obligation to transpose the provisions which are unchanged arises under ~~that~~ ⌦ the earlier ⌫ Directive.

[1] ~~OJ C 321, 31.12.2003, p. 1.~~

↓ 2010/31/EU recital 35 (adapted)

(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 ~~Directive 2002/91/EC.~~ ⌦ Directives set out in Annex VIII, Part B. ⌫

↓ 2010/31/EU (adapted)
⇨ new

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 outdoor climatic and local conditions, as well as indoor climate requirements 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 ~~and building elements~~ 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; ~~and~~

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

⇩ new

(d) the application of minimum energy performance standards to existing buildings and existing building units;

(e) renovation passports;

(f) national building renovation plans;

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

(h) smart buildings;

🡻 2010/31/EU (adapted)
⇨ new

~~(d) national plans for increasing the number of nearly zero-energy buildings;~~

(i~~e~~) energy ⌦ performance ⌫ certification of buildings or building units;

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

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

(ka) the calculation and disclosure of the life-cycle Global Warming Potential 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**, provided that such** ~~.~~***Such*** measures ~~***shall be***~~ **are** compatible with the ⌦ TFEU ⌫ ~~Treaty on the Functioning of the European Union~~. They shall be notified to the Commission.

Article 2

Definitions

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

1. ‘building’ means a roofed construction having walls, for which energy is used to condition the indoor climate;

⇩ new

2. ‘zero-emission building’ means a building with a very high energy performance, as determined in accordance with Annex I, *requiring zero or a very low amount of energy, producing zero on-site carbon emissions from fossil fuels and producing zero or a very low amount of operational greenhouse gas emissions*, ~~*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*~~ *Article 9~~a~~ b*[1].

⇩ 2010/31/EU (adapted)
⇨ new

3~~2~~. ‘nearly zero-energy building’ means a building ⌦ with ⌫ ~~that has~~ 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 ⇦ ~~.t~~The nearly zero or very low amount of energy required ~~should be~~ ⌦ is ⌫ covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby;

[1] *Article 9~~a~~ b replaces Article 9 of the current EPBD, as deleted in COM proposal.*

⇩ new

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, *donation, or change of purpose within the cadastre or land registry ~~to residential building~~*), in a period of time or by a specific date, thereby triggering renovation of existing buildings;

5. ‘public bodies’ means *public bodies within the meaning of Article 2(10) of [recast EED]* ~~*‘refers to definition in Article 2(10) of contracting authorities’ as defined in Article 2(1) of Directive 2014/24/EU of the European Parliament and of the Council*[1]*;*~~

🡻 2018/844 Art. 1.1(a)
⇨ new

6~~3~~. ‘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 ⇦ ~~electricity~~ generation ⇨ and *energy* storage ⇦ , or a combination thereof, including those systems using energy from renewable sources, of a building or building unit;

🡻 2018/844 Art. 1.1(b)

7~~3a~~. ‘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;

~~[1] OJ L 94, 28.3.2014, p. 65.~~

↓ 2010/31/EU (adapted)

84. ‘energy performance of a building’ means the calculated or ⌦ metered ⌫ ~~measured~~ 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;

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

⇩ new

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;

↓ 2010/31/EU (adapted)
⇨ new

136. ‘energy from renewable sources’ means energy from renewable non-fossil sources, namely wind, solar ⇨ (solar thermal and solar photovoltaic) ⇦ , ~~aerothermal,~~ ⌦ and ⌫ geothermal ⌦ energy ⌫ , ~~hydrothermal~~ ⇨ ambient energy, tide, wave ⇦ and ⌦ other ⌫ ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas, and biogas~~es~~;

14~~7~~. ‘building envelope’ means the integrated elements of a building which separate its interior from the outdoor environment;

15~~8~~. ‘building unit’ means a section, floor or apartment within a building which is designed or altered to be used separately;

16~~9~~. ‘building element’ means a technical building system or an element of the building envelope;

⇩ new

17. ‘*residential building unit* ~~*dwelling*~~’ means 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 all year round;

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;

19. ‘deep renovation’ means a renovation which ~~***achieves at least 60% of primary energy savings***~~*transforms a building or building unit*

(a) before 1 January 2030, into a nearly zero-energy building;

(b) as of 1 January 2030, into a zero-emission building;

20. ‘staged *deep* ~~*deep*~~ renovation ~~***into a zero-emission building’***~~ means a ~~***deep***~~ renovation carried out in several steps, following the steps set out in a renovation passport in accordance with Article 10 ~~***transforming a building into a zero-emission building***~~;

↓ 2010/31/EU (adapted)

21~~10~~. ‘major renovation’ means the renovation of a building where:

(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; or

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

Member States may choose to apply option (a) or (b).

⇩ new

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 emissions that occur over the life cycle of the building**s**, including production of construction products, their transport, construction site activities, use of energy in the building and replacement of construction products, as well as demolition, transport and management of waste materials and the**ir** final disposal* ~~*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);*~~

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;

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 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;

↓ 2010/31/EU (adapted)

2811. ‘European 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;

2912. ‘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 43;

3013. ‘cogeneration’ means simultaneous generation in one process of thermal energy and electrical ~~and/~~or mechanical energy;

3114. ‘cost-optimal level’ means the energy performance level which leads to the lowest cost during the estimated economic lifecycle, where:

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

⇩ new

i) the category and use of building concerned:

↓ 2010/31/EU

⇨ new

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

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

⇩ new

iv) environmental and health externalities of energy use;

🡻 2010/31/EU (adapted)
⇨ new

v) ~~the category of building concerned,~~ earnings from energy produced~~)~~ ⇨ on-site ⇦ , where applicable;~~.~~

vi) ~~and~~ ~~disposal~~ ⇨ waste management ⇦ costs, where applicable; and

(b) the estimated economic lifecycle is determined by each Member State~~.~~ ~~It~~ ⌦ 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;

⇩ new

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

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];

36. 'mortgage portfolio standards' means mechanisms incentivising mortgage lenders to increase the median energy performance of the portfolio of buildings covered by their mortgages and to encourage potential clients to make their property more energy-performant along the Union's decarbonisation ambition and relevant energy targets in the area of energy consumption in buildings, relying on the definition of sustainable economic activities in the EU Taxonomy;

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*~~ *bodies;*

↓ 2010/31/EU

38~~15~~. '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;

↓ 2018/844 Art. 1.1(c)
⇨ new

39~~15a~~. 'heating system' means a combination of the components required to provide a form of indoor air treatment, by which the temperature is increased;

39a. 'V~~v~~entilation system' means the technical building system ~~by~~which ~~the process of providing~~ provides outdoor air by natural or mechanical means to a space~~or a building is carried out~~.

39b. 'cooling generator' means the part of an air-conditioning system that generates useful cooling for uses identified in Annex I.

40~~15b~~. '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;

41~~15e~~. 'energy performance contracting' means energy performance contracting as defined in ~~point (27) of~~ Article 2, point (29), of Directive (EU) …/… [recast Energy Efficiency Directive]~~Directive 2012/27/EU of the European Parliament and of the Council~~[1];

↓ 2010/31/EU

42~~16~~. 'boiler' means the combined boiler body-burner unit, designed to transmit to fluids the heat released from burning;

43~~17~~. '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;

~~18. 'heat pump' means a machine, a device or installation that transfers heat from natural surroundings such as air, water or ground to buildings or industrial applications by reversing the natural flow of heat such that it flows from a lower to a higher temperature. For reversible heat pumps, it may also move heat from the building to the natural surroundings;~~

44~~19~~. '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;

~~[1] 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).~~

⇩ new

45. ‘useful floor area’ *means the floor area used as a reference size for the assessment of the energy performance of a building, calculated as the sum of individual zones within the building envelope, which are needed to quantify the specific conditions of use* ***, such as indoor climate,*** *and the application of the zoning and allocation rules* ~~*means the floor area of the floor of a building or part of a building where energy is used to condition the indoor climate;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;*~~

~~*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 *calculation of the* energy performance of buildings;

51. ‘energy needs’ means the energy to be delivered to, or extracted from[1], a conditioned space to maintain the intended space conditions during a given period of time 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 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 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.

[1] *Concept illustrated in Annex I.*

🡻 2018/844 Art. 1.1(d)

~~20. ‘micro isolated system’ means micro isolated system as defined in point 27 of Article 2 of Directive 2009/72/EC of the European Parliament and of the Council[1].~~

🡻 2018/844 Art. 1.2 (adapted)

Article ~~32a~~

⌦ National building renovation plan ⌫ ~~Long-term renovation strategy~~

🡻 2018/1999 Art. 53.1(a)
⇨ new

1. Each Member State shall establish a ~~long-term renovation strategy~~ ⇨ national building renovation plan ⇦ to ~~support~~ ⇨ 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, ~~facilitating the cost-effective transformation of~~ ⇨ with the objective to transform ⇦ existing buildings into ~~nearly zero-energy~~ ⇨ zero-emission ⇦ buildings.

Each ~~long-term renovation strategy~~ ⇨ building renovation plan ⇦ shall encompass:

~~[1] Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC (OJ L 211, 14.8.2009, p. 55).~~

↓ 2018/844 Art. 1.2
⇨ new

(a) an overview of the national building stock ⇨ for different building types, construction periods and climatic zones ⇦ , based, as appropriate, on statistical sampling and ~~expected share of renovated buildings in 2020~~ ⇨ the national database for energy performance certificates pursuant to Article 19, an overview of market barriers and market failures and an overview of the capacities in the construction, energy efficiency and renewable energy sectors ⇦ ;

~~(b) the identification of cost-effective approaches to renovation relevant to the building type and climatic zone, considering potential relevant trigger points, where applicable, in the life-cycle of the building;~~

~~(c) policies and actions to stimulate cost-effective deep renovation of buildings, including staged deep renovation, and to support targeted cost-effective measures and renovation for example by introducing an optional scheme for building renovation passports;~~

~~(d) an overview of policies and actions to target the worst performing segments of the national building stock, split-incentive dilemmas and market failures, and an outline of relevant national actions that contribute to the alleviation of energy poverty;~~

~~(e) policies and actions to target all public buildings;~~

~~(f) an overview of national initiatives to promote smart technologies and well-connected buildings and communities, as well as skills and education in the construction and energy effieiency sectors; and~~

~~(g) an evidence-based estimate of expected energy savings and wider benefits, such as those related to health, safety and air quality.~~

⇩ new

(b) a roadmap with nationally established targets and measurable progress indicators, 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, supporting the implementation of the roadmap pursuant to point (b) *when they are not already included in the elements of the national energy and climate plans notified to the Commission pursuant to Article 4, paragraph (b) of Regulation 2018/1999; ~~and~~*

(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 *when they are not already included in the elements of the national energy and climate plans notified to the Commission pursuant to Article 3, paragraph 2, sub-paragraph (c) of Regulation 2018/1999*.

(e) *the operational greenhouse gas emissions and annual primary energy use of a new or renovated zero-emission building thresholds in accordance with ~~referred to in~~ Article 9~~a~~ b (1).*

(f) minimum energy performance standards for non-residential buildings, based on maximum energy performance thresholds, in accordance with ~~referred to~~ in Article 9(1); and

(g) minimum energy performance standards for residential buildings and the corresponding national ~~linear~~ trajectory, ***including the 2033 and 2040 milestones for average primary energy use in kWh/(m2.y),*** *in accordance with* ~~referred to in~~ *Article 9(2).*

For the first building renovation plan, Member States may refer to their integrated national energy and climate plan notified to the Commission on 30 June 2024 to comply with point (c) and (d) when they consider that it is relevant.

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 ***and*** 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 [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 as part of its draft integrated national energy and climate plan referred to in Article 9 of Regulation (EU) 2018/1999 and, where the Member States submits a draft update, its draft update referred to in Article 14 of that Regulation. 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 *[2025 ~~2024~~]*.

🡻 2018/844 Art. 1.2

⇨ new

~~2. In its long-term renovation strategy, each Member State shall set out a roadmap with measures and domestically established measurable progress indicators, with a view to the long-term 2050 goal of reducing greenhouse gas emissions in the Union by 80-95 % compared to 1990, in order to ensure a highly energy efficient and decarbonised national building stock and in order to facilitate the cost-effective transformation of existing buildings into nearly zero-energy buildings. The roadmap shall include indicative milestones for 2030, 2040 and 2050, and specify how they contribute to achieving the Union's energy efficiency targets in accordance with Directive 2012/27/EU.~~

3. To support the mobilisation of investments into the renovation needed to achieve the goals referred to in paragraph 1, Member States shall facilitate access to appropriate mechanisms for:

(a) the aggregation of projects, including by investment platforms or groups, and by consortia of small and medium-sized enterprises, to enable investor access as well as packaged solutions for potential clients;

(b) the reduction of the perceived risk of energy efficiency operations for investors and the private sector;

(c) the use of public funding to leverage additional private-sector investment or address specific market failures;

(d) guiding investments into an energy efficient public building stock, in line with Eurostat guidance; and

(e) accessible and transparent advisory tools, such as one-stop-shops for consumers and energy advisory services, on relevant energy efficiency renovations and financing instruments.

4. The Commission shall collect and disseminate, at least to public authorities, best practices on successful public and private financing schemes for energy efficiency renovation as well as information on schemes for the aggregation of small-scale energy efficiency renovation projects. The Commission shall identify and disseminate best practices on financial incentives to renovate from a consumer perspective taking into account cost-efficiency differences between Member States.

3~~5~~. To support the development of its ~~long-term renovation strategy~~ ⇨ building renovation plan ⇦ , each Member State shall carry out a public consultation on its ⇨ draft building renovation plan ⇦ ~~long-term renovation strategy~~ 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. ⇦ Each Member State shall annex a summary of the results of its public consultation to its ~~long-term renovation strategy~~ ⇨ draft building renovation plan. *The public consultation may be integrated as part of the public consultation undertaken pursuant to Article 10 of Regulation 2018/1999*.⇦ .

~~Each Member State shall establish the modalities for consultation in an inclusive way during the implementation of its long-term renovation strategy.~~

⇩ new

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;

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

(e) the plans comply with the requirements of paragraph 1 and the template in Annex II.

After consulting the *experts of 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. *With regard to the first draft building renovation plan,* ~~E~~ each Member State shall take due account of any recommendations from the 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 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 ***[2026 ~~2025~~]***.

↓ 2018/844 Art. 1.2
⇨ new

7~~6~~. 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 ⇦ ~~long-term renovation strategy, including on the planned policies and actions~~. ⇨ Each Member State shall state whether its national targets have been achieved. ⇦

⇩ new

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.*~~

🡻 2018/844 Art. 1.2

~~7. Each Member State may use its long-term renovation strategy to address fire safety and risks related to intense seismic activity affecting energy efficiency renovations and the lifetime of buildings.~~

🡻 2018/1999 Art. 53.1(b)

~~8. Each Member State's long-term renovation strategy shall be submitted to the Commission as part of its final integrated national energy and climate plan referred to in Article 3 of Regulation (EU) 2018/1999 of the European Parliament and of the Council[1]. As a derogation from Article 3(1) of that Regulation, the first long-term renovation strategy under paragraph 1 of this Article shall be submitted to the Commission by 10 March 2020.~~

~~[1] 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).~~

↓ 2010/31/EU (adapted)
⇨ new

Article 43

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.

~~This~~ ⌦ That ⌫ methodology shall be adopted at national or regional level.

Article 54

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. The energy performance shall be calculated in accordance with the methodology referred to in Article 43. Cost-optimal levels shall be calculated in accordance with the comparative methodology framework referred to in Article 65 ~~once the framework is in place~~.

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.

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

~~These~~ ⌦ 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.

~~A Member State shall not be required to set minimum energy performance requirements which are not cost-effective over the estimated economic lifecycle.~~

⌦ Member States shall review their ⌫ m~~M~~inimum energy performance requirements ~~shall be reviewed~~ at regular intervals which shall not be longer than five years and ⌦ shall ⌫ , if necessary, ~~shall be updated~~ ⌦ 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 ⇦ .

⇩ new

2. Member States may decide to adapt the requirements referred to in paragraph 1 to buildings officially protected ~~*by national legislation*~~*, at national, regional or local level* 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~~* the requirements would unacceptably alter their character or appearance.

🡻 2010/31/EU (adapted)
⇨ new

3~~2~~. Member States may decide not to set or apply the requirements referred to in paragraph 1 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, in so far as compliance with certain minimum energy performance requirements would unacceptably alter their character or appearance;~~ *buildings owned by the armed forces or central government and serving national defence purposes, apart from single living quarters or office buildings for the armed forces and other staff employed by national defence authorities;*

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

(b~~e~~) 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;

(c~~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;

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

Article 6~~5~~

Calculation of cost-optimal levels of minimum energy performance requirements

1. The Commission ~~shall~~ ⌦ is empowered to ⌫ ~~establish by means of~~ ⌦ adopt ⌫ delegated acts in accordance with Article~~s~~ 29~~23,~~ ~~24 and 25 by 30 June 2011~~ ***to supplement this Directive*** ⌦ concerning ⌫ a comparative methodology framework for calculating cost-optimal levels of minimum energy performance requirements for buildings and building elements. ⇨ By 30 June ~~*2026*~~ *2025*, the Commission shall revise the comparative methodology framework for calculating cost-optimal levels of minimum energy performance requirements in *new buildings and* existing buildings undergoing major renovation and for individual building elements. ⇦

The comparative methodology framework shall be ~~established~~ ⌦ laid down ⌫ in accordance with Annex VII~~III~~ 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 and relevant parameters, such as climatic conditions and the practical accessibility of energy infrastructure, and compare the results of ~~this~~ ⌦ that ⌫ calculation with the minimum energy performance requirements in force.

Member States shall report to the Commission all input data and assumptions used for those calculations and the results of those calculations. Member States shall ⇨ update and ⇦ submit those reports to the Commission at regular intervals, which shall not be longer than five years. ~~The first report shall be submitted by 30 June 2012.~~ ⇨ The first report based on the revised methodology framework pursuant to paragraph 1 shall be submitted by [30 June 2028]. ⇦

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% ⇦ ~~significantly~~ less energy efficient than cost-optimal levels of minimum energy performance requirements, the Member State concerned shall ⇨ include in the report ⇦ ~~justify this difference~~ ~~in writing~~ to the Commission ~~in the report~~ referred to in paragraph 2~~,~~ ~~accompanied, to the extent that the gap cannot be justified, by~~ a plan outlining appropriate steps to ~~significantly reduce the gap by the next~~ review ~~of~~ the energy performance requirements as referred to in Article 5~~4~~(1).

4. The Commission shall publish a report on the progress of the Member States in reaching cost-optimal levels of minimum energy performance requirements.

↓ 2018/844 Art. 1.3

Article 7~~6~~

New buildings

⇩ new

1. Member States shall ensure that ~~*from the following dates,*~~ new buildings are zero-emission buildings ~~*in accordance with Annex III*~~ *in accordance with Article 9~~a~~ **b***:

(a) as of 1 January *[2028 ~~2027~~]*, new buildings ~~*occupied or*~~ owned by public ~~*authorities*~~ *bodies*; and

(b) as of 1 January *[*2030*]*,, all new buildings;

↓ 2018/844 Art. 1.3 (adapted)
⇨ new

~~1.~~ ⇨ Until the application of the requirements under the first subparagraph, ⇦ Member States shall ~~take the necessary measures to~~ 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~~5~~. *Where public bodies aim to occupy a new building that they do not own, they shall aim for that building to be a zero-emission building.*

⇩ new

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:

(a) as of 1 January *[*2027*]*, for all new buildings with a useful floor area ~~***larger than***~~ ***over*** 2000 square meters; and

(b) as of 1 January *[*2030*]*, for all new buildings.

2.b. Member States may decide not to apply paragraphs 1 and 2 to categories of buildings ***for*** *which building permit applications or equivalent applications* ***including for change of use*** *have already been submitted by the dates pursuant to paragraphs 1 and 2.*

3. The Commission is empowered to adopt delegated acts in accordance with Article 29 to ~~*supplement*~~ *amend* 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.*~~

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.

↓ 2018/844 Art. 1.3

~~2. Member States shall ensure that, before construction of new buildings starts, the technical, environmental and economic feasibility of high-efficiency alternative systems, if available, is taken into account.~~

↓ 2010/31/EU (adapted)

Article 8~~7~~

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~~4~~ in so far as ~~this~~ ⌦ 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 ~~this~~ ⌦ that ⌫ is technically, functionally and economically feasible.

~~Member States shall determine these minimum energy performance requirements in accordance with Article 4.~~

↓ 2018/844 Art. 1.4 (adapted)
⇨ new

3. Member States shall encourage, in relation to buildings undergoing major renovation, high-efficiency alternative systems, in so far as ~~this~~ ⌦ that ⌫ is technically, functionally and economically feasible. ⌦ Member States ⌫~~, and~~ shall address ⌦ , in relation to buildings undergoing major renovation, ⌫ the issues of healthy indoor climate conditions *and* ⇨ adaptation to climate change, ⇦ fire safety, and risks related to intense seismic activity ⇨ , the removal of hazardous substances including asbestos and accessibility for persons with disabilities ⇦ .

⇩ new

Article 9

Minimum energy performance standards

1. Member States shall *establish minimum energy performance standards which ensure that non-residential buildings do not exceed the ~~a~~ specified maximum energy performance threshold, as refererred to in subparagraph **3** ~~**2**~~, expressed by a numeric indicator of primary energy use in kWh/(m2.y), by **the dates specified in subparagraph 6**. ~~**a specified date.**~~*

*The maximum energy performance thresholds shall be established on the basis of the non-residential building stock **on 1 January 2020, based on available information and, where appropriate, on statistical sampling**. ~~**at the time of entry into force of this Directive.**~~*

~~**The**~~ ***A** "~~**[**~~15%~~**]** threshold" shall be set so that ~~**[**~~15%~~**]** of the national building stock ~~**are**~~ is above that threshold, and **a** ~~**the**~~ "~~**[**~~25%~~**]** threshold" shall be set so that ~~**[**~~25%~~**]** of the national building stock ~~**are**~~ is above that threshold. **The maximum energy performance thresholds may be differentiated between different building types and categories.***

*Compliance **by individual buildings** with the thresholds shall be checked on the basis of energy performance certificates **or, where appropriate, other available means.** Member States may set the thresholds at a level corresponding to a specific energy performance class **provided that they comply with the level of the thresholds in subparagraph 3**.*

Member States may set criteria to exempt individual buildings, in light of the expected future use of the building or in the case of an unfavourable cost-benefit assessment, from requirements in this paragraph.

The minimum energy performance standards shall at least ensure that:

(a) *all non-residential buildings are below* ~~*buildings and building units owned by public bodies achieve at the latest*~~

(i) *the [15%] threshold as of* ~~*after*~~ 1 January *[2030]* ~~*2027, at least energy performance class F*~~; and

(ii) *the [25%] threshold as of* ~~*after*~~ 1 January *[2034]* ~~*2030, at least energy performance class E*~~;

~~*(b) non-residential buildings and building units, other than those owned by public bodies, are below achieve at the latest*~~

~~*(i) as of after 1 January [2027], at least energy performance class F; and*~~

~~*(ii) as of after 1 January 2030, at least energy performance class E;*~~

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

~~*(i) as of after 1 January 2030, at least energy performance class F; and*~~

~~*(ii) as of after 1 January 2033, at least energy performance class E;*~~

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 *comply with lower maximum* ~~*achieve higher*~~ energy performance *thresholds* ~~*classes*~~ by 2040 and 2050, in line with the pathway for transforming the national building stock into zero-emission buildings.

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

~~*Where established, the*~~ *Member States shall establish* minimum energy performance standards *for residential* ~~*multi-apartment*~~ *buildings* ~~*with more than ten building units*~~ *which shall be based on a national* ~~*linear*~~*trajectory for the progressive renovation of the building stock in line with* ~~*shall be designed with a view to*~~ the national roadmap and the 2030, 2040 and 2050 targets contained in the Member State's building renovation plan and ~~*to*~~ *with* the transformation of the national building stock into zero-emission buildings by 2050.

The trajectory shall be expressed as a ~~linear~~ decrease of the average primary energy use in kWh/(m2.y) of the whole residential building stock over the period from 2025 to 2050, and shall identify the number of buildings and building units or floor area to be renovated annually. When establishing the national trajectories, Member States shall ensure that the average primary energy use in kWh/(m2.y) of the whole residential building stock is at least equivalent to:

a. *the D energy performance class level by 2033*
b. *the B energy performance class level by 2040*

The energy performance corresponding to the class levels referred to in subparagraph 2 points a and b shall correspond at least to the national class levels at the time of entry into force of this Directive.

The trajectory shall refer to data on the national residential building stock, based, as appropriate, on statistical sampling and energy performance certificates. The trajectory and the corresponding level of average primary energy use may be differentiated between building types and categories, for example between single- family houses and multi-apartment buildings.

Member States shall remove regulatory barriers preventing the renovation of common elements and the replacement of technical building systems in multi-apartment buildings aimed at compliance with minimum energy performance standards, including approval procedures, addressing in particular ***unanimity requirements in co-ownership structures*** ~~***the need to obtain unanimous consent from the co-owners***~~*, without prejudice to the property and tenancy law of the Member States.*

2a. Member States may choose ***not to apply paragraph 2 to single family houses. In this case Member States shall ensure that at least those single family houses that*** ~~***to treat***~~ ~~*shall at least ensure that*~~ *and multi-apartment buildings with ten building units and less* ***which*** *are sold, rented, donated or* ~~*which*~~ *whose purpose is changed within the cadastre or land registry towards residential buildings after 1 January [2028*~~*30*~~*], achieve at least energy performance class [D] or higher within [five] years* ~~*after*~~ *of the above mentioned triggers where necessary through renovation by the acquirers* ~~*buyers*~~ *or owners.*

3. In addition to primary energy use referred to in paragraphs 1 and 2, Member States may define additional indicators of non-renewable and renewable primary energy use, and of operational greenhouse gas emissions produced in kgCO_2eq/(m^2.y). ***In order to ensure reduction of operational greenhouse gas emissions, the minimum energy performance standards shall take into account the [Article 15a (1) Renewable Energy Directive COM (2021) 557 final]***[1]

~~3~~*4.* 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, 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];

(b) providing technical assistance, including through one-stop-shops;

(c) designing integrated financing schemes;

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

(e) monitoring social impacts, in particular on the most vulnerable.

[1] ***Proposal for a Directive of the European Parliament and of the Council amending Directive (EU) 2018/2001 of the European Parliament and of the Council, Regulation (EU) 2018/1999 of the European Parliament and of the Council and Directive 98/70/EC of the European*** **Parliament and of the Council as regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652.**

5. ~~*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 case of major renovation, with the minimum energy performance requirements for existing buildings pursuant to Article 8.

6. ~~*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, 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 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;

(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 m2

(f) *buildings owned by the armed forces or central government and serving national defence purposes, apart from single living quarters or office buildings for the armed forces and other staff employed by national defence authorities.*

7. ~~*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 and penalties in accordance with Article 31.

Article 9a

Solar energy in buildings

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 later cost-effective installation of solar technologies.

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

(a) by 31 December 2026, on all new public and ~~***commercial***~~ ***non-residential*** *buildings with useful floor area* ***over*** ~~***larger than***~~ *250* ~~***square meters***~~ ***m²****;*

(b) by 31 December 2027, on all existing public and ~~***commercial***~~ ***non-residential*** *buildings buildings with useful floor area* ***over*** ~~***larger than***~~ *250* ~~***square meters***~~ ***m²****; and*

(c) by 31 December 2029, 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, ***including those mentioned in Article 9, paragraph 6,*** *taking into account also the principle of technological neutrality*~~,~~ ***and*** *in accordance with the assessed technical and economic potential of the solar energy installations and the characteristics of the buildings covered by this* ~~***obligation***~~ ***provision. When defining such criteria Member States shall also take into account other relevant factors, such as structural integrity, biodiversity, stability of the electricity network.***

~~*Article 9*~~ *Article 9~~a~~* ***b***[1]

~~*Nearly*~~ *Z~~z~~*ero-*emission* ~~*energy*~~ buildings

1. Member States shall take the necessary measures to ensure that the energy use of a new or renovated zero-emission building ~~comply~~ complies with a maximum threshold established at the Member State level in their building renovation plans. This maximum threshold shall be set with a view ~~of~~ to achieving at least cost optimal levels.

Member States shall take the necessary measures to ensure that the operational greenhouse gas emissions of a new or renovated zero-emission building comply with a maximum threshold established at the Member State level in their building renovation plans.

*In order to ensure technical and economic feasibility**,** Member States may decide to adjust both thresholds as referred to in this subparagraph for renovated buildings.*

1*a* Member States shall ensure that *the total annual primary energy use of a new or renovated zero-emission building is covered, where technically and economically feasible, by:*

*(a) energy from renewable sources generated onsite **or nearby**, fulfilling the criteria of Article 7 of Directive (EU) 2018/2001 [amended RED];*

(b) energy from renewable sources provided from a renewable energy community within the meaning of Article 22 of Directive (EU) 2018/2001 [amended RED]; or

(c) energy ~~from renewable sources and waste heat~~ from an efficient district heating and cooling system in accordance with Article 24(1) of Directive (EU) .../... [recast EED].

(d) energy from carbon free electricity sources

[1] *Delegations are informed that Article 9~~a~~ b (Zero-emission building) reintroduces and amends Article 9 (on Nearly zero-energy buildings), that the Commission has deleted in its proposal. Parts of this Article 9~~a~~ b were previously contained in Annex III.*

~~(a) by 31 December 2020, all new buildings are nearly zero-energy buildings; and~~

~~(b) after 31 December 2018, new buildings occupied and owned by public authorities are nearly zero-energy buildings.~~

~~Member States shall draw up national plans for increasing the number of nearly zero-energy buildings. These national plans may include targets differentiated according to the category of building.~~

2. *Member States shall ensure that a zero-emission building does not cause any on-site carbon emissions from fossil fuels.* ~~Member States shall furthermore, following the leading example of the public sector, develop policies and take measures such as the setting of targets in order to stimulate the transformation of buildings that are refurbished into nearly zero-energy buildings, and inform the Commission thereof in their national plans referred to in paragraph 1.~~

3. ~~The national plans shall include, inter alia, the following elements:~~

~~(a) the Member State's detailed application in practice of the definition of nearly zero-energy buildings, reflecting their national, regional or local conditions, and including a numerical indicator of primary energy use expressed in kWh/m^2 per year. Primary energy factors used for the determination of the primary energy use may be based on national or regional yearly average values and may take into account relevant European standards;~~

~~(b) intermediate targets for improving the energy performance of new buildings, by 2015, with a view to preparing the implementation of paragraph 1;~~

~~(c) information on the policies and financial or other measures adopted in the context of paragraphs 1 and 2 for the promotion of nearly zero-energy buildings, including details of national requirements and measures concerning the use of energy from renewable sources in new buildings and existing buildings undergoing major renovation in the context of Article 13(4) of Directive 2009/28/EC and Articles 6 and 7 of this Directive.~~

~~4. The Commission shall evaluate the national plans referred to in paragraph 1, notably the adequacy of the measures envisaged by the Member State in relation to the objectives of this Directive. The Commission, taking due account of the principle of subsidiarity, may request further specific information regarding the requirements set out in paragraphs 1, 2 and 3. In that case, the Member State concerned shall submit the requested information or propose amendments within nine months following the request from the Commission. Following its evaluation, the Commission may issue a recommendation.~~

↓ 2018/1999 Art. 53.3

~~5. As part of its State of the Energy Union report referred to in Article 35 of Regulation (EU) 2018/1999, the Commission shall report every four years to the European Parliament and to the Council on the progress of Member States in increasing the number of nearly zero-energy buildings. On the basis of this reported information the Commission shall, where necessary, develop an action plan and propose recommendations and measures in accordance with Article 34 of Regulation (EU) 2018/1999 to increase the number of those buildings and encourage best practices as regards the cost-effective transformation of existing buildings into nearly zero-energy buildings.~~

↓ 2010/31/EU

~~6. Member States may decide not to apply the requirements set out in points (a) and (b) of paragraph 1 in specific and justifiable cases where the cost-benefit analysis over the economic lifecycle of the building in question is negative. Member States shall inform the Commission of the principles of the relevant legislative regimes.~~

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~~2~~**.

2. By 31 December *[~~2024~~ 2025]*, Member States shall introduce a scheme of renovation passports***, for voluntary use by building owners,*** based on the common framework established in accordance with paragraph 1.

Member States may decide to allow for the integration of the renovation passport into the energy performance certificate for selected purposes, including in relation to major renovation or to receiving financial support.

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

(a) it shall be issued by a qualified and certified expert, ***based on ~~following~~*** an on-site visit ***of the building, which may be carried out by virtual means, where appropriate;***

(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;

(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

(d) it shall contain information about potential financial and technical support.

↓ 2018/844 Art. 1.5 (adapted)
⇨ new

Article 11~~8~~

Technical building systems~~, electromobility and smart readiness indicator~~

1. 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. ~~Member States may also apply these system requirements to new buildings.~~ ⇨ When setting~~up~~ the requirements, Member States shall take account of design conditions and typical or average operating conditions. ⇦

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.

⇩ new

Member States may set requirements related to the greenhouse gas emissions of, or to the type of fuel used by heat generators *or to the minimum part of renewable energy used for heating at building's level* provided that such requirements do not constitute an unjustifiable market barrier[1].

Member States shall ensure that the requirements they set for technical building systems reach at least the latest cost-optimal levels.

[1] *COM to share best practices about national measures in line with this provision.*

🡻 2018/844 Art. 1.5

2. Member States shall require new buildings, where technically and economically feasible, to be equipped with self-regulating devices for the separate regulation of the temperature in each room or, where justified, in a designated heated zone of the building unit. In existing buildings, the installation of such self-regulating devices shall be required when heat generators are replaced, where technically and economically feasible.

⇩ new

3. Member States shall require *non residential* zero-emission buildings to be equipped with measuring and control devices for the ~~*monitoring and*~~ regulation of indoor air quality. In existing buildings, the installation of such devices shall be required, where technically and economically feasible, when a building undergoes a major renovation.

4. Member States shall ensure that, when a technical building system is installed, the overall energy performance of the altered part, and where relevant, of the complete altered system, is assessed. The results shall be documented and passed on to the building owner, 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.

5. Member States shall strive to replace fossil-fuelled heat generators in existing buildings to be in line with the pathway for transforming the national building stock into zero-emission buildings

🡻 2018/844 Art. 1.5 (adapted)
⇨ new

Article 12

⌦ Infrastructure for sustainable mobility ⌫

1~~2~~. With regard to new non-residential buildings *with more than~~t~~ five car parking spaces* and non-residential buildings undergoing major renovation with more than ~~ten~~ ⇨ five ⇦ *car* parking spaces, Member States shall ensure:

(a) the installation of at least one recharging point ~~within the meaning of Directive 2014/94/EU of the European Parliament and of the Council[1]~~;

⇩ new

(b) the installation of pre-cabling for *at least 50% of* ~~*every*~~ *car* parking space*s and ducting, namely conduits for electric cables, for the remaining parking spaces* to enable the installation at a later stage of recharging points for electric vehicles; and

(c) ~~*at least one*~~ bicycle parking space*s* ~~*for every car parking space*~~ *representing at least [15%] of the* ~~*total*~~*average user capacity of the building*;

🡻 2018/844 Art. 1.5 (adapted)

~~and ducting infrastructure, namely conduits for electric cables, for at least one in every five parking spaces to enable the installation at a later stage of recharging points for electric vehicles~~

where *(a) the car park is located inside the building, and, for major renovations, renovation measures include the car park or the electrical infrastructure of the building;*

~~[1] 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).~~

or (b) ~~(a) the car park is located inside the building, and, for major renovations, renovation measures include the car park or the electrical infrastructure of the building,; or (b)~~ 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.

⇩ new

Member States shall ensure that the pre-cabling *and ducting* ***~~that~~*** *are* ~~is~~ dimensioned so as to enable the simultaneous use of the *required* ~~*expected*~~ number of recharging points.

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.

🡻 2018/844 Art. 1.5 (adapted)
⇨ new

~~The Commission shall report to the European Parliament and the Council by 1 January 2023 on the potential contribution of a Union building policy to the promotion of electromobility and shall, if appropriate, propose measures in that regard.~~

2~~3~~. ⌦ With regard to ⌫ ~~Member States shall lay down requirements for the installation of a minimum number of recharging points for~~ all non-residential buildings with more than twenty parking spaces, ~~by 1 January 2025~~ ⇨ Member States shall ensure ***by 1 January 2027:***

a) the installation of at least one recharging point for every ten parking spaces, or

b) ducting, namely conduits for electric cables, for at least 50% of the parking spaces to enable the installation at a later stage of recharging points for electric vehicles; and

c) bicycle parking space*s ~~for every car parking space~~ representing at least [15%] of the* ***~~total~~ average*** *user capacity of the building****~~, by 1 January 2027.~~***

In case of buildings owned or occupied by public ~~*authorities*~~ *bodies*, Member States shall ensure pre-cabling for at least one in two parking spaces by 1 January 2033. ⇦

Member States may decide to postpone the implementation of this requirement until 1 January 2029 for all non-residential buildings that have been renovated in the two years prior to entry into force of this directive to comply with the national requirements set in accordance with Article 8(3) of Directive 2010/31/EU.

⇩ new

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 *that are not ~~accessible~~ typically accessed by* ~~*where*~~ bicycles~~s~~ ~~*are typically less used as a means of transport*~~.

🡻 2018/844 Art. 1.5
⇨ new

~~4. Member States may decide not to lay down or apply the requirements referred to in paragraphs 2 and 3 to buildings owned and occupied by small and medium-sized enterprises as defined in Title I of the Annex to Commission Recommendation 2003/361/EC[1].~~

4~~5.~~ With regard to new residential buildings *with more that three car parking spaces* and residential buildings undergoing major renovation with more than ~~ten~~ ⇨ three ⇦ car parking spaces, Member States shall ensure:

(a) the installation of ~~ducting infrastructure, namely conduits for electric cables,~~ , ⇨ pre-cabling *for at least 50% of car parking spaces and ducting, namely conduits for electric cables, for the remaining car parking spaces* ⇦ ~~*for every parking space*~~ to enable the installation, at a later stage, of recharging points for electric vehicles~~;~~ ⇨ and ⇦

⇩ new

(b) at least two bicycle parking spaces for every *residential building unit* ~~*dwelling.*~~

~~[1] Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises (OJ L 124, 20.5.2003, p. 36).~~

↓ 2018/844 Art. 1.5 (adapted)

where ~~where: (a)~~ *(a) the car park is located inside the building, and, for major renovations, renovation measures include the car park or the electric infrastructure of the building;*

or (b) ~~the car park is located inside the building, and, for major renovations, renovation measures include the car park or the electric infrastructure of the building;~~ ~~or (b)~~ 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.

⇩ new

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 *residential building unit* ~~*dwelling*~~ is not feasible, Member States shall ensure as many bicycle parking spaces as appropriate.

↓ 2018/844 Art. 1.5
⇨ new

5~~6~~. Member States may decide not to apply paragraphs 1~~2~~, 2~~3~~ and 4~~5~~ to specific categories of buildings where~~: (a) with regard to with regard to paragraphs 2 and 5, building permit applications or equivalent applications have been submitted by 10 March 2021;~~

a) with regard to paragraphs 1 and 4, building permit applications or equivalent applications have been submitted by [date of national implementation of EPBD recast]

~~(b)~~ b) the pre-cabling ~~ducting infrastructure~~ 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

c) *or the cost of the recharging and ducting installations exceeds at least [10 %] of the total cost of the major renovation of the building.*

~~(c) the cost of the recharging and ducting installations exceeds 7 % of the total cost of the major renovation of the building;~~

~~(d) a public building is already covered by comparable requirements according to the transposition of Directive 2014/94/EU.~~

⇩ new

6. Member States shall ensure that the recharging points referred to in paragraphs 1, 2 and 4 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 encourage that operators of non-publicly accessible recharging points operate them in accordance with Article 5(4) of Regulation (EU) .../….[AFIR], where applicable.

7a. Member States may require that operators of non-publicly accessible recharging points make them available to all electromobility service providers active in the Member State without discrimination. Recharging points operated for own use are excluded from this provision.

🡻 2018/844 Art. 1.5 (adapted)
⇨ new

8~~7~~. 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 ~~address possible~~ ⌦ 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. *A request ~~relating to the installation~~ by tenants or co-owners ~~so that a request~~* ***to be allowed*** *to install charging equipment in a parking space may only be refused if there are serious and legitimate grounds for doing so.* ~~*,in particular the need to obtain consent from the landlord or co-owners for a private recharging point for own use.*~~ ⇦

⇩ new

Member States shall ensure the availability of technical assistance for building owners and tenants wishing to install recharging points.

🡻 2018/844 Art. 1.5 (adapted)
⇨ new

9~~8~~. Member States shall ~~consider the need for coherent~~ ⇨ ensure the coherence of ⇦ policies for buildings, soft and green mobility and urban planning.

~~9. Member States shall ensure that, when a technical building system is installed, replaced or upgraded, the overall energy performance of the altered part, and where relevant, of the complete altered system, is assessed. The results shall be documented and passed on to the building owner, so that they remain available and can be used for the verification of compliance with the minimum requirements laid down pursuant to paragraph 1 of this Article and the issue of energy performance certificates. Without prejudice to Article 12, Member States shall decide whether to require the issuing of a new energy performance certificate.~~

Article 13

⌦ Smart readiness of buildings ⌫

1~~10~~. The Commission shall~~, by 31 December 2019,~~ adopt ~~a~~ delegated ~~act~~ ⌦ acts ⌫ in accordance with Article 29~~23, supplementing this Directive by establishing~~ ⌦ 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 and the grid and to improve its energy efficiency and overall performance.

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

(a) ~~establish~~ the definition of the smart readiness indicator; and

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

⇩ new

2. *Further to the test phase of the smart readiness indicator, the Commission shall submit a report to the Member States, by 1st January 2026, with a view to assessing the* ***results.*** ~~*result of the smart readiness indicator testing.*~~

2a If the report concludes that the assessment of the smart readiness indicator is positive, t~~T~~he Commission shall, by *[*31 December ~~*2025*~~ *2026]*, adopt a delegated act in accordance with Article 29, requiring the application 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, or systems for combined space heating and ventilation of over 290 kW.

🡻 2018/844 Art. 1.5 (adapted)

3~~11~~. The Commission shall, ~~by 31 December 2019, and~~ 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~~10~~ ~~of this Article~~, 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~~11~~.

That implementing act shall be adopted in accordance with the examination procedure referred to in Article 30~~26~~(3).

⇩ new

4. *Provided that the Commission has adopted the delegated act referred to in paragraph 2a*, *t~~T~~he* Commission shall, by 31 December *[~~2025~~ 2027]*, ~~*and 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*a* to non-residential buildings with an effective rated output for heating systems, or systems for combined heating 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. 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 with paragraph *5* ~~*6*~~.

For the purpose of this Directive, building systems data shall include at least all data related to the energy performance of building elements, the energy performance of building services, building automation and control systems, meters and charging points for e-mobility.

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 specify the rules on the access to building systems data by eligible parties in accordance with this Article and the applicable Union legal framework.

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. 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 services are reasonable and duly justified.

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[1].

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).

[1] 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).

~~2010/31/EU~~

~~Article 9~~ ~~Article 9a b~~[1]

~~Nearly Zzero-emission energy buildings~~

(Entire Art. 9b is moved directly after Art. 9a)

Article 15~~10~~

Financial incentives and market barriers

~~1. In view of the importance of providing appropriate financing and other instruments to catalyse the energy performance of buildings and the transition to nearly zero-energy buildings, Member States shall take appropriate steps to consider the most relevant such instruments in the light of national circumstances.~~

⇩ new

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.

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, or allowing co-ownership structures to be direct recipients of financial support.

[1] *Delegations are informed that Article 9~~a~~ b (Zero-emission building) reintroduces and amends Article 9 (on Nearly zero-energy buildings), that the Commission has deleted in its proposal. Parts of this Article 9~~a~~ b were previously contained in Annex III.*

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.

4. To support the mobilisation of investments, Member States shall promote ~~*at least several of the following* *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.

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 encourage financial institutions to offer energy efficicency lending products for building renovations in a wide, non-discriminatory manner and in a way that is both visible and accessible to consumers* ~~*shall adopt measures to ensure encourage 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.

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.

7. Member States shall put in place measures and financing to promote education and training *with a view* to *ensuring* ~~*ensure*~~ that there is a sufficient workforce with the appropriate level of skills corresponding to the needs in the building sector.

↓ 2010/31/EU

⇨ new

84. The Commission shall, where appropriate, assist upon request Member States in setting up national or regional financial support programmes with the aim of increasing the energy ⇨ performance of ⇦ ~~efficiency in~~ buildings, especially of existing buildings, by supporting the exchange of best practice between the responsible national or regional authorities or bodies.

~~The Commission shall collect and disseminate best practices on successful public and private financing schemes and incentives for renovation and other policies and measures as well as information on schemes for the aggregation of small-scale energy renovation projects. The Commission shall identify and disseminate best practices on financial incentives to renovate from a consumer perspective, taking into account cost-efficiency differences between Member States.~~

~~5. In order to improve financing in support of the implementation of this Directive and taking due account of the principle of subsidiarity, the Commission shall, preferably by 2011, present an analysis on, in particular:~~

~~(a) the effectiveness, the appropriateness of the level, and the actual amount used, of structural funds and framework programmes that were used for increasing energy efficiency in buildings, especially in housing;~~

~~(b) the effectiveness of the use of funds from the EIB and other public finance institutions;~~

~~(c) the coordination of Union and national funding and other forms of support that can act as a leverage for stimulating investments in energy efficiency and the adequacy of such funds for achieving Union objectives.~~

~~On the basis of that analysis, and in accordance with the multiannual financial framework, the Commission may subsequently submit, if it considers this appropriate, proposals with respect to Union instruments to the European Parliament and the Council.~~

↓ 2018/844 Art. 1.6
⇨ new

96. Member States shall link their financial measures for energy ⇨ performance ⇦ ~~efficiency~~ improvements in the renovation of buildings to the targeted or achieved energy savings, as determined by one or more of the following criteria:

(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 ⇦ ;

(b) standard values for calculation of energy 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.

⇩ new

10. From 1 January ~~*2027*~~ *2025* 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*~~ *2025*, in accordance with Article 7(1)(h)(i) third hyphen of Regulation (EU) 2021/1058 of the European Parliament and the Council[1] 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[2] on the CAP Strategic Plans.

11. Member States shall incentivise deep renovation**,** *staged* ***deep*** *renovation* ~~***into zero emission building***~~ and sizeable programmes that address a high number of buildings and result in an overall reduction of at least 30 % of primary energy ~~*demand*~~ *use* with higher financial, fiscal, administrative and technical support.

~~***Member States shall ensure that a staged deep renovation which receives public financial incentives follows the steps set out in a renovation passport.***~~

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].

[1] 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).

[2] 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).

13. When providing financial incentives to owners of buildings or building units for the renovation of rented buildings or building units, Member States shall *aim* ~~*ensure that*~~ *at* ~~*the*~~ financial incentives benefit*ing* both the owners and the tenants~~*, in particular by providing rent support or by imposing caps on rent increases*~~.

↓ 2018/844 Art. 1.6

~~6a. Databases for energy performance certificates shall allow data to be gathered on the measured or calculated energy consumption of the buildings covered, including at least public buildings for which an energy performance certificate, as referred to in Article 13, has been issued in accordance with Article 12.~~

~~6b. At least aggregated anonymised data compliant with Union and national data protection requirements shall be made available on request for statistical and research purposes and to the building owner.~~

↓ 2010/31/EU

⇨ new

~~7. The provisions of this Directive shall not prevent Member States from providing incentives for new buildings, renovations or building elements which go beyond the cost-optimal levels.~~

Article 16~~11~~

Energy performance certificates

1. Member States shall lay down the necessary measures to establish a system of certification of the energy performance of buildings.

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 may include additional information such as the annual energy consumption for non-residential buildings and the percentage of energy from renewable sources in the total energy consumption.~~

⇩ new

2. ***Energy performance certificates issued after*** ~~***By***~~ 31 December *[2026]* ~~*2025*~~ at the latest~~, the newly issued energy performance certificate~~ shall comply with the template in Annex V~~. It~~ ***They*** 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 which have rescaled their energy performance classes after 1 January 2020 may postpone the application of* ~~***the***~~ ***this*** ~~***obligation under this paragraph***~~ *until 31 December 2029.*

Member States may define an A+ energy performance ~~***certificate***~~ *class* ~~***for buildings that are net-contributors in terms of energy and/or reduction of green-house gas emissions***~~***coresponding to buildings which in addition to being zero emission buildings also make a positive net annual contribution to the energy grid from on-site renewables, calculated in terms of total primary energy (excluding ambient heat).***

Member States shall ensure a common visual identity for energy performance certificates on their territory.

3. Member States shall ensure the quality, reliability and affordability of energy performance certificates. They shall ensure that energy performance certificates are issued *in accordance with article 17 (1) and* by independent experts ***based on*** ~~***following***~~an on-site visit***, which may be carried out by virtual means, when appropriate.***

↓ 2010/31/EU (adapted)
⇨ new

4~~2~~. 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 *at least* with the ~~*relevant zero-emission building standard*~~ *energy performance class A* ⇦ ~~there is no reasonable potential for such improvement compared to the energy performance requirements in force~~.

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 system~~(s)~~ ⌦ or systems ⌫ ; and

(b) measures for individual building elements independent of a major renovation of the building envelope or technical building system~~(s)~~ ⌦ or systems ⌫ .

4a. When Member States choose to integrate a renovation passport in accordance with Article 10(2), the renovation passport shall substitute the recommendations according to Article 16 (4).

5~~3~~. 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⇦ ~~and~~ may provide an estimate for the range of payback periods or cost-benefits over its economic lifecycle.

⇩ new

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.

🡻 2010/31/EU (adapted)
⇨ new

7~~4~~. The energy performance certificate shall provide an indication as to where the owner or tenant can receive more detailed information, including as regards the cost-effectiveness of the recommendations made in the energy performance certificate. The evaluation of cost effectiveness shall be based on a set of standard conditions, 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. 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, ⇦ may also be provided to the owner or tenant.

~~5. Subject to national rules, Member States shall encourage public authorities to take into account the leading role which they should play in the field of energy performance of buildings, inter alia, by implementing the recommendations included in the energy performance certificate issued for buildings owned by them within its validity period.~~

8~~6~~. 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~~7~~. 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.

10~~8~~. The validity of the energy performance certificate shall not exceed ~~10~~ ⇨ *ten ~~five~~* ⇦ years. ~~*The energy performance certificates issued before the introduction of the scale described in paragraph 2 shall not be valid more than three years after this introduction. ⇨ 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.* ⇦9. The Commission shall, by 2011, in consultation with the relevant sectors, adopt a voluntary common European Union certification scheme for the energy performance of non-residential buildings. That measure shall be adopted in accordance with the advisory procedure referred to in Article 26(2). Member States are encouraged to recognise or use the scheme, or use part thereof by adapting it to national circumstances.~~

⇩ new

11. 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 measures identified in a renovation passport are put in place.

↓ 2010/31/EU (adapted)
⇨ new

Article 17~~12~~

Issue of energy performance certificates

1. Member States shall ensure that ~~an~~ ⇨ 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 ⇦ ; and

(b) *existing* buildings ~~where a total useful floor area over 500 m^2 is~~ ⇨ owned or ⇦ occupied by ~~a~~ public ⌦ bodies ⌫ ~~authority and frequently visited by the public. On 9 July 2015, this threshold of 500 m^2 shall be lowered to 250 m^2~~.

Member States shall ensure that a paper version is issued on request. The requirement to issue an energy performance certificate does not apply where a certificate, issued in accordance with either Directive ⌦ 2010/31/EU ⌫ ~~2002/91/EC~~ or this Directive, for the building or building unit concerned is available and valid.

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 ~~or a copy thereof~~ is shown to the prospective ~~new~~ tenant or buyer and handed over to the buyer or ~~new~~ 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 ~~this~~ ⌦ 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 ~~when:buildings having an energy performance certificate,building units in a building having an energy performance certificate, andbuilding units having an energy performance certificate,~~ ⇨ buildings or buildings units which ⇦ are offered for sale or for rent ⇨ have an 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 ~~the~~ ⇨ online and offline ⇦ advertisements ⇨ , including in property search portal websites ⇦ ~~in commercial media~~.

⇩ new

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

🡻 2010/31/EU

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

~~6~~ *5a. Member States may exclude the categories of buildings referred to in Article 5(3) from the application of paragraphs 1, 2, 4 and 5 of this Article.* ~~Member States may exclude the categories of buildings referred to in Article 4(2) from the application of paragraphs 1, 2, 4 and 5 of this Article.~~

6~~7~~. The possible effects of energy performance certificates in terms of legal proceedings, if any, shall be decided in accordance with national rules.

⇩ new

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.

↓ 2010/31/EU (adapted)

Article 18~~13~~

Display of energy performance certificates

1. Member States shall take measures to ensure that where ~~a total useful floor area over 500 m²~~ ~~of~~ a building for which an energy performance certificate has been issued in accordance with Article 17~~12~~(1) is occupied by public ~~*authorities*~~ *bodies* and frequently visited by the public, the energy performance certificate is displayed in a prominent place clearly visible to the public.~~On 9 July 2015, this threshold of 500 m² shall be lowered to 250 m².~~

2. Member States shall require that where a total useful floor area over 500 m² of a building for which an energy performance certificate has been issued in accordance with Article 17~~12~~(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 ~~this Article~~ ⌦ paragraphs 1 and 2 ⌫ do not include an obligation to display the recommendations included in the energy performance certificate.

⇩ new

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 the buildings and on the overall energy performance of the national building stock. *Such databases may consist of a set of interconnected databases.*

The database shall allow data to be gathered related to energy performance certificates, inspections, the building renovation passport, the smart readiness indicator and the calculated or metered energy consumption of the buildings covered.

2. The database shall be publicly accessible, in compliance with Union and national data protection rules. Member States shall ensure access to the full energy performance certificate for building owners, tenants and managers, and to financial institutions as regards the buildings in their investment portfolio. For buildings offered for rent or sale, Member States shall ensure access to the full energy performance certificate for prospective tenants or buyers.

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 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*~~2025~~, adopt an implementing act with a common template for the transfer of the information to the Building Stock Observatory.

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 ***or*** *land registry* and digital building logbooks.

↓ 2018/844 Art. 1.7 (adapted)
⇨ new

Article ~~20~~14

~~Inspection of heating systems~~ ⌦ Inspections ⌫

1. Member States shall lay down the necessary measures to establish regular inspections of ~~the accessible parts of~~ *the accessible parts of* heating ⇨ , ventilation and air conditioning ⇦ systems ~~or of systems for combined space heating and ventilation,~~ with an effective rated output of over 70 kW~~, such as the heat generator, control system and circulation pump(s) used for heating buildings~~. ⇨ The effective rating of the system shall be based on the sum of the rated output of the heating and ***cooling ~~air-conditioning~~*** generators. ⇦

⇩ new

2. Member States ~~*shall*~~ *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 shall be inspected at least every ***three ~~two~~*** years.

4. The inspection shall include the assessment of the generator or generators, circulation pumps, fans and control system. Member States may decide to include in the inspection schemes any additional building systems identified under Annex I.

↓ 2018/844 Art. 1.7 (adapted)
⇨ new

The inspection shall include an assessment of the efficiency and sizing of the ~~heat~~ generator ⇨ or generators and of its main components ⇦ compared with the ~~heating~~ requirements of the building and~~, where relevant,~~ consider the capabilities of the ~~heating~~ system ~~or of the system for combined space heating and ventilation~~ to optimise its performance under typical or average operating conditions. ⇨ Where relevant, the inspection shall assess the feasibility of the system to operate under different and more efficient temperature settings, while ensuring the safe operation of the system. ⇦

⇩ new

The inspections scheme ***where relevant*** 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.

↓ 2018/844 Art. 1.7 (adapted)
⇨ new

Where no changes have been made to the ~~heating~~ system ~~or to the system for combined space heating and ventilation~~ or to the ~~heating~~ requirements of the building following an inspection carried out pursuant to this ⌦ Article ⌫ ~~paragraph~~, Member States may choose not to require the assessment of the ~~heat generator~~ ⇨ main component ⇦ sizing ⇨ or the assessment of operation under different temperatures ⇦ to be repeated.

5~~2~~. 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.

63. ~~As an alternative to paragraph 1 and~~ ~~p~~provided that the overall impact is equivalent to that resulting from paragraph 1, Member States may opt to take measures to ensure the provision of advice to users concerning the replacement of ~~heat~~ generators, other modifications to the ~~heating~~ system ~~or to the system for combined space heating and ventilation~~ and alternative solutions to assess the ⇨ performance, ⇦ efficiency and appropriate size of those systems.

Before applying the alternative measures referred to in the first subparagraph of this paragraph, each Member State shall, by means of submitting a report to the Commission, document the equivalence of the impact of those measures to the impact of the measures referred to in paragraph 1.

↓ 2018/1999 Art. 53.5

~~Such a report shall be submitted to the Commission as part of the Member States' integrated national energy and climate plans referred to in Article 3 of Regulation (EU) 2018/1999.~~

↓ 2018/844 Art. 1.7 (adapted)
⇨ new

74. 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 ⇨ *by* 31 December 2024 ⇦ ~~*by* 2025~~. ⇨ The threshold for the effective rated output shall be lowered to 70 kW by 31 December 2029. ⇦

The building automation and control systems 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; and

(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.

8~~5~~. Member States ⇨ shall ⇦ ~~may~~ lay down requirements to ensure that ⇨ from 1 January 2025, new ⇦ residential buildings ⇨ and residential buildings undergoing major renovations ⇦ are equipped with:

(a) the functionality of continuous electronic monitoring that measures systems' efficiency and informs building owners or managers when it has fallen significantly and when system servicing is necessary; and

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

Member States may exclude single-family houses undergoing major renovations from the requirements laid down in this paragraph where the costs of installation exceed the benefits.

9~~6~~. Buildings that comply with paragraph 7~~4~~ or 8~~5~~ shall be exempt from the requirements laid down in paragraph 1.

⇩ new

10. Member States shall put in place inspection schemes or alternative measures including digital tools, to certify that the delivered construction and renovation works meet the designed energy performance and are compliant with the minimum energy performance requirements as laid down in by the building codes.

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. Member States that have chosen the alternative measures indicated in paragraph 6 of this Article shall include a summarised analysis and the results of the alternative measures.

↓ 2018/844 Art. 1.7

~~*Article 15*~~

~~**Inspection of air-conditioning systems**~~

~~1. Member States shall lay down the necessary measures to establish regular inspections of the accessible parts of air-conditioning systems or of systems for combined air-conditioning and ventilation, with an effective rated output of over 70 kW. The inspection shall include an assessment of the efficiency and sizing of the air-conditioning system compared with the cooling requirements of the building and, where relevant, consider the capabilities of the air-conditioning system or of the system for combined air-conditioning and ventilation to optimise its performance under typical or average operating conditions.~~

~~Where no changes have been made to the air-conditioning system or to the system for combined air-conditioning and ventilation or to the cooling requirements of the building following an inspection carried out pursuant to this paragraph, Member States may choose not to require the assessment of the sizing of the air-conditioning system to be repeated.~~

~~Member States that maintain more stringent requirements pursuant to Article 1(3) shall be exempt from the obligation to notify them to the Commission.~~

~~2. 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.~~

3. As an alternative to paragraph 1 and provided that the overall impact is equivalent to that resulting from paragraph 1, Member States may opt to take measures to ensure the provision of advice to users concerning the replacement of air-conditioning systems or systems for combined air-conditioning and ventilation, other modifications to the air-conditioning system or system for combined air-conditioning and ventilation and alternative solutions to assess the efficiency and appropriate size of those systems.

Before applying the alternative measures referred to in the first subparagraph of this paragraph, each Member State shall, by means of submitting a report to the Commission, document the equivalence of the impact of those measures to the impact of the measures referred to in paragraph 1.

↓ 2018/1999 Art. 53.6

Such a report shall be submitted to the Commission as part of the Member States' integrated national energy and climate plans referred to in Article 3 of Regulation (EU) 2018/1999.

↓ 2018/844 Art. 1.7

4. Member States shall lay down requirements to ensure that, where technically and economically feasible, non-residential buildings with an effective rated output for systems for air-conditioning or systems for combined air-conditioning and ventilation of over 290 kW are equipped with building automation and control systems by 2025.

The building automation and control systems 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; and

~~(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.~~

~~5. Member States may lay down requirements to ensure that residential buildings are equipped with:~~

~~(a) the functionality of continuous electronic monitoring that measures systems' effieiency and informs building owners or managers when it has fallen significantly and when system servicing is necessary, and~~

~~(b) effective control functionalities to ensure optimum generation, distribution, storage and use of energy.~~

~~6. Buildings that comply with paragraph 4 or 5 shall be exempt from the requirements laid down in paragraph 1.~~

↓ 2010/31/EU (adapted)
⇨ new

Article 21~~16~~

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 ⇦ or air-conditioning system. The inspection report shall contain the result of the inspection performed in accordance with Article 20~~14~~ ~~or 15~~ and include recommendations for the cost-effective improvement of the energy performance of the inspected system.

~~The~~ ⌦ Those ⌫ recommendations may be based on a comparison of the energy performance of the system inspected with that of the best available feasible system 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.

⇩ new

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

🡻 2010/31/EU (adapted)
⇨ new

Article 22~~17~~

Independent experts

1. Member States shall ensure that the energy performance certification of buildings ⇨ , the establishment of renovation passports, the smart readiness assessment, ⇦ ~~and~~ the inspection of heating*, ventilation* ~~*systems*~~ and air-conditioning systems are carried out in an independent manner by qualified ~~and/~~or ⇨ certified ⇦ ~~accredited~~ experts, whether operating in a self-employed capacity or employed by public bodies or private enterprises.

Experts shall be ~~accredited~~ ⇨ 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 ~~accreditations~~ ⇨ certifications ⇦ . Member States shall ensure that either regularly updated lists of qualified ~~and/~~or ~~accredited~~ ⇨ certified ⇦ experts or regularly updated lists of ~~accredited~~ ⇨ certified ⇦ companies which offer the services of such experts are made available to the public.

⇩ new

Article 23

Certification of building professionals

1. Member States shall ensure the appropriate level of competence for building professionals carrying out integrated renovation works in ~~*line*~~ ***accordance*** with Article 26 [recast EED].

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

🡻 2010/31/EU (adapted)
⇨ new

Article ~~24~~ ~~18~~

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 *and ventilation* are established ~~in accordance with Annex II~~. Member States may establish separate systems for the control of energy performance certificates ⇨ , renovation passports, smart readiness indicators ⇦ and ~~for the control of~~ 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~~II~~.

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.

↓ 2018/844 Art. 1.8 (adapted)
⇨ new

Article 25~~19~~

Review

The Commission, assisted by the ***experts of the*** Committee ~~established by~~ ⌦ referred to in ⌫ Article 30~~26~~, shall review this Directive by ⇨ the end of 2027 ⇦ ~~1 January 2026~~ 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 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. ⇦ ~~1~~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. ~~The Commission shall, in particular, assess the need for further improvement of energy performance certificates in accordance with Article 11.~~

↓ 2018/844 Art. 1.9 (adapted)

~~*Article 19a*~~

~~**Feasibility study**~~

~~The Commission shall, before 2020, conclude a feasibility study, clarifying the possibilities and timeline to introduce the inspection of stand-alone ventilation systems and an optional building renovation passport that is complementary to the energy performance certificates, in order to provide a long-term, step-by-step renovation roadmap for a specific building based on quality criteria, following an energy audit, and outlining relevant measures and renovations that could improve the energy performance.~~

↓ 2010/31/EU
⇨ new

Article 26~~20~~

Information

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. ⇦

↓ 2018/844 Art. 1.10

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-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.

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 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 may 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) and accessibility for persons with disabilities. ⇦

4. The Commission is invited to 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 ~~this~~ ⌦ that ⌫ website might include links to relevant European Union and national, regional and local legislation, 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. In the context of the European Regional Development Fund, ⇨ the Cohesion Fund and the Just Transition Fund, ⇦ 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 to interested stakeholders, including national, regional and local authorities, on funding possibilities, taking into account the latest changes in the regulatory framework.

Article 27~~21~~

Consultation

In order to facilitate the effective implementation of ~~the~~ ⌦ 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~~s 9 and~~ 26~~20~~.

Article 28~~22~~

Adaptation of Annex I to technical progress

The Commission shall ~~adapt points 3 and 4 of Annex I to technical progress by means of~~ ⌦ adopt ⌫ delegated acts in accordance with Article~~s~~ 29~~23, 24 and 25~~ ⌦ concerning the adaptation of points 4 and 5 of Annex I to technical progress ⌫ .

🡻 2018/844 Art. 1.11 (adapted)
⇨ new

Article 29~~23~~

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~~5~~, ⇨ 7, 10 ⇦ ~~11~~8 13~~8~~ and 28~~22~~ shall be conferred on the Commission for ~~a~~ ⇨ *a ~~an indeterminate~~* ⇦ period ⌦ of time ⌫ ~~of five years~~ *of five years* from ⇨ [date of entry into force of this Directive] ⇦ ~~9 July 2018~~. ~~The Commission shall draw up a report in respect of the delegation of power not later than nine months before the end of the five-year period. The delegation of power shall be tacitly extended for periods of an identical duration, unless the European Parliament or the Council opposes such extension not later than three months before the end of each period.~~ *The Commission shall draw up a report in respect of the delegation of power not later than nine months before the end of the five-year period. The delegation of power shall be tacitly extended for periods of an identical duration, unless the European Parliament or the Council opposes such extension not later than three months before the end of each period.*

3. The delegation of power referred to in Articles 6~~5~~, ⇨ 7, 10, ⇦ 13~~18~~ and 28~~22~~ 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 Articles 6~~5~~, ⇨ 7, 10, ⇦ ~~11~~8 13~~8~~ or 28~~22~~ 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.

↓ 2018/844 Art. 1.13

Article 30~~26~~

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.

↓ 2010/31/EU (adapted)
⇨ new

Article 31~~27~~

Penalties

Member States shall lay down the rules on penalties applicable to infringements of the national provisions adopted pursuant to this Directive and shall take all measures necessary to ensure that they are implemented. The penalties provided for must be effective, proportionate and dissuasive. Member States ~~shall communicate those provisions to the Commission by 9 January 2013 at the latest and~~ shall notify ~~it~~ ⌦ the Commission ⌫ without delay of any ~~subsequent~~ amendment affecting ~~them~~ ⌦ the provisions communicated in accordance with Article 27 of Directive 2010/31/EU ⌫ .

Article 32~~28~~

Transposition

1. Member States shall ~~adopt and publish, by 9 July 2012 at the latest,~~ ⌦ bring into force ⌫ the laws, regulations and administrative provisions necessary to comply with Articles ~~2 to 18,~~ ⇨ 1 to 3, 5 to 26, 29 and 32 ⇦ and ~~with Articles 20 and 27~~ ⇨ Annexes I to III and V to IX by […] ⇦. ⌦ They shall immediately communicate the text of those measures and a correlation table to the Commission. ⌫

~~They shall apply those provisions as far as Articles 2, 3, 9, 11, 12, 13, 17, 18, 20 and 27 are concerned, from 9 January 2013 at the latest. They shall apply those provisions as far as Articles 4, 5, 6, 7, 8, 14, 15 and 16 are concerned, to buildings occupied by the public authorities from 9 January 2013 at the latest and to other buildings from 9 July 2013 at the latest.They may defer the application of Article 12(1) and (2) to single building units that are rented out, until 31 December 2015. This shall however not result in fewer certificates being issued than would have been the case under the application of the Directive 2002/91/EC in the Member State concerned.~~ 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 ~~2002/91/EC~~ ⌦ 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~~29~~

Repeal

Directive ⌦ 2010/31/EU ⌫ ~~2002/91/EC~~, as amended by the ~~Regulation~~ ⌦ acts listed ⌫ ~~indicated~~ in Annex VIII~~IV~~, Part A, is ~~hereby~~ repealed with effect from ⌦ […] ⌫ ~~1 February 2012~~, without prejudice to the obligations of the Member States relating to the ~~time-limit~~ ⌦ time-limits ⌫ for ⌦ the ⌫ transposition into national law and ⌦ the dates of ⌫ application of the ~~Directive~~ ⌦ Directives ⌫ set out in Annex VIII~~IV~~, Part B.

References to ⌦ the repealed ⌫ Directive ~~2002/91/EC~~ shall be construed as references to this Directive and shall be read in accordance with the correlation table in Annex IX~~V~~.

Article 34~~30~~

Entry into force

This Directive shall enter into force on the ~~20th~~ ⌦ 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 in the first subparagraph of Article 32].

⌫*Article 35~~31~~*

Addressees

This Directive is addressed to the Member States.

Done at Brussels,

For the European Parliament	*For the Council*
The President	*The President*

↓ 2010/31/EU

ANNEX I

COMMON GENERAL FRAMEWORK FOR THE CALCULATION OF ENERGY PERFORMANCE OF BUILDINGS

(referred to in Article ~~4~~3)

↓ 2018/844 Art. 1.14 and Annex .1(a) (adapted)
⇨ new

1. The energy performance of a building shall be determined on the basis of calculated or ~~actual~~ ⌦ 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. Where possible, typical energy use and typical user behaviour shall be based on available national statistics, building codes and metered data. ⇦

⇩ new

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*~~ *monthly* 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.

🡻 2018/844 Art. 1.14 and Annex .1(a) (adapted)
⇨ new

The energy performance of a building shall be expressed by a numeric indicator of primary energy use ⇨ per unit of ~~***reference***~~ **useful** 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.

Member States shall describe their national calculation methodology ⇨ based on Annex A ⇦ ~~following the national annexes~~ of the ⌦ key European ⌫ ~~overarching~~ standards ⌦ on energy performance of buildings ⌫ , namely ⌦ EN ⌫ ISO 52000-1, ⌦ EN ISO ⌫ 52003-1, ⌦ EN ISO ⌫ 52010-1, ⌦ EN ISO ⌫ 52016-1, ~~and~~ ⌦ EN ISO ⌫ 52018-1, ⇨ EN 16798-1 and EN 17423 or superseding documents ⇦ ~~developed under mandate M/480 given to the European Committee for Standardisation (CEN)~~. This provision shall not constitute a legal codification of those standards.

⇩ new

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 through individually certified or recognised primary energy factors.

🡻 2018/844 Art. 1.14 and Annex .1(b) (adapted)
⇨ new

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 *monthly,* hourly or sub-hourly time calculation intervals in order to account for varying conditions that significantly affect the operation and performance of the system and the indoor conditions, and ⇦ ~~in order~~ to optimise health, indoor air quality and comfort levels defined by Member States at national or regional level.

⇩ new

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 under this Directive, national calculation methods shall not require additional information.

🡻 2018/844 Art. 1.14 and Annex .1(b) (adapted)
⇨ new

The calculation of primary energy shall be based on primary energy factors, ⇨(distinguishing non-renewable, renewable and total) *or weighting factors* ⇦ ~~*or weighting factors*~~ per energy carrier, which ⇨ have to be recognised by the national authorities. Those primary energy factors ⇦ may be based on national, regional or local ⇨ information. Primary energy factors may be set on an ⇦ annual, ~~and possibly also~~ seasonal, ~~or~~ monthly, ⇨ daily or hourly basis ⇦ ~~weighted averages~~ or on more specific information made available for individual district ⌦ systems ⌫ ~~system~~.

Primary energy factors or weighting factors shall be defined by Member States. ⇨ The choices made and data sources shall be reported according to EN 17423 or any superseding document. Member States may opt for an average EU primary energy factor for electricity established pursuant to Directive (EU) …/… [recast EED] instead of a primary energy factor reflecting the electricity mix in the country. ⇦

~~In the application of those factors to the calculation of energy performance, Member States shall ensure that the optimal energy performance of the building envelope is pursued.~~

~~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 through the energy carrier and renewable energy sources that are generated and used on-site, provided that it applies on a non-discriminatory basis.~~

↓ 2018/844 Art. 1.14 and Annex .1(c) (adapted)
⇨ new

32a. 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 ~~emission~~ ⌦ emissions ⌫ produced in $kgCO_2eq/(m^2.y)$.

↓ 2010/31/EU (adapted)

43. 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; ~~and~~

(v) thermal bridges;

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

(c) air-conditioning installations;

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

(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.

↓ 2018/844 Art. 1.14 and Annex .1(d)

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

↓ 2010/31/EU

(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.

65. 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.

⇩ new

ANNEX II

TEMPLATE FOR THE NATIONAL BUILDING RENOVATION PLANS

(referred to in Article 3)

EPBD Article 3	Mandatory Indicators	Optional Indicators ~~/ comments~~	***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)	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 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 building levels — per renovation depth (weighted average renovation) ~~— deep renovations~~ ~~— public buildings~~		
	Primary and final annual energy consumption (ktoe): - per building type - per end use ~~*Energy savings (Ktoe):*~~ ~~- per building type~~ ~~- public buildings~~ ***Average primary energy use in kWh/(m2.y) for residential buildings*** Share of renewable energy in the building sector (MW generated): - for different uses - ~~on-site~~ - ~~off-site~~ *Energy savings (Ktoe):* - *residential* - *non-residential* - *public bodies*	Reduction in energy costs (EUR) per household (average) Primary energy ~~*demand*~~ *use* 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 Delegated Act Share of heating system in the building sector per boiler/heating system type ***Share of renewable energy in the building sector (MW generated):*** - ***on-site*** - ***off-site***	*Estimation can be used for the Energy savings indicator* *Concerning the Share of renewable energy in the building sector indicator, the following can be refered to:* *- Total installed capacity from each renewable energy technology (MW), including from photovoltaic (rooftop, off grid) and biomass* *- Total actual contribution (gross electricity generation) from each renewable energy technology in electricity (GWh), including from photovoltaic (rooftop, off grid) and biomass* *- Renewable energy use in buildings* *- Electricity and heat generation from renewable energy in*

	~~**Share of renewable energy in the building sector (MW generated):**~~ ~~— **on site**~~ ~~— **off site**~~ ~~—~~		*buildings (ktoe)*
	Annual greenhouse gas emissions (kgCO2eq/(m^2.y)~~:~~ ~~— *per building type (including public buildings)*~~ — Annual greenhouse gas emission reduction (kgCO2eq/(m^2.y)~~:~~ ~~*per building type (including public buildings)*~~	Indicators distinguished per building type (including public buildings)	
	Market barriers and failures (description): — Split incentives — Capacity of construction and energy sector ~~*Overview*~~Evaluation of the capacities in the construction, energy efficiency and renewable energy sectors	Market barriers and failures (description): — Administrative — Financial — Technical — Awareness — Other Number of: — Energy service companies — construction companies — architects and engineers — skilled workers — one-stop-shops — SMES in the construction/renovation	

		sector Projections of the construction workforce: - Architects/engineers/skilled workers retired - Architects/engineers/skilled workers entering the market - 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 (definition): — % 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	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	Targets for expected share (%) of renovated buildings: — per building type per renovation depth	
	Target for expected primary and final annual energy consumption (ktoe): — per building type — per end use Expected energy savings: — per building type	Share of energy from renewable sources in the building sector (MW generated)	
	Targets for expected greenhouse gas emissions (kgCO2eq/(m2.y~~):~~ ~~— per building type~~ Targets for expected greenhouse gas emission reduction (%)~~:~~ ~~— per building type~~	*Indicators distinguished per building type (including public buildings)* ~~*Split between emissions covered by Chapter III [stationary installations], Chapter IVa [new emissions trading for buildings and*~~	*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;*

		~~*road transport] of Directive 2003/87/EC, and other stock;*~~	
	Expected wider benefits — ~~*Creation of new jobs*~~ — % reduction of people affected by energy poverty	Increase of GDP (share and billion Euros) - *Creation of new jobs*	
	~~*Contribution to Member State's binding national target for greenhouse gas emissions pursuant to [revised Effort Sharing Regulation]*~~	*Contribution to Member State's binding national target for greenhouse gas emissions pursuant to [revised Effort Sharing Regulation]*	
	The Member State's ~~*C*~~*c*ontribution to the Union's energy efficiency targets in accordance with *Article 4 of the* Directive (EU) …/…. [recast EED] *attributable to its building stock's renovation* (share and figure in ktoe~~*primary and final consumption):*~~ ~~— *against Article 8 EED target (energy savings obligation)*~~ ~~— *against the overall energy efficiency target*~~	~~*Contribution to the Union's energy efficiency targets in accordance with Directive (EU) …/… [recast EED] target (share and figure in ktoe, primary and final [consumption):*~~ ~~*against Article 8 EED target (energy savings obligation)*~~ ~~*[against the overall energy efficiency target]*~~	
	The Member State's ~~*C*~~*c*ontribution to the Union's renewable energy targets in accordance with Directive (EU) 2018/2001 [amended RED] attributable to its building stock's renovation (share, MW generated): ~~— *against the overall target for*	*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*	

	~~*energy from renewable sources*~~ ~~— *against the indicative target for the share of energy from renewable sources in the building sector*~~	*sources]*	
	~~*Contribution to Union's 2030 climate target and 2050 climate neutrality goal in accordance with Regulation (EU) 2021/1119 (share and figure in (kgCO2eq/(m^2.y)):*~~ ~~— *against the overall decarbonisation target*~~	*Contribution to Union's 2030 climate target and 2050 climate neutrality goal in accordance with Regulation (EU) 2021/1119 (share and figure in (kgCO2eq/(m2.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-effective 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~~***into a zero emission building;***~~ (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	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. *(fa) prevention and high-quality treatment of construction and demolition waste in line with Directive 2008/98/EC, notably as regards the waste hierarchy, and the objectives of the circular economy;*	

	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 district heating and cooling networks, and the phase out of fossil fuels in heating and coolingwith a view to a complete phase-out *of fossil fuel boilers* by 2040 at the latest; (g) the promotion of renewable energy sources in buildings in line with the indicative 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]; (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; ~~*(i) prevention and high-quality treatment of construction and demolition waste in line with Directive 2008/98/EC, notably as regards the waste hierarchy, and the objectives of the circular economy;*~~ ~~*(j) district and neighbourhood approaches, including the role of renewable energy communities and citizen energy communities;*~~	*(fb) district and neighbourhood approaches, including the role of renewable energy communities and citizen energy communities;* *(fc) addressing skills gaps and mismatches in human capacities* 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	

	(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*~~ *promotion of skills and* education, ~~*training, upskilling and reskilling*~~in the construction, sector and energy efficiency and renewable energy sectors; and (o) awareness raising campaigns and other advisory tools. 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	— smart technologies — sustainable mobility in buildings — district and neighbourhood approaches — skills, training — awareness campaigns and advisory tools	

	— Expected impact — Status of implementation — Date of entry into force — Implementation period		
(d) Outline 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) ~~— *Budgetary resources*~~ ~~— *Secured budget*~~	Secured budget *Budgetary resources*	
(e) Thresholds of new and renovated zero-emission buildings, referred to in Article 9~~a~~ b	— *Operational greenhouse gas emissions thresholds of new zero-emission buildings* — *Operational greenhouse gas emissions thresholds of renovated zero-emission buildings* — *Annual primary energy use thresholds of new zero-emission buildings* — *Annual primary energy use thresholds of renovated zero-emission buildings*		
(f) Minimum energy performance standards for non residential buildings	— ***Maximum energy performance thresholds, in accordance with Article 9(1)***		

(g) Minimum energy performance standards for residential buildings	— ***The national trajectory, including the 2033 and 2040 milestones for average primary energy use in kWh/(m2.y), in accordance with Article 9(2)***		

⇩ new

ANNEX III

REQUIREMENTS FOR *THE* ~~*NEW AND RENOVATED ZERO-EMISSION BUILDINGS AND*~~ ***CALCULATION OF LIFE-CYCLE GLOBAL WARMING POTENTIAL (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.*~~

~~*EU climatic zone*~~[1]	~~*Residential building*~~	~~*Office building*~~	~~*Other non-residential building**~~
~~*Mediterranean*~~	~~*<60 kWh/(m2.y)*~~	~~*<70 kWh/(m².y)*~~	~~*< NZEB total primary energy use defined at national level*~~
~~*Oceanic*~~	~~*<60 kWh/(m2.y)*~~	~~*<85 kWh/(m².y)*~~	~~*< NZEB total primary energy use defined at national level*~~
~~*Continental*~~	~~*<65 kWh/(m².y)*~~	~~*<85 kWh/(m².y)*~~	~~*< NZEB total primary energy use defined at national level*~~
~~*Nordic*~~	~~*<75 kWh/(m².y)*~~	~~*<90 kWh/(m².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*~~

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

~~[1] *Mediterranean: CY, HR, IT, EL, MT, ES, PT, Oceanic: BE, DK, IE, DE, FR, LU, NL, Continental: AT, BG, CZ, HU, PL, RO, SL, SK, Nordic: EE, FI, LV, LT, SE.*~~

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

~~– renewable energy provided from a renewable energy community within the meaning of Article 22 of Directive (EU) 2018/2001 [amended RED], or~~

~~– renewable energy and waste heat from an efficient district heating and cooling system in accordance with Article (24(1) of Directive (EU) .../... [recast EED].~~

~~A zero-emission building shall not cause any on-site carbon emissions from fossil fuels.~~

~~Only where, due to the nature of the building or lack of access to renewable energy communities or eligible district heating and cooling systems, it is technically not feasible to fulfil the requirements under the first paragraph, the total annual primary energy use may also be covered by energy from the grid complying with criteria established at national level.~~

~~II.~~ Calculation of life-cycle global warming potential (GWP) of new buildings pursuant to Article 7(2)

For the calculation of the life-cycle global warming potential (GWP) of new buildings pursuant to Article 7(2), the *total* 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 indicator 1.2. Where a national calculation tool *or method* exists, or is required for making disclosures or for obtaining building permits, that tool *or method* may be used to provide the required disclosure. Other calculation tools *or methods* 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.

↓ 2018/844 Art. 1.14 and Annex .2

ANNEX IV~~IA~~

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 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 three 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 electricity demand, including its ability to enable participation in active and passive as well as implicit and explicit demand response, in relation to the grid, for example through flexibility and load shifting capacities.

3. The methodology may further take into account:

(d) 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

(e) 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[1].

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.

[1] Directive 2014/61/EU of the European Parliament and of the Council of 15 May 2014 on measures to reduce the cost of deploying high-speed electronic communications networks (OJ L 155, 23.5.2014, p. 1).

⇩ new

ANNEX V

TEMPLATE FOR ENERGY PERFORMANCE CERTIFICATES

(referred to in Article 16)

1. ~~*On its front page, t*~~ *T*he 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/(m2 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 CO2/(m^2 year));

(i) the greenhouse gas emission class (if applicable).

2. In addition, the energy performance certificate may 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 Global Warming Potential has been carried out for the building;

(d) the value of the life-cycle Global Warming Potential (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 air quality;

(k) the presence of fixed controls that respond to the levels of indoor air 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 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;

q) operational fine particulate matter (PM2.5) emissions.

The energy performance certificate may include the following links with other initiatives if these apply in the relevant Member State:

(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);

(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.

↓ 2010/31/EU (adapted)

ANNEX VI~~II~~

INDEPENDENT CONTROL SYSTEMS FOR ENERGY PERFORMANCE CERTIFICATES ~~AND INSPECTION REPORTS~~

⇩ new

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:

↓ 2010/31/EU (adapted)
→1 2018/844 Art. 1.14 and Annex .3(a)
⇨ new

1. →1 ~~The competent authorities or bodies to which the competent authorities have delegated the responsibility for implementing the independent control system shall make a random selection of all the energy performance certificates issued annually and subject them to verification. The sample shall be of a sufficient size to ensure statistically significant compliance results.~~ ←

~~The verification shall be based on the options indicated below or on equivalent measures:~~

(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;

⇩ new

(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.

🡻 2010/31/EU

~~(b) check of the input data and verification of the results of the energy performance certificate, including the recommendations made;~~

~~(c) full check of the input data of the building used to issue the energy performance certificate, full verification of the results stated in the certificate, including the recommendations made, and on-site visit of the building, if possible, to check correspondence between specifications given in the energy performance certificate and the building certified.~~

~~2. The competent authorities or bodies to which the competent authorities have delegated the responsibility for implementing the independent control system shall make a random selection of at least a statistically significant percentage of all the inspection reports issued annually and subject those reports to verification.~~

⇩ new

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***, which may be carried out by virtual means, where appropriate,*** 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.

↓ 2018/844 Art. 1.14 and Annex .3(b)

~~3. 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.~~

↓ 2010/31/EU (adapted)
⇨ new

ANNEX VII~~III~~

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.

The comparative methodology framework shall be accompanied by guidelines outlining how to apply ~~this~~ ⌦ that ⌫ framework in the calculation of cost-optimal performance levels.

The comparative methodology framework shall allow for taking into account use patterns, outdoor climate conditions ⇨ ~~*and their future changes according to best available climate science*~~ *including heat and cold waves* ⇦ , investment costs, building category, maintenance and operating costs (including energy costs and savings), earnings from energy produced, where applicable, ⇨ environmental and health externalities of energy use, ⇦ and ~~disposal~~ ⇨ waste management ⇦ costs, where applicable. It should be based on relevant European standards relating to this Directive.

The Commission shall also provide:

– guidelines to accompany the comparative methodology framework; ~~these~~ ⌦ those ⌫ guidelines will serve to enable the Member States to undertake the steps listed below;~~:~~

– information on estimated long-term energy price developments.

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 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. ~~These~~ ⌦ 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 ~~and 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.

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. ~~This~~ ⌦ That ⌫ will allow the determination of cost-optimal levels of energy performance requirements.

↓ 2010/31/EU (adapted)

ANNEX VIII~~IV~~

~~PART A~~

~~*Repealed Directive with its successive amendment*~~	
~~*(referred to in Article 29)*~~	
~~Directive 2002/91/EC of the European Parliament and of the Council (OJ L 1, 4.1.2003, p. 65)~~	
~~Regulation (EC) No 1137/2008 of the European Parliament and of the Council (OJ L 311, 21.11.2008, p. 1)~~	~~only point 9.9 of the Annex~~

~~PART B~~

~~*Time limits for transposition into national law and application*~~		
~~*(referred to in Article 29)*~~		
~~Directive~~	~~Time limit for transposition~~	~~Date of application~~
~~2002/91/EC~~	~~4 January 2006~~	~~4 January 2009 as regards Articles 7, 8 and 9 only~~

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	

↓ 2010/31/EU (adapted)

ANNEX IX~~V~~

Correlation table	
Directive ~~2002/91/EC~~ ⌦ 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
~~Article 1~~	~~Article 1~~
~~Article 2, point (1)~~	~~Article 2, point (1)~~
~~—~~	~~Article 2, points (2) and (3)~~
~~Article 2, point (2)~~	~~Article 2, point (4) and Annex I~~
~~—~~	~~Article 2, points (5), (6), (7), (8), (9), (10) and (11)~~
~~Article 2, point (3)~~	~~Article 2, point (12)~~
~~Article 2, point (4)~~	~~Article 2, point (13)~~
~~—~~	~~Article 2, point (14)~~
~~Article 2, point (5)~~	~~Article 2, point (15)~~
~~Article 2, point (6)~~	~~Article 2, point (16)~~
~~Article 2, point (7)~~	~~Article 2, point (17)~~
~~Article 2, point (8)~~	~~Article 2, point (18)~~
~~—~~	~~Article 2, point (19)~~
~~Article 3~~	~~Article 3 and Annex I~~
~~Article 4(1)~~	~~Article 4(1)~~
~~Article 4(2)~~	~~—~~
~~Article 4(3)~~	~~Article 4(2)~~
~~—~~	~~Article 5~~
~~Article 5~~	~~Article 6(1)~~
~~—~~	~~Article 6(2) and (3)~~
~~Article 6~~	~~Article 7~~
~~—~~	~~Articles 8, 9 and 10~~
~~Article 7(1) first subparagraph~~	~~Article 11(8) and Article 12(2)~~

~~Article 7(1) second subparagraph~~	~~Article 11(6)~~
~~Article 7(1) third subparagraph~~	~~Article 12(6)~~
~~Article 7(2)~~	~~Article 11(1) and (2)~~
~~—~~	~~Article 11(3), (4), (5), (7) and (9)~~
~~—~~	~~Article 12(1), (3), (4), (5) and (7)~~
~~Article 7(3)~~	~~Article 13(1) and (3)~~
~~—~~	~~Article 13(2)~~
~~Article 8, point (a)~~	~~Article 14(1) and (3)~~
~~—~~	~~Article 14(2)~~
~~Article 8, point (b)~~	~~Article 14(4)~~
~~—~~	~~Article 14(5)~~
~~Article 9~~	~~Article 15(1)~~
~~—~~	~~Article 15(2), (3), (4) and (5)~~
~~—~~	~~Article 16~~
~~Article 10~~	~~Article 17~~
~~—~~	~~Article 18~~
~~Article 11, introductory wording~~	~~Article 19~~
~~Article 11, points (a) and (b)~~	~~—~~
~~Article 12~~	~~Article 20(1) and Article 20(2) second subparagraph~~
~~—~~	~~Article 20(2) first subparagraph and Article 20(3) and (4)~~
~~—~~	~~Article 21~~
~~Article 13~~	~~Article 22~~
~~—~~	~~Articles 23, 24 and 25~~
~~Article 14(1)~~	~~Article 26(1)~~

~~Article 14(2) and (3)~~	~~—~~
~~—~~	~~Article 26(2)~~
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~~—~~	~~Article 29~~
~~Article 16~~	~~Article 30~~
~~Article 17~~	~~Article 31~~
~~Annex~~	~~Annex I~~
~~—~~	~~Annexes II to V~~