



EUROPEAN PANEL
FEDERATION

WOOD-BASED PANELS 



EPF POSITION PAPER:

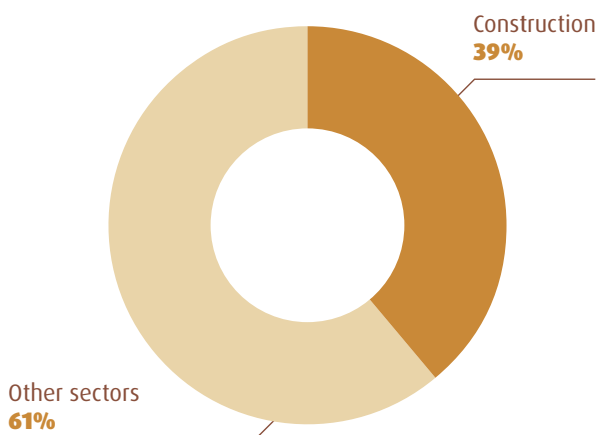
WOOD FIBRE INSULATION - PREFERRED CHOICE FOR A SUSTAINABLE BUILDING SECTOR

Policy Recommendations for Climate-Neutral &
Resilient Buildings

1 Introduction

The European Union has set an ambitious target: by 2040, 3% of homes should be retrofitted each year to improve energy performance and reduce emissions. Achieving this goal requires a combination of measures – improved heating and cooling systems, ventilation, and above all, effective thermal insulation.

Global CO₂ Emissions



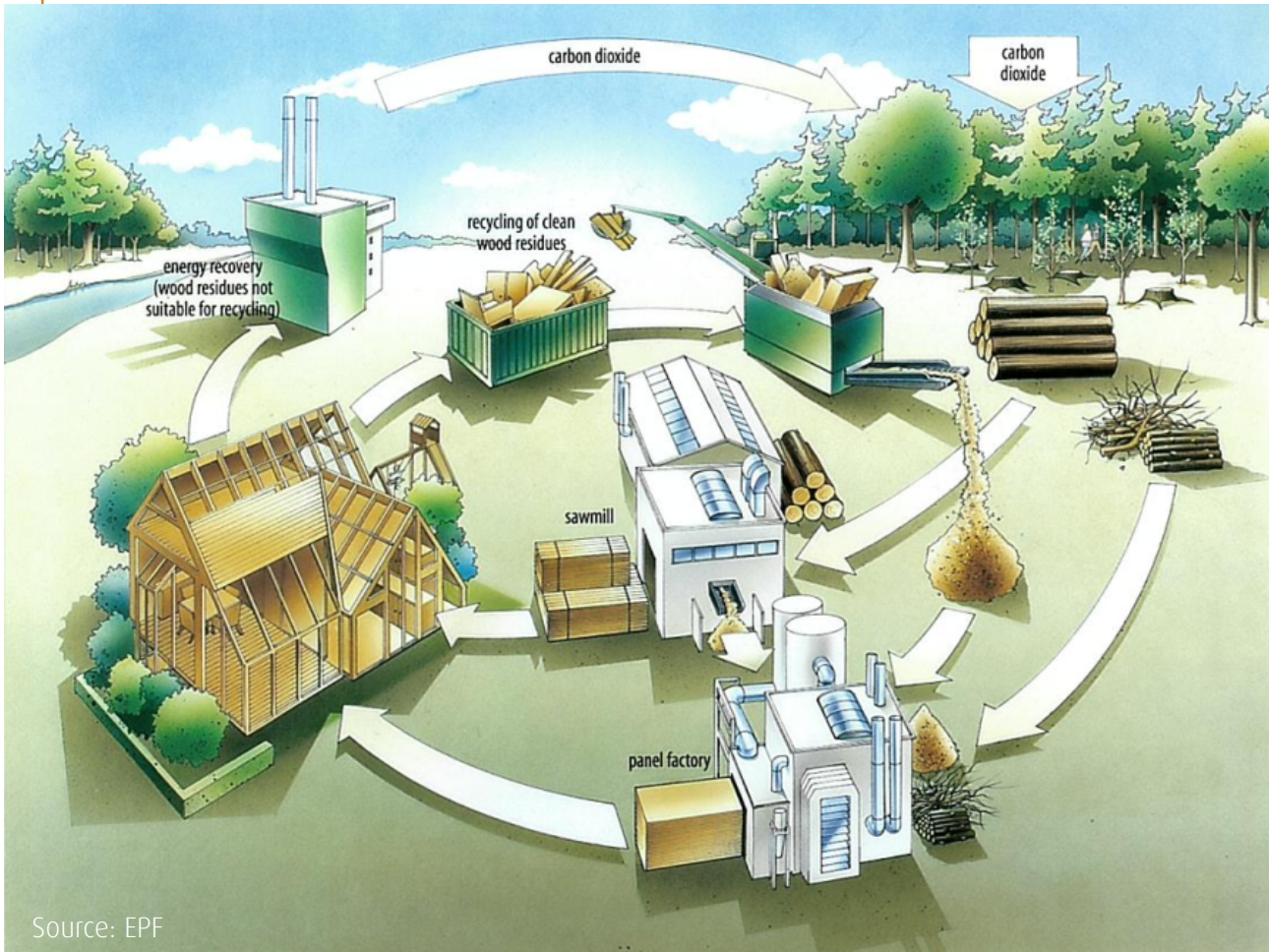
The construction sector currently accounts for **39% of global emissions**. This impact can be mitigated through **carbon-negative solutions** such as wood-fibre insulation, which not only stores carbon but also provides effective thermal protection against both winter cold and summer heat.

2 Why Wood-Fibre Insulation?

a. Sustainability

- Stores carbon: one roof fitted with wood-fibre insulation locks in the equivalent of three years of emissions from an average car.
- Reduces emissions by lowering heating and cooling demand.
- Fully recyclable, with high reuse potential.
- Supports cascading use of wood by valorising residues and waste.
- Renewable raw material (softwood, widely available in Europe, deforestation-free).

Cascading use of wood

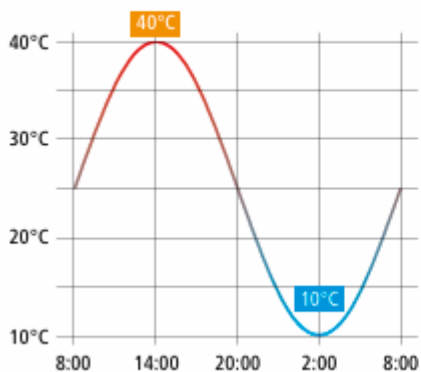


b. Thermal Performance

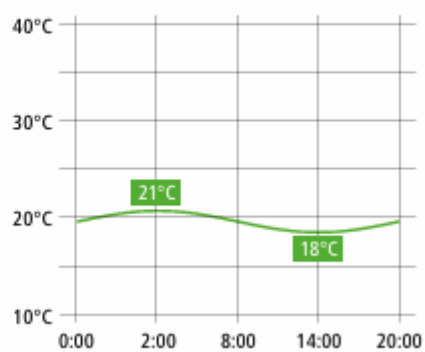
- Low thermal conductivity (from 0.036W/mK).
- Reduces indoor heat & cold peaks.

Example of a roof construction using wood-fibre insulation

External temperature trend

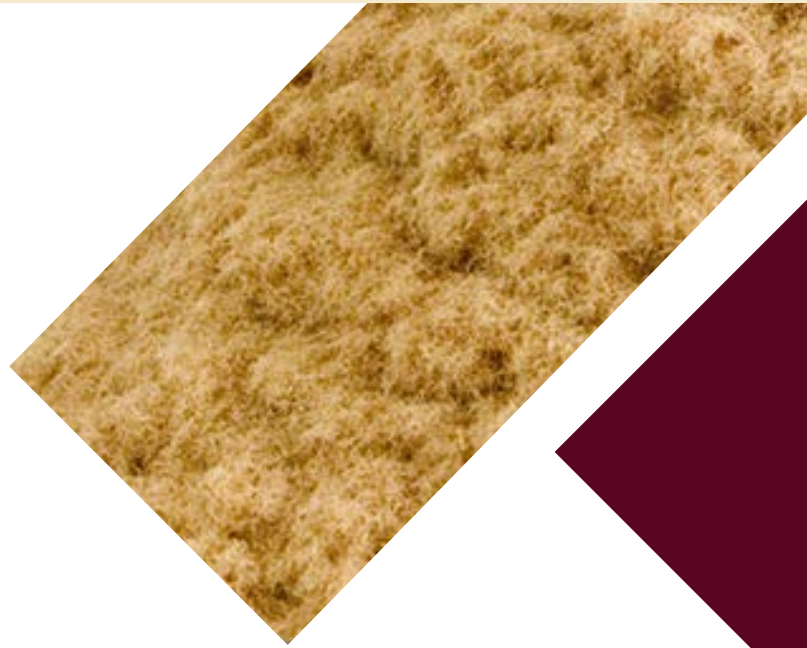


Internal temperature trend



c. Added Value

- Aesthetics: long-lasting wall and ceiling finishes.
- Acoustics: excellent sound absorption.
- Technical performance: protection from cold, noise, and moisture; breathable for healthier living spaces; fire resistance (up to REI 90).
- Excellent protection against heat



3 Policy Context and Recommendations

The European Panel Federation (EPF) highlights the need to integrate climate neutrality into EU public procurement (1). Wood-fibre insulation should be recognised as a high-impact product for both energy savings and carbon removal.

To align with the upcoming Circular Economy Act and the updated Bioeconomy Strategy, EPF underlines the need to embed circularity, carbon storage, and sustainable material use in public procurement and building policy. EPF believes that EU frameworks should reward the use of long-lived, carbon-storing wood-based materials in construction and renovation, ensuring that policy coherence supports affordable, climate-positive building solutions.

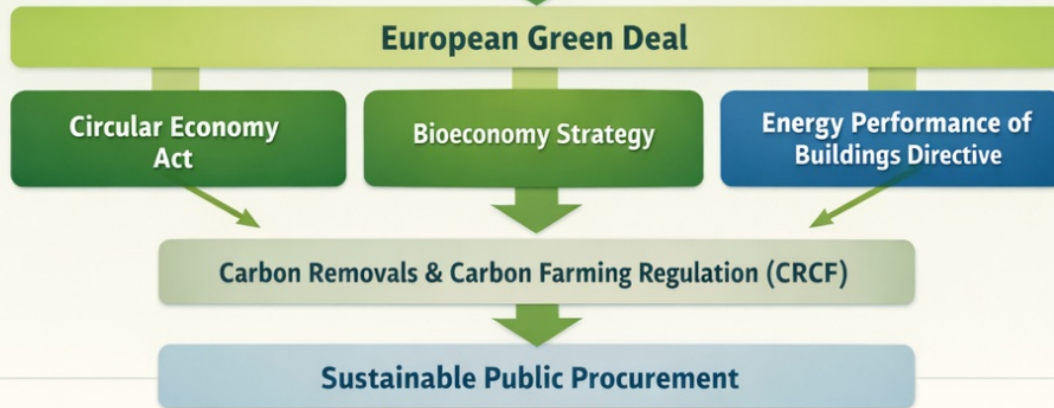
EPF also stresses the need for coherence with the European Affordable Housing Plan, ensuring that energy-efficient, bio-based materials such as wood-fibre insulation are fully recognised as solutions that combine affordability, sustainability, and climate resilience. Embedding wood-based insulation in EU housing and renovation programmes will help address both the energy and housing crises while supporting local value chains and jobs across Europe.

Policy recommendations include:

- **Performance-based procurement:** Promote technical criteria that maximise climate adaptation, particular in protection against heat (e.g., minimum 10-hour phase-shifting capacity to ensure summer night cooling).
- **Amend EU procurement rules (Directive 2014/24/EU):** Enshrine climate neutrality as a central objective, prioritising bio-based, carbon-storing products.
- **Mainstream biogenic carbon storage in building policy:** Building owners may already declare the carbon storage capacity of bio-based materials on Energy Performance Certificates under the revised Energy Performance of Buildings Directive (EPBD). It is now essential to ensure that, under the Carbon Removals and Carbon Farming (CRCF) Regulation, a robust and consistent methodology is developed to accurately calculate and certify the carbon storage in buildings of long-lived bio-based materials.

Integrating Wood-Fibre Insulation in EU Policy

Towards Climate-Friendly Construction



Policy Recommendations



Performance-Based Criteria

Ensure thermal phase-shift capacity



Recognize Carbon Storage

Reward bio-based, carbon-storing products



Support Affordable Housing

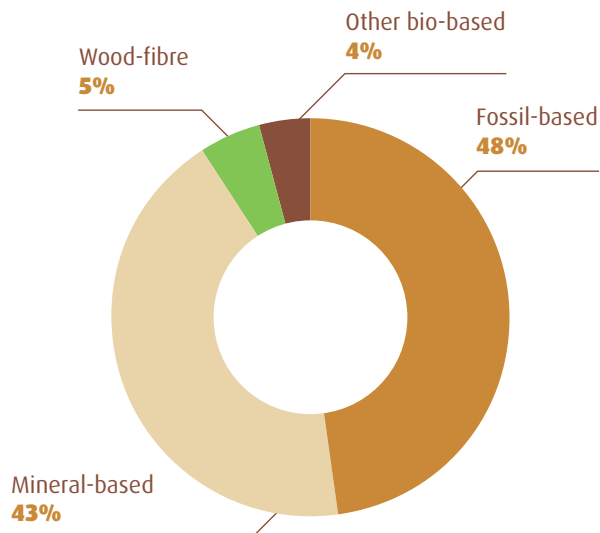
Promote energy-efficient, bio-based solutions

Climate-Neutral & Resilient Buildings

4 Market Dynamics and Opportunities

The Fern study “The Heat is On” shows that using wood for insulation instead of fuel delivers comparable heat benefits while using **9 times less wood** and emitting **21 times fewer greenhouse gases**.

Market opportunity in insulation market in Germany



Source: Fern study “Heat on”

Market opportunity in insulation market in France

In France, the latest available data from the barometer of bio-based insulation materials from “Association des Industriels de la Construction Biosourcée” (3) puts the share of **bio-based insulation at 11% with volumes nearly doubling over the period of 2016-2023**.

Although, there is no information about the share of wood-fiber insulation, it appears that the volumes of rigid and semi-rigid panels (mostly from wood) **increased by 375% over the same period**.

Therefore, there are significant opportunities to increase the market share of wood-fiber insulation in the insulation materials market in Europe.

5 Carbon Removals and Sustainable Wood Use

Forests play a critical role in carbon storage. Harvested wood products (HWPs) extend this storage and reduce emissions by substituting for carbon-intensive materials. However, with limited sustainable wood supply in the EU, efficiency and cascading use must be prioritised.

Wood-fibre insulation offers the highest carbon storage potential among bio-based materials, at **15 kg CO₂ eq. per square metre** according to the study (4) of the United Nations Economic Commission for Europe (UNECE). By contrast, fossil-based insulation such as foam glass emits **+57 kg CO₂ eq. per square metre**. Substituting fossil materials with wood-based alternatives thus creates a powerful double benefit: **carbon storage and avoided emissions**.

Global warming potentials for a comparable functional unit of insulation materials (kg CO₂ eq/FU) according to UNECE

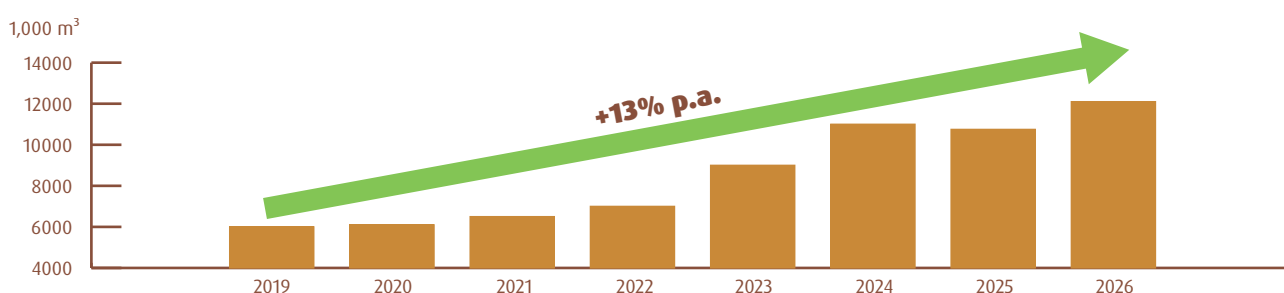


6 Scaling Up: Production Capacity in Europe of wood fibre insulation

Investment in production capacity is growing rapidly. Between 2020 and 2024, European wood-fibre insulation capacity increased from **6.3 million m³ to over 12 million m³**, equivalent to

13% annual growth (5). This increase is sufficient to double wood-fibre's market share - if supported by aligned national and EU-level policies.

Production capacity of wood-fibre insulation (softboard) in Europe (EU27+EFTA)



7 Impact of European wood fibre insulation industry on local economies

Manufacturing plants for wood-fibre insulation are generally located in rural regions, creating **direct and indirect jobs** throughout the supply chain from forestry to construction sectors. Investment in wood fiber insulation by household, companies and public institutions supports jobs in material manufacturing and installations in the construction and renovation sectors and related services.

At the same time, wood fiber insulation in Europe is manufactured from **local wood and wood residues** giving extra value to the forestry and wood-processing industries, while strengthening local economies.

8 Conclusion

Wood-fibre insulation is a **proven, scalable, and climate-positive technology** that directly supports the EU's building retrofit and climate neutrality goals. By embedding climate criteria into procurement, recognising carbon storage in regulation, and supporting bio-based materials in the market, Europe can unlock the full potential of this solution—turning buildings from carbon sources into **long-term carbon sinks**.

References

- (1) EPF response to the public consultation on Bioeconomy Strategy
- (2) The Fern study "The Heat is On", 25 February 2025: <https://www.fern.org/publications-insight/the-heat-is-on/>. Accessed on 28 April 2026
- (3) <https://www.batiment-biosource.fr/le-barometre-des-biosources-1ere-edition/>. Accessed on 28 April 2026
- (4) UNECE study on low carbon construction in cities, February 2025. <https://unece.org/info/publications/pub/399384>. Accessed on 28 April 2026
- (5) Source: EPF Members and various public sources



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