EU-ASE FEEDBACK ON THE ENERGY PERFORMANCE OF BUILDINGS DIRECTIVE RECAST (EPBD)

EUROPEAN ALLIANCE TO
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Creating an Energy-Efficient Europe

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Feedback on the Energy Performance of Buildings Directive recast

The European Alliance to Save Energy (EU-ASE) welcomes the opportunity to provide feedback on the proposal of the Commission to revise the Energy Performance of Buildings Directive (EPBD).

In the European Union, the buildings sector accounts for about 40% of the total energy consumption, 36% of total greenhouse gas emissions and half of the EU gas consumption. Considering the EU's long term climate neutrality goal and the target to reduce GHG emissions by at least 55% in 2030, this decade must witness an unprecedented wave of building renovations, resulting in a decrease of emissions of at least 60% in the buildings sector by 2030. Consequently, in its 'Renovation Wave' strategy, the European Commission established that the annual rate of energy building renovations must be at least doubled[1]. This is a significant challenge that needs to be tackled, as only 1% of all buildings undergo energy renovations each year, with an even lesser number (0.2%) of buildings going through deep renovations.

Besides the climate crisis, European citizens and businesses are paying record-breaking energy bills since last year, a situation aggravated by the brutal Russian invasion of Ukraine. The building stock is highly vulnerable to soaring energy prices, as almost 75% of buildings are considered energy inefficient and fossil gas still plays an important role for space and water heating. People living in energy poverty are particularly affected by this situation that has been worsening since last Winter (2021-2022).

In this context, together with the rest of the 'Fit for 55' legislative ecosystem, the revision of the EPBD is crucial to address these challenges. The EPBD holds the potential to bring both short- and long-term solutions to reduce buildings energy needs, optimise energy consumption and accelerate the integration of renewables. This in return will reduce GHG emissions, lower energy prices and increase energy security in the EU.

We welcome the Commission's proposal to revise the EPBD. Yet, we believe that the current level of ambition does not reflect the spirit of the Renovation Wave strategy and is not aligned with the EU's energy and climate targets for 2030 and 2050, as well as with the urgent need to dramatically reduce our energy consumption to accelerate the end of European dependency on Russian fossil fuels.

Introducing Zero Emission Buildings

The Commission proposes that all buildings in the European Union must become **Zero Emission Buildings** (ZEB) by 2050. It defines a ZEB as a building with a very high energy performance and where the residual energy needs are fully covered by renewable energy sources.

A 'Zero Emission' building stock in 2050 is unachievable without massive gains in energy efficiency. As such, we regret that the concept of Zero Emission Buildings is not linked with the **Energy Efficiency First Principle** (EE1), and that the proposed thresholds on energy consumption in the Annex III of the proposal are not ambitious enough to secure the proposed ZEB ambition for 2050. The EE1 principle must be the cornerstone of the EPBD. Applying the EE1 principle means that policymakers at EU, national and local level must consider the energy savings potential when taking decisions in the energy

[1] Renovation Wave Strategy, Communication, European Commission, 2020

and non-energy related sectors, especially in the buildings sector. In addition, applying this principle is a '*conditio sine qua non*' for faster integration of renewable energy, resource and material efficiency.

Following the EE1 principle, we recommend ZEBs to be defined as buildings with nearly zero energy needs for heating, cooling, lighting, and appliances. The EPBD proposal should therefore aim to identify more ambitious thresholds, expressed in both primary and final energy consumption depending on the EU climatic zones, to encourage continuous improvement in energy efficiency.

The technologies and solutions exist, they are made in Europe and there is ample scientific evidence that building or renovating highly efficient and decarbonised buildings does not require higher costs than conventional construction[2].

In addition, the Annex III adds that a ZEB cannot cause any on-site carbon emissions from fossil fuels. This should be clearly stated in the definition of a ZEB in Article 2 to reinforce the legal certainty and implementation of the definition by the Member States.

New Buildings

Article 9 of the current EPBD requires that as of 2020, all new buildings are Nearly Zero-Energy Buildings, but leaving flexibility for the Member States in fixing the maximum thresholds for primary energy consumption. This has been translated into different situations from one Member State to another, where NZEBs account for different characteristics and different levels of ambition in energy performance. Thus, the NZEB standard needed to be revised.

In the EPBD recast, the Commission proposes to set more stringent rules for new buildings, declaring that as of 2030, new buildings need to achieve ZEB standards. For public buildings, the requirement applies three years sooner (2027). However, we believe the date proposes for the introduction of this requirement is too late and the ambition level is too low. **All new buildings, especially public buildings and private non-residential ones should achieve ZEB standards as soon as possible**. Additionally, the standard should be set in line with the EU's climate neutrality goal so that ZEB buildings do not have to undergo another round of renovations before 2050.

We welcome the Commission's proposal to mandate that as of 2030 all new buildings will have to disclose their **life-cycle Global Warming Potential**. Considering the whole life-carbon of buildings is a necessary step to increase awareness on resource efficiency and embodied carbon in the buildings sector, incentivising the use of energy performant construction materials, including reused and recycled materials.

Reporting on whole life-carbon should be based on EU common methodologies and standards, namely the Level(s) EU common framework and EN15978 standards. It is also necessary to align raw material data and calculation methodologies in Environmental Product Declarations to ensure transparency and accuracy. Carbon metrics are a necessary tool to decarbonise buildings, as long as they complement energy metrics, which are at the heart of the EPBD and must remain the main vector to increase energy efficiency and decreasing emissions.

[2] Advances towards a Net-Zero Global Building Sector, Annual Review of Environment and Resources, CEU, 2020

Existing buildings

Approximately 80% of buildings that will be standing in 2050 have already been constructed. Retrofitting buildings, especially the worst-performing ones, is therefore a must in the pathway to deliver a Zero Emissions Building stock by 2050. The current EPBD does not mandate buildings to achieve better levels of energy efficiency, but several EU Member States[3] have been introducing laws mandating building owners to renovate their buildings into higher classes of energy performance.

For the first time, the Commission is introducing a key policy measure to trigger building renovations, an EU-wide system of mandatory **Minimum Energy Performance Standards** (MEPS), targeting the worst performing buildings with energy classes G and F to become at least class E by a given year. EU MEPS would not be required for buildings with higher levels of performance, but the Commission invites Member States to implement similar standards to cover the rest of the building stock.

The Commission proposes that EU-MEPS enter into force as of 2027 for public and private non-residential buildings and 2030 for the residential sector. We recommend expediting this timeline. To accelerate the phase out of fossil fuels and reduce Europe's dependency on energy imports, we believe that MEPS should enter into force as of 31 December 2025 for public and private non-residential buildings, and as of 31 December 2027 for residential buildings.

Importantly, to untap the benefits stemming from building renovations for its users, MEPS should mandate that class F and G buildings should strive to reach better levels of energy performance beyond the proposed energy class E. Even under the proposed re-scaling of energy classes, a Class E building does not sufficiently help mitigating energy prices and solving social issues like energy poverty. Furthermore, it would not allow the EU to cut the above-mentioned energy import dependencies from third countries.

Targeting only the worst performing buildings does not provide the needed regulatory incentive for the building stock to become Zero Emissions by 2050. This requires a clearer, long-term calendar for building owners. Therefore, MEPS should cover the entire building stock and be phased-in with a detailed trajectory for each building segments (residential and non-residential buildings, both public and private).

Concerning the proposed definition for **deep renovations**, the Commission sets that a deep renovation occurs when a renovation achieves the NZEB/ZEB standard. In this context, the EPBD should encourage MEPS to target deep renovations. It is very important that both public and private funding programs incentivise deep and staged deep renovations, as well as relevant catalysts such as renovation passports and business models.

National Building Renovation Plans

The Long-Term Renovation Strategies (LTRS) are proposed to be transformed into **National Building Renovation Plans** (NBRP). They would be set by each Member State to ensure the renovation of the national building stock and its transformation into a Zero Emission Building stock by 2050. We

[3] In the EU, countries like Belgium, France, Germany, Greece and the Netherlands have already introduced MEPS or similar measures to increase the number of buildings energy renovations.

welcome the mandatory use of a common template, to ensure reliability and comparability across the EU. It will also allow to gather data which are essential to plan and design the right public policies, notably those related to multiple benefits and energy system benefits of energy efficiency in buildings.

We recommend that several optional indicators would better be mandatory, as they are useful to ensure the delivery of the building renovation targets and would ease the necessary upscale of the supply chain. Particularly, those linked to the workforce and the indicative phase out date for fossil fuels should become mandatory. The implementation of those NBRP would be made easier with milestones and pathways starting in 2025, and not only in 2030, and ideally would need to be revised every 5 years instead of 10 to ensure they encapsulate all possible trigger-points to renovations.

We also consider positive that **national targets** are to be included in the NBRPs, referring to annual energy renovation rate, primary and final energy consumption of the building stock and operational greenhouse gas emission reductions. The specific timelines for all buildings to achieve higher energy performance classes should be made more specific, per segment, to complement MEPS. We would also suggest including sanctions or the introduction of additional measures at EU level in case national targets are not met on time.

Energy Performance Certificate and Renovation Passports

Buildings-related energy performance data are a prerequisite to increase awareness and initiate renovation projects. Detailed data is crucial to upscale efforts, but it needs to be accessible and user-friendly. **Energy Performance Certificates (EPC)** are often very different from one Member State to another, even from region to region, and are not always tailored to the needs of buildings users.

We commend the Commission's proposal to **harmonise EPCs** through a common template to widespread their use and to better adapt them to the benefit of homeowners and prospective buyers. By expanding the information delivered through EPCs, citizens can have a better understanding of the overall energy performance of the buildings, but also about the operational CO2 emissions, the energy needs of the buildings, the part of renewable energy that the building unit consumes and the energy performance class.

We recommend including in these mandatory requirements the energy needs for heating and cooling, metered energy consumption, the mandatory display of CO2 emissions, and the fuel used for heating and cooling, as this information is important for users to achieve real energy savings from one period to another. Furthermore, elements such as the connection to a district heating and cooling networks and potential for individual renewable energy generation (like solar exposure) should also be included. Recommendations for improvements and additional features should cover equally passive and active systems and solutions.

Finally, the review of the EPC needs to reflect digital progress by allowing innovative measuring technologies based on real energy performance. To ensure quality and certainty, the EPBD should include a requirement for the European Commission to establish a European certification approach for energy efficiency meters.

EPCs should be better integrated with other existing databases and tools, such as the Digital Building Logbook to help overcome value chain fragmentation. Such logbook would also provide appropriate level of access to key data to various stakeholders involved in the construction value chain.

We also support the Commission's proposal to introduce **Renovation Passports** to guide building owners in their renovation pathways for planning deep and staged deep renovations. Passports would give a health check on the building, providing tailored advice to homeowners and investors. To make sure these passports are available, EPCs should display them mandatorily and not as just an option, as it appears in Annex V of the recast. We also recommend public funding schemes to reward the realisation of renovation passports.

Energy performance classes are at the centre of the EU's buildings energy policy, providing an easy-to-understand scale for the performance of buildings. With the introduction of MEPS, the energy performance classes become more relevant than ever. We welcome the Commission's proposal to rescale these classes by 31 December 2025, adapting them so that a class "A" building relates to a Zero Emission Building, while the 15% worst performing buildings in each Member State would receive a class "G".

Buildings at the centre of the energy system

Buildings are a fundamental part of the energy system. They primarily consume energy but can also manage, store, and generate energy. Moving forward, the EU's decarbonisation pathway requires a more decentralised energy system with electrification to power it. The EU Strategy for Energy System Integration considers buildings as central in the transformation of the energy system. They are not simply passive consumers, but active components of the EU's energy infrastructure. In this respect, we recommend the EPBD to adopt a **district approach** to ensure aggregated buildings are considered as energy infrastructure and become part of a truly integrated energy system.

In the new energy system**, electric mobility** is a key component in Europe's decarbonisation path. To foster sustainable mobility and smart integration of the transport and the buildings sectors, the existing requirements for electromobility should be strengthened for all types of buildings with parking spaces. All buildings should be made ready for EV charging by 2035, which is the date by which all new car and van sales will have to be 'zero emissions', with intermediate targets for 2025 and 2030.

Digitalisation

Digitalisation and automation optimise consumption and the performance of the whole energy system. Deploying **building automation and control systems** (BACS) in new and existing buildings undergoing renovation is not only cost-efficient, but also has a high return on investment, with a typical payback period between 2 and 6 years, depending on the complexity.

The **Smart Readiness Indicator** (SRI) will play a great role in accelerating the digitalisation of buildings, so we welcome that the Commission will adopt a Delegated Act to mandate the application of the SRI for non-residential buildings. We also welcome the Commission's proposal that ZEBs shall be equipped with measuring and control devices for monitoring indoor air quality, but we suggest extending it to also cover other indoor environmental quality parameters such as temperature and humidity.

However, it is not mandatory for Member States who implement SRI schemes to require the inclusion of the SRI on the Energy Performance Certificate (EPC). We would suggest that it should become mandatory for Member States to ensure the inclusion of the SRI in the EPC, when the SRI applies in the relevant Member State.

The use and ownership of **buildings data** is a central element of the EU energy and digital policy. The EPBD should promote increased data availability and transparency of products and systems performance. The use of real performance data in energy management and digital certificates, passports, reports, and logbooks should be mandatory for simplified exchange and update. Such data should be integrated in the preparation and roll out of national building renovation plans. We recommend the EPBD to define which data is to be made public, considering the protection of data developed by energy service providers. We also believe that the EPBD can leverage Artificial Intelligence (AI) in buildings and data analytics as an enabler to better monitor, manage and automatically adjust energy consumption.

Technical building systems

Optimising heating, ventilation, and air conditioning (HVAC) systems in buildings requires more than simply improving the efficiency of the heating or cooling generation equipment.

It is vital to look at how heating and cooling is distributed from the central generator to points of end-use. **Hydronic systems** operate through the distribution of both warm and cool water around the buildings. “Balancing the system” means achieving the most efficient and effective distribution of this water to satisfy the building’s heating or cooling demand. Imbalanced systems do not provide the needed heating or cooling capacities, which in turn leads to a lack of comfort and increased energy waste.

For the above reasons, it is crucial to reinforce the mandatory requirement on BACS in all types of buildings with explicit mention of room controls (thermostatic radiator valves and room controls), which, as recommended by IEA in its recent proposal on energy resilience, are simple, effective, and easy to implement energy efficiency measures[4].

It is also important to set mandatory requirements for hydronic balancing in all building types to ensure variable energy flows are adaptable to changing needs. Balancing also delivers the best ‘low temperature heating’ which is a must for elevated heat pump performance (COP) and integration of low-temperature heat sources.

Finance and administrative support

We welcome the introduction of a definition of **mortgage portfolio standards** to incentivise mortgage lenders to improve the energy performance of their portfolio of buildings in line with the NZEB/ZEB ambition of the EPBD. The Renovation Wave cannot only happen through public support, it needs all tools available, especially from the private financial sector, to deliver the capacities needed.

[4] A 10 Point Plan to Reduce the EU’s Reliance on Russian Natural Gas, International Energy Agency, March 2022

We believe that the highest financial incentives and technical support, including in tools such as energy efficiency mortgages, should be given to **deep and staged deep renovations**, and reward renovation processes coordinated by a renovation passport.

We commend the Commission's proposal to **ban subsidies for fossil-fuel boilers**, but this requirement should be implemented as soon as possible, in line with the recommendations of the International Energy Agency to ban new fossil fuel boilers after 2025[5].

We also welcome the proposal to help addressing the lack of information and technical assistance given to homeowners. The EPBD proposes to give more attention to **one-stop-shops** that will be needed to ensure the rate and quality of renovations required by mandatory MEPS. Private companies and public administrations should be incentivised to propose these energy services, performed by independent and well-trained professionals.

Upgrade skills among renovation professionals and ensure sufficient workforce

The availability of professionals trained to perform renovation works is paramount to the energy transition. Member States should report on policies and measures with quantifiable targets on how they plan to ensure sufficient workforce for renovation and develop and upgrade skills and training of renovation professionals within their National Building Renovation Plans.

Finally, the development of skills and technical assistance should be financially supported by existing and new instruments.

[5] Net Zero by 2050, A Roadmap for the Global Energy Sector, IEA, 2021