



LIFE EcoTimberCell - Ecological cellular structural systems for a Building model for Climate Change Mitigation and Forest value enhancement

LIFE17 CCM/ES/000074

[Project description](#) [Environmental issues](#) [Beneficiaries](#) [Administrative data](#)
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Project description:

Background

Buildings account for 40% of the EU's energy consumption. Conventional construction materials have a great environmental footprint relating to this high energy consumption and waste production. At present, competitive timber products with low environmental impact and low waste generation have no great presence in the market, and wooden houses are significantly more expensive than conventional housing. Moreover, most forests in the European region Galicia-North Portugal are not sustainably managed owing to the high cost burden. Furthermore, the low added value of the timber products obtained from these forests hamper investments in sustainable forest management.

Objectives

The main objectives of LIFE EcoTimberCell are to contribute to climate change mitigation by reducing the energy consumption of buildings and to promote the sustainable management of forests.

The specific objectives of the project are to:

- Reduce energy consumption associated with the production of the structural construction elements;
- Reduce the energy demand during the use of the building;
- Reduce waste relating to construction and therefore reduce the amount of energy consumed by waste treatment;
- Increase the added value of local wood by developing different technological products with structural applications in buildings;
- Support the forestry sector by increasing the demand for local certified wood and promoting sustainable forestry; and
- Foster the use of environmentally friendly adhesives with natural

components based on lignin as an alternative to potentially harmful chemicals.

The project will contribute to achieving the goals of the Waste Framework Directive and the directives on energy efficiency energy performance of buildings, as well as the 2020 European climate and energy package, the 2030 European climate and energy framework and the 2050 Low carbon economy roadmap.

Expected results:

- Production of structural EcoTimberCell building elements (Cells EcoTimberCell, EcoTimberCell+, structural systems ETC Frame and ETC Box and modular architectural systems ETC Home) that will allow the construction of building envelopes for passive housing with a higher thermic insulation than other construction products at a lower price;
- Marketing of the family of EcoTimberCell Products with EC branding and environmental certifications;
- Creation of a start-up company to produce and commercialise the ETC products, resulting in the sale of six houses by the end of the project;
- Reduction of 3 255 kg/m² of waste per ETC wooden house, compared to a house made from concrete/brick;
- Reduction of 44 tonnes of CO₂ during the construction of a ETC house and of 1.1 tonne/year during its use, compared to a conventional house;
- Increase of the price of the raw material used for producing a metre of ETC joist from €4 to €8 on the market;
- Reduction of 60 kg of artificial binder per ETC wooden house; and
- Increase of the area of forest sustainably managed on a site of 45 ha by the end of the project.

Results

[Top](#)

Environmental issues addressed:

Target EU Legislation

- Waste
- Directive 75/442/EEC - "Waste framework directive" (15.07.1975)
- Climate Change & Energy efficiency
- Directive 2010/31 - Energy performance of buildings (19.05.2010)
- COM(2010)677 - "Energy infrastructure priorities for 2020 and beyond. A blueprint for an integrat ...
- COM(2011)885 - EU 2050 Energy Roadmap (15.12.2011)
- COM(2014)15 - Policy framework for climate and energy in the period from 2020 to 2030 (22.01.2014 ...

Natura 2000 sites

Not applicable

[Top](#)

Beneficiaries:

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|----------------------|---|
| Coordinator | UNIVERSIDADE DE SANTIAGO DE COMPOSTELA |
| Type of organisation | University |
| Description | Universidade de Santiago de Compostela is a Spanish public university with departments focusing on sustainable forestry and botany and structural timber engineering. |
| Partners | FUNDACIÓN CENTRO TECNOLÓGICO FORESTAL Y DE LA MADERA, Spain BETANZOS HB SL, Spain INSTITUT DE TECNOLOGIA DE LA CONSTRUCCIÓ DE CATALUNYA, Spain |

[Top](#)

Administrative data:

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|-------------------|---|
| Project reference | LIFE17 CCM/ES/000074 |
| Duration | 01-SEP-2018 to 31-DEC -2021 |
| Total budget | 2,003,142.00 € |
| EU contribution | 1,179,369.00 € |
| Project location | Galicia(España) Asturias(España) Cantabria(España) País Vasco(España) Navarra(España) Rioja(España) Aragón(España) Madrid(España) Castilla-León(España) Castilla-La Mancha(España) Extremadura(España) Cataluña(España) Comunidad Valenciana(España) Balears(España) Andalucía(España) Murcia(España) Ceuta y Melilla(España) Canarias(España) |

[Top](#)

Read more:

| | |
|----------------------|--|
| Project web site | Project's website |
| Project web site - 2 | Project's Twitter page |

Project web site - 2

[Project's Facebook page](#)

[Top](#)

[Project description](#) [Environmental issues](#) [Beneficiaries](#) [Administrative data](#)
[Read more](#)