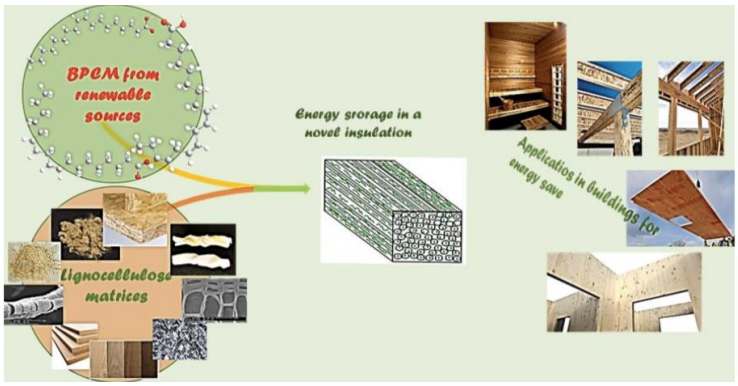
Bio-Nrg-Store

Bio-Based Phase Change Materials in Lignocellulose Matrix for Energy Store in Buildings

> *The project objective is to develop and validate insulation materials based on incorporated bio-based phase change materials into lignocellulose structure for energy saving in buildings*



Project Duration

14.12.2020 - 14.12.2023

Project Budget

Total Budget: € 1,280,304.-

Project Coordinator

Ali Temiz (Turkey)

Project Partners

- Swedish University of Agricultural Sciences (Sweden)
- Institute of Bioeconomy (Italy)
- Salzburg University of Applied Sciences (Austria)
- Rundvirke Poles AB (Sweden)
- PiCell (RS EcoSaver AB) (Sweden)

Project Website

www.ktu.edu.tr/bionrgstore

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ERA-Net Smart Energy Systems Joint Call 2019 (MICall19)

This project has been awarded funding within the ERA-Net SES Joint Call 2019 for transnational research, development and demonstration projects. EUR 16.5 Mio of funding have been granted to 14 projects active in 15 regions and countries.

ERA-Net Smart Energy Systems

This project has received funding in the framework of the joint programming initiative ERA-Net Smart Energy Systems. The initiative has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements no. 646039 and no. 755970.

Joint Programming for Flourishing Innovation – from Local and Regional Trials towards a Transnational Knowledge Community

www.eranet-smartenergysystems.eu

Main Objectives

Main objectives are :

To use lignocellulose micro/macro structure (e.g. wood cell wall and lumen) as low-cost porous structures (storage cell) for encapsulation of BPCM for use in "green" building products for energy saving.

To develop an efficient and upscalable process from laboratory testing and optimisation of the bio-composites to insulation materials for building;

Implementation of the new bio-based insulation materials into “green“ buildings with low carbon finger print as a novel, high-value “benchmark” application;

Expected Key Results

To develop an efficient and upscalable process for incorporation of selected BPCM into lignocellulose matrix

To use lignocellulose micro/macro structure (e.g. wood cell wall and lumen) as low-cost porous structures (storage cell) for encapsulation of renewable phase-change materials (PCM) of biological origin for eventual use in “green” building products for energy saving.

Technology

- To develop an efficient and upscale process for incorporation of selected BPCM into lignocellulose matrix

Market

- Implementation of the new bio-based insulation materials into “green“ buildings with low carbon finger print as a novel, high-value “benchmark” application;

Adoption

- Provide validation for suggested product innovations from laboratory (according to technology readiness level (TRL) 4 of the European Commission) to upscaling, with prototyping trials under various climate conditions and with extensive characterization under practical conditions (according to TRL 6)