

Woodworking Industry's feedback to the review of the Energy Performance of Buildings Directive

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CEI-Bois welcomes the “Renovation wave” initiative as part of the EU Green Deal, and the consequent revision of the Energy Performance of Buildings Directive. The European Woodworking Industry is a strong advocate of the role of sustainable construction for a climate-neutral European economy and supports the use of timber construction as an immediate way to achieve long term carbon storage in products, as also recognised in the 2020 Circular Economy Action Plan.

As trees grow, they take carbon dioxide out of the atmosphere and, even when they are harvested, carbon remains stored in the wood for the lifespan of the product. On average, 1m³ of wood stores the equivalent of 0.9 tons of CO₂. It is estimated that new timber construction could store 10 million to 700 million tons per year globally, while also reducing emissions due to the substitution effect i.e., wood can replace materials such as steel and concrete the production of which results in high levels of CO₂ production¹.

Renovation and retrofitting of existing buildings can play a major role in the **recovery from the economic crisis** induced by the Covid-19 pandemic, in part because the tasks necessary can be labour intensive. Renovation will have a major role in the construction market of many European countries, as demand for new construction may decrease due to stagnating demographic trends.

Renovation offers the opportunity to reduce the demand for energy of the building stock, which represents today 40% of the EU final energy consumption. Renovating in wood can in addition offer something that other materials cannot offer; that is the ability to store carbon and thereby also to increase the size of carbon sink in our cities and urban areas in addition to the sink delivered by new build:

- Wood-based products have good thermal insulating properties. Wood based products such as wood fibre and cellulosic insulation used in walls and roofs, timber multi-glazed window frames, and even flooring and CLT structural component can be used to reduce the **operational energy** of the building.
- The moisture regulating properties of timber has also been shown to reduce the need for heating and air conditioning, further reducing operational energy.
- Wood products used in renovation require less energy in manufacturing and transport, thereby reducing the final **embodied carbon** in the building. Sustainable wood products can substitute for carbon intensive materials such as metal (eg. window frames), mineral fibres (eg. loft insulation) and oil based foam insulation (eg. cavity wall insulation).
- Finally, **wood stores the carbon** removed from the atmosphere during the tree growth. Extending the life of existing building stock and refurbishing with wood products increases this carbon sink.

¹ Churkina, G., Organschi, A., Reyer, C.P.O. et al. Buildings as a global carbon sink. Nature Sustainability 3, 269–276 (2020).

In the Inception Impact Assessment, the Commission rightly recognises that *“buildings are responsible for GHG emissions not only during their operation, but over their whole lifecycle, including production and transport of materials, construction, refurbishment and end of life; however, such embodied carbon is rarely addressed.”*

The revision of the Energy Performance of Buildings Directive offers momentum to address this gap. Referring to the options listed in the Inception Impact Assessment, the Woodworking Industry suggests to opt for a **mix of Option 2** (non-regulatory measures such as additional guidance, support, project financing) **and Option 3** (EPBD amendment to increase the decarbonisation ambition of the sector).

Recommendations for measures:

- The **acquisition of the right skills** is the prerequisite to making the successful transition to greener buildings. Today, skills gaps, including lost woodworking skills, are already recognized as a major bottleneck in a number of sectors, including the renovation of existing buildings and the construction of new buildings; specific instruments, including funding, should be developed with professional associations in order to attract, skill, reskill and redeploy workers of all ages.

It is necessary to promote an **integrated approach** to renovation and the built environment, by promoting with public and private financing schemes for **energy efficiency** while also addressing **embodied carbon, resource efficiency** and **circularity principles** to reduce whole lifecycle emissions:

- Reporting on the **Life Cycle Emissions** (via the Level(s) framework) should be made mandatory where it makes sense for all new public buildings and large renovations, as suggested by the [World Green Building Council](#);
- Requirements for **Nearly Zero Energy Buildings** (nZEB) should go beyond operational energy performance and gradually include requirements to reduce embodied emissions;
- **Financial support** provided under the EPBD should also be linked to an assessment of whole life-cycle emissions savings (embodied carbon+operational carbon).
- One way to incentivise the long-term storage of carbon could be by issuing **carbon credits** for the carbon stored in Long Life Harvested Wood Products. This would increase the circularity of wood materials and could even place a value on the timber already in buildings – in some cases going back hundreds of years.
- Regulatory barriers to the use of wood are still present at national level, mostly due to prejudices against the performance of wood materials in construction. National building codes should ensure a level playing field between materials and be performance-based.