

A revised Energy Performance Buildings Directive

Cerame-Unie's position paper

In December 2021, the European Commission published its proposal for a revised Energy Performance Buildings Directive (EPBD). Ceramic construction products will be pivotal to Europe's new near-zero energy building stock as well as the Renovation Wave. Cerame-Unie shares in this position paper the ceramic industry's perspective on this critical piece of legislation.

Contribution of ceramic construction products to energy efficient buildings

The energy-saving potential, durability and reusable qualities of ceramic construction materials (i.e. clay bricks, blocks, clay brick slips, roof tiles, pavers, expanded clay, wall and floor tiles, sanitaryware) are central to reducing energy use and benefit to energy efficient buildings. Ceramic products are long-lasting, sustainable and have multiple energy efficiency qualities:

- Ceramic wall and roof systems reduce heating and cooling costs and emissions with their thermal properties, while increasing comfort: ceramic roof tiles and ventilated facades reflect heat back into the air, light-colored ceramics contribute to solar reflectance, allowing buildings to stay cool naturally, roof tiles allow a more natural ventilation.
 - Ventilated facades create an air chamber between the cladding material and the structural surface of the building. Such systems can easily be applied in renovation on any material. A building with a ventilated facade system can be up to 35% more energy efficient. Other benefits of ventilated facades include the reduction of dampness on walls, deterring the formation of thermal bridges and providing a comfortable indoor climate by preventing heat from escaping in winter and entering in the summer, and improved sound absorption.
 - Clay brick cavity walls and monolithic clay block walls with integrated insulation can normally reach any required insulation value by varying the insulation thickness. They also offer a maintenance-free solution for a lifetime.
 - Ceramic construction materials provide high levels of safety in case of fire or flood. They ensure a high indoor air quality, as no toxic emissions emanate from the building fabric into the internal environment.
 - Innovative ceramic sanitary appliances contribute to water and energy efficiency, notably in the context of voluntary smart tools promoted by the industry such as the Unified Water Label.
- **The contribution of long-lasting building products for energy efficient buildings, such as ceramics, should be better introduced in the revised EPBD.**

A whole Life Cycle approach

The revised EPBD proposal considers whole life-cycle greenhouse gas emissions associated with the building, including reuse and recycling of building materials. Therefore, the proposal should promote the “cradle-to-cradle” approach, not the “cradle-to-grave” approach.¹ The latter does not explicitly include Module D of EN 15804, i.e. “Benefits and loads beyond the system boundary” (reuse, recovery, recycling potential). Building materials should be assessed and promoted with respect to their reusability and recyclability potentials.

- **The proposal should highlight more strongly the circular economy aspects, i.e. ways to prolong the products’ service life by reuse and recycling.**

The global warming potential (GWP) over the whole life cycle indicates the building’s overall contribution to emissions that lead to climate change. It brings together greenhouse gas emissions embodied in construction products with direct and indirect emissions from the use stage. A requirement to calculate the life cycle GWP of new buildings therefore constitutes a first step towards increased consideration of the whole life-cycle performance of buildings and a circular economy.

- **To ensure a level-playing field, the calculation of the life-cycle GWP should be based on a harmonised methodology at EU level, such as EN 15804+A2, an established and proven standard developed within CEN/TC 350.**
- **All indicators of the European standard EN 15804+A2 should be taken into consideration. Focusing only on GWP gives a partial understanding of the environmental impacts.**

For the calculation of the life cycle GWP of new buildings, the GWP is communicated as a numeric indicator for each life-cycle stage expressed as kg CO₂e/m² (useful floor area) averaged for one year of a reference study period of 50 years.² Choosing a GWP calculation period of 50 years would unfairly disregard the significant sustainability advantages associated with longevity. Thus, if a 50-year span is adopted for GWP calculation, there needs to be a possibility to account for the longer service life of brick buildings (aliquot GWP reduction), by including, for example, an “ecological residual value” or other compensatory calculation methods.

- **The average lifespan of a brick house amounts up to 150 years. Longevity and sustainability advantages resulting thereof need to be considered in possible calculation methods for buildings by increasing the reference study period.**

¹ Proposal for a revised EPBD (2021), Art. 2, paragraph 23

² Proposal for a revised EPBD (2021), Annex III, paragraph II

Renovation assessment

Considering the fact that renovation is strongly promoted, the proposal should also support assessments to determine whether deep renovation (purely energetic renovation) or demolition and subsequent rebuilding is ecologically and economically more reasonable. In some cases, it might be more efficient to entirely rebuild a building instead of renovating an old one. For this purpose, the proposal should contain a paragraph specifying the implementation of such assessments taking into account the performance of the entire building in the long term.

About Cerame-Unie

Cerame-Unie is the European Ceramic Industry Association, representing interests of all major European ceramic producers. The EU Ceramic Industry is a world leader in producing value added, uniquely designed, high quality ceramic products manufactured by flexible and innovative companies, the majority of which are SMEs. The ceramics industry represents an annual production value of around €30 billion, accounting for approximately 25% of the global production, and over 200,000 direct jobs throughout the EU.