

# EPBD.wise

BRINGING EUROPEAN BUILDING POLICY TO LIFE



## Development of Renovation Passports: Policy Guidelines for Greece

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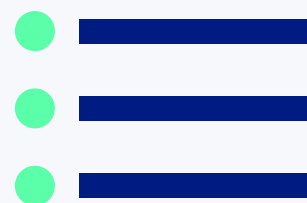
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## About EPBD.wise

EPBD.wise aims to kickstart action to bring to life the recast European Energy Performance of Buildings Directive (EPBD) as part of making EU climate goals a reality. Over the course of three years, project partners worked with public authorities (such as municipalities, energy agencies, etc.) in six European countries: Bulgaria, Greece, Hungary, Poland, Romania and Ukraine. The overarching aim was to ensure the design, implementation and evaluation of key provisions to ensure EU buildings align with climate goals. Starting with investigation of needs and good practices in the six focus countries, EPBD.wise builds replicable models to support the widespread implementation of effective measures across Europe.

For more information, visit the [EPBD.wise website](#).

# CONTENTS



|          |  |           |
|----------|--|-----------|
|          | List of abbreviations and acronyms .....                                   | 4         |
|          | List of tables and figures .....   | 4         |
| <b>1</b> | <b>A Renovation passport framework .....</b>                               | <b>5</b>  |
|          | A1 EPBD Article 12: Renovation passport .....                              | 5         |
|          | A2 EPBD Annex VIII: Mandatory and voluntary elements .....                 | 5         |
|          | A3 Connection between RP and EPC .....                                     | 9         |
|          | A4 Options for Implementing RP .....                                       | 10        |
|          | A4.1 The RP as a part of the EPC .....                                     | 10        |
|          | A4.2 The RP as a stand-alone document .....                                | 10        |
|          | A5 RP implementation frameworks suggested by EPBD.wise .....               | 11        |
|          | A5.1 Four generic RP options .....   | 11        |
|          | A5.2 Recommended option SEReP .....  | 12        |
|          | A5.3 Recommended Option SEReP+ .....                                       | 14        |
| <b>2</b> | <b>Guidelines for implementing the renovation passport in Greece .....</b> | <b>15</b> |
|          | <b>Executive summary .....</b>   | <b>15</b> |
|          | 1 Introduction .....   | 16        |
|          | 2 Identified policy needs .....  | 16        |
|          | 3 The scope of the renovation passport in Greece .....                     | 18        |
|          | 4 Getting started with tailoring the renovation passport for Greece .....  | 20        |
|          | 5 Development of a roadmap for implementing the renovation passport .....  | 21        |
|          | 6 Affordable access to hardware and software .....                         | 23        |
|          | 7 One-stop shops .....   | 25        |
|          | 8 Digital building logbooks .....  | 26        |
| <b>3</b> | <b>References .....</b>  | <b>28</b> |

# LIST OF

## ABBREVIATIONS AND ACRONYMS

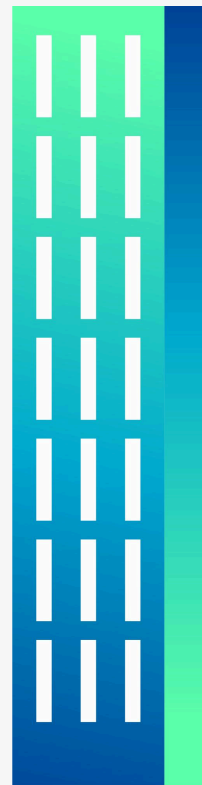
|         |   |
|---------|---|
| API     | Application programming interface   |
| EED     | Energy Efficiency Directive (EU/2023/1791)  |
| EPBD    | Energy Performance of Buildings Directive   |
| EPC     | Energy performance certificate  |
| EPD     | Environmental product declaration   |
| EU      | European Union  |
| KENAK   | Κανονισμός Ενεργειακής Απόδοσης Κτιρίων – Regulation of Energy Performance of Buildings |
| MEPS    | Minimum energy performance standards  |
| NBRP    | National building renovation plan   |
| nZEB    | Nearly zero-energy building   |
| RP      | Renovation passport (EPBD (2024/1275))  |
| TEE-TCG | Τεχνικό Επιμελητήριο Ελλάδας – Technical Chamber of Greece                              |
| ZEB     | Zero-emission building  |

# LIST OF

## TABLES AND FIGURES

|  |    |
|--|----|
| <b>Table 1:</b> Requirements the RP shall include and suggestions how to meet them (paragraph 1) | 6  |
| <b>Table 2:</b> Requirements the RP may include and suggestions how to proceed (paragraph 2)     | 7  |
| <b>Table 3:</b> The RP and the EPC, and suggestions on how to proceed (paragraph 3)              | 8  |
| <b>Table 4:</b> The set of standard conditions and suggestions on how to proceed (paragraph 4)   | 8  |
| <b>Table 5:</b> Various RP schemes and their relevance for different building types              | 12 |
| <b>Table 6:</b> Voluntary features of paragraph 2 ANNEX VIII to be included in RP scheme         | 13 |
| <b>Table 7:</b> Technical infrastructure requirements and their priorities                       | 24 |
| <b>Table 8:</b> Overview of necessary EPC database modifications                                 | 24 |
| <b>Figure 1:</b> Affordable access to hardware and software requirements                         | 23 |

# A RENOVATION PASSPORT FRAMEWORK



## A1 EPBD Article 12: Renovation passport

Article 12 of the Energy Performance of Buildings Directive (EPBD) presents the renovation passport (RP) as a voluntary tool that Member States can decide to make mandatory. Even if the renovation passport remains voluntary at the building level, it is important to develop the national scheme in such a way that it can be applied efficiently and effectively. Article 12 and the detailed Annex VIII of the EPBD provide the requirements for developing the renovation passport scheme, as well as the links to other policy elements, particularly the energy performance certificate (EPC). By 29 May 2026, Member States must establish a national scheme for renovation passports based on the framework in Annex VIII.

## A2 EPBD Annex VIII: Mandatory and voluntary elements

Annex VIII of the EPBD sets out the mandatory requirements for the renovation passport and provides additional information on its optional content. While the scheme is voluntary by default, it is at the discretion of the Member States to enforce it as mandatory. In any case, mandatory elements as shown in Annex VIII must be included.\*

The following tables present the four articles of Annex VIII and their requirements as well as suggestions on how to address them.

\*Please note that the terminology regarding Annex VIII in this report has not yet been aligned with Commission Notice providing guidance on new or substantially modified provisions of the recast Energy Performance of Buildings Directive (EU) 2024/1275. As was the case during the drafting process, this report continues to use the term 'voluntary' with reference to Annex VIII (instead of 'optional' as used in the Commission Notice).

Table 1 Requirements of the renovation passport and suggestions for how to meet them (paragraph 1)

| Paragraph 1   | Suggestions to meet requirements   |
|---|--|
| <b>The renovation passport shall include:</b>   |  |
| (a) information on the current energy performance of the building   | Up-to-date EPC   |
| (b) a graphical representation or graphical representations of the roadmap and its steps for a staged deep renovation   | Layout design in connection with (d) and (e); standardised suggestions – cost-effective measures   |
| (c) 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-fuel used in buildings for heating and cooling, including application dates                                | To be complemented by the more detailed provision of paragraph 2 (b) (ii), and in compliance with NBRP   |
| (d) a succinct explanation on the optimal sequencing of steps   | Layout design in connection with (b) and (e); optimal sequencing depends on age of elements and maintenance and repair cycles                          |
| (e) information about each step, including:   | Layout design in connection with (b) and (d)   |
| (i) the name and description of the renovation measures for the step, including relevant options for the technologies, techniques and materials to be used  | To be included in the calculation tool   |
| (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  | Estimation with calculation tool   |
| (iii) the estimated reduction of operational greenhouse gas emissions   | Estimation with calculation tool   |
| (iv) the estimated savings on the energy bill, clearly indicating the assumptions on energy costs used for the calculation  | Estimation with calculation tool   |
| (v) the estimated energy performance class of the energy performance certificate to be achieved following completion of the step  | Estimation with calculation tool   |
| (f) information about a potential connection to an efficient district heating and cooling system  | Display map with building location (link with energy spatial planning)   |
| (g) the share of individual or collective generation and self-consumption of renewable energy estimated to be achieved after the renovation   | Display map with building location (link with energy spatial planning)   |
| (h) 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; | Link to one-stop shops<br>Relevant for EU Taxonomy<br>Display map with building location and climate change risks (heat island, heavy rains, flooding) |

|  |                        |
|--|------------------------|
| (i) information on available funding and links to the relevant web pages indicating the sources of such funding;                   | Link to one-stop shops |
| (j) information on technical advice and advisory services, including contact details and links to the web pages of one-stop shops. | Link to one-stop shops |

Table 2 Requirements the renovation passport may include and suggestions on how to proceed (paragraph 2)

| Paragraph 2  | Suggestions   |
|--|---|
| The renovation passport may include:   |   |
| (a) an indicative timing of the steps  | To be included; to be considered in layout design   |
| (b) for each step:   |   |
| (i) a detailed description of the technologies, techniques and materials to be used, their advantages, disadvantages and costs   | Link to one-stop-shops  |
| (ii) how the energy performance of the building would compare to minimum energy performance requirements for buildings undergoing major renovation, nearly zero-energy building and zero-emission building requirements after completion of the step and how the energy performance of the building elements replaced would compare to minimum energy performance requirements for single building elements, where these exist | To be included; to be considered in layout design<br>Necessary for ESG reporting and proving compliance with EU Taxonomy<br>Necessary for national building renovation plan |
| (iii) the estimated costs for carrying out the step  | To be included: only for the next steps in the correct sequence which are planned for immediate implementation  |
| (iv) the estimated payback period for the step, with and without any available financial support   |   |
| (v) the estimated time needed to carry out the   |   |
| (vi) where available, the reference values on the life-cycle greenhouse gas emissions for the materials and equipment and links to the relevant web pages where they can be found  | Link to one-stop shops for environmental product declarations (EPDs)  |
| (vii) the estimated lifetime of measures and the estimated maintenance costs   | To be included: information on extension of building life   |
| (c) independent modules on:  |   |
| (i) the typical trades necessary or recommended for carrying out energy renovations (architects, advisors, contractors, suppliers and installer, etc.) or links to the relevant web pages  | Link to one-stop shops  |
| (ii) a list of relevant architects, advisors, contractors, suppliers or installers in the area, that may include only those fulfilling certain conditions such as matching higher qualification or certification labels or conditions, or links to the relevant web pages  | Link to one-stop shops  |

|  |   |
|--|---|
| (iii) the technical conditions needed for an optimal roll-out of low temperature heating   | To be included as renovation scenario   |
| (iv) how the renovation steps and additional measures could improve the smart readiness of a building  | To be included as renovation scenario   |
| (v) technical and safety requirements for materials and works  | Not part of RP, regulated elsewhere   |
| (vi) the underlying assumptions behind the calculations provided or links to the relevant web page where they can be found   | Information to be included  |
| (d) information on how to access a digital version of the renovation passport  | Information to be included, e.g. link to EPC database   |
| (e) any major renovations made to the building or building unit, as referred to in Article 8②, and any retrofitting or replacement of a building element that forms part of the building envelope and which has a significant impact on the energy performance of the building envelope, as referred to in Article 8②, where such information is made available to the expert carrying out the renovation passport | Information to be included  |
| (f) information related to seismic safety, where such information relevant to the building is made available to the expert   | Display a map with building location and risk assessment  |
| (g) upon request of and on the basis of information made available by the current building owner, an attachment containing additional information, such as the adaptability of spaces to evolving needs and any planned renovations.   | Up-to-date drawings and building information (architecture, statics, heating and cooling, electrical, plumbing) |

Table 3 The renovation passport and the EPC, and suggestions on how to proceed (paragraph 3)

| Paragraph 3  | Suggestions on how to meet requirements   |
|--|---|
| Regarding the status of the building prior to the renovation steps, the renovation passport shall consider, to the extent possible, information contained in the energy performance certificate. | Link with paragraph 1(a): set the requirement for an up-to-date EPC as the starting point for the RP and make use of the EPC data |

Table 4 The set of standard conditions and suggestions on how to proceed (paragraph 4)

| Paragraph 4   | Suggestions on how to meet requirements   |
|---|---|
| Each metric used for estimating the impact of steps shall be based on a set of standard conditions. | Estimating the impact of renovation steps requires two estimations:<br>1. Based on user behaviour and energy bill<br>2. Based on the standard conditions used for the EPC |

## A3 Connection between renovation passports and energy performance certificates

The RP and EPC are closely connected. Usually, the same dataset about the building, namely up-to-date drawings and building information (architecture, statics, heating and cooling, electrical, plumbing), is the starting point for both the RP and EPC. The RP takes the specific user behaviour and energy cost into account but also needs to provide an assessment under standard conditions, which is in effect an EPC.

There are several options for linking the RP with the EPC:

- 1 The EPC is extended to cover the requirements of Article 12, including Annex VIII. This also involves extending the existing EPC tool, as the RP will substitute the EPC recommendations. The recommendations part of the EPC tool will need to be revised anyway due to the more detailed requirements of the EPBD; this could be done in a way that also complies with Article 12.
- 2 The RP is issued separately, necessitating data exchange between the RP and EPC tools to facilitate the process.
- 3 The digital building logbook is used as the basis for both the RP and the EPC, meaning that an always up-to-date repository of building data is set up and maintained. This can be used as the basis for assessments for RPs and EPCs, as well as ESG reporting or other purposes. The advantage of the third option is that the adaptation of software products will be easier.

In options 1 and 2, data is entered into the calculation directly, meaning that data needs to be re-entered when an updated calculation tool is available. Data exchange between tools is usually hampered by loss of information and the need for corrections. However, the possibilities of reusing EPC data for the renovation passport depend on the quality of EPC data.

There are several issues to be considered:

- EPCs are valid for 10 years, meaning that changes to the building could have taken place during that period, resulting in EPC data being outdated.
- The EPCs issued for existing buildings during rental and sale are often simplified based on the building typology and year of construction (i.e. based on default data), providing little added value for the preparation of the RP.
- Sources of error, such as in the definition of the reference area, can lead to faulty EPCs, which are not always detected by the independent control system.

Regarding EPC revisions, according to EPBD 2024/1275, the focus should be on minimising the scope of interpretation for input data to improve data accuracy and reliability, as this has an impact on the ability to re-use EPC data for the RP. Alternatively, the flow of information could be reversed, with the site visits undertaken during RP preparation feeding into the EPC. This highlights the need for common tools or at least seamless data integration.

## A4 Options for implementing renovation passports

The needs of different stakeholders, as well as the wide range of possible uses of the RP, call for a flexible approach to its implementation: the RP can be introduced as part of the EPC or as a standalone document supplementing the EPC.

Integrating the RP into the EPC offers clear advantages in terms of legal framework and standardisation. On the other hand, developing the RP as a standalone document opens up new possibilities for more comprehensive use, particularly with regard to individual adaptations and specific requirements, such as those that exist in the real estate industry or in complex renovation projects. The RP could also be used for existing buildings to demonstrate that they are on track to meet minimum energy performance standards (MEPS) or nearly zero-energy building/zero-emission building (nZEB/ZEB) targets.

In addition, it may be necessary to develop tailored schemes for detached houses, apartment buildings and non-residential buildings because renovation measures, maintenance processes and financing instruments differ. An additional category of public buildings may be necessary to support the respective part of the NBRP and to use the RP as an alternative approach to meet renovation requirements for public buildings in the Energy Efficiency Directive (EU) 2023/1791.

#### **A4.1 The renovation passport as part of the EPC**

The intention is for the RP to replace the recommendations provided in the EPC.

The EPC is used for the comparative assessment of buildings regardless of user behaviour and is mandatory in certain cases. The RP, however, explicitly takes user behaviour into account, is intended to facilitate refurbishment, and documents all renovation steps. If the RP is established as an integral part of the EPC, an obligation to update the EPC after each renovation step must be introduced as well.

The main advantage of including the RP within the EPC is reduced cost for operating one scheme instead of two (expenses for software, staff, database, control system).

However, benefits will depend on the reputation of the EPC scheme and the quality of the EPC information, which often go hand in hand: if there are trustworthy EPCs (based on high quality and reliable data), the EPC scheme will tend to have a good reputation. In such an environment, it may make sense to extend the recommendation-related part of the EPC, leveraging the well-established EPC scheme, rather than promoting a new RP scheme.

#### **A4.2 The renovation passport as a standalone document**

If the EPC scheme suffers from reputational problems, operating the RP scheme separately may be a viable option, eliminating the problems of the EPC. A separate scheme also makes sense if tailored approaches for certain building types, construction periods and target groups are more effective than the categories provided for in the EPC. Furthermore, the RP has the capacity to address issues that the EPC is not designed to tackle, for example, displaying measures for adapting buildings to climate change. This will serve the broader needs of the real estate industry, helping to prevent assets from becoming stranded.

The main challenge is to define the interface with the renovation planning: where does the renovation passport end and the renovation planning begin?

For the RP to be used effectively by different target groups, it will be necessary to define different types of renovation passports, also in terms of the level of detail. As well as the “simplified renovation passport” proposed in Article 12, the regular renovation passport can be designed with different levels of detail. These levels must be specified and clearly named (for details, see next chapter). Only then can they be implemented effectively.

## A5 Renovation passport implementation frameworks suggested by EPBD.wise

Based on the information presented above, four generic options for RP schemes have been identified, which are described in the following sections. They build on different ways to use the voluntary Annex VIII elements in combination with the mandatory elements, tailored to the needs of specific target groups. The acronyms have been chosen to simplify the discussion about the possible implementation frameworks.

The options developed and recommended by the EPBD.wise project are described in more detail in dedicated sub-chapters below:

- RP scheme in compliance with all mandatory requirements, extended with selected voluntary features
- RP scheme with mandatory (and voluntary) requirements extended with features not listed explicitly in Article 12 and Annex VIII, but in line with the intention of the EPBD recast.

### A5.1 Four generic RP options

There are four basic options, whereby the first one can be divided into two:

- 1 RP scheme in compliance with all mandatory requirements
  - a. Regular RP – ReReP
  - b. Simplified RP – SiReP
- 2 Extended RP scheme in compliance with all mandatory requirements and extended with all voluntary features – ExReP
- 3 RP scheme in compliance with all mandatory requirements, extended with selected voluntary features – SEReP
- 4 RP scheme according to one of the above listed options extended with features not listed explicitly in Article 12 and Annex VIII, but in line with the intention of the EPBD – SEReP+

Table 5 shows the relevance of the various options for the different building types. While ReReP could be used to access financing schemes, SiReP provides a renovation roadmap for homeowners at minimal cost. Depending on the additionally applied criteria, the RP could be used by property evaluators and facility managers, and by public building owners to prove compliance with NBRP and EED-related requirements.

#### Relevant for RP option 1 to option 4:

**Link with the one-stop shop:** As shown above (and also in depth in Annex A), there are many requirements related to the provision of information. To ensure that this information is always up to date, and to keep the cost of the RP low, this information should be standardised as much as possible and be provided by the one-stop shop in the area where the building is located.

Ideally, a function of the RP tool is to enable the expert to select from a list of links to further information on the internet, e.g. addresses of one-stop shops that are updated regularly and, by choice, are incorporated into the specific RP.

**Link with the digital building logbook:** The digital building logbook will be the central source of information for buildings in the future, and RP programmes must reflect relevant developments. Processes will differ depending on who maintains the digital building logbook.

**There are basically two options:**

- Government-led digital building logbook (public administration oversight)
- Private-sector or hybrid digital building logbook (collaboration between public and private entities and/or the chambers of engineers/architects)

*Table 5 Various RP schemes and their relevance for different building types. As ReReP is included in the ExReP, SReReP and SReReP+ variants, these will also be recognised by the financing institutions.*

|                        | ReReP     | SiReP  | ExReP  | SReReP  | SReReP+                                 |
|------------------------|-----------|--|--|---|---|
| <b>Non-residential</b> |           |  |  |   |   |
| Detached house         | Financing |  |  |   |   |
| Apartment building     | Financing | Renovation roadmap at minimum cost for home-owners | Covers pre-planning stage; could be done on demand     | As part of maintenance and repair plan: could be done by inhouse qualified expert (facility manager)<br><br>Provides input for property valuation |   |
| <b>Non-residential</b> |           |  |  |   |   |
| Office                 | Financing |  | Covers the pre-planning stage; could be done on demand | As part of the maintenance and repair plan: could be done by inhouse qualified expert (facility manager)  |   |
| Health                 | Financing |  |  | Provides input for property valuation   |   |
| Educational            | Financing |  |  |   |   |
| <b>Public</b>          |           |  |  |   |   |
| Public buildings       | Financing |  |  |   | Covers NBRP and EED-related obligations |

Generic specifications of option 3 (SReReP) and option 4 (SReReP+) are shown in the next subchapters, because these are the options recommended by EPBD.wise. They are considered essential by EPBD.wise for the success of a renovation passport scheme on the real estate market. Mandatory RP elements according to Annex VIII alone do not meet the needs of important target groups such as facility managers and property valuers, but the inclusion of all voluntary RP elements according to Annex VIII makes the RP expensive, and some elements that are considered crucial to success (e.g. validity period) are even missing from these voluntary elements.

## A5.2 Recommended option: SReReP

The SReReP scheme complies with all mandatory requirements and is extended with selected voluntary features. The recommended selected voluntary features and why they are chosen are shown in Table 6 below.

Table 6 Voluntary features of paragraph 2 Annex VIII to be included in RP scheme

| Relevant features of paragraph 2   | Suggestions on how to proceed   | Justification   |
|--|---|---|
| (a) an indicative timing of the steps  | To be included; to be considered in layout design   | Useful information for building owners, facility managers; useful information for NBRP        |
| (b) for each step:   |   |   |
| (ii) how the energy performance of the building would compare to minimum energy performance requirements for buildings undergoing major renovation, nearly zero-energy building and zero-emission building requirements after completion of the step and how the energy performance of the building elements replaced would compare to minimum energy performance requirements for single building elements, where these exist | To be included; to be considered in layout design   | Necessary for ESG reporting and proving compliance with EU Taxonomy<br><br>Necessary for NBRP |
| (iii) the estimated costs for carrying out the step  | To be included: only for the next measures in the correct sequence which are planned for immediate implementation | Necessary information for building owners, facility managers                                  |
| (iv) the estimated payback period for the step, with and without any available financial support   |   |   |
| (v) the estimated time needed to carry out the step  |   |   |
| (vii) the estimated lifetime of measures and the estimated maintenance costs   | To be included: information on extension of building life   | Relevant information for property valuation (and thus also financing institutions)            |
| (iii) the technical conditions needed for an optimal roll-out of low temperature heating   | To be included as renovation scenario; standardised as much as possible   | Necessary to prevent owners from installing inefficient heat pumps                            |
| (iv) how the renovation steps and additional measures could improve the smart readiness of a building  | To be included as renovation scenario; standardised as much as possible   | Necessary to convince building owners to contribute to grid flexibility                       |

|  |                |  |
|--|----------------|--|
| (vi) the underlying assumptions behind the calculations provided or links to the relevant web page where they can be found | To be included | Display the type of RP, data sources and tools applied |
| (d) information on how to access a digital version of the renovation passport  | To be included | Link to EPC database and information on how to access  |

### A5.3 Recommended option: SEReP+

The SEReP+ scheme is extended with features not listed explicitly in Article 12 and Annex VIII, but in line with the intention of the EPBD.

**Necessary features to achieve the expected impact on the property market, which are not listed explicitly in Article 12 and Annex VIII, are:**

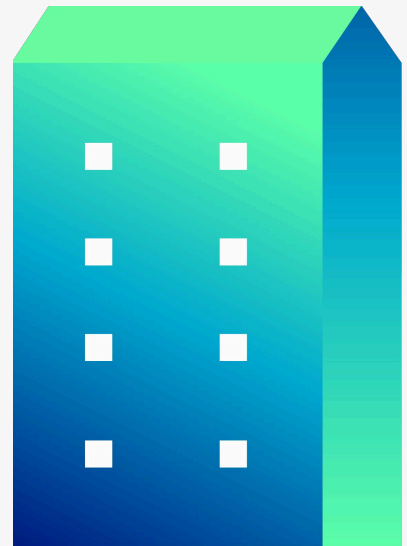
- 1** The RP is updated in the EPC database and the digital building logbook (if available) after each renovation step.
- 2** The updated RP contains detailed information about the next renovation step, and the timing of the planned implementation.
- 3** The RP has a validity of five years. If no measures are implemented within this period, the RP becomes invalid.

The first aspect ensures that the current energy performance condition of the renovated building is represented in the EPC database. This is important because the EPC database becomes the central data repository for developing and monitoring policies, most importantly the NBRP.

The long time horizon until 2050 will bring technological and economic changes, making it impossible to specify technical and economic details for renovation steps in 10 or 20 years. However, it is possible to provide detailed information on the next renovation step within a period of five years. Describing the next renovation step in more detail makes it easier for the building owner to take the necessary actions, increasing the likelihood of implementation.

The third aspect is also related to the long time horizon. If the next renovation step is not implemented promptly, the details will likely become obsolete. The five-year period was chosen to achieve a balance between external developments and the effort required to prepare the RP; it would also be possible to set a shorter validity period of, for example, three years.

# GUIDELINES FOR IMPLEMENTING THE RENOVATION PASSPORT IN GREECE



## Executive summary

As part of the Energy Performance of Buildings Directive (2024/1275), the renovation passport is a key tool designed to guide building owners through the process of staged deep renovation towards zero-emission standards. The RP complements other EPBD instruments such as EPCs, digital building logbooks, minimum energy performance standards (MEPS) and national building renovation plans (NBRPs). This document presents guidelines and implementation recommendations based on national consultations and stakeholder input from Greece. It outlines how the RP can be effectively integrated into the country's existing policy, regulatory and technical frameworks.

In Greece, existing and future systems such as EPCs and digital building tools provide a foundation for integrating the RP. However, implementation will depend on the alignment of national policies and institutional roles. For example, in Greece, the Technical Chamber (TEE) will play a key role in dissemination and coordination.

Key recommendations include the need for clear technical definitions, software compatibility and training programmes for local stakeholders. A phased roll-out is recommended, starting with pilot projects, linking the renovation passport to EPC systems, and eventually integrating it into national digital building logbooks. The selection of the appropriate level of detail of the RP scheme, as outlined in this report, should be based on the specific context and building stock. Support mechanisms, including financial incentives, one-stop shops and uniform data interfaces, are critical success factors for effective implementation.

Stakeholder concerns were analysed through questionnaires, roundtables and policy forums, leading to tailored guidelines for country-specific RP implementation. To address challenges in distinguishing mandatory from voluntary elements in RP implementation, new terminology was introduced to clarify definitions and enable targeted implementation based on stakeholder needs and building types.

The core focus is on the development of a step-by-step policy roadmap for RP implementation. Key steps are to i) provide technical and policy support, ii) pilot programmes to test and refine the implementation process, and iii) make iterative updates to accommodate evolving recommendations.

Greece faces specific challenges to take into account, such as the important role of heritage buildings that are exempt from EPCs but have the potential to improve their energy efficiency, the divide between the mainland and the islands, energy poverty, and irregular or illegal buildings. However, various project-related experiences and specialised organisations provide a solid foundation for future actions.

## 1 Introduction

This guidance has been developed to address the specific policy needs of Greece in the context of implementing the renovation passport according to the EPBD (2024/1275). It provides country-specific policy recommendations and a comprehensive framework for the effective design, execution, monitoring and evaluation of the EPBD provisions. The guidance focuses on key aspects including developing a step-by-step policy roadmap for RP implementation, identifying enabling factors and potential barriers, and exploring synergies with other policy instruments. Additionally, special emphasis is placed on addressing social needs and mitigating energy poverty to ensure an inclusive and equitable approach. The successful implementation of the RP in Greece requires close collaboration between key ministries and the engineering chamber as a central governance and dissemination body.

## 2 Identified policy needs

The identification of policy needs in Greece was based on a structured multi-step approach. A detailed questionnaire was conducted with national representatives to assess key challenges and priorities. The results were complemented by extensive stakeholder engagement, including online meetings and bilateral interviews with policymakers, technical experts and industry representatives.

This qualitative input provided valuable insights into practical implementation barriers and opportunities. The findings were further enriched through desk research on relevant European and national projects, ensuring a comprehensive and evidence-based understanding of policy needs.

### 2.1 Responsible ministries' needs

The following needs were identified:

- **Regulatory framework:** Clear legal integration of the RP.
- **Financing mechanisms:** Incentives, funding programmes, and considering the dynamics of pre-financing.
- **Monitoring systems:** Tools to assess energy, social and housing impacts.
- **Policy alignment:** Coordination with existing renovation and housing policies.

### 2.2 Technical Chamber of Greece (TEE – TCG)

Acceptance and active support from the Technical Chamber of Greece is critical.

The engineering chamber should:

- Be involved in RP development to ensure feasibility.
- Offer training programmes for engineers and planners.
- Raise awareness among professionals and the public.
- Develop technical guidelines for practical application.
- Act as a central multiplier and coordination agency to foster acceptance within the professional community and facilitate dialogue between policy, practice and industry.

Close cooperation between ministries and the engineering chamber provide a legal and organisational anchor, and ensures the RP is accepted and supported by the practical expertise of the technical communities. This will be the key to making the RP a driving force for sustainable and socially inclusive renovation in Greece.

## 2.3 Summary of stakeholders' needs

In addition, the following policy needs were identified:

- **Integration with the existing policy framework:** Incorporating RP into the existing EPC system.
- **Exemptions:** A solution for how to proceed with listed monuments and buildings that are exempt from an EPC.
- **Simplification and digitalisation:** Reducing costs, effort and time for stakeholders by streamlining RP creation through digital tools.
- **Awareness and communication:** Launching an information campaign to educate stakeholders on the RP's purpose and benefits.
- **Building clustering:** Grouping buildings to optimise renovation planning and implementation.
- **Data integration:** Linking RP with existing databases (EPC software, cadastral data, digital building ID).
- **Local support structures:** Establishing regional one-stop shops to facilitate RP adoption.

## 2.4 Specifications in Greece

Greece has a number of specific characteristics that influence RP implementation:

- The EPC has not been revised since 2017.
- In Greek EPCs, suggested renovation scenarios are simplified and not demonstrated comprehensively for building owners.
- Establishing a standardised reference building is essential for defining energy performance classes, ensuring consistency and comparability in EPC evaluation.
- CO<sub>2</sub> equivalent emissions are incorporated within the EPC framework, with existing case studies.
- Public buildings are required to achieve a minimum energy performance rating of class C.
- Newly constructed buildings must meet at least energy class A, which is the nearly zero-energy building (nZEB) standard as implemented in Greece.
- Buildings undergoing deep renovation must achieve a minimum energy performance classification of class B.
- There are challenges regarding heritage buildings under monument protection and irregular/illegal buildings.

Stakeholders stressed that acceptance hinges on official training and credible control mechanisms for EPCs and the upcoming introduction of the RP. They called for standardisation across tools, warned that EPC data quality is uneven and asked to link project-related policy development timelines with ministry programming so that contributions could actually be taken into account.

Good practice examples (e.g., iBRoad2EPC1 cases) should be reused rather than starting from scratch.

## 2.5 Comparison of EPBD Annex VIII elements with Greek policy needs

The following section presents the clustered policy needs and contextualises them with the relevant elements of EPBD Annex VIII. It concludes with a recommendation on how the Annex VIII elements could be used to address the respective policy needs.

- **Regulatory framework and policy alignment**
  - Annex VIII emphasises the need for clear legal integration and alignment with existing policies, which matches Greece’s need for a coordinated regulatory framework.
  - Recommendation: Develop a legal mandate for the RP, ensuring alignment with KENAK<sup>2</sup> and other national energy policies.
- **Financing mechanisms**
  - Both Annex VIII and Greek needs highlight the importance of incentives and funding programmes.
  - Recommendation: Link the RP to existing financial schemes like Exoikonomo 2025<sup>3</sup> as part of the Recovery and Resilience Fund and introduce targeted funding for staged renovations.
- **Monitoring and impact assessment**
  - Annex VIII suggests tools for assessing energy, social and housing impacts, aligning with Greece’s need for monitoring systems.
  - Recommendation: Implement a digital platform to track the RP’s impact on energy efficiency and emissions.
- **Technical guidelines and capacity building**
  - Annex VIII includes detailed technical guidelines and training, which aligns with Greece’s need for capacity building through the Technical Chamber of Greece (TEE).
  - Recommendation: Develop training programmes and technical manuals in collaboration with TEE to ensure widespread adoption and understanding.
- **Renovation passport content**
  - Annex VIII specifies detailed content, such as renovation steps, costs and energy performance comparisons, which can address Greece’s need for actionable and user-friendly tools, which can also be applied to buildings exempt from the EPC obligation.
  - Recommendation: Ensure the RP includes detailed, step-by-step renovation plans, cost estimates and energy performance metrics tailored to Greek building typologies.

## 3 The scope of the renovation passport in Greece

The general part of the EPBD.wise guidelines (chapter A) on implementing RP schemes explains the benefits of combining mandatory elements of Annex VIII with different voluntary elements for specific target groups. It also explains the two basic options of 1. introducing the RP as part of the EPC, and 2. introducing the RP as an additional document to complement the EPC. The RP schemes suggested by EPBD.wise (SEReP and SEReP+) are also described in more detail. This information is relevant for determining the scope of the country-specific approach.

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1. <https://ibroad2epc.eu>

2. [www.ca-epbd.eu/Media/638373599786588364/Implementation-of-the-EPBD-in-Greece-2020.pdf](http://www.ca-epbd.eu/Media/638373599786588364/Implementation-of-the-EPBD-in-Greece-2020.pdf)

3. [Exoikonomo2025](#)

### 3.1 Important aspects: monument protection, existing tools, role of TEE

The relationship between EPCs and public buildings or listed monuments is important. These buildings are often legally exempt from EPC requirements but may still choose to obtain one. A key issue is how to incorporate renovation recommendations into EPCs to increase their impact, and how to address buildings that remain exempt.

Existing tools such as iBRoad2EPC, which is designed to connect renovation roadmaps with EPCs, play a crucial role. The core questions are which organisations develop RP-related digital tools, who the main end-users are, and how these solutions can be integrated into existing software infrastructures to ensure interoperability and improved functionality.

In this context, the Technical Chamber of Greece can play a part in energy regulation, as well as in the development and oversight of such software systems.

### 3.2 Prioritisation of building types

The following types of buildings should be given priority in a renovation passport scheme:

- **Public buildings:** The NBRP and EED-related obligations can be met through the SEReP+ scheme.
- **Care homes:** The Institute of Zero Energy Buildings (INZEB) has experience in supporting stakeholders in transforming 800 very high energy-consuming care homes to ZEB standard. This could be a good practice example within Greece and could be introduced throughout the country with the SEReP scheme.
- **Public heritage buildings:** These buildings are exempt from mandatory energy performance certification due to their unique architectural and historical significance. However, given the benefits of enhanced energy management and resource optimisation, a SEReP-type renovation passport could be envisaged for public heritage buildings. In this context, it is important to clarify whether there is interest in obtaining EPCs and RPs voluntarily, and if so, what incentives or frameworks might encourage their uptake.

A good practice example from the iBRoad2EPC<sup>1</sup> project is the Benaki Museum,<sup>2</sup> where the following steps were taken:

- An EPC was prepared with the official TEE KENAK EPC software according to the architectural and detailed plans of the last building permit and a detailed audit that documented the technical properties of components and the electromechanical systems (class D in the Greek EPC scale).
- Based on the EPC, the iBRoad2EPC tool suggested various renovation steps, each with a timeframe, the related cost and available funding:
  - Step 1 – as soon as possible:** replace the old lamps.
  - Step 2 – by 2026:** repair the roof insulation, install new heat pumps for heating and cooling, upgrade the mechanical ventilation system with heat recovery units.
  - Step 3 – by 2030:** install monitoring and automation systems to optimise and control the heating and cooling systems.

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4. <https://ibroad2epc.eu>

5. Presentation by Eleftheria Touloupaki at the TIMEPAC Conference in Barcelona in October 2024: <https://timepac.eu/workshop/timepac-final-conference>

**Step 4 – by 2050:** install a photovoltaic system on the roof with net metering, and a central building management system to control all intelligent functions and networks/ installations/components of the building, taking into account the presence of people, the weather and network signals.

- The energy module shows the performance progression from class D (2024) to B+ (2050).

### 3.4 Prioritisation of areas

An area-based clustering approach is recommended that combines geo-spatial layers (urban, rural, island/coastal), building age and typology, and risk (seismic, overheating) with administrative realities such as the prevalence of illegal buildings – notably on islands – plus infrastructure constraints (grid capacity, water, access/logistics, seasonality). These clusters would guide tailored RP packages, one-stop-shop service models and permitting/regularisation pathways (where applicable), and help prioritise pilots and scaling. The detailed methodology should be co-designed with the ministries, municipalities and chambers, with a plan to address data gaps and to integrate legal-regularisation steps where needed.

## 4 Getting started with tailoring the renovation passport for Greece

### 4.1 The role of qualified organisations in Greece’s renovation strategy

Effective building renovation in Greece requires a tailored approach that accounts for regional disparities, socioeconomic factors and the specific needs of heritage buildings.

Greece faces distinct challenges in its renovation efforts due to geographical differences between the mainland and islands, socioeconomic vulnerabilities such as energy and housing poverty, and the complex requirements for preserving heritage buildings. These factors demand targeted renovation strategies that balance energy efficiency, financial feasibility and cultural preservation. Qualified organisations like INZEB play a central role in addressing these challenges through their expertise in energy efficiency and social housing policies. With extensive experience, such organisations have developed a deep understanding of housing poverty, social vulnerabilities and the need for inclusive renovation strategies. This expertise is critical in ensuring that Greece’s renovation policies do not only focus on energy efficiency but also address affordability and accessibility for vulnerable populations.

Notably, heritage buildings represent a critical gap in the current renovation framework, requiring dedicated support mechanisms. The RP serves as a key instrument to address this gap by structuring phased renovation approaches that respect both historical integrity and energy efficiency goals.

Official training sessions should be organised for assessors and engineers on the sequencing of renovation roadmaps, cooling and lighting in enhanced EPCs, and measurements taken before and after an intervention. To build trust in the programme, it is important to establish a quality control loop involving documentation of audits and spot checks, with engineers leading operations and technical validation, not just administrative staff.

Elements to start with are the following:

- **Assessment of regulatory requirements (Article 12 – Annex VIII)**
  - A thorough evaluation of mandatory elements outlined in Article 12 and Annex VIII is necessary.

- The feasibility of integrating voluntary components should be analysed, allowing for flexibility in renovation strategies based on specific building typologies and regional conditions.
  - The renovation passport must be updated iteratively after each implemented renovation step to reflect evolving recommendations.
- **Coordination with the Technical Chamber of Greece (TEE – TCG)**
    - Following the regulatory assessment, a structured engagement with TEE – TCG is crucial to ensure technical feasibility and professional alignment.
    - Discussions should focus on potential cost implications for RP updates and the integration of technical guidelines into the renovation roadmap.
    - The proposal should be refined through iterative consultations to maintain consistency with national energy policies and engineering standards.

By following this structured approach, qualified organisations can leverage their experience in large-scale renovations and housing poverty mitigation to ensure that all building categories, including social housing and heritage structures, are effectively integrated into the national energy efficiency strategy.

## 4.2 Assessment of regulatory requirements

The assessment of regulatory requirements includes the following steps:

**Step 1 – Determine how to operationalise the mandatory requirements (what the renovation passport must include according to Annex VIII):**

- **Legal framework:** Ensure RP integration with TEE KENAK, the national software used for calculating energy performance in buildings and national energy policies.
- **Technical guidelines:** Define renovation steps, methods and performance benchmarks.
- **Monitoring systems:** Establish tools to track energy efficiency, emissions and building performance.
- **System integration:** Align RP with EPC data and regulatory platforms.
- **Stakeholder governance:** Define roles for TEE and other institutions in quality assurance, validation and training.

These core components ensure legal, technical and governance alignment, securing compliance and quality assurance for Greece’s renovation passport.

**Step 2 – Identify the voluntary requirements to be included (what the renovation passport may include according to Annex VIII):**

These optional features add value, such as detailed cost assessments, advanced technical data, digital interactivity, and specific guidelines for seismic and historical buildings, to further enhance the effectiveness of the RP.

**Step 3 – Combine analysis and recommendations for the best solution**

Mandatory elements ensure compliance and uniformity, while selected optional enhancements optimise the effectiveness of the RP in Greece’s unique context. The combined approach suggests implementing a core, mandatory framework while gradually integrating optional enhancements based on user feedback and evolving needs. The recommendations include initiating pilot programmes, continuous collaboration with TEE, and using digital platforms for real-time monitoring and iterative improvements.

## 5 Development of a roadmap for implementing the renovation passport

Capturing a reliable status quo (EPC data, energy metering where feasible) and locking in a baseline to enable measurable results is important. Greece's upcoming RP should have clear milestones with near-term regulatory deadlines (including EED-related timing) and standardise interfaces so that multiple tools don't fragment the delivery.

It is important to connect RP workflows to an existing platform and ensure that the digital building ID can reference RP and EPC records. Keep it simple (for example by adding RP pages to the existing EPC workflow where possible) and design for banks' access needs (read-only packs for staged-loan due diligence).

The implementation steps outlined here focus on assessing existing frameworks, engaging stakeholders, addressing regulatory barriers and piloting innovative solutions, with key contributions from INZEB and the iBRoad2EPC project to ensure technical and policy alignment.



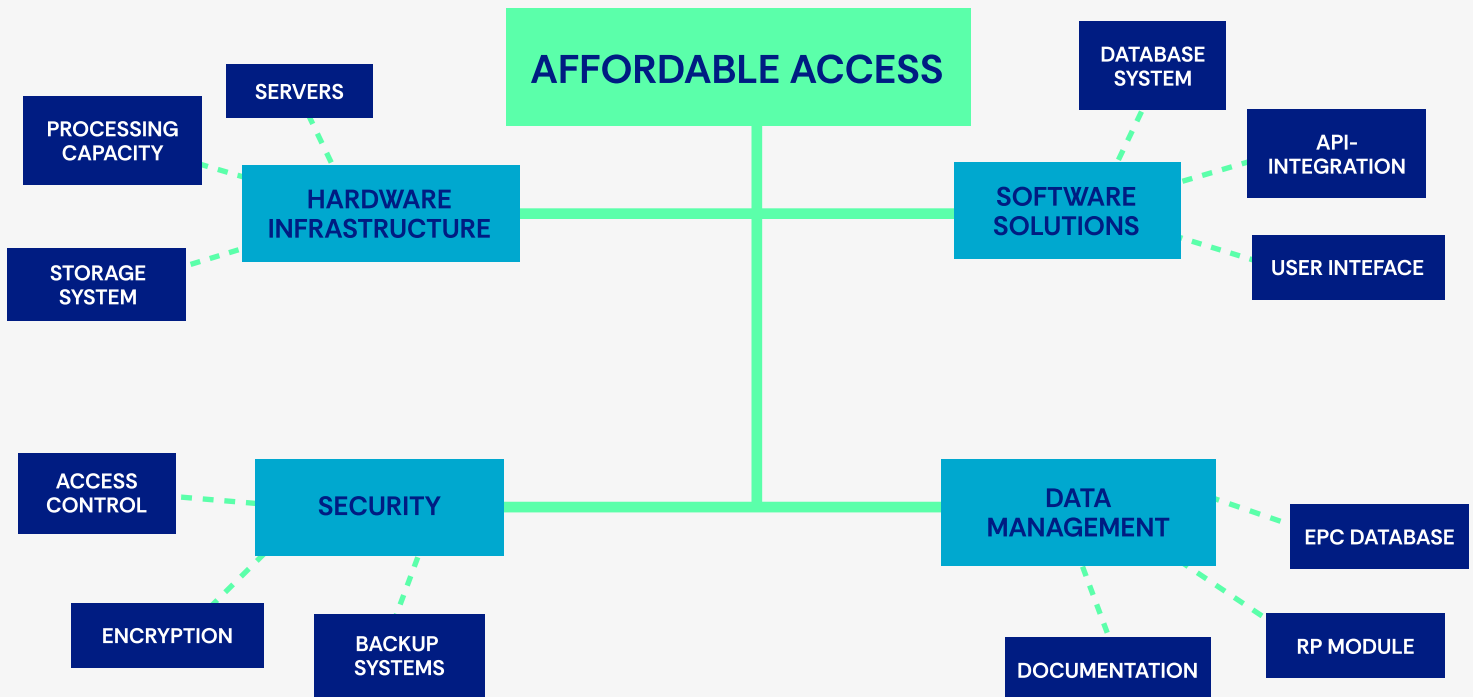
## 6 Affordable access to hardware and software

Ensuring affordable access to digital tools is crucial for the successful implementation of the RP in Greece. Given the regional disparities, socioeconomic challenges and diverse building stock, investment in cost-effective, scalable and secure infrastructure is necessary.

### 6.1 Digital platform

Figure 1 shows a shared digital foundation that keeps costs low while delivering the tools needed for RP and EPC work. On the left are the foundational resources – processing power, servers, storage with back-ups, and security controls such as access management and encryption – which can be pooled in regional one-stop shop hubs or stored in the cloud to avoid expensive standalone set-ups. On the right are the user-facing elements – a database system connected via APIs to the EPC database and the RP module, with a simple user interface and clear documentation, so different tools plug in without bespoke integrations. The central spine links these layers, ensuring secure, reliable data flow from EPC to RP. For Greece, this architecture enables affordable, scalable and consistent access to hardware and software for assessors, SMEs, municipalities and owners.

Figure 1 Affordable access to hardware and software requirements



### 6.2 Technical infrastructure requirements

Priority actions include expanding the EPC database capacity for RP data and adding renovation-step fields, as shown in Table 7.

In terms of software, it is important to integrate APIs into RP modules to enable interoperability, develop a mobile-friendly interface, and create a comprehensive e-learning system. For hardware, it is essential to increase processing capacity and provide cloud-based redundancy. In terms of security, the deployment of advanced encryption and access controls is paramount.

Table 7 Technical infrastructure requirements and their priorities

| Requirement             | Detailed requirement                         | Priority |
|-------------------------|--|----------|
| Database infrastructure | Enhanced database capacity for RP data       | High     |
|                         | Additional data fields for renovation steps  | High     |
| Software integration    | API integration with RP modules              | High     |
|                         | Development of a mobile-friendly interface   | Medium   |
|                         | Comprehensive e-learning system for training | Medium   |
| Hardware requirements   | Enhanced processing capacity                 | Medium   |
|                         | Cloud-based redundancy for back-up systems   | Medium   |
| Security infrastructure | Advanced encryption and access control       | High     |

Together, these upgrades create a resilient, interoperable foundation for nationwide RP rollout—secure, scalable, and ready for smooth adoption by experts and end users.

### 6.3 EPC database modifications

The EPC database needs targeted enhancements that capture building context, stepwise renovation logic and verifiable performance outcomes. The additions below, as shown in Table 8, focus on information needed to plan, finance, implement and track staged renovations with consistency and auditability.

Table 8 Overview of necessary EPC database modifications

| Enhancement category    | Detailed requirement   | Impact |
|-------------------------|--|--------|
| Building information    | Heritage status, seismic information, building typology      | Medium |
|                         | Stepwise implementation schedule and milestones              | Low    |
| Energy performance data | Current and target performance levels, stepwise improvements | High   |
|                         | Progress tracking and performance verification               | High   |

|                                     |   |        |
|-------------------------------------|---|--------|
| Renovation steps and cost estimates | Detailed renovation measures, sequencing, dependencies          | High   |
|                                     | Cost per step, funding options, payback periods                 | High   |
|                                     | Material specifications, technical standards, compliance        | Medium |
|                                     | Documentation of technical standards, permits, and certificates | Medium |

These modifications turn the EPC database into a living backbone for the renovation passport, linking plans to verified results, enabling financing and compliance, and ensuring transparent, end-to-end traceability.

By optimising TEE KENAK and the EPC database, Greece can streamline the renovation process, ensure accurate energy performance tracking, and support professionals and building owners in implementing cost-effective, phased renovation strategies. For market practicability, there must be a subsidised or shared access to software and/or hardware and clearer information on what counts as “green” (materials, components).

## 7 One-stop shops

One-stop shops serve as centralised service points that provide building owners, professionals and policymakers with comprehensive information, guidance and administrative support for energy renovation projects. Given the geographical complexity of Greece, with its mix of urban centres, remote mainland areas and islands, a well-structured one-stop shop network is crucial to ensure equitable access to up-to-date renovation-related information and services.

**In the context of RPs, one-stop shops play a pivotal role in:**

- Standardising and updating information to ensure compliance with evolving regulations
- Minimising administrative costs by providing digital tools and pre-approved data
- Facilitating the selection of the most suitable RP scheme for different building types
- Enhancing accessibility to financial incentives, technical solutions and policy requirements.

For all RP implementation options, the link with the corresponding one-stop shop is essential because there are many RP requirements related to the provision of information, which can be managed by the one-stop shop.

**Important steps for effective one-stop shop implementation in Greece are:**

- Structural integration with TEE KENAK
  - Develop a one-stop shop framework aligned with TEE KENAK, ensuring region-specific accessibility and population-based service distribution.

- Evaluate whether island clusters can be grouped under a dedicated one-stop shop network, streamlining resource allocation and expertise sharing.
- Cost optimisation and digital standardisation
  - Ensure that technical guidelines, funding schemes and compliance checklists are accessible via one-stop shop digital platforms.
- Policy and regulatory alignment
  - Enhance public awareness and professional training programmes through one-stop shops to maximise adoption rates.

One-stop shops should be active project promoters or project managers, rather than merely information centres, with quality-assured, engineer-led case handling, standardised (possibly AI-supported) templates and backed by a large, targeted awareness campaign. According to stakeholder feedback, one reason for the low uptake of existing pilot projects was the limited scope of the campaigns. This means that communication, information and advice are essential.

## 8 Digital building logbooks

The digital building logbook is envisioned as the central repository for all building-related information, making it indispensable for future renovations as it acts as a living record. Its role as the core information source means that data captured in the digital building logbook, ranging from maintenance records and energy performance to renovation history and compliance documents, will directly inform and validate the RP scheme.

**Key points of digital building logbook–renovation passport integration are:**

- **Bidirectional data flow:** Updates in the digital building logbook directly influence RP recommendations, ensuring real-time alignment between building data and renovation planning.
- **Maintenance and governance:** A government-controlled digital building logbook offers standardised data flows for seamless RP integration, while decentralised models may require additional validation and coordination.
- **Continuous evolution:** As the digital building logbook expands, RP schemes must adapt to new data types and regulatory updates to maintain relevance and policy alignment.

The effective integration of the digital building logbook with the RP scheme ensures that every renovation step is rooted in the most recent, comprehensive building data. This, in turn, supports high-quality, cost-efficient and compliant renovation projects, while adapting to the diverse management processes of the digital building logbook.

The process of linking the RP with the digital building logbook will depend on who manages and maintains the latter. It can be government-led (public administration oversight), or a private-sector or hybrid initiative (collaboration between public and private entities, and TEE).

To ensure effective integration, the following elements must be addressed:

- **Standardised data fields and interoperability**
  - Ensure RP and digital building logbook compatibility through common data formats.
  - Link energy performance data, renovation steps, and CO<sub>2</sub>e<sub>q</sub> reductions directly to the digital building logbook.

- Align the EPC database with both RP and digital building logbook to prevent duplication.
- **Automatic updates and version control**
  - Enable real-time tracking of staged renovations and energy performance improvements.
  - Implement version control to maintain a historical record of past and ongoing interventions.
- **Financial and regulatory integration**
  - Connect digital building logbooks to funding schemes, subsidies and tax incentives for informed renovation decisions.
  - Ensure regulatory updates (e.g., energy standards, fossil fuel phase-out) are automatically reflected in RP recommendations.
- **Access and user rights management**
  - Define data access, editing and updating permissions while ensuring transparency and security.
  - Establish different user roles:
    - **Building owners:** Track and update renovation progress.
    - **Energy experts and auditors:** Input technical data and validate EPC/RP information.
    - **Public authorities:** Monitor compliance and policy impact.
    - **Financial institutions:** Assess funding eligibility for renovations.

In summary, it is paramount to ensure interoperability between EPCs, RPs and digital building logbooks, version control of implemented steps, and flags for accessibility upgrades and resilience. Greek realities must be addressed, notably illegal/irregular buildings, through clear data fields and guidance for staged, compliant pathways.

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