

Sustainable Materials for Buildings

Flagship Community

Challenge

Buildings account today for:

- **32% of global energy use** and
- **contribute 34% of global CO2 emissions**,
- with materials like **cement and steel responsible for 18%** of these emissions.

~85% of Europe's entire building infrastructure were built before 2001, require intervention to extend their life and neutralize their impact.

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Thematic areas

Sustainable Materials Management

- **Natural Materials** - Eco-friendly, rapidly renewable and biodegradable. Used for structural and decorative purposes.
→ **Wood, Bamboo, Straw**
- **Recycled Materials** - Lowers resource use and emissions. Utilized in structures and finishes
→ **Recycled steel, plastic, glass**
- **Innovative Composites & Hybrids** - High strength and low carbon footprint. Suitable for advanced applications
→ **Composites, Functional Materials**



New
European
Bauhaus

Goal

- Address the environmental challenges of construction
- Encourage innovation in resource-efficient design material
- Build capacity across multiple stakeholders to integrate sustainability in everyday practice

Expected Impact

Environment: reduce cement dependency, lower CO2 emissions, advancing circularity through closed-loop material systems

Society: Improved indoor air quality, low-VOC materials, enhanced thermal and acoustic performance, align with the New European Bauhaus principles: sustainable, beautiful, together

Innovation: bio-based, bio-mimetic alternatives, smart materials, low-carbon concrete

Education & Capacity Building: Embed sustainability into professional training to address construction's environmental challenges

Knowledge transfer: buildings as 'living labs' through demonstration projects, dissemination of best practices and community engagement

Join our
community!

