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ANNEX 4

ANNEX

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**Approval of the content of the draft Commission Notice providing guidance on new or
substantially modified provisions of the recast Energy Performance of Buildings
Directive (EU) 2024/1275**

Renovation passports (Article 12, Annex VIII)

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to the

Commission Notice providing guidance on new or substantially modified provisions of the recast Energy Performance of Buildings Directive (EU) 2024/1275

Renovation passports (Article 12, Annex VIII)

1. INTRODUCTION

The recast Energy Performance of Buildings Directive ('the recast EPBD')¹ sets out how the European Union can achieve a fully decarbonised building stock by 2050 via a range of measures that will help EU governments improve the energy performance of buildings in a structured manner, with a specific focus on renovating the worst-performing buildings.

The recast EPBD includes specific provisions on the establishment and operation of renovation passport schemes in Member States (Article 12 of the recast EPBD), which are the subject of this notice.

Member States are to introduce a scheme for renovation passports by 29 May 2026 (Article 12(1) of the recast EPBD), in line with the transposition deadline of the Directive.

2. PURPOSE

This annex provides guidance on Article 12 of the recast EPBD. The guidance aims to clarify the provisions of the Directive and to facilitate a more uniform and coherent application. It is addressed to the Member States and other relevant stakeholders.

3. IMPLEMENTING THE LEGAL PROVISIONS

This section clarifies the definition of the terms used in Article 12 of the recast EPBD and provides guidance on the interpretation and implementation of that Article and of Annex VIII.

3.1. Summary of the legal provisions

Article 12 requires Member States to introduce a renovation passport scheme and sets out the main provisions for implementing the scheme, including requirements on the content of renovation passports. Unless Member States decide otherwise, such a scheme is voluntary for building owners.

3.2. Definitions relevant to Article 12 and Annex VIII to the recast EPBD

The EPBD defines '**renovation passport**' in Article 2(19) as 'a tailored roadmap for the deep renovation of a specific building in a maximum number of steps that will significantly improve its energy performance'.

The roadmap is tailored both to the building needs, in terms of improving its energy performance through deep renovation, and to the building owner's needs. Renovation passports should target deep renovation – the ultimate goal of the renovation journey and therefore of the tailored roadmap is to transform the building into a nearly zero-energy building (before 1 January 2030) or a zero-emission building (after that date).

¹ [Directive \(EU\) 2024/1275](#).

The term ‘**deep renovation**’ is defined in Article 2(20) as ‘a renovation which is in line with the ‘energy efficiency first’ principle, which focuses on essential building elements and which transforms a building or building unit:

- (a) before 1 January 2030, into a nearly zero-energy building;
- (b) from 1 January 2030, into a zero-emission building.’

Article 2(2) defines ‘**zero-emission building**’ (ZEB) as a building with a very high energy performance, as determined in accordance with Annex I², requiring zero or a very low amount of energy, producing zero on-site carbon emissions from fossil fuels and producing zero or a very low amount of operational greenhouse gas emissions, in accordance with Article 11³;

Article 2(3) defines a ‘**nearly zero-energy building**’ (nZEB) as a building with a very high energy performance, as determined in accordance with Annex I, which is no worse than the 2023 cost-optimal level reported by Member States pursuant to Article 6(2) and where the nearly zero or very low amount of energy required is covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or energy from renewable sources produced nearby.

According to Article 11(4), when laying down the maximum energy demand threshold for zero-emission buildings, Member States may set an adjusted threshold for renovated buildings. As regards nearly zero-energy buildings, several Member States have established different thresholds for new and renovated buildings⁴.

Other relevant definitions of relevance for this guidance include energy performance, building unit and building element, as defined in Article 2(8), 2(16) and 2(17) respectively.

3.3. Interpretation and implementation of Article 12 of the recast EPBD

3.3.1. Introduction of renovation passport schemes

Paragraph 1 of Article 12 sets out the requirement for Member States to introduce renovation passport schemes:

- (1) By 29 May 2026, Member States shall introduce a scheme for renovation passports based on the common framework set out in Annex VIII.

The provision requires Member States to have in place, by 29 May 2026, a scheme which allows owners of buildings and/or building units to obtain a renovation passport.

This requirement applies to the entire national building stock in each Member State, regardless of region or geographical area. All residential and non-residential buildings and building units are to come under the scope of renovation passport schemes.

Article 12(1) does not further specify the arrangements for establishing and implementing the renovation passport scheme. Member States remain responsible for setting up the scheme and

² Annex I is the common general framework for the calculation of the energy performance of buildings.

³ Article 11 clarifies the requirements that apply to zero-emission buildings.

⁴ A recent JRC study found all EU countries have an established definition for new NZEBs, while for existing buildings, 15 countries have a distinct definition, and 12 apply the same definition as for new buildings. In some cases, although the NZEB renovation is defined, there is no energy indicator requirement. Two countries do not have a legal definition for NZEB renovations.

Maduta, C., D’Agostino, D., Tsemekidi-Tzeinaraki, S. and Castellazzi, L., From Nearly Zero-Energy Buildings (NZEBs) to Zero-Emission Buildings (ZEBs): Current status and future perspectives, ENERGY AND BUILDINGS, 328, 2025, p. 115133, ELSEVIER SCIENCE SA, <https://data.europa.eu/doi/10.1016/j.enbuild.2024.115133>, JRC139203. Also available at: <https://publications.jrc.ec.europa.eu/repository/handle/JRC139203>.

making it available. They may decide to operate the scheme directly or to delegate it to one or more private or public entities.

Examples from Member States show that different set-ups can be used for an effective implementation of renovation passport or similar schemes. For instance, Electric Ireland Superhomes is a renovation one-stop shop established as a joint venture between Tipperary Energy Agency's Superhomes and Electric Ireland, an Irish utility company. Electric Ireland Superhomes offers a 'whole house retrofit service', which results in a home energy renovation plan.

A 'renovation passport' may have different names in different Member States, as long as the EPBD requirements are complied with. Examples of alternative names include 'energy renovation roadmap', 'energy renovation guide' or 'energy renovation compass'.

Regardless of the arrangements for implementing the scheme (e.g. national scheme, delegation of the operation, implementation at regional level), Member States are encouraged to ensure it is implemented consistently across their territories. For instance, to ensure equal access to the scheme across the national territory, the costs for issuing a renovation passport for buildings or building units with similar characteristics should not vary significantly depending on the location of the building.

Finally, renovation passports must be introduced for both entire buildings and building units. A 'building unit', as defined in Article 2(16), is 'a section, floor or apartment within a building which is designed or altered to be used separately'. For instance, owners of a non-residential section of a building (e.g. retail or offices) or owners of an apartment must be able to request a renovation passport individually.

The Commission recognises that a deep renovation, defined in Article 2 as leading to ZEB level, may not be possible for certain buildings for technical or economic feasibility reasons. For that narrow category of buildings, Member States can still issue a renovation passport setting out the renovation steps that would result in at least a 60% reduction in primary energy use⁵ so that the building can still benefit from a renovation passport. Member States have flexibility to differentiate the approaches for preparing and issuing a renovation passport depending on the type of building and building unit addressed. The arrangements for addressing the residential and non-residential sectors (and categories therein, for instance offices or hotels and restaurants)⁶ may differ in some respects. Some aspects of renovation passports may differ when addressing whole buildings or building units. For building units, certain renovation measures may be relevant mainly at building level (e.g. in relation to improving the energy performance of the envelope) and may require coordinated decision-making between the owners of the units making up the building. Because a renovation passport will often affect elements of common ownership (typically the building envelope) that require a collective agreement of co-owners, Member States should consider indicating which measures are likely to be subject to such a collective agreement.

Having separate types of renovation passport for residential and non-residential buildings may be beneficial given that financial support schemes for building renovation and methods for determining energy performance can vary between residential and non-residential buildings. Similarly, the best renovation steps to take and the order in which to take them may be influenced by different building typologies, possibly involving various ownership types and tenure statuses, and by the building owner's needs.

⁵ Based on the rationale of Article 17(16)

⁶ Annex I paragraph 6 provides a list of categories of buildings, which can be used as a reference.

Member States may also consider treating different segments of the building stock differently according to energy performance. For instance, it may be particularly relevant to encourage renovation passports to be issued for buildings subject to minimum energy performance standards (MEPS). This could encourage the building owner to consider a deeper renovation than the one necessary to comply with the MEPS.

3.3.2. *Content of renovation passports*

The first paragraph of Article 12 requires that renovation passports issued in Member States under the Directive comply with a common framework.

This common framework is set out in Annex VIII to the recast EPBD, which comprises four sections:

1. a list of the elements that renovation passports must include (**mandatory elements**), for instance a graphical representation or graphical representations of the renovation roadmap and its steps for a staged deep renovation;
2. a list of the elements that renovation passports may include (**optional elements**), for instance information on how to access a digital version of the renovation passport;
3. the requirement to consider **the information contained in the energy performance certificate** of the building or building unit for which a renovation passport is issued, where possible, in order to assess the status of the building or building unit prior to renovation;
4. the requirement to rely on a set of **standard conditions** for the metrics used for estimating the impact of renovation steps.

Clarifications on those four sections are made in Section 3.4 of this guidance.

3.3.3. *Access of building owners and building unit owners to renovation passport schemes, including affordability*

Article 12(2) clarifies that renovation schemes are voluntary for the owners of buildings and building units. Owners must have the possibility to receive a renovation passport for their building or building unit on request. Article 12(2) provides that Member States are to take measures to make renovation passports affordable and are to consider providing financial support for vulnerable households.

Article 12 allows Member States to make renovation passports mandatory. If Member States decide to do this, the passports may be made mandatory for the whole building stock and all owners, or for specific segments of the building stock. Member States have discretion on the parameters that make the renovation passport mandatory: for instance, making renovation passports mandatory only for individual houses, only for the least efficient buildings or building units, only at specific points of the building life-cycle (e.g. ‘trigger points’⁷), or depending on ownership (private or public).

Regardless of whether the scheme is made mandatory or voluntary, Member States are required to implement measures that ensure the affordability of renovation passports. Such measures may aim to:

- (1) decrease the costs for producing the renovation passport, e.g. by linking renovation passports to existing schemes, such as energy performance certification, by providing

⁷ As defined in Commission Recommendation (EU) 2019/786 of 8 May 2019 on building renovation.

digital support tools⁸, or by aggregating demand for renovation passports (typically in the scope of large-scale renovation projects, e.g. at district level), in order to achieve economies of scale and reduce the costs of individual renovation passports; and/or

- (2) decrease the costs for obtaining a renovation passport, e.g. by fully or partially covering the cost of a renovation passport for owners through dedicated subsidies.

The need to ensure the affordability of renovation passports applies in particular to vulnerable households⁹. In that regard, Article 12 requires Member States to consider providing financial support to this category of household for renovations.

Member States will have to consider providing financial support to vulnerable households wishing to renovate their buildings. The financial support for vulnerable households mentioned in Article 12 refers to the renovation passports themselves. Subsidies to cover the renovation passport costs in full or in part are the most relevant for that category of household, especially for energy-poor owners.

Besides the affordability of renovation passports, it is also worth considering coupling renovation passport schemes with financial support for renovation measures, in particular for households and owners of non-residential buildings that would not normally be able to afford the related costs. One idea could be to couple renovation passport schemes with renovation support measures already in place, while also strengthening financial, technical and administrative support for vulnerable households and building owners in general. This could make it more likely for owners to implement the renovation measures based on the renovation passport.

For instance, the energy performance certification framework in Flanders (BE), which includes a building renovation roadmap element for residential and small non-residential buildings, is backed by financial support mechanisms to incentivise building renovation, including dedicated initiatives targeting vulnerable households.

3.3.4. *Coupling of renovation passport schemes with energy performance certification*

Article 12(3) emphasises the possibility for Member States to allow, where relevant, targeted coupling between renovation passport schemes and energy performance certificate (EPC) schemes.

3. Member States may allow for the renovation passport to be drawn up and issued jointly with the energy performance certificate.

Such a coupling can be beneficial in some situations, in particular:

- It decreases the cost of drawing up and issuing a renovation passport because part of the collection and processing of information for the energy performance certification (e.g. assessment of current energy performance) is also relevant for renovation passports. Where energy performance certification requires an on-site visit, the feedback from that visit would be used for both the EPC and the renovation passport.
- It allows renovation passport schemes to rely on some of the elements of the framework in place for EPCs: e.g. the recommendations of renovation measures that

⁸ See the example of as seen of the Woningpas in Flanders (BE), <https://woningpas.vlaanderen.be/>.

⁹ Article 2(28) of the recast EPBD defines ‘vulnerable households’ as households in energy poverty or households, including lower middle-income households, that are particularly exposed to high energy costs and that lack the means to renovate the building that they occupy.

are also part of the EPC, the community of EPC assessors, accreditation schemes, assessment tools, data management infrastructure, etc.

However, where Member States decide to couple the schemes, they should carefully consider the following issues:

- Renovation passports and EPCs serve different purposes. A renovation passport offers a tailored roadmap for building renovation that serves to help owners and investors plan the best timing and scope for measures to take. The roadmap should therefore be tailored not only to the specific building, but also to the building owners' preferences, planning and financial situation.
- It is not always appropriate to issue a renovation passport at the same time as an EPC. For instance, in the context of a sale of a building, the EPC would be issued before the sale was advertised, while it would be more effective to issue the renovation passport after the sale was completed and considering the new owner's preferences and financial situation.
- While nothing prevents any valid and relevant EPC information being used to draw up a renovation passport, the audit for a renovation passport is typically more extensive than for an EPC and the exchange between the assessor and the owner is also more detailed. Thus, any past on-site visit for an existing EPC may not comply with the requirement to have an on-site visit for renovation passports.
- EPC assessors may not have the skills to draw up and issue a renovation passport. Additional training, accreditation or certification could be needed.
- The infrastructure for EPC schemes (digital tools for assessment of energy performance, collection, management and storage of EPC data, etc.) would have to be adapted in order to be fully effective for renovation passports.

On top of these considerations, Member States must take note of the requirement set out in Article 19(6):

6. Where Member States provide for a renovation passport to be drawn up and issued jointly with the energy performance certificate pursuant to Article 12(3), the renovation passport shall substitute the recommendations pursuant to paragraph 5 of this Article.

Compliance with this requirement can be ensured in different ways, for instance by including a relevant part of the building renovation passport in a substitution. An example would be the graphical representation of the roadmap and/or the concise description of the renovation steps – as required for renovation passports – together with a reference or link (e.g. QR code) to the full renovation passport.

3.3.5. *Requirements applying to arrangements for issuing renovation passports*

Article 12(4) and (5) clarify the requirements that apply to the issuing of renovation passports:

4. The renovation passport shall be issued in a digital format suitable for printing, by a qualified or certified expert, following an on-site visit.
5. When the renovation passport is issued, a discussion with the expert referred to in paragraph 4 shall be suggested to the building owner to allow the expert to explain the best steps by which to transform the building into a zero-emission building well before 2050.

On-site visit

The expert in charge of drawing up and issuing the renovation passport must make an on-site visit prior to issuing the renovation passport. The scope of the on-site visit is not further specified in Article 12, but in line with current practice, it could include:

- An assessment and visual check of the building or building unit and building elements, i.e. elements of the building envelope and technical building systems. This assessment can vary in terms of depth – it can be as elaborate as an energy audit, with on-site performance measurements and energy simulations, or it can be a more simplified check where the expert inspects the building and consults relevant documents.
- A discussion with the building owner, to better understand the specific needs and constraints applying to the renovation, in particular when it comes to renovation measures and financing. This input allows the expert to tailor the renovation passport to the owner's situation. While the roadmap in the renovation passport should be relevant regardless of the owner (e.g. when it comes to the sequencing of measures), in most cases the owner who requests the renovation passport will also be the one implementing the renovation measures. Taking into consideration the needs and situation of the owner ensures agreement with the suggestions in the renovation passport and their future implementation.

Member States are also encouraged to ensure that the on-site visits for issuing renovation passports are well-scoped and supported by appropriate guidance and material (e.g. assessment checklists). The material should provide a consistent framework for the collection of relevant data.

The requirement is to have at least one on-site visit before the renovation passport is issued. However, when laying down the detailed arrangements for drawing up and issuing renovation passports, Member States may decide to require additional visits, e.g. a Member State may decide to introduce mandatory updates to the passport after renovation measures have been carried out.

In accordance with Article 12(5), a discussion with the expert must be suggested to the building owner. This exchange must be proposed when the renovation passport is issued, once the expert has completed the assessment and drawn up an optimal renovation roadmap, in order to provide feedback and advise the owner on the first steps to take. This exchange is also an opportunity to discuss the steps towards transforming the building into a zero-emission building. This discussion between the building owner and the expert should help ensure that the owner embarks on a renovation with a clear understanding of the expert's conclusions and options for the steps to take.

Qualification or certification of experts

Article 12(4) requires the experts in charge of issuing renovation passports to be qualified or certified.

This requirement is also laid down in Article 25(1), which states that for the schemes under the recast EPBD (EPCs, renovation passports, smart readiness indicator, and inspection of heating, cooling and ventilation systems), assessments must be carried out in an independent manner by qualified or certified experts, who may operate in a self-employed capacity or be employed by public bodies or private companies.

In relation to the qualification or certification of experts under Article 12, further requirements from Article 25 must be complied with:

- According to Article 25(1), experts for the schemes must be certified in accordance with Article 28 of the Energy Efficiency Directive¹⁰, which provides an EU framework for qualification, accreditation and certification schemes for energy efficiency-related professions.
- According to Article 25(2), information on training and certification relevant to the schemes, and up-to-date lists of qualified or certified experts (or companies) must be made publicly available.

These requirements on accreditation and certification and on making the relevant information publicly available, already apply to schemes implemented under the repealed EPBD (Directive 2010/31/EU) – for instance, energy performance certification schemes and inspection of heating, ventilation and air-conditioning (HVAC) systems. Member States are encouraged to rely on, adapt and/or expand the arrangements already in place for EPC and inspection schemes in order to make them fit for renovation passport schemes. For instance:

- the prerequisites that apply to the qualifications of EPC and/or HVAC inspection experts (e.g., certification requirements), are at least partly relevant for renovation passport schemes.
- training and accreditation programmes for EPC and/or HVAC inspection experts can be used as a basis for similar programmes for renovation passport experts.
- the channels used to make public the information pertaining to training, certification, and qualified or certified experts for EPC and/or HVAC inspection schemes can also be used to make similar information available in relation to renovation passport schemes.

Format of renovation passports

Article 12(4) requires that renovation passports be issued in a digital format suitable for printing.

It is commonplace to provide any certificate or report in a digital format that allows for printing (e.g. PDF). It is recommended that the tools used by the renovation passport experts to issue the renovation passports allow them not only to generate a printable version of the passport, but also a machine-readable one. This would facilitate compliance with Article 12(7) which requires Member States to ensure that the renovation passport can be uploaded to the national energy performance of buildings database.

3.3.6. Digital tools for drawing up, updating and simulating renovation passports

Article 12(6) highlights the importance of providing digital tools that support the preparation (and, where applicable, updating) of renovation passports, as well as the simulation of draft simplified renovation passports:

6. Member States shall strive to provide a dedicated digital tool by means of which to prepare and, where appropriate, update the renovation passport. Member States may develop a complementary tool allowing building owners and building managers to simulate a draft simplified renovation passport and for them to update it once a renovation takes place or a building element is replaced.

¹⁰ [Directive EU 2023/1791](#).

Using digital tools is common practice among buildings experts (e.g. for energy performance assessments) as they make the assessment faster, more interactive and more reliable, by providing data entry, processing and calculation functionalities.

Article 12(6) requires Member States to demonstrate that they have made all reasonable efforts to make available a dedicated digital tool for use by qualified or certified experts to draw up and issue renovation passports. Such a tool can be an extremely effective way to ensure that the requirement to establish and operate a renovation passport scheme is met.

Making available a common tool that is endorsed by the national (or where relevant, regional) authorities is very useful because:

- it ensures the consistency and reliability of the information provided to owners (e.g. for the estimated impacts of renovation steps);
- it guarantees fair access, under uniform conditions, to a reference tool, and makes the preparation of the renovation passports easier for all experts in the territory concerned;
- it makes it easier for the authorities to ensure that the renovation passport is affordable throughout the national territory;
- it allows the authorities to ensure, through the design of the tool, that there is seamless integration with other digital tools (e.g. databases for the energy performance of buildings or digital building logbooks).

Member States need to assess the state of play in the light of these aspects and establish that the right conditions are met. If this is not the case, they should take appropriate measures (e.g. if the offer of such a tool is insufficient, or if the available tools do not enable the passports to be prepared and issued effectively). Whether the use of the renovation passport is voluntary or mandatory is also a relevant aspect of the assessment.

The specific arrangements for designing, developing and making available the digital tool are not specified in the Directive and are to be decided by Member States. One approach may be to delegate the development, maintenance and distribution of the tool to a third party, either public or private. In all cases, Member States are encouraged to involve building and energy efficiency experts in the development of the tool (e.g. through consultations), to ensure its comprehensiveness, ease of use, acceptance and endorsement.

The expected functionalities of the digital tool are not specified in the recast EPBD. However, a reasonable expectation is that the tool would assist the energy expert in two main domains: calculating the energy performance of the building, and developing the roadmap (including the renovation steps and measures), by incorporating the mandatory parameters according to Annex VIII(1) and on the basis of a set of standard conditions (Annex VIII(4)). Other relevant features could include the calculation of estimated renovation costs, co-benefits and/or automatic warnings of possible lock-in effects in consecutive measures.

Article 12(6) refers to two types of tool:

1. a digital tool for the preparation (and, where relevant, updating) of a renovation passport, as discussed above. This tool is implicitly meant to be used by the qualified or certified experts referred to in Article 12(4), and this is the one to which the previous comments apply.
2. an optional ‘complementary tool’, which could be used by building owners and managers on their own initiative to prepare a simplified renovation passport, for their own use.

Only the digital tool referred to in point 1 above is to be used by qualified or certified experts to prepare and generate fully fledged renovation passports.

If the Member State opts for the ‘complementary tool’ referred to in the second sentence of Article 12(6), this tool can be made more broadly available (e.g. in the form of an open online tool) to perform simplified simulations of renovation measures and roadmaps; it cannot lead to issuing an official renovation passport. Such a tool should also account for the lack of expertise of the building owners, which calls for user-friendly and straightforward interfaces, supported by a well-structured process (e.g., in the form of a step-by-step, simplified, questionnaire).

3.3.7. *Upload of renovation passports to energy performance databases*

Article 12(7) requires Member States to ensure that renovation passports can be uploaded to their energy performance databases set up in line with Article 22.

Article 22 requires Member States to set up an energy performance database to collect, store, and make available data on the national building stock and its overall energy performance. This includes buildings data collected under schemes implemented under the recast EPBD (EPCs, HVAC systems inspections, smart readiness indicator, etc.) is of relevance. It also applies to renovation passports, which include information on buildings that is useful from a policy monitoring perspective, all the more so if they are updated following the works. Specific guidance on the national database is provided in the guidance on Article 22 ‘National databases for the energy performance of buildings’.

Article 12(7) requires Member States to ensure that the information contained in renovation passports can be uploaded to the national energy performance database. Such uploads are useful only if the renovation passport information is formatted in a way that allows:

- seamless integration in the database;
- queries to extract meaningful, aggregated data.

The easiest approach to achieve this is to ensure that renovation passports can be uploaded in a machine-readable, standard format (e.g. XML) that is the same across the territory of application of the renovation passport. Member States are therefore encouraged, also in relation to Article 12(4) and 12(6), to ensure that the digital tools used to draw up and issue renovation passports can generate a machine-readable version. It must also be possible to upload the file generated to the energy performance database upon issuance of the renovation passport.

3.3.8. *Storage of, and access to, renovation passports in digital building logbooks*

Article 12(8) sets out the requirement for renovation passports to be stored in, or accessible through, digital logbooks (where they are available).

Digital building logbooks are not regulated under the EPBD and there is no requirement for Member States to deploy them for their building stock¹¹. Digital building logbooks are likely to include more data than just that to be stored in the national database and would not in all cases store the information when that information is available elsewhere. The logbook could simply allow resources to be downloaded from other databases and repositories e.g. for certificates or reports that are stored in the national energy performance database.

¹¹ Digital logbooks are implemented in some countries and regions, for instance the Woningpas in Belgium (Flanders), <https://www.vlaanderen.be/bouwen-wonen-en-energie/bouwen-en-verbouwen/woningpas>.

The European Commission conducted a study on the development of a European Union framework for buildings' digital logbook in 2020 which aims to support the widespread use of DBLs across Europe. The study provides a definition of the digital building logbook and an analysis of the state of play .

In addition, a technical study for the implementation of Digital Building Logbooks in the EU on behalf of the European Commission (DG GROW) was published in November 2023. The main outcome of the study was a set of guidelines for EU Member States to set up and operationalise DBLs under a common EU Framework.

Digital building logbooks¹² are tools intended to act as a main repository of all relevant building-related information, facilitating transparency, trust, informed decision-making and information sharing between all parties linked to a building.

The requirement laid down in Article 12(8) only applies when a digital building logbook is available for the building in question. In such case, the renovation passport must:

- either be stored (in a digital printable format, but if relevant, also in machine-readable format) in the digital building logbook; or
- if the renovation passport is not stored in the digital logbook, it must be made accessible through the digital logbook (for instance, through a clearly identified URL).

3.4. Interpretation and implementation of the provisions laid down in Annex VIII to the recast EPBD

3.4.1. Mandatory elements

Annex VIII(1) lists the items that must be included in building renovation passports issued under the EPBD.

3.4.1.1. Information on the current energy performance of the building

Annex VIII(1)(a) requires that the renovation passport includes information on the current energy performance of the building.

Information on the current energy performance of the building should be interpreted as including at least the energy performance of the building expressed by a numeric indicator of primary energy use per unit of reference floor area per year, in kWh/(m².y), in line with Annex I to the EPBD.

The energy performance should accurately reflect the current state of the building. This means that it should be calculated on the basis of the building at present, and not based on past calculations or assessments.

A reasonable expectation is that information on the energy performance of the building includes more details than only the primary energy use per unit. Having more detailed information (e.g. energy performance of individual building elements) can be useful, for instance for recalculating the energy performance at a later date (e.g. after some renovations have been carried out).

¹² Article 2(41) of the recast EPBD defines a 'digital building logbook' as a common repository for all relevant building data, including data related to energy performance such as energy performance certificates, renovation passports and smart readiness indicators, as well as data related to the life-cycle GWP, which facilitates informed decision making and information sharing within the construction sector, and among building owners and occupants, financial institutions and public bodies.

Member States should make clear what elements are to be included, and whether they are mandatory or optional. In doing so, Member States may find it beneficial to seek a degree of alignment with the mandatory and optional elements in energy performance certificates (Annex V(1) and Annex V(2) respectively). This applies in all cases, but most notably where energy performance certificates and renovation passports are issued jointly.

3.4.1.2. Graphical representation

Annex VIII(1)(b) requires that renovation passports include a graphical representation or graphical representations of the renovation roadmap and its steps for a staged deep renovation.

The objective of this requirement is to ensure that building owners get a clear and concise picture of the renovation process, with key information on related steps. The EPBD does not further specify the contents of the roadmap's graphical representation(s). Based on current practices, the following elements are relevant to include:

- the baseline energy performance (i.e. the energy performance of the building as it stands, which is the starting point of the roadmap);
- the long-term target energy performance (i.e. the ultimate objective of the roadmap once a deep renovation has been completed);
- the renovation steps, with related key information, e.g. list of renovation measures, estimated costs, estimated energy savings or energy performance class gains;
- additional information to address specific needs or concerns of the owner, such as estimated gains in terms of indoor environmental quality.

Member States should make clear what elements are to be included in the graphical representation(s), and whether they are mandatory or optional. Member States should also lay down requirements or guidelines on the design of the graphical representation(s), with due consideration for user-friendliness and conciseness.

The German ‘individueller Sanierungsfahrplan’ (iSFP) includes a one-page overview of the entire renovation process, using a colour gradient to indicate the gradual improvement of the building ¹³:



3.4.1.3. Information on relevant national requirements

Annex VIII(1)(c) requires that renovation passports include information on relevant national requirements such as minimum energy performance requirements for buildings, minimum energy performance standards and rules in the Member State on the phasing out of fossil fuels used in buildings for heating and cooling, including application dates.

The aim of this requirement is to provide background information that clarifies the consistency between the renovation roadmap for the building in question and the present and future legal requirements that the building needs to comply with. Information on national requirements can help to determine the optimal sequencing and timing of the renovation steps.

The information provided is expected to cover the main requirements that apply under the EPBD, which are given as examples: minimum energy performance requirements, minimum energy performance standards and measures on the phasing out of fossil fuels in heating and cooling. The information provided should be relevant to the specific building for which a renovation passport is issued, given that the requirements may vary depending on factors such as whether it is a residential or non-residential building, or the building category.

As the renovation passport's objective is to convey information in a user-friendly manner, the information about such requirements should be clear, transparent and concise. One possible approach is to display the legal obligations the building must meet at present, and those it will have to meet in the future, on a timeline¹⁴.

¹³ https://www.bmwk.de/Redaktion/DE/Downloads/S-T/sanierungsfahrplan-muster.pdf?__blob=publicationFile&v=6.

¹⁴ This is the approach followed in the digital tool developed by the iRoad2EPC project (see <https://ibroad2epc.eu/portfolio-items/training-toolkit/>).

3.4.1.4. Explanation on the optimal sequencing of steps

Annex VIII(1)(d) requires that renovation passports include a succinct explanation on the optimal sequencing of renovation steps.

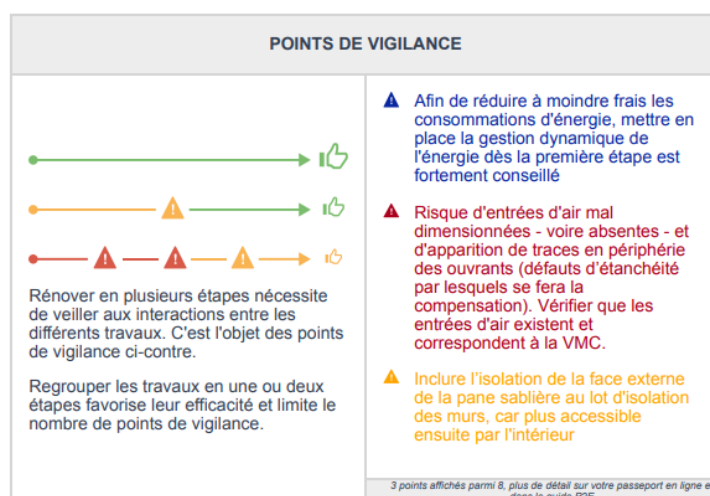
Sequencing of renovation steps (i.e. the order in which each renovation step will be performed) is an important aspect of renovation passports. It enables interactions between different works to be considered the sequence of works to be optimized and duplication to be avoided or at least limited. Overall, the aim is to ensure that each renovation step complements the others under the assumption that the bundling of renovation measures in each of the renovation steps creates synergies between renovation measures.

As set out in Recital 42, with an optimal sequencing of steps:

- the renovation can be less disruptive – reducing hassle for inhabitants - and more financially feasible (compared to renovating ‘in one go’);
- a situation is avoided where one step precludes necessary subsequent steps.

Usually, the roadmap and its graphical representation(s) as per Annex VIII(1)(b) would already display the optimal sequencing of renovation steps. The requirement of Annex VIII(1)(d) aims to ensure that the rationale for this sequencing is made clear to the owner. As for the previous point, this rationale should be clear, transparent and concise, flagging the main considerations that governed the definition of the sequencing.

For instance, the roadmap of the P2E project (France) specifically highlighted ‘points of vigilance’, drawing attention to the interactions between different works to optimise the sequence and limit duplication. The rationale for staging renovations in this way, as well as brief guidance on ensuring effective staging, was covered via these points of vigilance related to the sequencing of steps.



3.4.1.5. Information about each step

Annex VIII(1)(e) requires that renovation passports include information about each renovation step. This information must include:

- the name and description of the renovation measures for the step, including relevant options for the technologies, techniques and materials to be used.*

To ensure consistency between the building renovation passports delivered in a given territory, it is recommended that the names used for renovation measures are harmonised (at least the most common) and not left entirely to the assessors. Examples of such measures include:

- replacement of windows;
- installation of thermal insulation on the façade;
- replacement or first-time installation of a space heat generator;
- replacement or first-time installation of a mechanical ventilation system;
- installation of a photovoltaic system;
- installation of self-regulating devices for the regulation of indoor air temperature.

Technologies can be understood as including the devices or systems that are used to perform functions while also improving the energy performance of buildings (e.g. heat pumps, building automation and control systems and solar panels).

Techniques can be understood as approaches or methods to improve the building's performance (e.g. window orientation to maximise programming of HVAC systems). Materials can be understood as components used in the retrofitting of a building, for example insulation materials and triple-glazed windows.

- (ii) *the estimated energy savings in primary and final energy consumption, in kWh and in percentage improvement compared to the energy consumption prior to the step:*

Member States are encouraged to ensure that information in renovation passports pertaining to energy consumption and savings is consistent with the estimations that would be made for an energy performance certificate for the same building. This is because renovation passports must also include the estimated energy performance class of the EPC to be achieved following completion of the steps (point (v)). This could be achieved by aligning the methodologies for energy performance calculation in renovation passports and in EPCs.

- (iii) *the estimated reduction of operational greenhouse gas emissions*

In the same way as for the estimation of energy consumption and savings, consistency is recommended with the greenhouse gas emission reductions as they would be estimated for EPCs. Once the primary energy consumption per energy carrier is available based on PEFs or weighting factors, the translation to CO₂ emissions can be done in a similar way, namely based on CO₂ emission coefficients per energy carrier.

- (iv) *the estimated savings on the energy bill, clearly indicating the assumptions on energy costs used for the calculation*

In line with the previous points, it is recommended that the methodology used to estimate the improvements of energy performance and related energy cost savings be aligned with the energy performance methodology established at national level on the basis of Annex I. The same applies to the methodology used to calculate costs and savings of the measures included in the recommendations on the energy performance certificates.

The savings on the energy bill can be based on the estimated energy savings for each step according to Annex VIII(1)(e)(ii) (final energy consumption in kWh) compared to the energy consumption prior to each step, multiplied by the assumed energy price of the different energy carriers (price per kWh).

- (v) *the estimated energy performance class of the energy performance certificate to be achieved following completion of the step*

The energy performance class resulting from a given renovation step can be deduced from the estimated primary energy savings (point (ii)) under the assumption that estimations of energy consumption and savings in the renovation passports are consistent with the same estimations in an EPC.

3.4.1.6. Information about a potential connection to an efficient district heating and cooling system

Annex VIII(1)(f) requires that renovation passports include information about a potential connection to an efficient district heating and cooling system.

Connection to an efficient heating or cooling system, as per Article 26(1) of the Energy Efficiency Directive, can be important in the scope of renovation passports. Efficient district heating or cooling systems can be used to cover the energy needs of zero-emission buildings, and energy from renewable sources produced nearby (as defined in Article 2(55) of the recast EPBD) are a permitted energy source for nearly zero-energy buildings.

The renovation passport should inform the owner: (i) whether an efficient district heating or cooling system exists or will be operational soon in the vicinity of the building; (ii) if so, whether it would be beneficial to consider a connection to that system – including, where relevant, as part of the renovation roadmap.

This information could include:

- information on whether an efficient district heating or cooling system exists or will be operational in the near future in the vicinity of the building.
- relevant information on the district heating or cooling plant (e.g. the type – cogeneration, heat pump, geothermal, etc.)
- information on the process for requesting a connection and related connection costs.
- information on the necessary technical set-up in the building to be able to make use of this network, and related estimation of costs.
- a cost-benefit analysis regarding a potential connection.

3.4.1.7. Estimated share of individual or collective generation and self-consumption of renewable energy

Annex VIII(1)(g) requires that renovation passports include the share of individual or collective generation and self-consumption of renewable energy estimated to be achieved after the renovation.

This is a requirement to include in renovation passports an estimate of the renewable energy produced on-site, i.e. in or on a particular building or on the land on which that building is located, as a percentage of energy use – the same way as for EPCs (see point 1(d) of Annex V). An estimate of the percentage of that renewable energy consumed on-site out of the renewable energy produced on-site is to be included. The distinction between individual or collective generation refers to whether the renewable energy sources are only linked to a given building or building unit, or whether they are shared. For example, the renovation passport could be for an apartment in a building that is equipped with collective renewable energy sources.

As previously, it is recommended that such estimations in renovation passports be aligned to the extent possible with similar estimations under EPCs.

3.4.1.8. Information about circularity, whole-life-cycle emissions and wider benefits

Annex VIII(1)(h) requires that renovation passports include general information on available options for improving construction products' circularity and for reducing their whole-life-cycle greenhouse gas emissions, as well as wider benefits related to health and comfort, indoor environmental quality and the improved adaptive capacity of the building to climate change.

The circularity aspect emphasises the importance of extending the lifespan of materials through practices such as reuse, recycling and efficient resource management, thereby minimising waste and conserving resources. It is recommended that renovation passports encourage the use of construction products that reduce environmental impact while enhancing the longevity and resilience of building components (e.g. bio-based durable components). Providing information on such products, in line with the renovation measures set out in the roadmap, will allow for well-informed investment decisions. On top of the explanation on the products themselves, it could also be considered to refer to construction design so that these products' lifecycle performance or the lifecycle of the building overall following the renovation can be optimised¹⁵.

Wider benefits refer to benefits from renovation that go beyond energy aspects. It is well acknowledged that energy renovation comes with additional benefits, for instance in terms of comfort and well-being. Highlighting what wider benefits will result from the renovation measures in the roadmap can be an additional incentive to make the necessary investments. For example, air sealing solutions reduce the entry of air pollutants, and insulation improves thermal comfort and reduces noise transmission¹⁶. Another example could be asbestos removal, which in some Member States is coordinated with the installation of solar panels on rooftops¹⁷.

For this section, 'Level(s)' (the European framework for sustainable buildings) can be a useful reference¹⁸.

3.4.1.9. Information on available funding

Annex VIII(1)(i) requires that renovation passports include information on available funding and links to the relevant websites indicating the sources of such funding.

It is recommended that this information be tailored to the specific building for which the renovation passport is issued (e.g. funding sources might differ depending on the type of building and location), and where possible to the specific renovation measures to be implemented as part of the roadmap. As an example, the German 'individueller Sanierungsfahrplan' (iSFP) includes funding opportunities as one of the elements described for each step in the roadmap.

The renovation passport should include all relevant information that would allow the owner to request funding (typically, the links to the websites where detailed information can be found, and where the application for funding should be made).

3.4.1.10. Information on technical advice and advisory services

Annex VIII(1)(j) requires that renovation passports include information on technical advice and advisory services, including contact details and links to the websites of one-stop shops.

¹⁵ As an example, certain techniques allow for the materials to be disassembled and reused or recycled, or for the building's spaces and functions to be adapted more easily (e.g. using mechanical fasteners instead of adhesives).

¹⁶ Dorizas Paraskevi Vivian, De Groote Maarten, Volt Jonathan. The inner value of a building. Linking indoor environmental quality and energy performance in building regulation, BPiE, October 2018.

¹⁷ Maduta C., Kakoulaki G., Zangheri P., Bavetta M., Towards energy efficient and asbestos-free dwellings through deep energy renovation, EUR 31086 EN, Publications Office of the European Union, Luxembourg, 2022, doi:10.2760/00828, JRC129218. Available at: [JRC Publications Repository - Towards energy efficient and asbestos-free dwellings through deep energy renovation](https://publications.jrc.ec.europa.eu/publication/?id=JRC129218).

¹⁸ https://environment.ec.europa.eu/topics/circular-economy/levels_en.

In the same way as for the previous item, it is recommended that this information be tailored to the specific building for which the renovation passport is issued (for instance, local/regional services for the relevant location), and where possible to the specific renovation measures to be implemented as part of the roadmap.

The renovation passport should include all relevant information that would allow the owner to liaise with the relevant services (contact details, links to relevant online resources, etc.)

3.4.2. Optional elements

Annex VIII(2) lists additional items that may be included in building renovation passports issued under the EPBD.

A technical report for setting up national schemes of building renovation passports will provide additional examples of existing practice from Member States and EU-funded projects and will address this set of optional items.

3.4.3. Information contained in the energy performance certificate

Annex VIII(3) emphasises the requirement to use a valid energy performance certificate, where available, to assess the status of the building or building unit at the start of the renovation journey. This applies specifically to the first mandatory item in renovation passports – information on the current energy performance of the building – but would extend to any information from energy performance certificates that is of relevance when drawing up a renovation passport.

The requirement to ‘consider’ the information from the energy performance certificate leaves flexibility to Member States. In particular, the provisions do not require the information in the renovation passport to be aligned with that in the energy performance certificate. The preparation of a renovation passport generally includes an audit of the building or building unit, which could lead to conclusions on the status of the building or building unit, e.g. in terms of its performance, that differ from the ones found in the energy performance certificate. In such cases, and if the audit’s conclusions are verified and confirmed, it would be acceptable to use the latter as a reference instead of the information from the energy performance certificate.

The spirit of the requirement is to emphasise that the information from energy performance certificates, where available and valid, should be considered and taken into account when drawing up renovation passports.

Section 5 of the Energy Performance Certificates and Independent Control Systems provides clarifications on the validity of an energy performance certificate.

3.4.4. Standard conditions

Annex VIII(4) provides that each metric used for estimating the impact of steps is to be based on a set of standard conditions.

In estimating the expected impact of renovation steps, Member States need to lay down the standard conditions under which the metrics used for estimations (including of energy savings) are determined and ensure that these are transparent, visible and realistic. The general principle is that any relevant, reliable and timely source of information can be used, with the aim of ensuring consistency of the assessment regardless of the assessor in charge.

It is up to Member States to clarify what these standard conditions are under their respective renovation passport schemes. They must also ensure that assessors duly consider them when estimating the impact of renovation steps, for example through appropriate training and accreditation. Some standard conditions such as occupancy and climate are set in the national

methodologies for calculating the energy performance of buildings. Where this is the case, it is recommended to apply the same conditions for building renovation passports.