info@ace-cae.eu
ace-cae.eu

# Guidelines of the Architects' Council of Europe for the transposition of the recast EPBD (Directive 2024/1275) by Member States

## Background

The Architects' Council of Europe (ACE) is the representative organisation for the architectural profession at European level. ACE represents the interests of over half a million architects from 36 countries in Europe. Its membership currently consists of 52 Member Organisations, including the regulatory and professional representative bodies in all EU Member States, 6 Observers Members (Serbia, Kosovo, Ukraine, Montenegro, Republic of North Macedonia and Moldova) from the Accession Countries plus Members with special status (UK, Switzerland and Norway).

These Guidelines seek to develop guidance for ACE Member Organisations on how to best approach their ministries tasked to implement the Recast EPBD. Based on the priorities that guided the ACE for the revision of the EPBD, we aim to highlight specific areas Member Organisations can advocate further to achieve our collective aims. This document should therefore be viewed as an aid for national advocacy. Our Guidance delves into the aspects of the EPBD that are Mandatory, Optional, and where Member States could go further to gain further value from implementation.

**As recalled in the EPBD Article 1 *"the requirements laid down in this Directive are minimum requirements and shall not prevent any Member State from maintaining or introducing more stringent measures".***

This document should be read alongside the Commission's upcoming implementation guide (- expected by June 2025) and explore where we believe Member States should go further.

From the date of entry into force of the EPBD (28 May 2024), Member States have 24 months to implement into national law the provisions that require transposition.

The ACE and its Member Organisations should stand ready to assist Member States during the implementation phase of the Directive, to ensure that the Directive supports both the decarbonisation of the EU building stock and empowers the architectural profession to deliver high-quality living environments.

We believe a consideration of the following points is vital for our profession and for the EPBD to meet the EU climate goals.

Final text of the Recast EPBD: https://eur-lex.europa.eu/eli/dir/2024/1275/oj/eng

info@ace-cae.eu
ace-cae.eu

## General Position

The ACE considers that the interinstitutional deal struck last December is a *balanced compromise* between the initial positions of the co-legislators. It includes many positive elements that ACE campaigned for, on which the architectural profession can build to both decarbonise the EU building stock and achieve the ambitions of the New European Bauhaus and Davos *Baukultur* movements, for high-quality living environments.

ACE welcomes the introduction, in the Directive, of a requirement for the calculation and **limiting of the life-cycle Global Warming Potential (GWP) of new buildings** (as of 2028, for all new buildings with a useful floor area larger than 1000 square meters; and as of 2030, for all new buildings). The limit value, which will indicate the building's overall contribution to emissions that lead to climate change, is a first step towards increased consideration of the whole life-cycle performance of buildings and a circular economy. A Delegated Act is being developed to define the requirements for the development of the national calculation methodology, limits, and roadmap to achieve these.

The ACE is also pleased to see that requirements for the introduction of **Minimum Energy Performance Standards (MEPS) have been maintained for the non-residential sector** with national flexibility for defining 'worst performing stock'. Co-legislators opted for a more flexible, so-called "trajectory" approach for the residential sector, recognizing the need for different countries to define their path to net zero.

The text brings several other improvements, including **National Building Renovation Plans**, the **Building Renovation Passport**, the rolling out of **One-Stop Shops** and greater consideration for indoor environmental quality. It will be particularly important that architects are involved in one-stop-shops.

The EPBD in its current form continues to lack clarity when it comes to comparability and accountability of performance across Member States . In contrast to the initial ambition of this latest revision, the text leaves flexibility for Member States to choose the distribution of scales and relating energy classes at national level. While some quality assurance measures have been introduced there is only a short reference in the text to the need to be able to **reconcile calculated performance with as-built and operational data**, while the **disclosure of operational energy use data** remains optional. These would have been essential for EPCs to become a meaningful indicator of likely energy and carbon savings and for EPCs to form a robust foundation for financial

info@ace-cae.eu
ace-cae.eu

incentives for both retrofit and newbuild. However, the revised directive does encourage **data collection and sharing** to improve knowledge of energy consumption in buildings, which may indirectly lead to increased transparency around actual energy use, including metered values.

info@ace-cae.eu
ace-cae.eu

# Summary of Recommendations for the Implementation of the Directive at National Level

We recommend that Member States:

Life-Cycle Emissions & Deep Renovations (Article 2)

- **Mandate Low Life-Cycle Emissions:** Go beyond EPBD requirements by regulating full life-cycle emissions, including embodied carbon, in both new builds and renovations. This includes reducing emissions from materials, construction, and demolition alongside improving operational efficiency.
- **Prioritise Deep Renovations:** focus on reducing embodied carbon through deep renovations rather than incentivizing new construction. Retrofit First strategies could be prioritized to reduce emissions more effectively and cost-efficiently than new builds.

Life-Cycle Global Warming Potential (GWP) & Minimum Energy Performance Standards (MEPS) (Article 6 + Annex III)

- **Enforce Whole-Life Carbon Accounting:** National Building Renovation Plans (NBRPs) must regulate full life-cycle emissions, not just operational energy. Life-cycle GWP, including embodied carbon, should be integrated into MEPS calculations.
- **Strengthen MEPS:** Aim for Zero-Emission Building (ZEB) or Nearly Zero-Energy Building (NZEB) standards, and ensure life-cycle GWP is a mandatory component of MEPS assessments, in line with national carbon budgets for the built environment.

National Building Renovation Plans (NBRPs) (Article 3 + Annex II)

- Meet EPBD targets by ensuring that NBRPs include:
    - **Climate Resilience Upgrades:** Ensure buildings are resilient to climate risks like extreme weather, flooding, and seismic events;
    - **Safety and Hazard Mitigation:** Focus on fire safety, disaster preparedness, and hazardous material removal (e.g., asbestos);
    - **Whole-Life GHG Accounting:** Implement comprehensive accounting for emissions across a building's entire life cycle, not just during operation;
    - **Renovation Passport Integration:** Ensure Renovation Passports are incorporated into NBRPs for strategic, staged retrofits;

info@ace-cae.eu
ace-cae.eu

  - **Additional Elements:** Include references to New European Bauhaus (NEB) core values, regenerative design, and neighborhood-level energy integration.
- **Data and Benchmarking:** Introduce data collection mechanisms, create benchmarks for various building types, and ensure data is collected in a central repository to inform evidence-based policymaking.

Renovation Passports & Energy Performance Certificates (EPCs) (Article 12 + 19)

- **Mandatory Renovation Passports:** Make Renovation Passports mandatory, digital, and issued by architects or certified professionals who understand the holistic nature of building performance. These should be integrated with EPCs for a seamless building data record.
- **EPCs Based on Real Energy Use:** Mandate that EPCs prioritize actual metered energy data, rather than relying on theoretical calculations. Validation of "as-built" and "in-use" performance could be included to ensure EPC reliability.

Renovation Passport Content Requirements (Annex VIII)

- Include in Renovation Passports the following as Mandatory elements:
  - Indicative renovation steps, costs, and payback estimates;
  - Independent modules for informed decision-making;
  - Digital accessibility for building owners;
  - Comprehensive records of major renovations;
  - Seismic safety considerations;
  - Neighborhood-level energy supply integration;
  - Bill of materials for accurate GWP calculations.

One-Stop Shops & Inspections (Article 18 + 20)

- **Include Architects in One-Stop Shops:** Ensure that architects are part of the One-Stop Shops, offering expertise in design, materials, and renovation sequencing to ensure high-quality, energy-efficient retrofits.
- **Stronger Inspections:** Extend inspections to verify full compliance with energy standards, including "as-built" checks. Buildings should undergo verification both at completion and after at least one year of occupancy to ensure accurate energy and carbon performance.

info@ace-cae.eu
ace-cae.eu

- **Remote Inspections:** Allow remote inspections only when verified through accurate smart building technology, ensuring that performance data aligns with real-world conditions.

info@ace-cae.eu
ace-cae.eu

## Explanatory Note

Zero-Energy Buildings (ZEB)

The EPBD defines a Zero-Emission Building (ZEB) as a building with a very high energy performance 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.[1] A Nearly Zero-Energy Building (NZEB), by contrast, meets stringent efficiency standards but may still rely on some external energy supply.[2] Eventually, all new buildings will have to be ZEB.[3]

These definitions focus primarily on operational emissions and can ignore a hidden climate cost of construction. **We urge Member States to not only align with the EPBD standards but go further by mandating low life-cycle emissions for all new builds and renovations.** This means drastically reducing embodied carbon (from materials, construction and demolition) alongside operational efficiency.

When we account for full lifecycle emissions, the case for prioritizing deep renovations over new construction becomes undeniable. By only narrowly focusing on operational energy we risk incentivizing carbon intensive new builds while overlooking the vast emission saving we can do from retrofitting and renovation.[4] True decarbonization will demand a holistic approach – one that measures and minimizes emissions at every stage of a building's life. This includes implementing incentives for Retrofit First strategies, which prioritize the renovation of existing buildings over new construction whenever feasible.

Life-Cycle Global Warming Potential

Life-Cycle Global Warming Potential (GWP) measures a building's total climate impact—from construction to demolition.[5]

While we support the EPBD's definition, we recommend that Member States make sure that **National Building Renovation Plans (NBRPs) enforce this principle**. Cutting

[1] Article 2(2) Directive (EU) 2024/1275 of the European Parliament and of the Council of 24 April 2024 on the energy performance of buildings (recast) ("EPBD")
[2] Article 2(3) EPBD
[3] Article 7(1) EPBD
[4] It is widely held that renovations and retrofitting the existing building stock will have a bigger impact on lowering GHG emissions. See the following: Zimmermann, R. K., Barjot, Z., Rasmussen, F. N., Malmqvist, T., Kuittinen, M., & Birgisdottir, H. (2023). GHG emissions from building renovation versus new-build: incentives from assessment methods. *Buildings and Cities*, *4*(1), 274–291. https://doi.org/10.5334/bc.325, Wang, G., Luo, T., Luo, H. *et al.* A comprehensive review of building lifecycle carbon emissions and reduction approaches. *City Built Enviro* **2**, 12 (2024). https://doi.org/10.1007/s44213-024-00036-1, and BPIE (Buildings Performance Institute Europe) (2022). Roadmap to climate-proof buildings and construction – How to embed whole-life carbon in the EPBD. https://www.bpie.eu/publication/roadmap-to-climate-proof-buildings-and-construction- how-to-embed-whole-life-carbon-in-the-epbd/
[5] Article 2(25) EPBD

operational emissions alone is insufficient; only by regulating full lifecycle emissions (including embodied carbon) can the building sector meet EU climate targets. To enable this, Member States could support the development of training schemes for Life Cycle Assessment (LCA) and Life Cycle Costing (LCC) for built environment professionals.
In addition, we urge Member States to **incorporate low embodied carbon approaches in the guidance for typical building types and align national retrofit targets to match national carbon budgets for the built environment sector**—i.e., take into account carbon impact of construction as well as operation.

Minimum Energy Performance Requirements (MEPs)

According to the EPBD Member States are to set MEPs for buildings with a view to *at least* achieve cost-optimal levels.[6] To have a realistic chance of meeting the climate targets, **we urge Member States to strive to reach NZEB or ZEB requirements.**
The European Commission will adopt delegated acts to develop a comparative methodology framework for calculating cost-optimal levels of minimum energy performance requirements.[7]
The EPBD leaves it open for Member States to take into account the lifecycle GWP when calculating the MEPs.[8] While the EPBD allows Member States to **consider life-cycle GWP in MEPs, we argue this must be mandatory to fully account for embodied carbon.** In addition, **limit values should relate to both a top-down carbon budget for the built environment sector and a bottom-up assessment of what is realistically feasible within different building segments.**

National Building Renovation Plans

The EPBD provides a template for the NBRPs where it outlines mandatory and optional indicators.[9] There are a few optional indicators which we believe should be included in the NBRPs to be able to adequately meet the targets set by the EPBD. **NBRPs must go beyond minimum requirements. Member States must align national retrofit targets to match national carbon budgets for the build environment - i.e. take into account carbon impact of construction as well as operation.**
To understand the true impact of buildings in terms of Greenhouse Gas Emissions (GHG) we will have to look beyond operational emissions. To avoid unintended consequences, where many building types incur greater investments in embodied

[6] Article 5(1) EPBD
[7] Article 6(1) EPBD
[8] Article 5 EPBD allows flexibility in MEPS design, and Annex I mentions life-cycle GWP as an optional factor.
[9] Annex II EPBD

info@ace-cae.eu
ace-cae.eu

carbon, emitted in the short term, than the operational savings achieved over a building's life span. **We believe that the life-cycle GWP in new buildings and renovations needs to be included in the NBRP.**[10]

In our view, critical NBRP additions must include:

- Climate resilience upgrades;
- Fire & disaster safety (including seismic);
- Hazardous material removal (asbestos);
- Indoor environmental quality;
- Whole-lifecycle GHG accounting;
- Renovation passport integration;
- References to the NEB core values and principles;
- Include climate adaptation measures (Including shading, and resilience to extreme weather conditions and flooding);
- Incorporate regenerative design principles in retrofit pattern books, to maximise benefits to public realm and biodiversity.

We believe these measures shouldn't just be optional, they are essential for Member States to meet the EPBD targets, avoid carbon-intensive false solutions and deliver truly sustainable buildings.

We also recommend that Member States:

- Introduce retrofit data collection and benchmarks for all building types;
- Collect this data in a central database to inform evidence-based policymaking;
- Identify WLC hotspots for different building types and introduce industry guidance to address them;
- Incorporate architectural retrofit pattern books for typical building types;
- Support the development of building component storage and recycling depots in each local authority, linked to the sorting, storage, and re-certification of materials recovered from building sites and integrated with online catalogue and purchase platforms for recycled and reusable materials and components;
- Require the identification of buildings in poor condition - such as those with moisture damage, structural issues envelope deterioration, low functionality, or limited expansion potential - to prioritise them for deep renovation;
- Incorporate within EPC reform the demarcation of buildings in poor condition or with moisture damage, to incentivise market forces towards targeted deep renovation;

[10] Annex II EPBD concerning Article 3(a) + (b

info@ace-cae.eu
ace-cae.eu

- Require the involvement of architects from design to completion in deep retrofits, ensuring quality, performance, and holistic integration of technical and aesthetic elements;
- Incentivise the useful floor area expansion potential for all buildings undergoing deep renovation including social housing, to increase long-term utility and cost-effectiveness of retrofits;
- Outline decarbonisation strategies for buildings in good condition that cause the least disturbance, such as heat pumps, localised background ventilation, district heating, solar water heating, and photovoltaic systems.

Renovation Passports + Energy Performance Certificates

By 29 May 2026, Member States must introduce a voluntary Renovation Passport scheme.[11] **We strongly advocate for Member States to make the Renovation Passport mandatory, digital and involve architects in their creation.** This scheme is essential for the energy transition, ensuring building integrity and aiding in disaster response. A comprehensive record of a building's evolution allows it to keep track of strategic and staged interventions to achieve desirable deep renovations. Moreover, they will be useful for rescue operations and facilitate informed heritage interventions.

Member States may allow for renovation passports to be issued alongside EPCs.[12] We believe that Renovation Passports are critical for a sustainable built environment. **We strongly advocate for issuing Renovation Passports jointly with EPCs.** Issuing EPCs and Renovation Passports together ensure that information on buildings is found in one place. This will make it easier for adequate intervention planning.

The EPBD mandates that Renovation Passports be issued by a "qualified or certified expert" following an on-site visit. Given their holistic understanding of building function and renovation needs, architects and engineers are best suited for this role. **The responsibility should be reserved for built environment professionals with the necessary expertise to assess buildings in their entirety.**

*Renovation passport content requirements*

The EPBD introduces minimum requirements for renovation passports but leaves the option for Member States to include various elements.[13] Of those optional elements we believe the following should be made mandatory:

[11] Article 12
[12] Article 12(3) EPBD
[13] Article 2 of Annex VIII EPBD

**An indicative timing of the steps should be mandatory** because Member States will have binding MEPS and need to incentivize adequate renovations to the utmost degree. Renovation passports should provide indicative timelines for steps while allowing flexibility for building-specific conditions. Building owners will have to be aware of the energy saving an intervention can impact and how this compares to MEPS. Owners will also want an indicative cost for each step so that they are not afraid to take it. For these reasons: the estimated cost, the estimated payback, the estimated time reference values and estimated lifetime of measures are necessary for owners to make this decision. Nevertheless, renovation passports must avoid being overly prescriptive in terms of technology, techniques and materials and should give discretion to the architect taking care of the renovation. Architects will take account of the building in its entirety and not merely individual parts – this should be considered in the prescription of steps.

We believe that **independent modules should also be made mandatory** on the renovation passports. The more information owners have, the more confident they will be in seeking the necessary renovations. We do, however, believe that when providing links the promotion of services should be based on quality of services and not disproportionately disadvantage SMEs. **We believe that providing information on how to access a digital version of the renovation passport should be mandatory.** This should be done in a simple to use format so that all owners can access such a version without cost or significant effort.

**We strongly believe the renovation passport should include all major renovations made to the building**, this will be of immense importance for an expert to understand the building in its entirety and how to best perform interventions and produce a building renovation passport.

Renovation Passports can also be useful in understanding how to approach buildings during or after natural/man-made disasters. We therefore believe that **information related to seismic safety should be included.**

We also believe that **Renovation Passports should allow for the possibility of including energy supply concepts at neighborhood level** that may exist or be in the planning stage when setting out renovation paths.

We believe it's important to also include a bill of materials in the renovation passport. **The Bill of Materials should be mandatory both in calculated and "as-built" form.** As-built inspections should be incorporated to validate the final implementation and ensure Renovation Passports reflect the building as delivered. The bill of materials can intern be used for the GWP calculations

info@ace-cae.eu
ace-cae.eu

Energy Performance Certificates

**EPC recommendations should be integrated into renovation passports where relevant**, ensuring alignment between short-term energy improvements and long-term renovation plans. Much like the Renovation Passport, to understand the energy performance of a building, the expert issuing the EPC must understand the building in its totality. Energy performance is difficult to break down in parts of a building and should consider the overall design. We believe that this task should be reserved for architects and engineers who are best suited to understand how the overall design of the building can lead to energy performance. **The expert that can perform an EPC should therefore be an architect/engineer or have undergone similar training to understand how the totality of a building interacts with energy performance.**

EPCs can be issued based on either calculated energy performance (using standardized conditions) or actual metered energy consumption, particularly for existing buildings where metering is available.[14] **We believe that where possible EPCs should be based on actual, metered energy use, reconciled with calculated performance, rather than relying solely on theoretical calculations.**

**EPC templates should include a check box and verifier credentials section to log whether independent verification of as-built performance has been conducted.** This would strengthen trust in EPC reliability and signal buildings with verified performance credentials.

**EPCs should be digitised and automatically linked to annual metered data uploads, streamlining updates and enhancing accessibility for building owners, policymakers, and financial institutions.** Integration into central databases will enable evidence-based decision-making and support the development of tailored financial instruments.

**We believe Member States should operate a national database for the storage of EPCs and associated annual energy consumption data.** This will support data-driven policymaking, enhance monitoring of building stock performance, and enable the development of financial and regulatory tools to accelerate the renovation wave.

The EPBD does not explicitly mandate both 'as-built' and 'in-use' validation checks as distinct requirements for EPCs. However, we believe that **EPCs should include 'as-built' validation** (ensuring the building matches design specs at completion) **and 'in-use' validation** (measuring real-world energy performance over time). This will ensure that EPCs represent real energy performance.

[14] Article 19 EPBD

The text introduces a template for EPCs listing a series of requirements for an EPC to display (Annex V). In addition to these requirements are a series of indicators that the Member States may include, we believe they should all be required.

One stop Shops

Member States are to create one-stop-shops which provide technical assistance to actors involved in building renovations.[15] We believe **it is vital that architects are made part of these one-stop-shops** to advise owners in their renovation journey**.** Architects have the necessary skill set to help local communities to re-imagine their living environments, prescribe the right materials, advise on the sequence of the renovation works, and ensure holistic integration of technical, economic, and aesthetic aspects. Including architects ensures that building renovation plans balance the long term benefit of retrofit measures and generate maximum value for the budget of owners and tenants.

Moreover, One-Stop-Shop strategies should explicitly address both individual dwellings and blocks of flats, reflecting the diverse building stock and ensuring no segment is overlooked. Tailored guidance and assistance are critical for different types of residential contexts.

To enable knowledge sharing and support continual improvement of national retrofit strategies, Member States should collect innovative approaches and successful outcomes from One-Stop-Shops and publish these—linking them directly to National Building Renovation Plans. This will provide transparency, promote peer learning, and accelerate the uptake of best practices across the EU.

Inspections

We believe that Member States should go beyond the inspections prescribed in the EPBD. The EPBD focuses on system inspections (heating, AC) without mandating comprehensive as-built checks or restricting remote methods post-validation.[16]

To ensure that buildings meet the energy requirements, **new buildings and recent renovations should be subject to a comprehensive initial inspection to verify the building fabric, systems, controls, and compliance with design specifications.** Verification of as-built and in-use performance should be mandatory for all new buildings and major retrofits. As-built verification should involve an independent

[15] Article 18 EPBD
[16] Article 20 EPBD

info@ace-cae.eu
ace-cae.eu

professional ascertaining that the materials, components, and systems specified and affecting Whole Life Carbon performance were installed, calibrated, and profiled according to the project Specifications or the Employers' Requirements. In-use verification would involve the recording of energy and carbon data following at least one year but not longer than three years after practical completion.

We believe that remote inspections or any exemptions from inspections should only be permitted once remote readings have been ascertained as correct. Smart ready buildings should only receive exemption from inspections if their remote energy and indoor environmental quality data drops have been deemed accurate by an independent inspection.