National Building Renovation Plans (NBRPs)

Annotated template for the narrative report

Note: Unless specified otherwise, the Articles and Annexes mentioned in this document are referring to the recast Energy Performance of Buildings Directive (EU) 2024/1275[1] *(the 'recast EPBD'). This annotated template is intended solely as a supporting tool for Member States (MSs); only the text of the recast EPBD itself has legal force.*

Note 2: The forthcoming Commission guidance documents referred to in this annotated template are planned for adoption later in 2025.

- *Text in blue italic = supporting annotations from the European Commission to be deleted when submitting the NBRP.*
- Text in black relates to Annex II mandatory indicators, *while text in black italic relates to optional indicators.*

- ***Submission year = X** = year of submission of the NBRPs (or its draft).*
- *To complement this annotated template, a **spreadsheet template for data collection** has been prepared for the main quantitative indicators.*
- *MSs should use the closest official/approved data available **and no further than Year X-2**[2] **and also year 2020** (useful to estimate the main elements of Article 9). In all cases, MSs should indicate which is the year of the values/data to ensure transparency. In general, it is more **important to have consistency across the reporting years of different indicators**, rather than using the most recent years' data.*
  Member States may use data for a more recent year than 2020 along with the relevant assumptions (such as new construction rates and records of renovations or demolitions) to interpolate and achieve a realistic characterisation of the building stock in 2020.
  *For the **1st draft NBRP**, MSs should ensure **consistency with data reported under the 2025 NECP Reporting**. They should also ensure consistency with the characterisation of the building stock (number of buildings, floor area, building types/categories) used to implement the provisions related to Article 9.*
- *In the various tables;*
  - ***M** means that the indicator is **Mandatory***
  - ***Miav** that it is **Mandatory if available***
- ***Scope**: MSs are invited to report in their NBRP aspects relating to buildings and energy use in the scope of the EPBD*[3]*.*

[1] Directive (EU) 2024/1275

[2] i.e. for first draft NBRPs, MSs can report data from 2023, and may rely on NECP Reporting.

[3] i.e. some constructions may not be considered by some MSs as buildings in the scope of the national transposition of the EPBD such as: farm barns, industrial buildings, summer cottages, etc., MSs shall focus on buildings concerned by the minimum energy performance requirements and/or EPCs. As stipulated in Annex I, for the purpose of the EPBD the energy performance shall reflect

- ***Building typology:***
  - *MSs are recommended to disaggregate their data using the building typology described further below. In case MSs use other/additional buildings' categories or types, they must clearly describe/define them.*
  - *MSs should indicate whether they treat mixed-use buildings as residential or non-residential*[4]*.*
  - *MSs should use a consistent typology throughout the NBRP including for the characterisation of the building stock in relation to Article 9.*
- ***Floor area:*** *MSs can use the reference floor area as defined in Article 2(52)* as *the 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.*
- ***Source of data:***
  - *MSs should* ***always mention the source of data*** *and any assumptions/methods used in case of estimations.*
  - *MSs can refer to the guidance 'Minimum energy performance standards for non-residential buildings and trajectories for progressive renovation of residential buildings (Article 9)' for examples, methods and practices related to the characterisation of the building stock and data collection (e.g. on renovation rates, primary/final energy use, GHG emissions)*
- *When reporting the values for* ***final and primary energy consumption,*** *MSs should ensure* ***consistency with the methodologies****, approaches and values* ***used to characterise the residential and non-residential building stocks concerned by*** *Article 9(1) and 9(2):* ***MEPS non-residential and trajectory for progressive renovation of the residential building stock****.*

MSs have to ensure ***consistency:***

- *between this narrative report and the spreadsheet template for data collection, if the latter is submitted.*
- *between NBRPs and other reporting exercises, in particular the* ***NECP and NECP Reporting****.*

(a) Overview of the national building stock

Pursuant to Article 3(2) point (a) each NBRP must include an ***overview of the national building stock for different building types****, including their share in the national building stock, construction periods and climatic zones, based, as appropriate, on statistical sampling and the national database for energy performance certificates pursuant to Article 22, an overview of market barriers and market failures and an overview of the capacities in the construction, energy*

typical energy use for space heating, space cooling, domestic hot water, ventilation, built-in lighting and other technical building systems

[4] As per Recital (34)

efficiency and renewable energy sectors, and of the share of vulnerable households based, as appropriate, on statistical sampling.

*This section represents the **baseline/status quo of the national building stock.***

*As a reminder, it is of utmost importance that MSs indicate **transparently** the underlying estimates, assumptions calculation, metrics/units, reporting years when reporting their indicators. This will allow effective aggregation and comparison in case of heterogeneity of reporting methodology.*

*MSs should describe the state of their building stock **in qualitative and quantitative terms**.*

*The **qualitative elements** should at least provide all the necessary and underlying background, methodologies, baseline, explanation for the quantitative indicators. The qualitative elements could also include considerations related to building typology, scope, climatic conditions, architectural traditions, urban and rural development, demographic repartition and density, age of the building stock, importance of protected/historical buildings, types of floor area (if any), etc…*

*The **quantitative aspects** must include at least Annex II **mandatory indicators** listed below.*

- Number of buildings and total floor area (m^2):

  *The number of buildings and floor area can be based on **national data from statistical offices or on data collected for administrative purposes** (e.g. cadastre, construction permitting, etc.). Data and statistics for construction activity (e.g. new construction rate and demolition rate) or statistical sampling could also be used. While dedicated statistics on buildings is the best way to ensure high quality information on buildings, in the absence of such statistics, estimates and modelling could be used.*

  Additional sources of information on the number of residential buildings are:
  - *the database of the EU Project Odyssee-MURE, providing time series collected through the energy agencies and to which public bodies can obtain free access at request*[5].
  - *Data from censuses represents a valuable resource for mapping the residential sector.*
  - *Building Stock Observatory*[6]

  The above sources can be combined in order to provide a comprehensive and accurate building stock representation.

  - per building type (including public buildings and social housing):
    MSs should:
    - *disaggregate their data using the building typology described in the below table and based on Annex I (6) of the Recast EPBD and use the same categories/types as for the characterisation of the building stock in relation to Article 9.*

[5] Energy Efficiency Indicators | Odyssee | Energy efficiency in Europe (odyssee-mure.eu)
[6] https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficient-buildings/eu-building-stock-observatory_en

- *clearly describe/define any other category/type they use.*
- *indicate whether they treat mixed-use buildings as residential or non-residential. In general, the dominant use in terms of floor area should characterise the type of building.*
- *for **social housing**: give a definition in their national context if relevant. For the purpose of the NBRPs, social housing buildings are categorised as residential.*
- *for **public buildings**: Member States may take advantage of the data collected for the purpose of the public buildings inventory required by Article 6(5) of the Energy Efficiency Directive[7]. For the purpose of the NBRP, public buildings are categorised as non-residential only (social housing is treated as residential buildings).*

MSs are invited to report this indicator using a table such as (mirrored in the excel data collection):

Code	Building Type	M/ Miav	No of buildings / building units		Floor area (m^2)	
			Year X-2	2020	Year X-2	2020
R	**Residential** R= (a) + (b1) (No of buildings) or R= (a) + (b2) (No of building units) *Out of which*	M[8]				
(a)	*single-family houses of different types*	Miav[9]				
(b1)	*apartment blocks or multi-family buildings[10]*	Miav				
(b2)	*residential building units[11] in apartment blocks or multi-family buildings*	Miav				

[7] EU/2023/1791 6(5): inventory of heated and/or cooled buildings that are owned or occupied by public bodies and that have a total useful floor area of more than 250 m².
[8] Mandatory
[9] Mandatory if available
[10] As defined in the BSO: Apartment buildings = large multi-family >4 floors; Multi-family buildings = small multi-family with up to 4 floors.
[11] Article 2(18)

	Out of which social housing[12]	M				
NR	**Non-residential** NR = (c) + (d) + (e) + (f) +(g) + (h) +(i) *Out of which*	M				
(c)	*offices*	Miav				
(d)	*educational buildings*	Miav				
(e)	*hospitals & healthcare buildings*	Miav				
(f)	*hotels and restaurants*	Miav				
(g)	*sport facilities*	Miav				
(h)	*wholesale and retail trade services buildings*	Miav				
(i)	*Other type (describe if any)*	Miav				
	Out of which public buildings	M				
T	**Total** T=R + NR	M				

- per energy performance class:

  *MSs should breakdown the number of buildings and floor area per energy performance class (based on **valid** EPCs[13]) using the national scale in force when the NBRP or its draft is prepared. The table below can be adapted according to the national context scale in force. When relevant the table below can distinguish the breakdown per EPC class for residential buildings on one hand and for non-residential in the other If the scale is updated between the draft and the final plan, MSs can update the below table. MSs should ensure consistency with the data reported in the national EPC database and transferred in the Building Stock Observatory.*

  MS may add in their NBRP additional qualitative aspects on their national EPC scheme in force (such as scale, choice between calculated or metered energy performance, quality control, experts, qualifications, etc.)

  MSs are invited to report this indicator using a table such as (mirrored in the spreadsheet template for data collection):

[12] Specify whether reported as buildings or building units

[13] A building shall not be counted twice (i.e. if a building has more than one valid EPC, it should only be counted once)

EPC Class	**Number of residential/ non-residential building or /building units in Year X-2**	**Floor area residential/non-residential in Year X-2** m²
A+ (if relevant)		
A0 (if relevant)		
A		
B		
C		
…		
G		
Without valid EPC		
Total		

- nearly zero-energy buildings

  MSs must report the cumulative:
  - ***number and floor area*** *of new and renovated (if any)* ***nearly zero-energy buildings (NZEB)*** *standing/built/renovated since the first national definition of NZEB is in force*[14]
  - *and from 2030 onwards:* ***zero emission buildings (ZEB)*** *built/standing.*

  MSs could track this indicator using the number of buildings/building units with an EPC class corresponding to NZEB/ZEB level(s) and/or issued building permits. MSs are invited to fill in the below table to report these indicators:

New or renovated	**Cumulative number of NZEB in Year X-2**	**Cumulative floor area of NZEB in Year X-2** (m²)	**Cumulative number of ZEB in Year X-2** (applicable from 2030 onwards)	**Cumulative floor area of ZEB in Year X-2** (m²) (applicable from 2030 onwards)
New				
Renovated (if any)				
Total				

[14] Buildings that were built before the national definition of NZEB was in force, but that have been later certified as NZEB (e.g. through the issuing of an EPC), can be included in the total number of NZEBs

- worst-performing buildings (including a definition)
  *MSs are invited to **indicate how they define worst-performing buildings** for all types.*

  The notion of worst-performing building relates to their energy performance.
  MSs are recommended to link this definition to:
  - *the provisions of Article 9, e.g.: for non-residential buildings the definition could correspond to the maximum energy performance thresholds pursuant to Article 9(1), or*
  - *EPC classes.*

  Based on this definition MSs are invited to report the data related to worst-performing buildings in this table (mirrored in the spreadsheet template for data collection):

Worst performing buildings	**Number of buildings**		**Floor area** (m^2)	
	Year X-2	**2020**	**Year X-2**	**2020**
Residential				
Non-Residential				
Total				

- the 43 % worst-performing residential buildings

  *MSs are invited to report this **indicator under section (g) National trajectory for the progressive renovation of the residential building stock.***

- estimation of the share of buildings exempted pursuant to Article 9(6), point (b)

  *MSs are invited to report this **indicator under section (h) Minimum energy performance standards for non-residential buildings**.*

  MSs are invited to report the share of buildings exempted pursuant to Article 9(6) point (a)[15] which was the intention of this indicator. The Commission is considering a corrigendum of the EPBD recast to correct this point.

- *per building age (optional indicator)*
  For this indicator, MSs may group buildings within certain time range of age or construction period (e.g. range of 5 years).

[15] Buildings officially protected as part of a designated environment or because of their special architectural or historical merit, or other heritage buildings, in so far as compliance with the standards would unacceptably alter their character or appearance, or if their renovation is not technically or economically feasible.

- *per building size (optional indicator)*
  For this indicator, MSs may group buildings by size (floor area) category. They could for instance use the floor area thresholds used for other provisions (such as life-cycle GWP calculation, solar energy, sustainable mobility) to define these categories.

- *per climatic zone (optional indicator)*
  For this indicator, MSs are invited to describe how the climatic zones are defined and characterised. They should also ensure consistency throughout the NBRP when/if other indicators can be disaggregated per climatic zone.

- *demolition (number and total floor area (m²)) (optional indicator)*
  For this indicator MSs can opt to report the values related to the demolished buildings in the closest possible year (e.g. in Year X-2), or the cumulative ones since a defined baseline year (e.g. since the last LTRS).

- Number of energy performance certificates
  - per building type (including public buildings):
    MSs should report the number of currently valid EPCs[16] per building type, using the same typology applied for the total number of buildings.
    MSs are invited to report this indicator using a table such as (mirrored in the spreadsheet template for data collection):

Code	Building Type	M/ Miav	No of valid EPC In Year X-2
R	**Residential** *Out of which*	M	R= (a) + (b1) (No of buildings) OR R= (a) + (b2) (No of build. units)
(a)	*single-family houses of different types*	Miav	
(b1)	*apartment blocks or multi-family buildings*	Miav	
(b2)	*residential building units in apartment blocks or multi-family buildings*	Miav	
NR	**Non-residential** *Out of which*	M	NR = (c) + (d) + (e) + (f) +(g) + (h) +(i)
(c)	*offices*	Miav	

[16] As per Article 19(13): the validity of the energy performance certificate shall not exceed 10 years.

(d)	*educational buildings*	Miav	
(e)	*hospitals & healthcare buildings*	Miav	
(f)	*hotels and restaurants*	Miav	
(g)	*sport facilities*	Miav	
(h)	*wholesale and retail trade services buildings*	Miav	
(i)	*Other type (describe if any)*	Miav	
	Out of which public buildings	M	
T	**Total**		T=R + NR

- per energy performance class:
  MSs should report the breakdown of the preceding number of currently valid EPCs[17] per energy performance class. For this they should use the national scale in force when the plan or its draft is prepared. The table below can be adapted according to the national scale in force. If the scale is updated between the draft and the final plan, MSs can update the below table.

EPC Class	**No of valid EPCs In year X-2**
A+ (if relevant)	
A0 (if relevant)	
A	
B	
C	
…	
G	
…	
Total	Should match with the immediate preceding table

- *per building age (optional indicator)*
  For this indicator, MSs may group buildings within certain time range of age or construction period (e.g. range of 5 years).

- Annual renovation rates
  - per building type
  - to nearly zero-energy and/or to zero-emission building levels
  - per renovation depth (weighted average renovation)
  - public buildings

[17] As per Article 19(13): the validity of the energy performance certificate shall not exceed 10 years.

To report these indicators, MSs should fill in the below table, which mirrors the level of reporting requested under the NECP Reporting template Annex IV table 3[18] and accommodates all the above indicators, the table is mirrored in the spreadsheet template for data collection.

uilding Type	**Renov. Depth category**	**Number of buildings renov. in year X-2**	**Total floor area renov. in year X-2** (m²)	**Renov. rate in year X-2** %	**Estimated average reno. depth in year X-2 %**
		M	M	M	M
Residential (mandatory)	Light				
	Medium				
	Deep[19]				
	Total				
Non-residential (mandatory)	Light				
	Medium				
	Deep[16]				
	Total				
Public buildings (mandatory if available)	Light				
	Medium				
	Deep[16]				
	Total				

- ***Renovation depths** can be defined in three distinct categories: "light" (3 % ≤ x ≤ 30 % primary energy savings), "medium" (30 % < x ≤ 60 % primary energy savings) and "deep"(x > 60% primary energy savings)*
- ***Number of buildings and floor area** renovated must be the sum of all buildings renovated and corresponding floor area for each renovation depth category.*
  Data on the number of buildings and floor area renovated can be derived, captured or estimated from administrative databases (e.g. on renovation permits or changes in EPC databases), information on the economic activity of the building sector, sampling, etc. MSs may also use ad hoc surveys to estimate these numbers.
- ***Renovation rate** (%) refers **to the cumulated affected building floor area** [m²] of all buildings that underwent an energy renovation in calendar year X-2, for each renovation depth category, **divided by the total floor area** [m2] of the respective building stock in the same period. In the excel template there is a formula to compute these values automatically if floor area*

[18] Commission Implementing Regulation EU 2022/2299

[19] this definition for statistical purposes is distinct from the definition of "deep renovation" introduced for financing purposes in Directive 2024/1275/EU, Article 2(20), i.e. a renovation which 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 (with further clarifications in Article 17(16) of Directive 2024/1275/EU.)

renovated and total floor area of the corresponding segment of the building stock are provided.

- *Estimated **average renovation depth (%)** is the estimated average depth for all buildings. An estimated average renovation depth of 22% means that on average the part of the stock subjected to renovation in the period is characterised by an average reduction in terms of primary energy of 22% compared to before renovation. It is a calculated value.*

- Primary and final energy consumption (ktoe)

This indicator refers to the total primary and final energy consumption of the EBPD related building stock and energy use (as specified in Annex I).

MSs may also indicate qualitative elements here on past evolution of these indicators (i.e. trend before Year X-2) and its correlation with other parameters (such as climate, demographic and economic growth).

- per building type:
  MSs are invited to report this indicator using a table such as (mirrored in the spreadsheet template for data collection):

Code	**Building Type**	**M/ Miav**	**Final energy consumption in Year X-2** ktoe		**Primary energy consumption in Year X-2** ktoe	
			Year X-2	**2020**	**Year X-2**	**2020**
R	**Residential** R= (a) + (b1) Or R = (a) + (b2) *Out of which*	M				
(a)	*single-family houses of different types*	Miav				
(b1)	*apartment blocks or multi-family buildings*	Miav				
(b2)	*residential building unit in apartment blocks or multi-family buildings*	Miav				
NR	**Non-residential** NR = (c) + (d) + (e) + (f) +(g) + (h) +(i) *Out of which*	M				
(c)	*offices*	Miav				
(d)	*educational buildings*	Miav				

(e)	*hospitals & healthcare buildings*	Miav				
(f)	*hotels and restaurants*	Miav				
(g)	*sport facilities*	Miav				
(h)	*wholesale and retail trade services buildings*	Miav				
(i)	*Other type (describe if any)*	Miav				
T	**Total** T=R + NR	M				

*When reporting the values for **final and primary energy consumption,** MSs should ensure **consistency with the methodologies**, approaches and values **used to characterise the residential and non-residential building stocks concerned by** Article 9(1) and 9(2): **MEPS for non-residential buildings and residential trajectory for residential buildings**. In particular the values for primary and final energy consumption of 2020 in the above table should be identical or at least consistent with the ones used to characterise both the residential and non-residential building stock in that base line year.*

Dedicated statistics on buildings is the best way to ensure high quality information on buildings. In the absence of such statistics, estimates and modelling can be used. It is recommended that Member States pursue a methodology to calculate an primary energy use in line with the energy performance of buildings as described in Annex I. To this end, when measured data is used, Member States should ensure that these are corrected for climate, behaviour, and aligned to the scope of the energy performance as described in Annex I (e.g. energy used for cooking should be excluded).

Examples of approaches that can be used are presented below:

- ***a statistical** approach such as:*
  - *Starting from **final energy consumption** as reported in ESTAT and other national statistics:*
    - ***Residential**: using the **final energy consumption of households** reported by Member States in ESTAT and other national statistics.*
    - ***Non-residential:** the energy balances include the final energy consumption for the **services sector**. To note that Odyssee-Mure database provides estimates of final energy consumption in services sector by type of business and energy. Some data sets are also being developed by ESTAT and will be available soon.*
  - *From this, MSs could estimate and **deduct the consumption of non-EPBD buildings** (if any) **and non-EPB end uses** (such as cooking,*

appliances). For this MSs can use among other the disaggregation of final energy consumption in household by end-uses[20].

- *Apply **climate correction.** An example of climate correction is presented below:*
  - *FEC climate corrected = FEC / Climatic factor*
  - *Climatic factor = HDD[21]/HDD ref period*
  - *The reference period is the annual average of HDD of a broad period with available data (i.e. 2000-2022, 2005-2022, etc.)*
- *Apply **behaviour corrections**.*
- ***Translate the result into primary energy consumption** by applying the corresponding **primary energy factors** as defined at national level such as for the cost optimal calculation methodology.*

▪ *a **model-based approach**, e.g. building energy modelling using reference building to estimate typical energy demand (for instance, based on the cost-optimal methodology implementation) or using issued EPCs and extrapolate at higher scale using building stock databases, or a combination of these approaches. In all cases, MSs must indicate the underlying assumptions.*

o per end use:

*MSs should disaggregate the primary and final energy consumptions per end-use in the scope of the EPBD (cf. Annex I). The total values should **match the preceding ones**.*

MSs are invited to report this indicator using a table such as (mirrored in the spreadsheet template for data collection):

End use	**Primary energy consumption in Year X-2** ktoe	**Final energy consumption in Year X-2** ktoe
Space heating		
Space cooling		
Domestic hot water		
Ventilation		
Built-in Lighting		
Other technical building systems		
Total	*[Should match preceding table]*	*[Should match preceding table]*

[20] https://ec.europa.eu/eurostat/databrowser/view/nrg_d_hhq/default/table?lang=en&category=nrg.nrg_quant.nrg_quanta.nrg_d

[21] HDD = Heating Degree Days, Eurostat, dataset: Energy Statistics (Cooling and heating degree days – nrg_chdd).

- Energy savings (ktoe):
  - residential buildings
  - non-residential buildings
  - public buildings

MSs should report the energy savings achieved between the values in Year X-2 (as reported in the immediately preceding indicator) and the same value reported under the previous plan (for the first draft they may use the data provided in the 2020 LTRS). These should be calculated values.

Building type	**Savings in primary energy consumption** ktoe	**Savings in final energy consumption** ktoe
Residential	PEC Value in Year (X-2) – value in the previous plan	FEC Value in (Year X-2) – value in the previous plan
Non-residential	PEC Value in (Year X-2) – value in the previous plan)	FEC Value in (Year X-2) – value in the previous plan)
Out of which public buildings	PEC Value in (Year X-2) – value in the previous plan	FEC Value in (Year X-2) – value in the previous plan
Total savings	Savings residential + non-residential	Savings residential + non-residential

- Average primary energy use in kWh/(m².y) for residential buildings

*MSs are invited to report this indicator **under section (g) National trajectory for the progressive renovation** of the residential building stock of the NBRP.*

- Share of renewable energy in the building sector (MW installed or GWh generated)
  - For different uses

To the extent possible, Member States should consider the final energy related to the "EPBD-uses" pursuant to Annex I: i.e. space heating and cooling, domestic hot water, ventilation, built-in lighting and other technical building systems.

*Member States are invited to report **the share of renewable energy use expressed in percentage of the final energy consumption in buildings** in the year X-2 for:*
  - *overall building stock*
  - *residential buildings*
  - *non-residential buildings*

The scope of the renewable energy to be considered should be aligned with the Guidance on heating and cooling aspects in Articles 15a, 22a, 23 and 24 of the RED[22] : renewable produced on-site, nearby or taken from the grid (including renewable in district heating).

[22] https://energy.ec.europa.eu/document/download/b2347855-0e3d-4dc8-aed6-338f318e1b20_en?filename=C_2024_6226_1_EN_ACT_part1_v5.pdf

*In a spirit of simplification, it would also be acceptable to report based on the **SHARES datasets**[23] developed by EUROSTAT which relate to the RES share in buildings pursuant to Article 15a RED[24], even though Article 15a RED has a broader scope for energy use than that of the EPBD[25]. To adapt it to the last amendment of the RED, SHARES is being extended to several sectors, including buildings, in order to provide consistent and comparable data that can be used to assess progress towards the Union renewable energy targets. Data for buildings will be available in SHARES as from Reference year 2025. Member States could also use other EUROSTAT data sets in combination, such as final energy consumption in households (also disaggregated by end-use) and final energy consumption in services.*
Member States need to specify whether they report based on the EPBD scope or based on the SHARES datasets. This should also be reflected in the spreadsheet template for data collection.
For the purpose of this indicator, renewable energy is defined in Article 2(14): 'energy from renewable sources' means energy from renewable non-fossil sources, namely wind, solar (solar thermal and solar photovoltaic) and geothermal energy, osmotic energy, ambient energy, tide, wave and other ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas, and biogas.

- *Reduction in energy costs (EUR) per household (average) (optional indicator)*
  For this indicator, MSs may estimate the variation in energy costs based on the reported energy savings between this NBRP and the previous one (or the 2020 LTRS for the first plan).

- *Primary energy 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 Delegated Regulation (EU) 2021/2139 (optional indicator)*

- *Share of heating system in the building sector per boiler/heating system type (optional indicator)*

- *Share of renewable energy in the building sector (MW installed or GWh generated) (optional indicator):*
  - *on-site*
  - *off-site*

- Annual operational greenhouse gas emissions (kgCO2eq/(m².y)
  - per building type:

  MSs are invited to report this indicator using a table such as (mirrored in the spreadsheet template for data collection):

[23] https://ec.europa.eu/eurostat/data/database?node_code=nrg_ind_share
[24] https://energy.ec.europa.eu/document/download/b2347855-0e3d-4dc8-aed6-338f318e1b20_en?filename=C_2024_6226_1_EN_ACT_part1_v5.pdf
[25] See in particular Annex I, paragraph 1 of the recast EPBD : The energy performance of a building shall be determined on the basis of calculated or metered energy use and shall reflect typical energy use for space heating, space cooling, domestic hot water, ventilation, built-in lighting and other technical building systems.

Code	Building Type	M/ Miav	Total GHG emissions in Year X-2 (MtCO2eq)	GHG emissions per m² in Year X-2 (kgCO2eq/(m².y))
R	**Residential** *Out of which*	M	R= (a) + (b1) or R = (a) + (b2)	R'= R / (residential floor area x 10^9)
(a)	*single-family houses of different types*	Miav		
(b1)	*apartment blocks or multi-family buildings*	Miav		
(b2)	*residential building unit in apartment blocks or multi-family buildings*	Miav		
NR	**Non-residential** *Out of which*	M	NR = (c) + (d) + (e) + (f) +(g) + (h) +(i)	NR' = NR/ (non-residential floor area)
(c)	*offices*	Miav		
(d)	*educational buildings*	Miav		
(e)	*hospitals & healthcare buildings*	Miav		
(f)	*hotels and restaurants*	Miav		
(g)	*sport facilities*	Miav		
(h)	*wholesale and retail trade services buildings*	Miav		
(i)	*Other type (describe if any)*	Miav		
T	**Total**	M	T=R + NR	T'=T/(total floor area)

*MSs should first report the total annual operational (**direct+indirect**[26]**) greenhouse gas emissions** in Year X-2 in tons and break it down as per the same typology applied for the total number of buildings and energy consumption, and then **compute the value per square m²** using the floor area reported in the preceding table.*

*For **direct emissions**:*
Once the Member States estimate the final (FEC) and primary (PEC) energy consumption in the preceding tables, the GHG emissions are easy to be calculated:

[26] E.g. coming from the grid

the direct GHG emissions ***are the FEC (by fuel type) for direct use of fossil fuels multiplied by:***

- ***the default emission factors related to net calorific values*** *(in t CO2/TJ) for each fuel as from Commission Regulation (EU) No 2018/2066, Annex VI table 1*[27].
- *or any national emission factors used for the annual GHG inventory UNFCCC*[18]

The direct emissions of the residential/households and services sectors (hence the building stock) are reported annually to EEA as part of the GHG inventory[28]*. This reflects well the direct emissions of buildings since energy use outside the scope of the Energy Performance of Buildings Directive is generally electricity from the grid for the ICT and appliances.*
As an example, the emissions related to gas demand (e.g. from a boiler) will be the equivalent of the annual energy consumption from natural gas multiplied by the corresponding fuel emission factor.

For ***indirect emissions****:*
GHG emissions related to electricity or heat from district heating consumption, can be calculated by multiplying the average GHG emission intensity of electricity and heat generation in the given country or region with the corresponding electricity or heat from district heating consumption of the building stock.
There are few ways to estimate these GHG intensities based on the energy mix and in principle they should be available at country levels from the GHG emission inventories or from other reporting processes. A simple way is to take the emission intensity of electricity generation updated annually by EEA[29] *and IEA. For heat generation, it is also possible to calculate and use the emissions intensities of the district heating deserving each part of the considered building stock.*

- Annual operational greenhouse gas emission reduction (kgCO2eq/(m2.y)
  - per building type

MSs should report the annual operational GHG emission reduction per m² achieved between the values in Year X-2 (as reported in the immediate preceding indicator) and the same value reported under the previous plan (for the first draft they may use the data provided in the 2020 LTRS) using the following table:

[27] https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:02018R2066-20240701#tocId214
[28] EEA greenhouse gases - data viewer — European Environment Agency (europa.eu)
[29] https://www.eea.europa.eu/data-and-maps/daviz/co2-emission-intensity-12#tab-googlechartid_chart_11

Building type	Reduction of annual operational greenhouse gas emissions kgCO2eq/(m².y)
Residential	Value in Year (X-2) – value in the previous plan
Non-residential	Value in (Year X-2) – value in the previous plan
Total	Savings residential + non-residential

- *Life-cycle GWP (kgCO2eq/m²) in new buildings (optional indicator):*
  - *Per building type*

*Where available, MSs are invited to report the current (in Year X-2) average life-cycle GWP for new buildings in their **first draft NBRP** due in December 2025.*
*For **subsequent NBRPs**, MSs are invited to report these values[30] consistently with the format and structure used for the transfer of the information from national energy performance databases based on EPCs to the EU Building Stock Observatory (cf. the related implementing regulation template).*

***Where relevant**, MSs may report this indicator for different climatic zones and building typologies (distinguishing at least residential and non-residential).*

For more information, MSs are invited to refer to the forthcoming guidance on Life-cycle global warming potential of new buildings (Article 7(2) and (5)) and any applicable delegated act amending Annex III.

- Market barriers and failures (description):
  - split incentives.
  - evaluation of the capacities in the construction, energy efficiency and renewable energy sectors

*For **split incentives**, MSs should report a country-specific assessment on this aspect, based on national current tenancy regulations and rules related to financial support for building owners when a building is rented out, rather than a generic description of the concept. They could also describe barriers related to specific segments of the building stock such as worst-performing buildings and/or dwellings occupied by people affected by energy poverty.*
*For **capacity of construction and energy** (including efficiency and renewable) sectors: in this section, MSs must report and describe the **current capacities and barriers** of the construction and energy sectors (status quo). MSs are invited to focus on barriers that are specific to their national context rather than being generic. The barriers and capacities can address aspects related to (not exhaustive): workforce (availability at all level of*

[30] Calculated in accordance with Annex III

qualifications: workers, craftsmen, foremen, engineers, architects,..), skills, vocational trainings, structure of sector (e.g. number and size of construction/renovation companies), prices/costs, administrative capacities (including in terms of information, technical assistance, process of building permit applications, etc..), supply chain and materials. Please use the list of optional indicators for further inspiration.
The extent and depth of analysis of this section should depend on the importance of a specific barrier. This section should mirror the policies and measures put forward in section (c) of the NBRP, it is not expected to describe in this section the measure put in place to tackle a specific barrier, but the two sections must be consistent and logical.
*As regard related **quantitative data**, dedicated statistics on buildings is the best way to ensure high quality information on buildings, however in the absence of such statistics, estimates and modelling could be used. In that case, MSs must always describe the source of data and more importantly the basis and assumptions for estimation, models and forecasts.*

- *Market barriers and failures (optional indicators):*
  - *Administrative*
  - *Financial*
  - *Technical*
  - *Awareness*
  - *Other*

- *Number of (optional indicators):*
  - *Energy service companies*
  - *Construction companies*
  - *Architects and engineers*
  - *Skilled workers*
  - *One-stop shops*
  - *SMEs in the construction/renovation sector*
  - *Renewable energy communities and citizen-led renovation initiatives*

- *Projections of the construction workforce (optional indicators):*
  - *Retiring architects/engineers/skilled workers*
  - *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 (optional indicator)*

- Energy poverty (definition)

  *MSs are required in their NBRP to report data related to the **alleviation of energy poverty**: in the overview section of the plan MSs have to report the **percentage of people affected by energy poverty** at the closest date to submission of the NBRP.*

*In doing so, MSs should ensure **consistency** with the transposition and implementation of their **national definition** pursuant to Article 2(52) of directive (EU) 2023/1791 (the revised EED) and in line with the **Commission Recommendation (EU) 2023/2407 on energy poverty** and its **guidance document (SWD/2023/647)**. They should also ensure **consistency with other reporting exercises** such as the **NECPs** and the draft Social Climate Plans to be submitted by June 2025.*

To report on this aspect, MSs could use one or more of the following indicator(s) (not exhaustive):

- *% of people affected by energy poverty presented ideally as a composite indicator of data available nationally or at the European level (as explained in the Commission Staff Working Document (SWD/2023/647): EU guidance on energy poverty (accompanying the Commission Recommendation on energy poverty C/2023/4080);*
- *Proportion of disposable household income spent on energy: possibly disaggregated by electricity, gas and other fuels and/or level of income if available;*
- *Population living in inadequate dwelling conditions (e.g. leaking roof) or with inadequate thermal comfort conditions, e.g. using the corresponding Eurostat data on the share of population living in leak, damp or rot in their dwelling[31];*
- *Inability to keep home adequately warm (or cool in the summer if data is available), e.g. using the corresponding Eurostat data[32];*
- *Number of households in energy poverty, if available (e.g. as used in the Social Climate Plans);*
- *Persons at risk of poverty or social exclusion (AROPE) e.g. using the corresponding Eurostat data[33];*
- *Other indicator(s) (please detail).*

*For more examples of indicators to report on energy poverty, MSs are invited to consult the Commission Recommendation and guidance document mentioned above as well as the **Energy Poverty Advisory Hub national indicators' dashboard** (https://energy-poverty.ec.europa.eu/epah-indicators) for more examples of indicators on energy poverty.*

- Primary energy factors:
  - per energy carrier
  - non-renewable primary energy factor
  - renewable primary energy factor
  - total primary energy factor

MSs should report values for the year X-2 by filling in the following table (can be adapted to the national context):

[31] https://ec.europa.eu/eurostat/databrowser/view/ilc_mdho01/default/table?lang=en
[32] https://ec.europa.eu/eurostat/databrowser/view/ilc_mdes01/default/table?lang=en
[33] https://ec.europa.eu/eurostat/databrowser/view/sdg_01_10/default/table?lang=en

Primary energy factors per energy carrier	Non-Renewable (fPnren) in Year X-2	Renewable (fPren) in Year X-2	Total (fPtot) in Year X-2
Gas			
Electricity grid			
Oil			
GPL			
Coal			
Solid Biomass			
Liquid Biomass			
Solar PV			
Solar thermal			
Wind			
Hydropower			
District heating/cooling (could be a national average)			

Other (please specify)			

- Definition of nearly-zero energy building for new and existing buildings

  MSs should report their nearly-zero energy building (NZEB) definition for new and existing buildings (if any) in the form of a short description, including the relevant threshold in kWh/(m2 y) (or equivalent). Further distinction could be introduced depending on building type, climate and other variables according to the definition.

  If the NZEB definition has not changed compared to the previous NBRP (or 2020 LTRS for the 1st draft plan), the Member State may opt to not report the definition. In that case, the Member State should clearly indicate that no changes have occurred in the definition.

  MSs should report this definition as long as it is applied (as long as the NZEB definition is relevant, and not anymore once only the ZEB provisions apply).

- Cost-optimal minimum energy performance requirements for new and existing buildings
  MSs should report the cost-optimal levels and current requirement in force as stated in their most recent cost-optimal report (i.e. for the first draft NBRP the 2023 cost-optimal reporting cycle).

  Article 6(2) of the recast EPBD requires Member States to update and submit their cost-optimal reports to the Commission at regular intervals, which must not be longer than five years.

  MSs must report the cost-optimal energy performance level in primary energy (kWh/(m^{2}year) or, if a system level approach is followed, in the relevant unit, e.g. W/(m^{2}K)) for each case in relation to the reference building types (at least, single family buildings, multi-family buildings and apartment blocks, office buildings, other non-residential if applicable) and the corresponding requirement in force.

It is requested to specify if the reported minimum energy performance requirements have been revised according to the latest cost-optimal level calculation or if no revision was needed; if they are yet to be revised, and, in this case, by when this is expected. This could be done directly in the reporting table proposed below or separately in the text of this section.
The following table may be used as a reference for reporting these elements.

Reference buildings		**Total Primary Energy (kWh/m².y)**		**U-value Building element[34] (W/m²K)**		**Other relevant parameters, established by MS**	
New/Existing	Type	Cost-Optimal level	Current requirement in force	Cost-Optimal level	Current requirement in force	Cost-Optimal level	Current requirement in force
NEW	Single family buildings						
	Multi-family buildings						
	Office buildings						
	Other non-residential						
	…						
EXISTING	Single family buildings						
	Multi-family buildings						
	Office buildings						
	Other non-residential						

[34] Among wall, roof, floor, window, other

(b) Roadmap for 2030, 2040 and 2050

*Pursuant to Article 3(2) point (b) each NBRP must include a roadmap with **nationally established targets (for 2030, 2040, 2050) and measurable progress indicators**, with a view to achieving the 2050 climate neutrality goal and ensure a highly energy-efficient and decarbonised national building stock and the transformation of existing buildings into zero-emission buildings by 2050.*

*This section should present **the national forward-looking ambition to decarbonise the building stock** as described in section (a) overview.*

*As a reminder, it is of utmost importance that MSs indicate **transparently** the underlying estimates, assumptions calculation, metrics/units, reporting years when reporting their indicators. This will allow effective **aggregation and comparison** in case of heterogeneity of reporting methodology.*

*MSs should describe their ambition **in qualitative and quantitative terms**.*

*The **qualitative elements** have to at least provide all the necessary and underlying background, methodologies, baseline, explanation for the quantitative indicators.*

*The **quantitative aspects** must include at least Annex II **mandatory indicators** listed below.*

- Targets for annual renovation rates: number and total floor area (m²):
  - per building type
  - worst-performing buildings
  - the 43% worst-performing residential buildings

*To report these indicators MSs are invited to **fill in the tables provided in the spreadsheet template for data collection** or a table ensuring that at least the mandatory indicators are presented. They are invited to mirror this table **or a summary of it in the narrative part of their NBRP**.*
The following aspects have to be considered:

- *The number of renovated buildings and corresponding floor area to be renovated have to be estimated annually over the period: i.e. "by 2030" means the **annual average number of buildings/ floor area to be renovated over the period 2020-2030** (sum of all buildings to be renovated over the period divided by the number of years of the period**).***
- *The renovation rate is defined **as the share of renovated floor area of the corresponding segment total floor area.***
- *The total number/floor area must at least be reported for any renovation depth, and may be disaggregated per renovation depth if available.*
- *MSs are invited to estimate an average depth of all the renovation that will take place over a period.*
- *MSs are invited to report the expected number and floor area of public buildings to be renovated pursuant to Article 6 of the revised EED.*

*The data in this table **should present at least the buildings to be renovated due to the implementation of Article** 9:*

  - *9(1): non-residential buildings to be renovated as per the maximum energy performance thresholds reported under section (f) of the NBRP.*
  - *9(2): residential buildings (including singling out those among the 43 % wors-performing ones) to be renovated to achieve the milestones of the national trajectory for the progressive renovation of the residential building stock reported under section (g) of the NBRP.*

- *Targets for expected share (%) of renovated buildings:*
  - *Per building type*
  - *Per renovation depth*

MSs can report these indicators in the excel template, the expected share (%) or renovated buildings is proposed to be considered as another term for renovation rate.

- Information pursuant to Article 9(1):
  - criteria to exempt individual non-residential buildings
  - estimated share of exempted non-residential buildings
  - estimation of equivalent energy-performance improvements due to exempted non-residential buildings

MSs are invited to report this ***indicator under section (h) Minimum energy performance standards for non-residential buildings****.*

- Targets for expected primary and final annual energy consumption (ktoe):

  - per building type:

MSs are invited to report this indicator using a table such as (mirrored in the spreadsheet template for data collection):

Code	**Building Type**	**M/ Miav**	**Final energy consumption targeted in 2030, 2040 and 2050**[35] ktoe	**Primary energy consumption targeted in 2030, 2040 and 2050**[27] ktoe
R	**Residential** *Out of which*	M	R= (a) + (b1) Or (a) + (b2)	R = (a) + (b1) Or (a) + (b2)
(a)	*single-family houses of different types*	Miav		
(b1)	*apartment blocks or multi-family buildings*	Miav		

[35] Add as many columns as necessary

(b2)	*residential building unit in apartment blocks or multi-family buildings*	Miav		
NR	**Non-residential** *Out of which*	M	NR = (c) + (d) + (e) + (f) +(g) + (h) +(i)	NR = (c) + (d) + (e) + (f) +(g) + (h) +(i)
(c)	*offices*	Miav		
(d)	*educational buildings*	Miav		
(e)	*hospitals & healthcare buildings*	Miav		
(f)	*hotels and restaurants*	Miav		
(g)	*sport facilities*	Miav		
(h)	*wholesale and retail trade services buildings*	Miav		
(i)	*Other type (describe if any)*	Miav		
T	**Total**		T=R + NR	T= R+NR

MSs may decide to report also values for intermediate years.

*When reporting the values for **final and primary energy consumption,** MSs must ensure **consistency with the methodologies**, approaches and values **used to characterise the residential and non-residential building stocks concerned by** Article 9(1) and 9(2): **MEPS non-residential and residential trajectory**. In particular, these targets should duly take into account the expected renovation of non-residential and residential buildings triggered by the implementation of Article 9.*

*The targeted primary and final energy consumptions must be **consistent and plausible with (1) expected renovation rates and (2) the policies and measures** described in section (c) "policies and measures".*

- per end use

*MSs should disaggregate the expected primary and final energy consumptions per end-use in the scope of the EPBD (cf. Annex I). The total values **should match the preceding ones**.*

MSs are invited to report this indicator using a table such as (mirrored in the spreadsheet template for data collection):

End use	**Primary energy consumption in Years 2030, 2040, 2050** ktoe	**Final energy consumption in Years 2030, 2040, 2050** ktoe
Space heating		
Space cooling		
Domestic hot water		
Ventilation		
Built-in Lighting		

Other technical building systems		
Total	*[Should match preceding table]*	*Should match preceding table]*

When MSs foresee to achieve primary energy consumption reduction by means of improvement of primary energy factors they are invited to report their expected values using the same format as the corresponding table in section (a) overview.

Primary energy factors per energy carrier	**Non-Renewable (NREN) in Years 2030, 2040, 2050**	**Renewable (REN) in Years 2030, 2040, 2050**	**Total in Years 2030, 2040, 2050**
Gas			
Electricity grid			
Oil			
GPL			
Coal			
Solid Biomass			
Liquid Biomass			
Solar PV			
Solar thermal			
Wind			
Hydropower			
District heating/cooling (could be a national average)			

Other (please specify)			

- Expected energy savings:
  - Per building type

*The values of this indicator should be **deducted/computed** as the variation between the baseline primary and final energy consumptions in the overview section (in year X-2) and the targets of the roadmap for each year.*

*MSs should indicate savings both in final and primary energy consumption. The energy savings achieved must be **consistent and plausible with the policies and measures** described in section (c) and the renovation rates.*

Building type	**Savings in primary energy consumption**	**Savings in final energy consumption**

	in years 2030, 2040, 2050 ktoe	**in years 2030, 2040, 2050** ktoe
Residential	PEC Value in Years (2030/2040/2050) – value in Year (X-2)	FEC Value in Years (2030/2040/2050) – value in Year (X-2)
Non-residential	PEC Value in Years (2030/2040/2050) – value in Year (X-2)	FEC Value in Years (2030/2040/2050) – value in Year (X-2)
Total savings	Savings residential + non-residential	Savings residential + non-residential

- Targets for the increase in the share of renewable energy in accordance with Article 15a of Directive (EU) 2018/2001.

  *As per Article 15a of the amended Renewable Energy Directive, MSs must determine **indicative national shares** of renewable energy produced on-site or nearby as well as renewable energy taken from the grid **in final energy consumption** of their building sector **in 2030.***
  This share must be consistent with an indicative target of at least a 49 % share of final energy consumption from renewable sources in the building sector at EU level.

  To report these in their NBRP, MSs are invited to fill in the following table:

Target in % **(share of RE versus final energy consumption in the building sector)**				
2026	**2027**	**2028**	**2029**	**2030**

  As presented in the spreadsheet template for data collection MSs, could further disaggregate these data by source of renewable energy in alignment with the Guidance on heating and cooling aspects in Articles 15a, 22a, 23 and 24 of the RED[36] (cf. section 5).
  The targets reported under the NBRP should be consistent with the ones reported under the NECPs or any other reporting exercises. The monitoring of the progress against these targets will be implemented through the NECP Reporting for which MSs may use the SHARES tool.

- *Share of energy from renewable sources in the building sector (optional indicator)*

  *In addition, for this indicator MSs may optionally set an indicative share of energy from renewable sources in the final energy consumption of their building sector **up until 2040 and 2050**.*

[36] https://energy.ec.europa.eu/document/download/b2347855-0e3d-4dc8-aed6-338f318e1b20_en?filename=C_2024_6226_1_EN_ACT_part1_v5.pdf

- Numerical targets for the deployment of solar energy in buildings:

  In setting their national targets for the deployment of solar energy in buildings (existing and new), MSs should take into account:
  - *the EU-level targets included in the EU Solar Energy Strategy[37] (aiming to deliver over 320 GW of solar photovoltaic by 2025 and almost 600 GW and triple the energy demand covered by solar thermal by 2030)*
  - *the indicative national target share of renewables in the building sector of the RED Article 15a*
  - *the requirements laid down in **Article 10** of the recast EPBD "Solar energy in buildings".*

  MSs are invited to report this indicator using a table such as (mirrored in the spreadsheet template for data collection):

Numerical targets for the deployment of solar energy	**M/ Miav**	**2030**		**2040**		**2050**	
Share of residential buildings equipped (M)	M	%	%	%	%	%	%
Share of non-residential buildings equipped (M)	M	%	%	%	%	%	%
Solar Thermal (Miav)	Miav	MW installed	GWh generated	MW installed	GWh generated	MW installed	GWh generated
Solar PV (Miav)	Miav	MW installed	GWh generated	MW installed	GWh generated	MW installed	GWh generated
TOTAL	Miav	sum	sum	sum	sum	sum	sum

- Targets for expected operational greenhouse gas emissions (kgCO2eq/(m2.y)):
  - per building type

  MSs are invited to report this indicator using a table such as (mirrored in the spreadsheet template for data collection):

Code	**Building Type**	**M/ Miav**	**Total GHG emissions in Years 2030, 2040, 2050[38]**	**GHG emissions per m² in Years 2030, 2040, 2050[26]**

[37] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2022%3A221%3AFIN&qid=1653034500503

[38] Add as many columns as necessary

			(MtCO2eq)	(kgCO2eq/(m².y))
R	**Residential** *Out of which*	M	R= (a) + (b1)	R'= R / (residential floor area x 10^9)
(a)	*single-family houses of different types*	Miav		
(b1)	*apartment blocks or multi-family buildings*	Miav		
(b2)	*residential building unit in apartment blocks or multi-family buildings*	Miav		
NR	**Non-residential** *Out of which*	M	NR = (c) + (d) + (e) + (f) +(g) + (h) +(i)	NR' = NR/ (non-residential floor area)
(c)	*offices*	Miav		
(d)	*educational buildings*	Miav		
(e)	*hospitals & healthcare buildings*	Miav		
(f)	*hotels and restaurants*	Miav		
(g)	*sport facilities*	Miav		
(h)	*wholesale and retail trade services buildings*	Miav		
(i)	*Other type (describe if any)*	Miav		
T	**Total**		T=R + NR	T'=T/(total floor area)

*MSs should first report the total annual operational (**direct+indirect**[39]**) greenhouse gas emissions** in tons (or Mtons) expected in Years 2030, 2040 and 2050 and break it down as per the same typology applied for the total number of buildings and energy consumption, and then **compute the value per m²** using the floor area reported in the preceding table.*

For estimation and characterisation of direct/indirect emissions please refer to the corresponding part of section (a) overview of this annotated template. As for the overview MSs must determine the targeted GHG emissions starting from targeted final and primary energy consumptions.

- Targets for expected operational greenhouse gas emission reduction (%):
  - per building type

[39] E.g. coming from the grid

*The values of this indicator should be **deducted/computed** as the variation between the baseline average operational greenhouse gas emission in the overview section (in year X-2) and the targets of the roadmap for each year.*

MSs are invited to report this indicator using a table such as (mirrored in the spreadsheet template for data collection):

Building type	**Expected reduction of annual operational greenhouse gas emissions** kgCO2eq/(m².y)		
	2030	**2040**	**2050**
Residential	Value in Year (2030) – value in Year (X-2)	Value in Year (2040) – value in Year (X-2)	Value in Year (2050) – value in Year (X-2)
Non-residential	Value in Year (2030) – value in Year (X-2)	Value in Year (2040) – value in Year (X-2)	Value in Year (2050) – value in Year (X-2)
Total	Savings residential + non-residential	Savings residential + non-residential	Savings residential + non-residential

- *Targets for expected whole-life-cycle greenhouse gas emission (kgCO2eq/(m².y) in new buildings (optional indicator):*
  - *Per building type*

*According to the first paragraph of Article 7(5), Member States must publish and notify to the Commission by 1 January 2027 **a roadmap with the introduction of limit values** on the life-cycle GWP of new buildings.*

*Therefore, **where available** MSs are **invited to report these limit values in their first plan** (draft due by 31 December 2025 and plan by 31 December 2026).*

When MSs update these limit values they should report them in their subsequent NBRPs ((2nd due in December 2029- draft in December 2028; 3rd due in December 2034- draft in in December 2033).

***Where relevant**, MSs may adapt these limit values for different climatic zones and building typologies (distinguishing at least residential and non-residential).*

For more information, MSs are invited to refer the guidance 'Life-cycle global warming potential of new buildings (Article 7(2) and (5))' and any applicable delegated act amending Annex III.

- *Split between emissions covered by Chapter III [stationary installations], Chapter IVa [emissions trading system for buildings, road transport and additional sectors] of Directive 2003/87/EC, and other stock (optional indicator)*

- Expected wider benefits:
  - % reduction of people affected by energy poverty

MSs have to set targets for the reduction of people affected by energy poverty in the years 2030, 2040 and 2050.

To report on this, MSs should use the same indicator(s) as used in the overview section of the NBRP and fill in the following table:

Reduction of people affected by energy poverty	**2030**	**2040**	**2050**
Use similar indicator(s) as in overview section			

- *Creation of new jobs (optional indicator)*
- *Increased in GDP (share and billion euro) (optional indicator)*
  These two indicators refer to the impact of the implementation of the NBRP and the renovation activity on the creation of new jobs and economic growth.

- The Member State's contribution to the Union's energy efficiency targets in accordance with Article 4 of Directive (EU) 2023/1791 attributable to its building stock's renovation (share and figure in ktoe)

  To report this indicator, MSs should first compute in ktoe the targeted 2030 final and primary energy savings based on the average annual renovation rate and depth set previously in the NBRP. In a second step, they could estimate and report the share that these savings represent compared to the overall national EE targets.

  The calculation of the contribution of the building sector should focus on the reductions in energy consumption (both final and primary) which can be attributed to energy renovations. Therefore, the variations of energy consumption which relates to new constructions, demolitions or energy uses outside the scope of the EPBD (e.g. for appliances) should not be included. Energy decomposition exercises could help in such analysis.

  For example: a Member State has a baseline of FEC 125 ktoe and an objective of 100 ktoe, resulting in a reduction of 25 ktoe. If the FEC for existing buildings is reduced by 10 ktoe, then the contribution of the building sector to the EED target is 40% (10 / 25 ktoe).

- The Member State's contribution to the Union's renewable energy targets in accordance with Directive (EU) 2018/2001 attributable to its building stock's renovation (share, MW installed or GWh generated)

  MSs should report in their NBRP the foreseen 2030 ***national share of renewable energy installed in existing buildings*** *compared to their gross final consumption of energy.*

(c) Overview of planned and implemented policies and measures

Pursuant to Article 3(2) point (c) each NBRP must include an overview of implemented and planned policies and measures, ***supporting the implementation of the roadmap and targets set up in section (b).***

The policies and measures should be ***adequate and sufficient*** *to achieve the ambitions described in the preceding section. In particular, the policies and measures must be* ***consistent and plausible*** *with the* ***targeted renovation rates*** *set in the roadmap. They must also be* ***sufficient and adequate*** *to achieve the savings foreseen by the* ***national trajectory of the residential*** *stock as per Article 9(2) and the renovation requirements for* ***non-residential buildings*** *as per Article 9(1).*

This section is mostly ***qualitative****, nevertheless MSs* ***should also quantify the expected impacts in energy savings and GHG emissions*** *of their policies and measures to ensure consistency and plausibility with the preceding section and of the whole plan.*

Any regulations/policies referenced should to the extent possible include the exact title/legal refence and points towards a source/link for further references.

(a) the identification of cost-effective approaches to renovation for different building types and climatic zones, considering potential relevant trigger points in the life-cycle of the building

Under this section, MSs can detail what cost-effective approaches to renovation they have identified, considering potential relevant trigger points in the life-cycle of the building.

Article 2(4) defining minimum energy performance standards refers to ***trigger points*** *as events triggering the renovation of existing buildings such as "****sale, rent, donation or change of purpose*** *within the cadastre or land registry, in a period of time or by a specific date"*

Therefore, a 'trigger point' is 'an opportune moment in the life-cycle of a building for carrying out energy efficiency renovations. Trigger points may lead to cost-effective renovation due to the economies of scale that can be achieved if energy-related renovation is carried out at the same time as other necessary work or planned renovation.

(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, including safeguards as referred to in Article 17(19)

In this section, MSs should at least report;

- *Policies and measures related to the implementation of* ***Article 9(1) in the non-residential building stock****, in particular the elements related to the legal framework, rules of compliance, the enabling framework, monitoring mechanism and penalty scheme they intend to set up:*

- ***Competent authorities*** *and definition of their mandate and responsibilities: centralised/decentralised MEPS scheme*
- *Information related to the* ***engagement with buildings' owners****:*
  - *How MSs intend to identify building owners to comply with MEPS*
  - *Measures related to* ***publicity****, information on the thresholds, deadlines, enabling framework, technical assistance and enforcement scheme*
- *Which* ***compliance mechanism*** *will be used: EPCs or, where appropriate, other available means and the timing of this compliance. The compliance mechanism should be recognised at national level and should ensure that the evidence is supplied and is subject to quality assurance.*
- *The* ***enabling framework*** *and support measures they intend to set up including measures such as (not exhaustive): financial support, technical assistance, incentives, public awareness, addressing split incentives as referred to in Article 9(4),*
- *The* ***monitoring and penalty scheme*** *they intend to set up pursuant to Article 9(7)*

- *Policies and measures related to the implementation of* ***Article 9(2)*** *and* ***the achievement of the national trajectory*** *for the progressive renovation of the residential building stock set up in section (g) of the NBRP;*
  - ***Minimum energy performance standards****, as defined in Article 2(4): "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 (…)".*
    If MSs aim to implement MEPS also for residential buildings, they need to define the share of the target they want to achieve through this policy instrument and the subset of the buildings that will be covered by the MEPS scheme (e.g., all worst-performing or only the very worst-performing buildings of EPC class G, or classes G and F). The definition of thresholds and the identification of buildings to comply with MEPS can be approached in a similar manner to the steps used for non-residential buildings. MSs are invited to refer to the guidance 'Minimum energy performance standards for non-residential buildings and trajectories for progressive renovation of residential buildings (Article 9)' for more information.
    As for the non-residential MEPS, MSs must set up the ***architecture, responsible authorities and compliance mechanism*** *if they opt for MEPS for the residential buildings.*
  - *The* ***enabling framework*** *and support measures they intend to set up including measures such as (not exhaustive): financial support,*

technical assistance, public awareness, addressing split incentives as referred to in Article 9(4) and in particular:

- ***Technical assistance**, such as (not exhaustive):*
  - *the deployment of **one-stop shops** as required in Article 18 and in Article 22 EED with guidance provided in Commission recommendation (EU) 2024/2481 on interpreting Article 21, 22 and 24 of Directive (EU) 2023/1791). This sub-section does not need to repeat but can refer to and complement section (e)below.*
  - *the use of **buildings renovation passports***
- ***Financial support measures**, such as financial support to renovate worst-performing buildings, financial support for vulnerable groups to renovate buildings, performance-based support schemes or a combination thereof.*

Pursuant to Article 9(2) fifth paragraph, these policies and measure must not disproportionately exempt rental residential buildings or building units.

For each policy and measure, the NBRP should detail:

- *the **expected impacts in energy savings** and ghg emissions,*
- *the compliance and enforcement mechanisms*
- *the framework for monitoring at national level.*

*More details and examples of measures can be found in the **guidance 'Minimum energy performance standards for non-residential buildings and trajectories for progressive renovation of residential buildings (Article 9)'**.*

(c) the promotion of deep renovation of buildings, including staged deep renovation

*MSs could indicate under this section how they intend to incentivise deep renovation and staged deep renovation with **higher financial, fiscal, administrative or technical support pursuant to Article 17(16)**.*

*MSs could also include under this section a **description of the expected building renovation passport scheme** they intend to introduce pursuant to Article 12.*

For more information and example on these provisions MSs are invited to consult the guidance documents 'Renovation Passports (Article (12), Annex VIII)' and 'Financial incentives, skills and market barriers (Article 17) and one-stop shops (Article 18)'.

(d) empowering and protecting vulnerable customers and the alleviation of energy poverty, including policies and measures pursuant to Article 24 of Directive (EU) 2023/1791, and housing affordability

*To design and report policies and measures to **empower and protect vulnerable customers and to alleviate energy poverty,** MSs are invited to consult the:*

- ***Commission Recommendation (EU) 2023/2407 on energy poverty** and in particular its section I calling for the implementation of the definition of energy poverty and section V including suggestions of measures, schemes and policies.*
- ***Commission Recommendation (EU) 2024/2481 setting out guidelines for the interpretation of Articles 21, 22 and 24 of the recast EED.** In particular, the section related to Article 24 "Empowering and protecting vulnerable consumers and alleviating energy poverty".*

*They should also ensure **consistency with other reporting exercises** such as the **NECPs** in which they had to report policies and measures related to this aspect.*

*MSs are encouraged to explore synergies with the investment measures for energy renovation foreseen in their **Social Climate Plans (SCP)**. In practice this means that measures and investments planned under the SCP should contribute to the implementation of the energy poverty reduction targets and policies set out in the NBRP and in the SCPs.*

MSs are also encouraged to report the financial schemes, investments and incentives dedicated to fight energy poverty and provide data on geographic specificity of energy poverty, if relevant.

***On housing affordability** MSs are encouraged to report measures related to:*

- *Supporting young people, especially in education and training, in accessing affordable housing in buildings with a high energy performance class or in carrying out renovations.*
- *Policies targeting renovation of rental buildings and apartments that take into account the needs of tenants and ensure a distribution of costs that does not overburden tenants while encouraging energy efficiency measures and renovation.*
- *Concrete measures taken to combat homelessness, and in this context, to assess the number, capacity and type of accommodations for the homeless (shelters, housing first projects, mixed housing, etc.).*
- *Energy performance of their social housing stock, measures targeting the worst performing buildings in social housing and housing for vulnerable groups, the expected costs of these measures, and their progress (e.g. in terms of number of building units renovated per year).*
- *Data collection on vacant residential, commercial and industrial buildings and facilitation of their renovation, conversion or repurposing where relevant.*

(e) the creation of one-stop shops or similar mechanisms pursuant to Article 18 for the provision of technical, administrative and financial advice and assistance

*Under this section MSs are invited to describe the **network of one-stop shops (OSS)** that they plan to establish pursuant to Article 18, including elements such as:*

- *geographical physical coverage and accessibility (pursuant to Article 18(1) criteria);*
- *nature of services provided;*
- *administrative set-up and/or business models of these OSSs (public, private or mixed models);*
- *the administrative capacity of the established facilities, the financial needs to establish and operate these OSSs should be adequately reported under the section (d) "Outline of the investment needs, the budgetary sources and the administrative resources" of the NBRP;*
- *measure to reach out to and invite owners to OSSs. This can concern the general public but also owners of buildings concerned by any obligation stemming from Article 9 and owners that have to be invited to a OSS pursuant to Article 19(13).*

For more information, and examples of good practices MSs are invited to consult the:

- *Guidance "Financial incentives, skills and market barriers (Article 17) and one-stop shops (Article 18)";*
- *Commission Recommendation (EU) 2024/2481 setting out guidelines on Articles 21, 22 and 24 of the EED recast 'Information and awareness raising'; and*
- *The joint guidelines responding to the requirement of Article 22(6) of the EED recast and Article 18(1) of the EPBD recast.*

(f) the decarbonisation of heating and cooling, including through district heating and cooling networks, and the phasing out of fossil fuels in heating and cooling with a view to a complete phasing out of fossil fuel boilers by 2040

*For more information on what to report under this section, MSs are invited to refer to the **guidance 'Fossil fuel boilers (Article 13)'**.*

MSs are also encouraged to ensure consistency of their NBRPs with: comprehensive national heating and cooling assessments pursuant to Article 25(1) of the recast EED, local heating and cooling plans pursuant to Article 25(6) of the recast EED and the assessment of the RES and waste heat and cold potential in the heating and cooling sector under RED Art 23(10) as well as National plans to support EU action to phase out Russian gas (pursuant to the Communication Roadmap towards ending Russian energy imports COM(2025) 440 final).

(g) prevention and high-quality treatment of construction and demolition waste in accordance with Directive 2008/98/EC, in particular as regards the waste hierarchy, and the objectives of the circular economy

Construction and demolition waste (CDW) *accounts for almost 40% of all waste generated in the EU. It contains a wide variety of materials such as wood, mineral fractions (concrete, bricks, tiles and ceramics, stones).*

Waste generated by renovation activities is also considered CDW.

Under this section MSs are invited to ***report measures*** *(e.g. legal/regulatory, information-based, behavioural)* ***they are setting up to:***

- ***minimise construction and demolition waste,***
- ***increase the re-use of construction materials, and***
- ***increase the preparing for re-use and high-quality recycling of CDW.***

The aim is to ensure that the ***expected benefits of renovations*** *(in terms of energy savings and GHG emissions)* ***are maximised****, including through proper waste management of CDW that can further reduce the impacts across the lifecycle of the buildings.*

This point/topic has to be addressed consistently and in coordination with the NBRP point (j) related to "the reduction of whole-life-cycle greenhouse gas emissions for the construction, renovation, operation and end of life of buildings".

Some guidelines, initiatives, examples and good practices are available to ensure that CDW is managed in an environmentally sound way such as:

- *EU construction & demolition waste management protocol*
- *Techno-economic and environmental assessment of construction and demolition waste management in the European Union*
- *Level(s) is a voluntary reporting framework to improve the sustainability of buildings. Using existing standards, Level(s) provides a common EU approach to the assessment of environmental performance in the built environment, throughout their whole lifecycle.*
- *Circular construction activities covered by the EU Taxonomy for Sustainable Finance, in particular activity 3.2. Renovation of existing building (https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L_202302486)*

(h) 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 laid down in Article 15a(1) of Directive (EU) 2018/2001

(i) the deployment of solar energy installations on buildings

Under the sections (h) and (i), MSs can describe the policies and measures necessary to:

- *promote the deployment of renewable energy sources in buildings, and in particular for the achievement of the* ***indicative target for the share of energy from renewable***

sources *in the building sector laid down* ***in the RED Article 15a(1)*** *as reported in the roadmap section. The policies and measures should be sufficient and adequate to reach these targets.*

- *more specifically accelerate the deployment of solar energy installations and in particular implement the requirements of Article 10 "Solar energy in buildings" and the achievement numerical targets for the deployment of solar energy in buildings reported under the roadmap section.*

  Examples of policies and measures that MSs may describe relate to:
  - *roll-out of solar energy installations on different categories of buildings (new and existing)*
  - *design of new buildings*
  - *national criteria for practical implementation, including for protected and historical buildings*
  - *stimulate innovative approaches, such as building integrated PV or combination of PV and solar thermal and building-integrated solar thermal*
  - *combination with green roofs*
  - *integrating solar and storage*
  - *deployment of solar energy for vulnerable households*

  For more information MSs are invited to refer to the guidance 'Solar energy in buildings (Article 10)'.

(j) 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

Complementary to the national roadmaps introducing limit values on the total cumulative life-cycle GWP of all new buildings pursuant to Article 7(5), ***MSs have to detail in their NBRPs the measures they intend to set up to reach these limit values****. Under this section, they could focus on embodied carbon considering that operational emissions are already covered in other parts of the plan.*

This point/topic has to be addressed consistently and in coordination with the NBRP point (g) related to construction and demolition waste.

In this context, MSs are invited to address topics and issues such as (not exhaustive):
- *Sufficiency (make the most of the existing stock, renovate instead of building new)*
- *Efficiency in resource use through better design of buildings or better choice of materials or products*
- *Circular use of construction products and elements*
- *Shift to low carbon materials/bio-based materials/local products*
- *Renovation embodied carbon emissions*

The following recent reports and initiatives give some examples of techniques and solution to address this topic:

- *Supporting the development of a roadmap for the reduction of whole life carbon of buildings*
- *Addressing the environmental and climate footprint of buildings*
- *Sufficiency in the building sector - Publications Office of the EU*
- *Level(s) is a voluntary reporting framework to improve the sustainability of buildings. Using existing standards, Level(s) provides a common EU approach to the assessment of environmental performance in the built environment, throughout their whole lifecycle.*

MSs have also to detail in their NBRPs how they intend to ensure the ***uptake of carbon removal****s in the construction sector, including certification in accordance with the* ***Carbon Removals and Carbon Farming (CRCF) Regulation****, including through measures such as:*

- *the display of buildings' carbon storage capacity on EPCs.*
- ***financial incentives*** *for using carbon-storing materials in public renovation projects e.g. by adding a carbon storage indicator in public procurement criteria.*
- ***awareness-raising*** *on the potential, benefits and implementation of carbon removals in the construction and building sector (e.g. information on the diversity and use of carbon-storing materials, as well as the benefits of carbon sequestration in the built environment) and the utilisation of the upcoming CRCF certification methodology for carbon storage in buildings as a potential business model opportunity.*
- *Integration with* ***circular economy*** *principles, promoting reuse and recycling to maintain stored carbon within the carbon cycle.*

(k) the promotion of district and neighbourhood approaches and integrated renovation programmes at district level, which may address issues such as energy, mobility, green infrastructure, waste and water treatment and other aspects of urban planning and may take into account local and regional resources, circularity and sufficiency

MSs will need to ensure that they have a comprehensive and up-to-date knowledge of initiatives ***for district and neighbourhood approaches*** *and* ***integrated district renovation programmes*** *in their territory in order to design and set up policies for their promotion.*

Integrated district renovation programmes *address the renovations of buildings that are spatially related such as housing blocks. By targeting a high number of buildings, they may help to increase the cost-effectiveness of the renovations and offer a variety of solutions at a larger scale. They may also address complementary issues related to urban planning such as: energy supply, mobility, green infrastructure, waste, water treatment and consider local and regional resources, circularity and sufficiency.*

*MSs are invited to consider **Citizen-led Renovation** approaches to support the inclusive renovation at district and neighbourhood -scale.*

*MSs can **deploy one-stop shops** in areas where they intend to implement integrated district renovation programmes pursuant to Article 18(1).*

(l) the improvement of buildings owned by public bodies, including policies and measures pursuant to Articles 5, 6 and 7 of Directive (EU) 2023/1791

Under this section, MSs are invited to report how they intend to ensure the renovation of buildings owned by public bodies.

*In that respect, they could for instance explore **synergie**s between the requirements of the relevant provisions of the **revised EED** (Articles 5,6 and 7) and the renovations of the **worst-performing non-residential buildings pursuant to Article 9(1)**.*

Indeed, energy renovations of public buildings with a non-residential use could contribute to both the achievement of the MEPS thresholds and to the annual renovation target established under Article 6 of the Energy Efficiency Directive (Directive (EU) 2023/1791), provided that such renovations meet the requirements set in both pieces of legislation.

For more details on the obligations for public buildings under the Energy Efficiency Directive, consult the Guidelines on energy consumption in the public sector, renovation of public buildings and public procurement (Articles 5, 6 and 7).

(m) the promotion of smart technologies and infrastructure for sustainable mobility in buildings

*As regards **smart technologies**, MSs are invited to report under this section the national state of implementation of the **Smart Readiness Indicator (SRI)** pursuant to Article 15 and the provisions laid out in the Delegated regulation - 2020/2155 - EN - EUR-Lex[40] and Implementing regulation - 2020/2156 - EN - EUR-Lex.*

MSs who have chosen to undertake a non-committal test phase of the SRI according to Article 8 of Implementing regulation - 2020/2156 - EN - EUR-Lex are invited to report the state of play of this phase and the most recent assessment of the outcome, while the others could report their plans to start the implementation/adaption phase of the SRI.

*As regards **infrastructure for sustainable mobility**, MSs are invited to describe policies and measures related to their promotion in buildings and in particular the installation of recharging infrastructure pursuant to Article 14 such as:*

[40] *https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2020.431.01.0009.01.ENG&toc=OJ:L:2020:431:TOC*

- *roll out of ducting, pre-cabling and recharging points in different categories of buildings (new and existing)*
- *design of new buildings*
- *simplification and streamlining of the installation of charging points, including in co-owners' association*
- *fire safety in car parks*
- *accessibility of recharging points for persons with disabilities*

For more information MSs are invited to refer to ***guidance 'Infrastructure for sustainable mobility (Article 14)'****.*

(n) addressing market barriers and market failures

Some examples of renovation and construction's market barriers and failures include: zoning/permitting regulations, fragmentation of interventions, supply chain issues, access to technology, financing and information. competition issues.

(o) addressing skills gaps and promoting education, targeted training, upskilling and reskilling in the construction sector and energy efficiency and renewable energy sectors (whether public or private), with a view to ensuring that there is a sufficient workforce with the appropriate level of skills corresponding to the needs in the building sector, with a special focus on the underrepresented groups

To report policies under point (o), MSs are invited to:

- *Build on the results of relevant* ***national skills strategies*** *developed under the* ***Build Up Skills*** *(**BUS**) initiative. These strategies include an assessment of skills gaps and roadmaps*
- *Reflect on the* ***deployment of the tools*** *developed under the* ***BUS*** *such as qualification and training schemes in different thematic areas, innovative training tools and methods, pilot trainings, etc*
- *Engage at national/regional/local level with the competent authorities in the domains of employment, education and training.*

MSs are also invited to refer to some ***useful and relevant sources*** *such as:*

- *European Centre for the Development of Vocational Training (CEDEFOP) Online Tools, Network of national VET experts and Skills intelligence*
- *The Blueprint from the Large-Scale Partnership on Skills in the construction sector can also be a good and comprehensive resource*
- *European Education Area Working Group on VET and the green transition*
- *EU Year of Skills national coordinators*

(p) awareness-raising campaigns and other advisory tools; and

MSs are invited to address this point consistently and in alignment with the policies and measures related to one-stop shops (point e).

(q) promotion of modular and industrialised solutions for construction and building renovation.

***Modular and industrialized construction** solutions refer to construction methods that involve prefabricating building components off-site in a controlled environment, which are then assembled on-site.*
These methods aim to reduce construction time, improve quality control, and minimize costs by using standardized and repeatable processes.

Under these section MSs are invited to:

- *Briefly describe the current state of modular and industrialized construction within the country.*
- *Outline the objectives of promoting modular construction and renovation solutions*
- *Policies they intend to set up to promote these approaches including aspect such as:*
  - *Regulatory framework (building codes, standard and permitting)*
  - *Research and development initiatives*
  - *Collaboration and knowledge sharing*
  - *(..)*

(Optional) Policies and measures with regard to the following elements:

(a) the increase in the climate resilience of buildings;
(b) the promotion of the energy services market;
(c) the increase in fire safety;
(d) the increase in resilience against disaster risks, including risks related to intense seismic activity;
(e) the removal of hazardous substances including asbestos;
(f) accessibility for persons with disabilities;
(g) the role of renewable energy communities and citizen energy communities in district and neighbourhood approaches;
(h) addressing mismatches in human capacities; and
(i) addressing the improvement of indoor environmental quality

It is important to note that the following Annex II optional policies: (a) climate resilience; (c) fire safety; (d) disaster and seismic resilience; (e) hazardous substances including asbestos and (f) accessibility for persons with disabilities have to be addressed in relation to buildings undergoing major renovations pursuant to Article 8(3).

(d) Outline of the investment needs, the budgetary sources and the administrative resources

*Pursuant to Article 3(2) point (d): each NBRP must include an outline of the **investment needs** for the implementation of their national building renovation plan, **the financing sources and measures, and the administrative resources** for building renovation.*

As per Article 17(1), MSs must provide appropriate financing, support measures and other instruments able to address market barriers in order to deliver the necessary investments identified in their national building renovation plan to transform their building stock into zero-emission buildings by 2050.

*The financing sources must be **adequate and sufficient** to implement the **policies and measures** described in section (c) and in turn **achieve the ambition** set in the roadmap section (b).*

MSs must report at least the following mandatory indicators:

- total investment needs for 2030, 2040, 2050 (million EUR)
- public investments (million EUR)
- private investments (million EUR)
- budgetary resources (*budgetary resources are included in public investments, they are considered as secured/voted public investments for the short-medium term)*

To report these indicators, for the 1st draft NBRP MSs could fill in the following table. This table is also mirrored in the spreadsheet template for data collection.

Breakdown	Investment needs for renovation of existing stock (million EUR)	M/ Miav	2026-2030	2031-2033	2033-2035	2036-2040	2041-2045	2046-2050
Investment needs	Residential (renovation)	M						
	Out of which for 43% worst-performing buildings	*Miav*						
	Non-residential (renovation)	M						
	Out of which for worst-performing buildings (incl. buildings concerned by Article 9(1))	*Miav*						
	Other needs such as: administrative resources, alleviation of energy poverty, creation of OSS, deployment of solar energy installations and infrastructure for smart mobility	*Miav*						
	Total investment needs	M						
	Public investments *Out of which*	M						

Source of financing (Public/Private) incl. budgetary resources	*Regional and Local funds*	*M*						
	National funds	*M*						
	EU funds	*M*						
	Other (describe)	*Miav*						
	Private investments *Out of which*	M						
	Own-financing	*M*						
	Mortgages	*M*						
	Non-secured loans	*M*						
	PPP/Energy Performance contracting	*M*						
	Other (describe)	*Miav*						
	Total source of financing							

*The investment needs correspond to the estimated amount necessary **to implement the policies and measures laid down in section (c), so that the targets set in the roadmap laid down in section (b) are met**. MSs could also single out the investment needs to reduce the number of persons affected by energy poverty.*

*The investment needs and budgetary resources provided must be consistent and plausible with the targeted renovation rates set in the roadmap. They must also be **sufficient and adequate** to achieve the savings as per the **national trajectory for the progressive renovation of the residential** stock (Article 9(2)) and the **renovation requirements of non-residential buildings** as per Article 9(1).*

MSs are invited to detail the methodology used to estimate the investment needs including parameters and sensitivity elements (e.g. inflation rate, cost of materials, works and energy, based on current prices).

MSs are also invited to report on their budgetary sources and describe their key financing schemes, including how public finance will allow to leverage a sufficient volume of private finance. MSs are invited to refer to the guidance 'Financial incentives, skills and market barriers (Article 17) and one-stop shops (Article 18)' for more information on provisions related to the national financial framework.

***Administrative resources** refer to the human and related financial resources needed by national, regional and local authorities to implement the National Building Renovation plans. Such resources can include for instance (not exhaustive):*

- *ministerial/regional staff to collect data, plan and monitor building renovation data*
- *municipal/regional/OSS staff dedicated to assist, inform and support citizens, SMEs, building owners*
- *resources for renovation grant application and/or renovation building permits' requests*
- *training programs and associated staff to develop skills of workers, installers and designers*

Administrative resources may be considered as investment needs in the below NBRP finance reporting table.

(e) Thresholds of new and renovated zero-emission buildings, referred to in Article 11

*Pursuant to Article 3(2) point (e): each NBRP must include the **thresholds** for the **operational greenhouse gas emissions and annual primary energy demand of a new or renovated (if any) zero-emission building (ZEB)** pursuant to Article 11.*

*Pursuant to Article 11, a ZEB must comply with **maximum thresholds for its**:*

- ***energy demand**, this threshold must be set in total primary energy use (both renewable and non-renewable), reflecting the energy performance of the building, which is expressed in kWh/(m².yr) and calculated in accordance with Annex I of the Directive*
- ***operational greenhouse gas emissions** (expressed in kgCO2eq/(m² .yr).*

*These maximum thresholds **may be set** at different levels for **new and renovated buildings**. The thresholds may be set by **buildings type** and considering national **climatic zones**.*

To report these thresholds in their NBRPs, MSs could use a table (distinct tables can be made for new and renovated buildings) such as the following:

Zones (e.g. climatic, ..)	**Thresholds For new and/or renovated ZEB**						
	Building type 1 (e.g. residential)		Building type 2 (e.g. Offices)		Building type 3 (e.g. educational)		…
	Energy demand threshold in total annual primary energy use (in kWh/m².y)	Operational GHG emissions threshold (in kgCO2eq/(m².y))	Energy demand threshold in total annual primary energy use (in kWh/m².y)	Operational GHG emissions threshold (in kgCO2eq/(m².y))	Energy demand threshold in total a nnual primary energy use (in kWh/m².y)	Operational GHG emissions threshold (in kgCO2eq/(m².y))	…
Zone I							
Zone II							
Zone III							
Zone IV							
(…)							

Note: this table is just provided as an example and may be adapted to the national context.

*For further information about ZEBs and the establishment of the maximum thresholds, MSs are invited to refer to the **guidance 'Zero Emission Buildings (Articles 7 and 11)'**.*

In their 1st draft National Building Renovation Plan (NBRP), MSs may report tentative values for the maximum energy demand and GHG emissions thresholds, e.g. using 2024 NZEB – 10 % level.

The thresholds must be reviewed and revised if necessary every time the cost-optimal levels are revised. These changes should be included in the next revision of the NBRPs. In addition, MS are invited to notify to the Commission any adaptation of the thresholds taking place between two NBRPs.

(f) Minimum energy performance standards for non-residential buildings

*Pursuant to Article 3(2) point (f) each NBRP must include the **maximum energy performance thresholds** for non-residential buildings, pursuant to Article 9(1).*

*Therefore, MSs must provide in **their first draft NBRP** (due in December 2025) the **maximum energy performance thresholds** that they have set for non-residential buildings under Article 9(1), i.e. the "16%" threshold) and the "26%" threshold). The energy performance thresholds must be set **in a way that respectively 16% and 26%** of the national non-residential building stock exceed these thresholds on the basis of the non-residential building stock **on 1 January 2020**. These thresholds are expressed in kWh/(m².y) and **represent either the final or primary energy use** of the stock.*

*To establish these thresholds, MSs can refer to the **guidance 'Minimum energy performance standards for non-residential buildings and trajectories for progressive renovation of residential buildings (Article 9)'** which includes a stepwise approach.*

*To report the thresholds in their NBRPs, MSs **should fill in the following table**:*

Choice of indicator (delete as appropriate)	Primary/Final energy use				
Thresholds[41]	If thresholds are defined to whole building stock	If thresholds are defined by categories[42]			
	Whole building stock	Category 1 (e.g. Offices)	Category 2 (e.g. hospitals)	Category 3 (e.g. educational)	…
the 16 % threshold kWh/(m².y)					
the 26 % threshold kWh/(m².y)					
the "2040" threshold kWh/(m².y)					
the "2050" threshold kWh/(m².y)					

(in case MSs decide to set thresholds per building type or category of building they can add as many columns as categories/types to the above table)

*In their **first draft NBRP**, MSs should report and detail the estimates, choices, parameters and methodologies used to determine the thresholds, **covering at least the following aspects** (refer to the guidance 'Minimum energy performance standards for non-residential buildings and trajectories for progressive renovation of residential buildings (Article 9)' for more details):*

- ***Identifying data source** (existing building stock data with complementary source and/or statistical sampling with ad hoc data collection)*

[41] Member States may set the maximum energy performance thresholds with reference to the national non-residential building stock as a whole or per building type or category of building. The classification of buildings by categories is recommended to avoid treating certain building segments unfairly.
[42] As per Annex I(6)

- ***Estimating*** *and reporting the* ***overall size of the non-residential building stock*** *in 2020 and the share of buildings in each use category.* ***These data must be consistent with the overview section of the NBRP****: in which MSs should report the closest available data as regard the building stock (e.g. 2023 for the 2025 submission) as well as the ones of 2020 (data requested in the corresponding table in the overview section of this template and the excel one).*
- ***Attributing energy performance*** *to the building segments*
- ***Explaining*** *the differentiation* ***by building category*** *(optional): In case MSs choose to set the thresholds per building type or category, they should explain in their NBRP the reasons and rationale of the selected categories/type (e.g. predefined categories in existing data sources such as cadastre registers or census can support the categorisation process*)
- ***Presenting the final ranking of the baseline:*** *MSs should present in their NBRP the ranking of buildings according to their energy use either by creating a frequency distribution or by* ***using the data for each individual building.*** *This ranking can be done either* ***based on the number of buildings or the floor area.***
  If thresholds for several building categories are implemented, ***a specific baseline must be established for each of the category****.*
- *Exclusion and exemptions (optional):*
  - ***Categories of buildings listed in Article 9(6):*** *If Member States decide not to include in the national MEPS scheme the buildings associated to some or several of these categories,* ***these buildings must be removed from the baseline****, i.e. they will not be counted as part of the non-residential building stock when defining the thresholds. The exclusion is therefore not automatic, MSs should report in their NBRP on the potential excluded categories and associated estimated share of buildings concerned.*
  - ***Criteria to exempt individual non-residential*** *buildings: If MSs establish criteria to exempt individual non-residential buildings* ***they must report them in their NBRP*** *and describe how the chosen criteria reflect at* ***least one of the three following reasons*** *(a) expected future use of the building, (b) serious hardship, and (c) unfavourable cost-benefit assessment.*
    Any such criteria must be clear, precise and stringent and must ensure equal treatment between non-residential buildings.
  - ***Estimated share of exempted non-residential buildings:*** *this concerns the exempted individual buildings. This indicator can be expressed in absolute terms (number of buildings and floor area) or corresponding percentage (respectively of the total number of buildings and floor area). Pursuant to Article 9(1) eighth paragraph MSs must ensure that they do not exempt a disproportionate number of non-residential buildings.*
  - ***Estimation of equivalent energy performance improvements*** *due to exempted non-residential buildings: MSs must quantify in their NBRPs the* ***unrealised energy improvements*** *for all individual exemptions and report the equivalent improvements achieved through the renovation of buildings from other parts of the*

non-residential building stock, i.e. that are not part of buildings within the corresponding threshold.

- *Information on the choice to defining the thresholds **according to the number of buildings or the floor area***
- *Information on the choice to **defining the thresholds according to an EPC class** (optional): if MSs decide to use this option, they should describe in their NBRP how the buildings above the defined class(es) cover at least the portion of the worst-performing building of Article 9(1), i.e. 16% for 2030, 26% for 2033, etc.*

(g) National trajectory for the progressive renovation of the residential building stock

*Pursuant to Article 3(2) point (g) each NBRP must include the **national trajectory** (hereunder referred as "the trajectory") **for the renovation of the residential building stock,** including the 2030 and 2035 milestones for average primary energy use in kWh/(m².y) pursuant to Article 9(2).*

*Therefore, MSs must provide in **their first draft NBRP** (due in December 2025) the **national trajectory** for the **progressive renovation** of the residential building stock, **including the 2030 and 2035 milestones** for average primary energy use in kWh/(m².y) that they have set pursuant to Article 9(2). In addition to the 2030 and 2035 milestones, MSs must include in their trajectories the nationally determined values for 2040, 2045 and 2050 and the number or floor area of residential buildings to be annually renovated (including the 43% worst-performing ones).*

*To establish the trajectory and the milestones, MSs can refer to the **guidance 'Minimum energy performance standards for non-residential buildings and trajectories for progressive renovation of residential buildings (Article 9)'** which includes a stepwise approach.*

To report the trajectory in their NBRP, MSs should fill in the corresponding tab of the excel template for data collection and summarise it in its narrative report as such:

Indicator	2020 "baseline"	2030 milestone	2035 milestone	2040 milestone	2045 milestone	2050 milestone
Average primary energy use in kWh/(m².y) (A)						
Variation in % compared to 2020 (B)	n.a	t.b.calc (at least - 16%)	t.b.calc (at least - 20-22%)	t.b.calc	t.b.calc	t.b.calc
Number of buildings to be renovated annually						
Floor area to be renovated annually						

Number of the 43 % WP buildings to be renovated annually						
Floor area of the 43 % WP buildings to be renovated annually						
Sub-target to achieve at least 55 % of the decrease in 43% worst-performing buildings in GWh/year	n.a	t.b.c (at least 8.8%)	t.b.c (at least 11- 12,1%)	t.b.calc	t.b.calc	t.b.calc
Additional optional indicator(s) as per Article 9(3)						

*They could also represent the trajectory **graphically** only as a complement and provided that data are presented in a clear and unambiguous manner.*

*The **national roadmap and the targets** contained in section (b) of the NBRP must be **in line with** the trajectory, in practice this means that:*

- *the number/floor area and depth of residential buildings to be annually renovated*
- *the residential final and primary energy consumption*
- *the residential GHG emissions*

should be calculated considering the reduction of average primary energy use established in the trajectory.

*In **their first draft NBRP**, MSs should report and detail the estimates, choices, parameters and methodologies used to determine the trajectory and its milestones, **covering at least the following aspects**:*

- ***Identifying data source** (existing building stock data with complementary source and/or statistical sampling with ad hoc data collection)*
- ***Estimating and reporting** the **overall size of the residential building stock**, including how mixed-used buildings are treated, to note that for the purpose of the national trajectory residential public buildings such as social housing are within the scope of Article 9(2). **These data must be consistent with the overview section of the NBRP** in which MSs should report the closest available data as regard the building stock (e.g. 2023 for the 2025 submission) as well as the ones of 2020.*
- ***Detailing** how the **Average primary energy use** in kWh/(m2.y) **in 2020 (the "baseline")** was set: there **should be consistency between this value and the total primary energy***

consumption and total floor area of the residential building stock reported *under the overview section of the NBRP as regards 2020 data.*
It's important to recall that the exclusions and exemptions from the baseline foreseen under Article 9(6) do not apply here, and therefore the baseline should include all buildings from the residential stock.

- ***Detailing*** *how is defined* ***the sub-target to achieve 55%*** *of the decrease in the average primary energy use through* ***the renovation of 43% worst performing*** *residential buildings by:*
  - ***Presenting the ranking*** *of the 2020 residential buildings stock based on their energy performance measured in primary energy use (kWh/m².year)*
  - ***Indicating the threshold to identify the bottom 43%*** *of the residential building stock (by either the number of buildings or the floor area), this data is reported under the overview section of the NBRP*
  - ***Estimating*** *the sub-target expressed in kWh/year for each milestone that must be achieved through the renovation of the 43% worst-performing residential buildings using the following formula:*

$$WPB\ Sub-target = 55\% * Milestone\ decrease(\%) * \left(Average\ PEU_{2020} * \sum A_i\right)$$

WPB Sub-target: decrease of the average primary energy use to be achieved through the renovation of 43% worst-performing residential buildings, in kWh/y
PEU_{2020}: Primary energy use in kWh/(m^2y) in 2020
A: building floor area in m^2
i: from 1 to N (total number of residential buildings)

- ***Identifying the number or floor area of residential buildings and building units to be renovated annually both*** *for (i) the sub-target (to reach the 55%) and (ii) the remaining decrease or part of it (considering that it can also be achieved through greening of the energy supply and/or the effect of new buildings and demolitions). This number depends on several factors including the depth of renovations. These data* ***must be consistent with and feed the targets for renovation rates set out in the roadmap of the NBRP (section (b))****.*

(h) an evidence-based estimate of expected energy savings and wider benefits, including those related to indoor environmental quality

Wider benefits *(also known as multiple benefits) refer to the benefits* ***beyond energy savings*** *when implementing energy efficiency measures in buildings. These can occur at micro and/or private level, which means that wider benefits are associated with the actual use and value of a building or at macro level, which means that wider benefits are linked to society as a whole.*

MSs are invited to focus the reporting of this section on the ***wider benefits*** *expected at macro/societal level thanks to the implementation of the NBRP, some examples (not exhaustive) of these macro/societal wider benefits are:*

- *Reduced air pollutants (PM2.5, NOx, ...)*
- *Energy Security*
- *Innovation and competitiveness*
- *Improved productivity*
- *Improved public health (e.g. reduction of public spending on related chronic diseases)*
- *Public budget impacts*
- *Natural resource management*
- *Increased fire safety*
- *Improved seismic safety*
- *Reduced hazardous substances including asbestos*
- *Improved accessibility for persons with disabilities*

*MSs are invited to present **qualitative information** and, when relevant and available, **quantitative values (including monetised impacts**) on these wider benefits.*

*Several **studies and tools** for the monetization of multiple benefits, including e.g. health and economic impacts, have been produced over the years. For example, the **Multiple Impacts Calculation Tool**[43]is an online tool enabling the analysis of multiple impacts of energy efficiency across different sectors and Member States. The user specifies various parameters, such as the time frame, and identifies building-related improvements (e.g., building envelope improvements). Quantified and monetized values are then calculated for various social, environmental, and economic impacts.*

*Another project that has addressed the wider benefits of energy efficiency, also providing quantification methodologies, is the **COMBI** project*[44]*.*

[43] *MICAT, https://micatool.eu/seed-micat-project-en/index.php*

[44] *Calculating and Operationalising the Multiple Benefits of Energy Efficiency Improvements in Europe, combi-project.eu – Multiple Benefits of Energy Efficiency*

Appendix to Annotated NBRP template

Member States must attach to their NBRP the following documents:

- *Summary of the results of the **public consultation** pursuant to Article 3(4);*
- *Details on the **implementation of the most recent LTRS** indicating whether national targets have been achieved pursuant to Article 3(8);*
- *Summarised analysis of the results of **inspection schemes or alternative measures** (if any) pursuant to Article 23(9).*

Some suggestions, recommendations and guidance on these attachments are provided in this appendix.

1. Summary of the results of the public consultation

*Pursuant to Article 3(4), to support the development of its national building renovation plan, each Member State must carry out **a public consultation** on its draft plan prior to submitting it to the Commission.*

*The public consultation may be **integrated as part of the public consultation** undertaken pursuant to Article 10 of Regulation (EU) 2018/1999 (i.e. the **NECP public consultation**) as from the second draft NBRP and subsequently.*

*Member States should ensure **early and inclusive public participation** in line with the Aarhus Convention. This implies **timely and effective opportunities** to participate in the elaboration of the draft NBRPs.*

*To ensure an inclusive process, **local and regional authorities** and other **socioeconomic partners, including civil society and bodies** working with vulnerable households should be consulted in particular.*

*The consultation should foresee **reasonable time to participate** and should be carried out when all options are still open. Sound consultation implies **transparency and access to all relevant documents**, reports and assumptions at the start of the consultation period.*

*Member States are invited to reflect **on lessons learned in the elaboration of their Long Term Renovation Strategies**. Best practices, such as setting up the consultation through a dedicated website which contains all relevant information, establishing thematic working groups, holding open dialogues and by fostering ownership through stakeholder commitments to implementation are encouraged.*

*Pursuant to Article 3(5), **a summary of the consultation must be annexed to the NBRP**. The summary could outline, for example, the duration, period, method, number and type of participants, main comments and conclusions. Member States should also explain how the process allowed the public to participate transparently and fairly and how the views of all the stakeholders were considered in elaborating the draft plan.*

Member States may find it helpful to consult the Commission guidance developed in the context of the National Energy and Climate Plans (Commission Notice on Guidance to Member States for the update of the 2021-2030 national energy and climate plans 2022/C 495/02) and the Social Climate Plans (Commission Notice on Guidance on the Social Climate Plans (C/2025/1597) as well as the best practices

set out in the publication Support for the implementation of the Social Climate Fund: Note on good practices of public consultation for the Social Climate Plans[45]).

2. Details on the implementation of the most recent LTRS

Pursuant to Article 3(8), MSs have to annex the details of the implementation of its most recent long-term renovation strategy or NBRP to its next NBRP, indicating whether its national targets have been achieved

*For the **first plan** (draft in December 2025, plan in December 2026), MSs have to annex the details of the **2020 LTRS**.*

An example outline of this reporting is presented as follows:

- *Restating what were the ambitions of the 2020 LTRS and in particular the roadmap and indicative milestones for 2030, 2040 and 2050 in terms of the main indicators (e.g. energy consumption, GHG emissions, renovation rates,..)*
- *Assessment and justification on whether and how the targets/objectives were achieved*
- *Presentation of the implemented policies and measures as well as their results*
- *Reporting of the actual funding spent/disbursed by type of funds (public: EU, national, local; private)*

3. Summarised analysis of the results of inspection schemes or alternative measures

*Pursuant to Article 23(9) Member States must include a summarised analysis of **the inspection schemes** and their results as an annex to the national building renovation plan.*

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

*Member States are invited to consult section 4.5 of the **guidance 'Technical building systems, indoor environmental quality and inspections (Articles 13, 23 and 24)'** for more information on what to report on this topic.*

[45] Support for the implementation of the Social Climate Fund - Publications Office of the EU, 2024