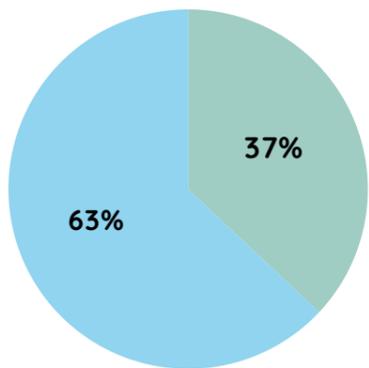


Global green house gas emissions by sector

- CO₂ emissions from building & construction sector
- CO₂ emissions from other sectors



4 RTOs, 3 universities and 5 SMEs

The building and construction sector is responsible for approximately 37% of global energy and process-related CO₂ emissions, highlighting its critical role in addressing climate change (United Nations Environment Programme, 2023). Considering the environmental impact of this sector, bio-based products made from secondary (bio-based) materials are a promising solution. The CIRCBUILT project gathers 4 RTOs (Research and Technology Organisations), 3 universities and 5 industries (small and medium size enterprises) for 36 months to propose a novel pathway for bio-based wastes of lignocellulose from the agricultural, agrofood and forestry industries. The project is funded by the European Commission under New European Bauhaus initiative (HORIZON-MISS-2024-NEB-01-01) with a total budget over 4 million euros (including associated partners).

3-year project gathering 12 partners

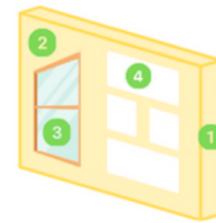
CIRCBUILT is a 3-year project gathering 12 partners from 5 European and pan-European countries. The consortium, led by the VTT Technical Research Centre of Finland includes a well-balanced mix of expertises: biorefining, innovative product development (with the French National Research Institute for Agriculture, Food and Environment INRAE, the University of Applied Sciences of Bern BFH, the Finnish start-up AISTI specialized in the production of innovative acoustic panels), architecture, design and stakeholder engagement (with the University of Applied Sciences of Zurich ZHAW and the Austrian Institute of Technology AIT), circular value chain creation (with the French company SEITISS specialized in circular economy), material processing and standardization (with the Italian companies Environment Park and Certimac). The consortium also provides an expertise to ensure the development of an effective and sustainable product: Lappeenranta-Lahti University of Technology LUT will focus on environmental and socio-economic impact assessment, the French company specialized in the commercialization of innovative and eco-friendly products STRANE will lead the exploitation and the business strategy of the products developed. The French partner Euroquality will be in charge of the communication, dissemination and exploitation of the findings.

3 novel intermediate components will be developed:

- Foam-formed materials manufactured using novel resource-efficient processes
- Novel nanocellulose-based films and coatings with thermochromic particles
- Sustainable binders made from bio-based materials

These intermediate components will serve as basis to the development and validation of **4 different types of products 100% made from secondary bio-based materials** for the construction sector:

- Thermal insulation panels
- Construction panels
- Adapting cooling windows
- Indoor acoustic panels



Target a **large volume sources of lignocellulosic secondary bio-based materials**, mapping the number of targeted **industries** throughout Europe (agricultural, agrofood & forestry industries), wooden biomass & non-wooden biomass (straws & stalks from cereals & oil crops)



Provide **intermediate bio-based components** based on resource-efficient processing and with broad market potential



Validate 4 different types of products co-design by stakeholders and **100% made from bio-based secondary materials** assembled in a mock-up

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