Feedback on the European Commission's proposal to recast the EU Energy Performance of Buildings Directive (EPBD)

EuroWindoor welcomes the opportunity to provide feedback on the proposed revision of the Energy Performance of Buildings Directive (EPBD) in COM(2021)802final. We need an ambitious EPBD revision to enable the green transition of the European building stock and create more sustainable and healthier living conditions for all Europeans.

This will require a close alignment with the Energy Efficiency First Principle and other relevant files from the Fit for 55 Package, particularly the Energy Efficiency Directive (EED), the ETS for buildings, the Effort Sharing Regulation and the Renewable Energy Directive (RED).

The energy renovation of buildings is a key European flagship for national recovery plans with significant amounts being invested in buildings in the coming months and years, also as part of the Renovation Wave. We therefore support the broadened scope and strengthened exemplary role of public buildings, as well as the creation of new instruments to trigger the renovation of the worst performing buildings by introducing Mandatory Energy Performance Standards (MEPS). The improved reliability of Energy Performance Certificates (EPCs), their expanded scope as well as the shorter validity period will provide a better framework for monitoring and securing the achievement of the agreed energy saving targets.

With the EPBD revision there is the opportunity to ensure that these investments will lead to energy efficient, decarbonised and healthy buildings, by setting the right legislative framework. To do this, there is a need to introduce a more holistic approach to buildings, moving beyond energy performance requirements to address all building parameters, i.e. energy, environment and health. EuroWindoor therefore very much welcomes the new provisions in the EPBD revision to better factor in health, comfort and indoor air quality (IAQ) as well as the proposal to expand the scope by including a CO_2 emission reduction dimension. However, the revision of EPBD needs to be improved to deliver the full potential of the multiple benefits of energy efficiency and to comply with relevant technical progress.

For the upcoming negotiations, it will be critical to focus on[1]:

I. **Strengthening the new definition for zero-emission buildings**
II. **Ensuring a Healthy Indoor Climate for all Europeans**
III. **Factoring in the energy balance principle for window products**
IV. **Further boost the renovation wave as part of national building renovation plans and taking Energy Efficiency First principle into account for MEPS**

[1] This feedback is an continuation of the EuroWindoor position „Benefits of windows and glazed areas“ (2018)

I. Strengthening the zero-emission buildings concept

Since its introduction in 2010, the concept of nearly Zero Energy Buildings (nZEB) has been a key instrument of the EPBD to secure the energy performance of new buildings. EuroWindoor fully supports the Commission's plan to broaden the scope of EPBD definitions by including GHG emissions in the set of regulated indicators.

However, in our view the proposed definition for "zero-emission buildings" does not address CO_2 emissions specifically, but only re-affirms the need to limit the energy consumptions of new buildings and to supply them with renewable energy. With the achievement of ambitious energy targets for nZEB, Europe has now reached a tipping point where the environmental load of construction materials for new buildings is comparable to the CO_2 emissions associated to energy consumptions of buildings.

It is therefore crucial to start regulating the environmental load of new buildings – both for the use phase but more importantly for the embodied CO_2 – by introducing mandatory LCA for all new buildings as soon as possible as already done in Denmark, Netherlands and France.

The current proposal for recast EPBD (COM(2021) 802 final) will not generalize the use of LCA until 2030, de facto preventing efficient target setting until 2033-2035 (based on experience from Member States where LCA and associated CO_2 thresholds were introduced). This status quo represents a major barrier toward Europe's 2030 objectives.

EuroWindoor recommends the following:

- Earlier implementation of mandatory LCA for all new buildings between 2025 and 2030.
- Require the member states to introduce a clear timeline for the rollout of thresholds associated to mandatory LCA for all new buildings.
- Modify the definition of 'zero-emissions buildings' and 'nearly zero energy buildings' in Article 2, by allowing all sources of renewable energy to cover their very low energy demand (incl. nearby and grid renewables).

II. Ensuring a Healthy Indoor Climate for all Europeans

People spend up to 90% of their time in buildings but many existing European buildings suffer from poor daylight and indoor climate with adverse effect on health, well-being and productivity.

EuroWindoor welcomes new requirements to monitor and regulate indoor air quality for zero-emission building as well as the introduction of health externalities of energy use in the methodology framework to identify cost-optimal levels. However, direct health externalities should also be factored in to include wider benefits not related to energy use (impact of healthy indoor climate through e.g. better daylight conditions or better indoor air quality). By doing so, we will be able to quantify the multiple benefits of Energy Efficiency.

Due to the outstanding share of Europeans living in unhealthy buildings (1/6th of Europeans and 1/3rd of European children[2]), we believe this major challenge of our building stock should be addressed via a strong Energy Performance of Buildings Directive, tackling health and comfort of occupants and placing these indicators at the same level as energy aspects.

The term "healthy indoor climate" is mentioned 4 times in the 2021 recast EPBD but has unfortunately not been defined in any of the 57 definitions available in Article 2.
To re-establish a better habitability of existing buildings (via renovation and modernization) and secure the resilience of future buildings (new constructions), we call for the introduction of an ambitious definition of a 'healthy indoor climate' in Article 2 of the Recast EPBD, including essential parameters as described in the EPB Standard EN 16798-1: **daylight, indoor air quality, overheating mitigation and acoustics**.

EuroWindoor also advocate for introducing the definition for 'healthy indoor climate' to be considered in the scope of zero-emission building, Energy Renovation Passports and Energy Performance Certificates.

- ✓ The successful improvement of the energy performance of new buildings provided by the introduction of an nZEB definition a few years ago was unfortunately not accompanied by parallel goal to maintain (or improve) the well-being of occupants and has de-facto led to often prioritizing energy aspects over health and comfort. We therefore recommend using the 'zero-emission building' definition of Article 2 to secure that the future building stock presents a 'healthy indoor climate'.

- ✓ Regarding EPCs – and to a certain extent, Building Renovation Passports – there is a need to better reflect the fact that indoor climate improvements represent a strong incentive for building owners to conduct energy renovations. We therefore recommend using the Annex V of the recast EPBD to introduce the key components of the "healthy indoor climate" definition into the list of mandatory indicators to be present on EPC documents.

[2] Healthy Homes Barometer, 2019

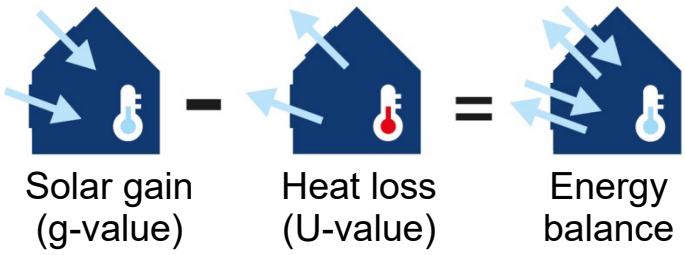
EuroWindoor recommends the following:

- Set a clear definition of 'Healthy Indoor Climate' in Article 2, using the set of indicators defined in EN 16798-1.
- Ensure that zero-emission buildings and nearly zero energy buildings become holistic standard definitions by using 'Healthy Indoor Climate' as part of their definitions in Article 2.
- Ensure that end-users are aware of the Healthy Indoor Climate level of their buildings/homes by introducing mandatory indications of 'Healthy Indoor Climate' levels in Energy Performance Certificates (Annex V) and Building Renovation Passports (Article 10 via Delegated Act).

III. The energy balance principle shall be defined in the specific heating and cooling climatic conditions to assess the energy performance of windows

The EPBD clearly states in Annex I 4. (g) to consider passive solar systems and solar protection in the methodology for calculating the energy performance of buildings, which is highly appreciated by EuroWindoor. But such a rule is missing for calculating the energy performance of building elements, although there is in Article 5 a requirement to set minimum energy performance requirements for building elements of the building envelope when they are replaced or retrofitted.

Currently, Member States have regulated windows mainly by U_W-values (heat-loss). However, when the effect of solar gain is left out, the real performance is not reflected and this is not in line with the objectives of sustainable development or giving the right assessment of a window's real contribution to the performance of a building envelope.



Adopting so-called energy balance approach would give a more correct picture of the performance of a building element, and would influence the actual energy performance of buildings. It would also show that windows can be positive contributors to building envelopes as a source of renewable energy.

The Commission Recommendation (EU) 2019/1019 of 7 June 2019 on building modernisation gives already the example of the 'energy balance' approach when calculating the energy performance of a building element of the building envelope. EuroWindoor recommends the 'energy balance' approach to be used also in the EPBD when it comes to the requirement for Member States to set minimum energy performance requirements for building elements that form part of the building envelope when they are replaced or retrofitted in relation to Article 5 in proposed new EPBD.

Due to the different climatic conditions, different levels of energy efficiency occur, which leads to different optimization goals (e.g. in the North heat protection and in the South prevent overheating). Member States are to set the right balance between e.g. the heating and cooling factors in regulation, and to create the best link in the specific climatic context to other relevant regulated performances of buildings or products. However, the same kind of concept can be adopted across borders in Europe.

- ✓ Window replacement policies based on single U_W-value requirements should be replaced by energy-balance requirements to optimise and secure their efficiency.
- ✓ Energy-balance equations should be defined at national level to account for local climatic conditions. The concept of a differentiated energy balance approach (U- and g-value, air permeability and the effect of solar protection) therefore to be defined in the specific heating, cooling and climatic context of Member States.
- ✓ Energy-balance requirements should be based on cost-optimality as proposed in Article 6 and taken into account by the Commission when revising the comparative methodology

framework for calculating cost-optimal levels of minimum energy performance requirements for individual building elements.

- ✓ For cooling dominated climatic conditions, policies should include expectable savings for cooling as they account for a significant part of building consumptions
- ✓ The recast of EPBD should include the energy balance approach also for requirements to building elements of the envelope.

EuroWindoor recommends the following:

- Include building elements that form part of the building envelope within scope of Article 4 to ensure that framework of Annex I applies.
- Inform end-users of expected benefits from solar gains provided by transparent elements, and introduce Energy Balance as an accurate indicator for these products.
- Consider the relevance of energy balance approach in in Energy Performance Certificates (Annex V point 2) by including U-value **and g-value** for the transparent elements of the building envelope and delete any reference to type of “most common transparent element”, because this is not related to energy efficiency and misleads.

IV. Further boost the renovation wave as part of ambitious national building renovation plans and taking Energy Efficiency First principle into account for MEPS

While the Europe's building stock – residential and non-residential is responsible for 40% of EU primary energy consumption and 36% of the CO_2 emissions, and 75% of the building stock remains inefficient, the rate of building renovation is too low – below 1.2% per year. An issue the recent Renovation Wave Strategy aims to tackle by at least doubling annual renovation rates.

Also thanks to the increased funding available for building renovations as part of national recovery plans, there is a real opportunity to get closer to the objective to grow the renovation rate to 3%/year. The more operational nature of the national building renovation plans but also the introduction of Building Renovation Passports, Minimum Energy Performance Standards (MEPS) and Energy Performance Certificates (EPCs) are important steps towards triggering more renovations in Europe is key in obtaining large energy use reductions in our buildings, and the replacement of windows plays a crucial role in achieving this goal.

Energy savings is an important part of the landscape driving renovation. However, broader aspects are also critical to incentivise consumers to conduct deep energy renovations: A Navigant study (2019) found that the most relevant aspects of energy renovation for consumers are not the energy savings, but the cost savings and improving the indoor climate by making their homes more comfortable/healthier. Key drivers for renovation include issues such as increased daylighting, avoiding over-heating, updating design (incl. the visual expression of the building, safety and accessibility in use, protection against noise, burglar resistance etc.) and of course – last but not least – cost considerations.

- ✓ The EPBD revision should create incentives for the renovation of the existing building stock in a cost effective way. The cheapest energy is that unused, and buildings should be seen as part of the energy system, and not as isolated islands (in line with the 'Energy Efficiency First' principle).
- ✓ Long-term operational national renovation plans and defined cost optimal requirement levels based on an energy balance approach will increase the investment certainty and innovation within the industry.
- ✓ EPBD revision should acknowledge health and comfort as important trigger points for deep energy renovations.

EuroWindoor recommends the following:

- Amend "**in line with the Energy Efficiency First principle**" in Article 2 4. as part of MEPS and include EE1 in Article 3 to comply with explanatory memorandum and Recital (6).
- Keep sentence in Annex I 2. "**Member States shall ensure that the optimal energy performance of the building envelope is pursued.**", because this is not replaced by the new text concerning EN 17423.

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About EuroWindoor AISBL – EuroWindoor AISBL was founded as an international non-profit Association, in order to represent the interests of the European window, door and facade (curtain walling) sector. Our 19 national associations speak for European window, door and facade manufacturers that are in direct contact with consumers, and thereby having large insights on consumers' demands and expectations. We are at the forefront interacting with dealers, installers and consumers buying windows and doors, and the companies behind the associations cover selling all over Europe.

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