AEGiR

Incremental Renovation Package

Circular Economy and standardization measures

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Shaping Sustainable Futures, 6 March 2025, Bruxelles

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AEGIR's sustainability objectives

- Measure the **circularity** of the AEGIR solution.
- Explore **urban mining** processes for the different components, including reuse of existing resource stocks as well as future-proofing of new solutions.
- Design a global refurbishment solution based on **broad sustainable** principles.
- Raising awareness on existing **standards** among the end users and the transfer of significant project results into related **international** (ISO), **european** (CEN) and **national** standardisation processes to enhance scalability and impact of solutions.

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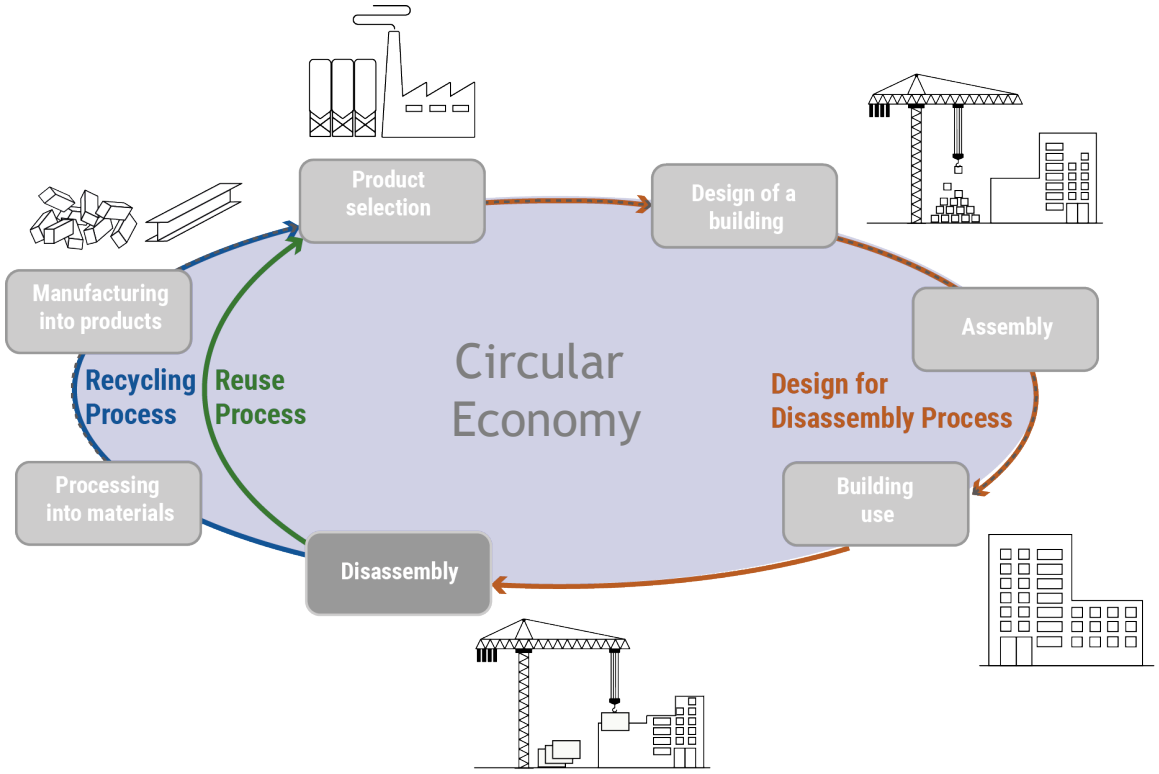
‘Circular economy’ is an industrial model restorative by intention

- Renovation of buildings is central to follow Reduce, Reuse, Recycle (3R) strategies
- Rethinking the entire value chain of buildings, components and materials
- Reuse, Recycling and Design for disassembly reduces resource consumption and waste production



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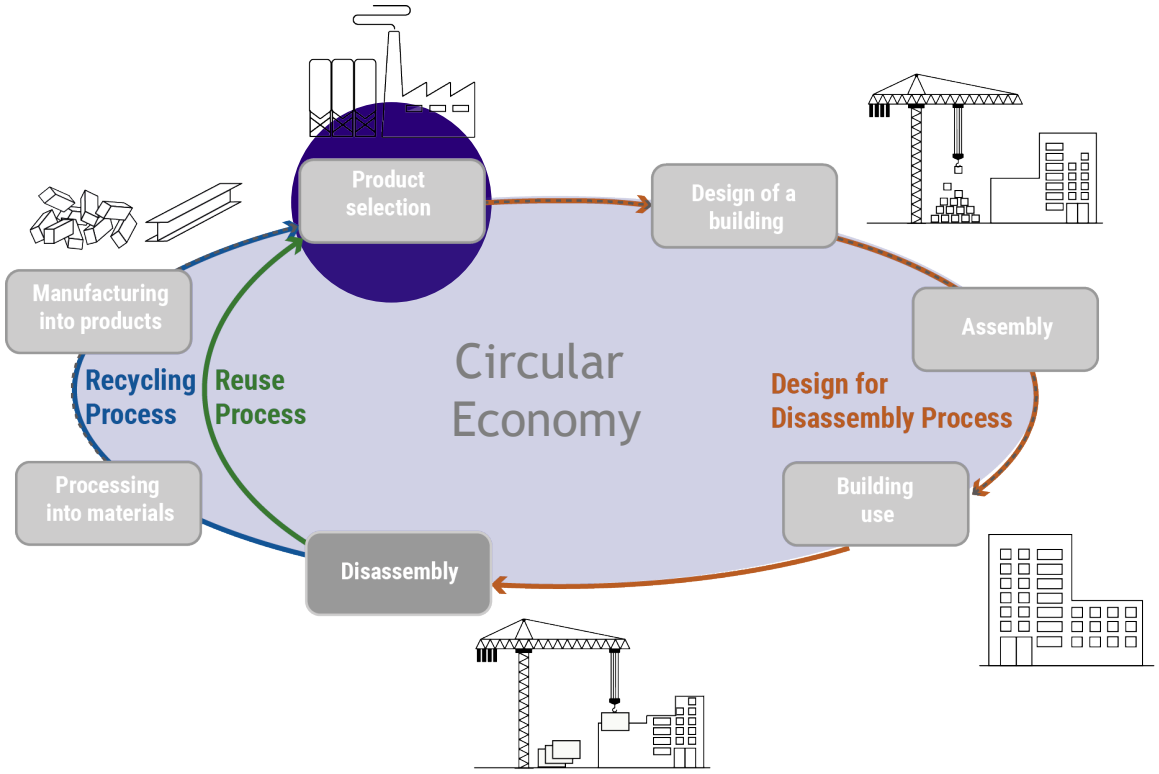

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Key Performance Indicators

Based on Life Cycle Assessment (LCA)

Global Warming Potential

Renewable resources

Recycled material

Materials for reuse/recycling

To Do‘s

Use products with a **low** GWP

Increase the consumption of renewable resources

increase the consumption of recycled material

Increase the consumption of reused material

Design a material for **future reuse**

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Key Performance Indicators

Based on Level(s) framework

Durability

Bill of material

Demountability

To Do‘s

Extend lifespans

Document information of products

Design for Disassembly

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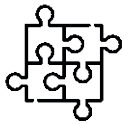
Key Performance Indicators

Based on

- Cradle to Cradle [1] and
- R-Strategies [2]

Financial concept



Modularity

Local material

Low-tech material

Material purity

Compostability

To Do‘s

Provide incentives for users to return products

Produce standardized sizes

Use material produced in close distance

Use a simple construction method

Avoid mixed materials

Use materials that are compostable

1: Braungart et al. (2002
2: Potting et al. (2017)

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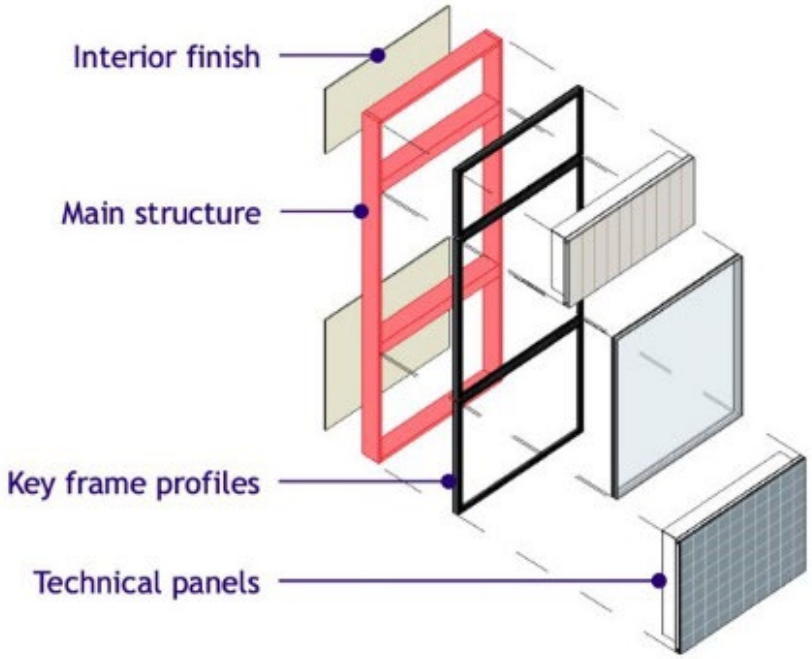
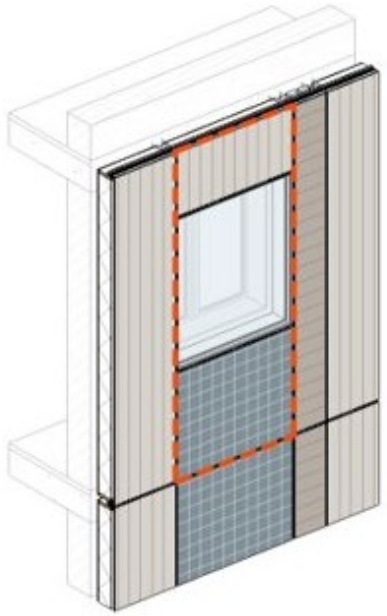
Level of functionality





Component **Assembly** **Building**

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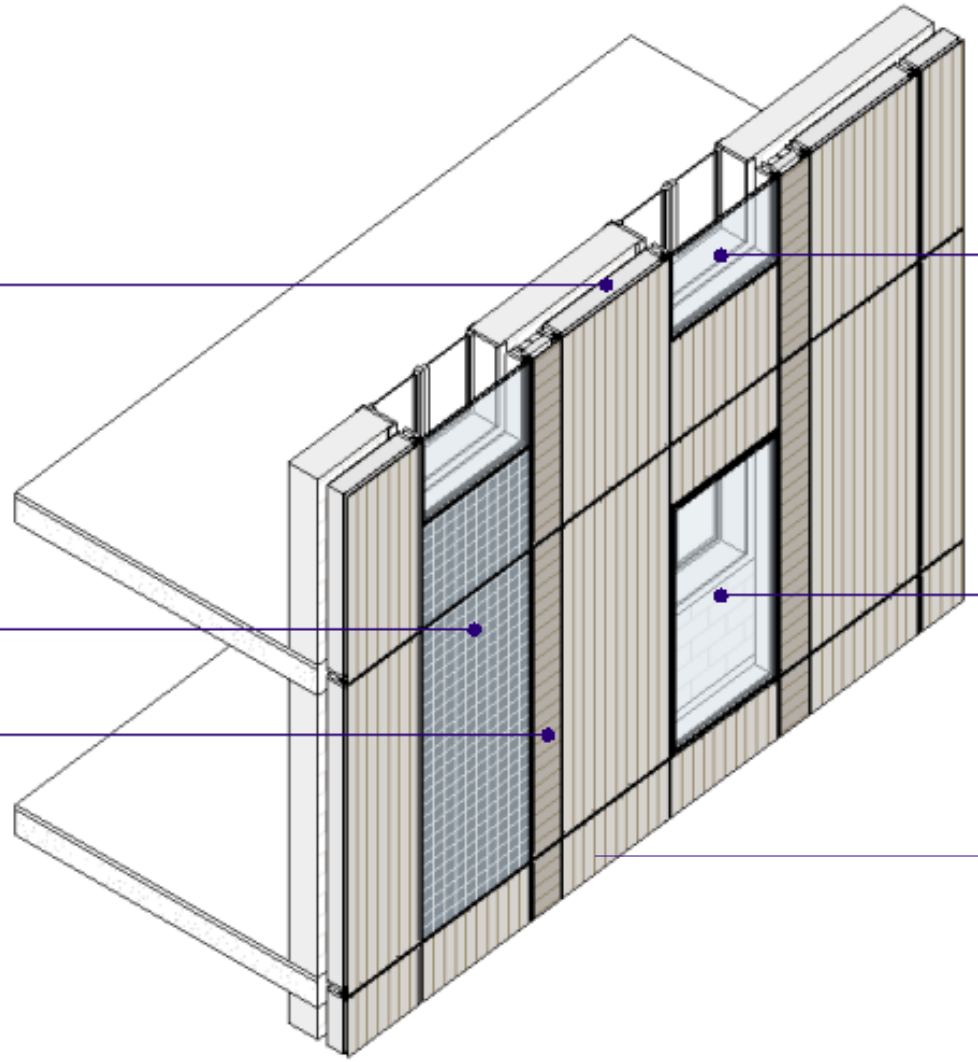
AEGIR components



Recycled material

Insulation

Global Warming Potential

Modularity

PV panels

Healthy material

Ventilation

Demountability

Windows

Demountability

Windows

Durability

Cladding

Reused material

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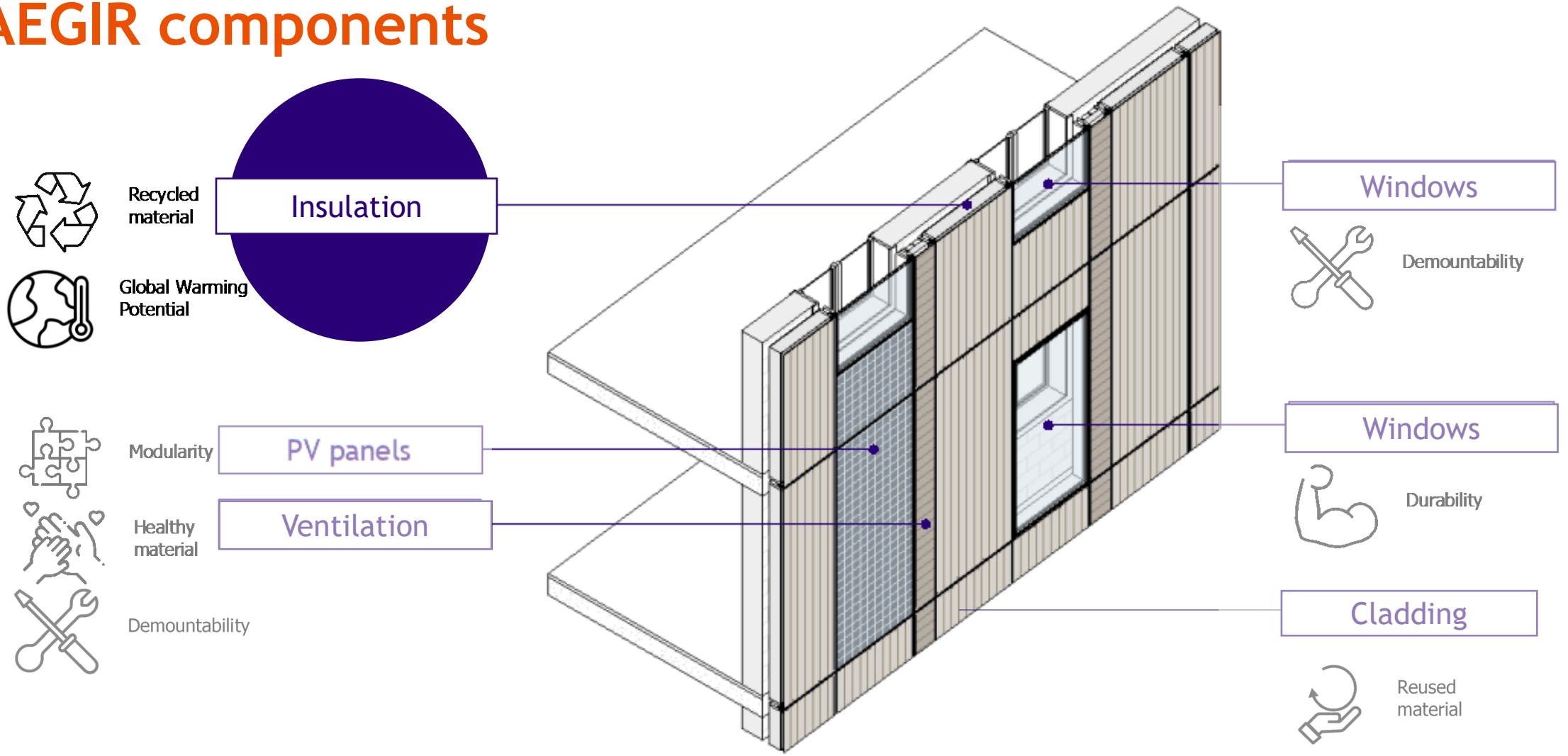
AEGIR components



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Material Flow Analysis

Insulation made of PET

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Material Flow Analysis

Insulation made of PET

Global Warming Potential

2.99 kg
CO2 eq./m2

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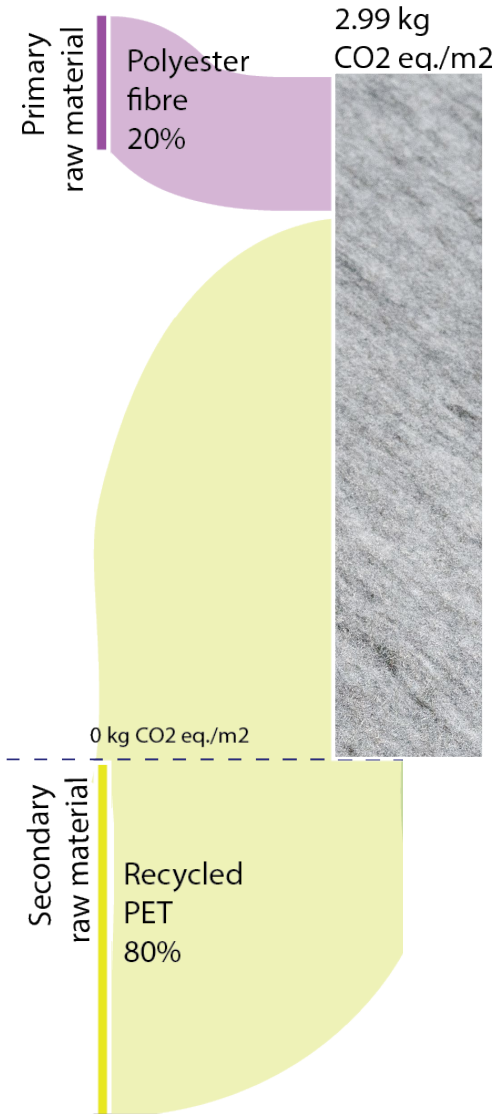
Material Flow Analysis

Insulation made of PET

Global Warming Potential

Recycled material



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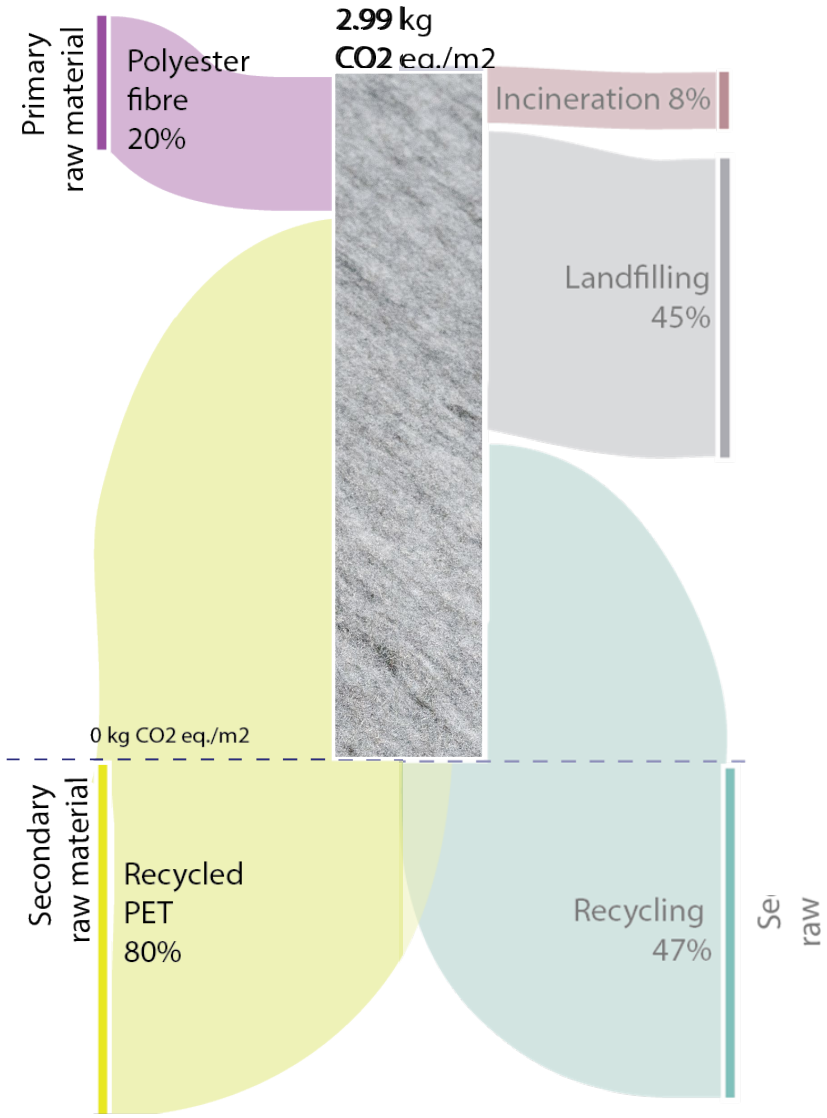
Material Flow Analysis

Insulation made of PET

Global Warming Potential

Recycled material

Materials for reuse/recycling



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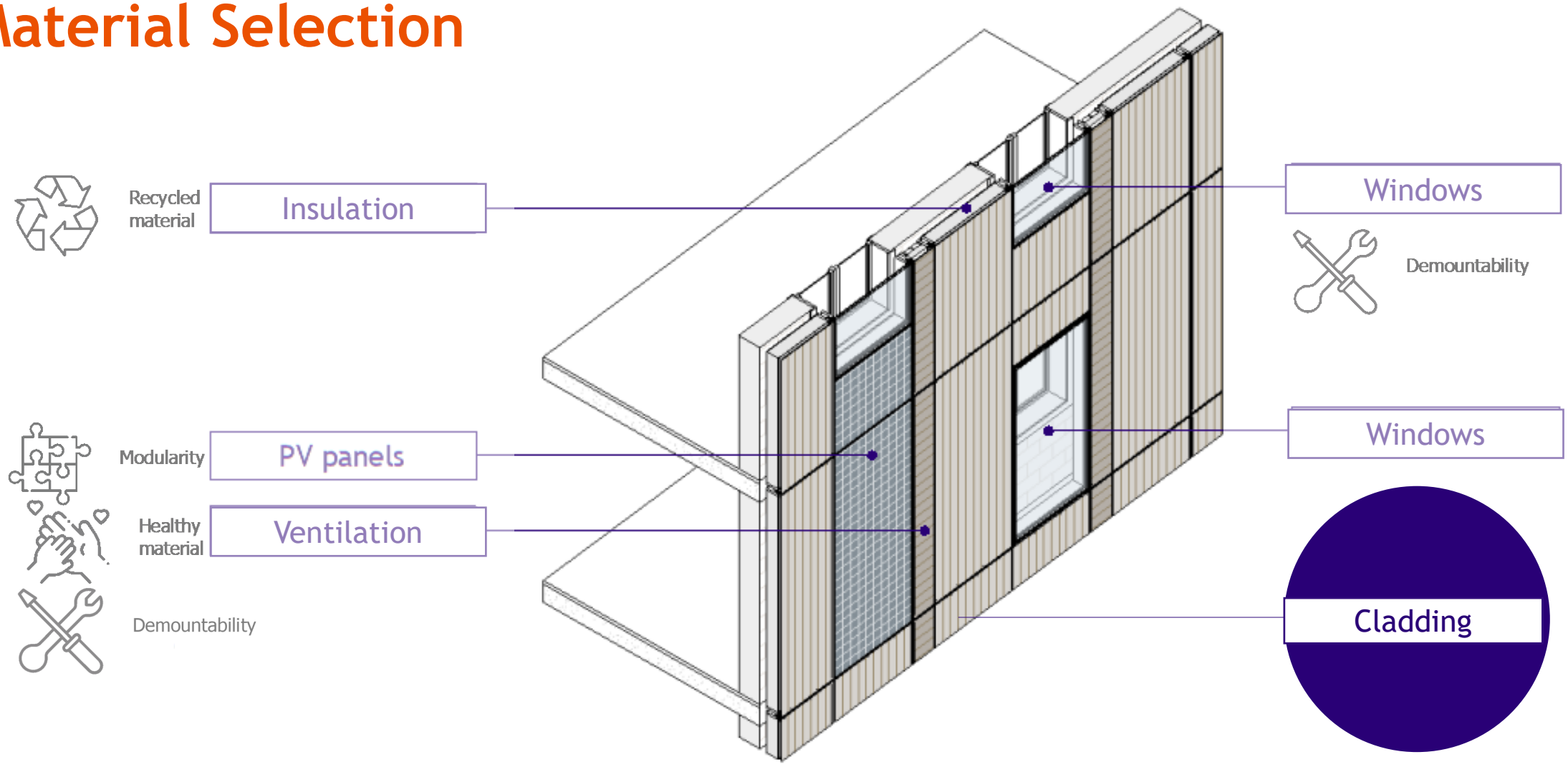
Material Selection



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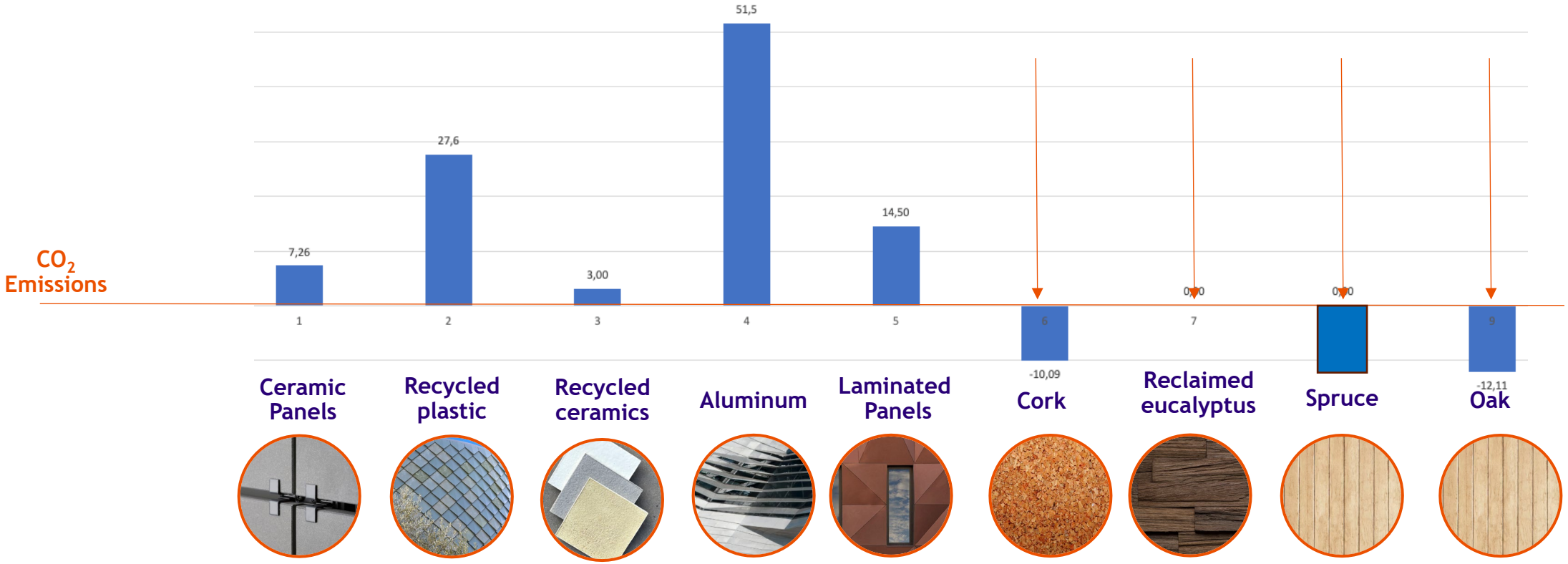

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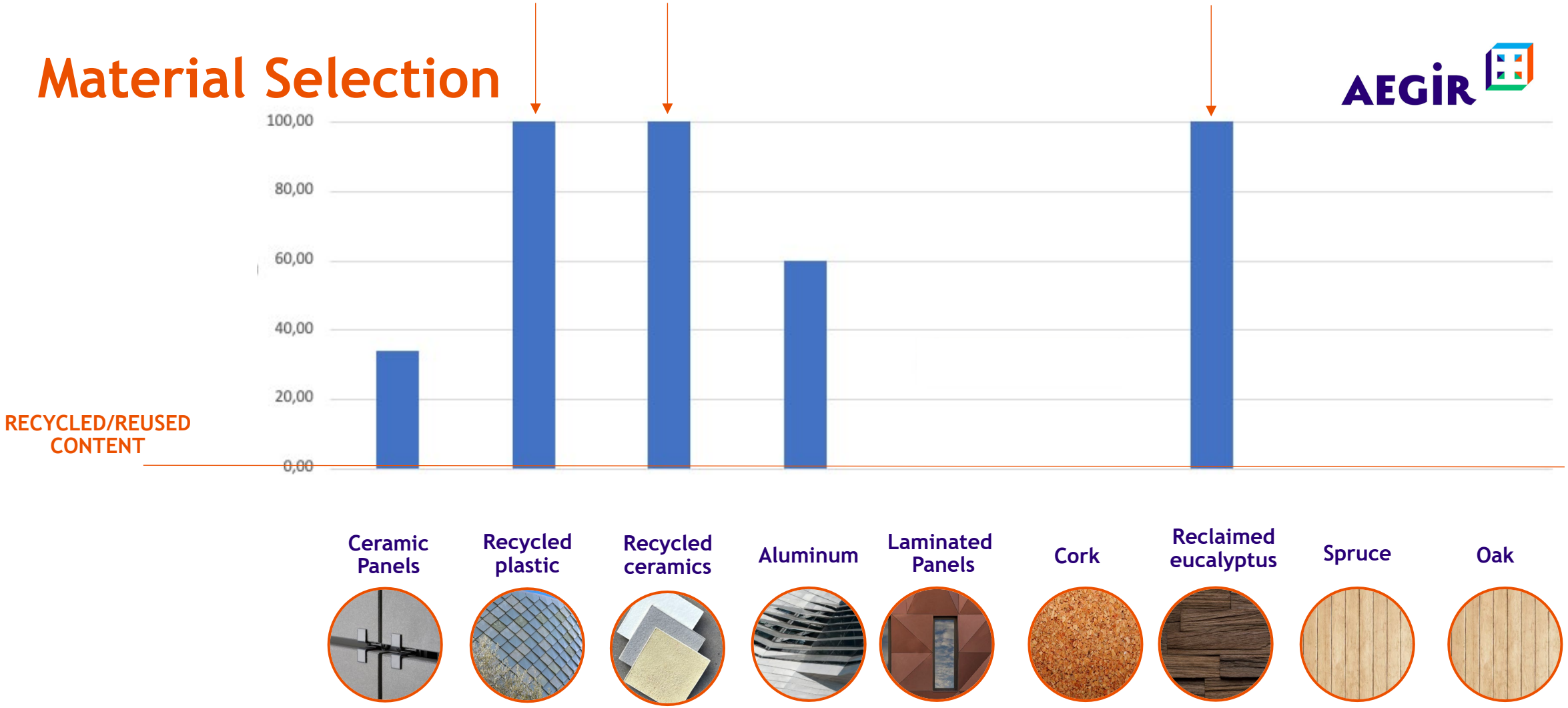
Material Selection



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Reused wood

Construction timber

Pallets

Eucalyptus Mussle platforms

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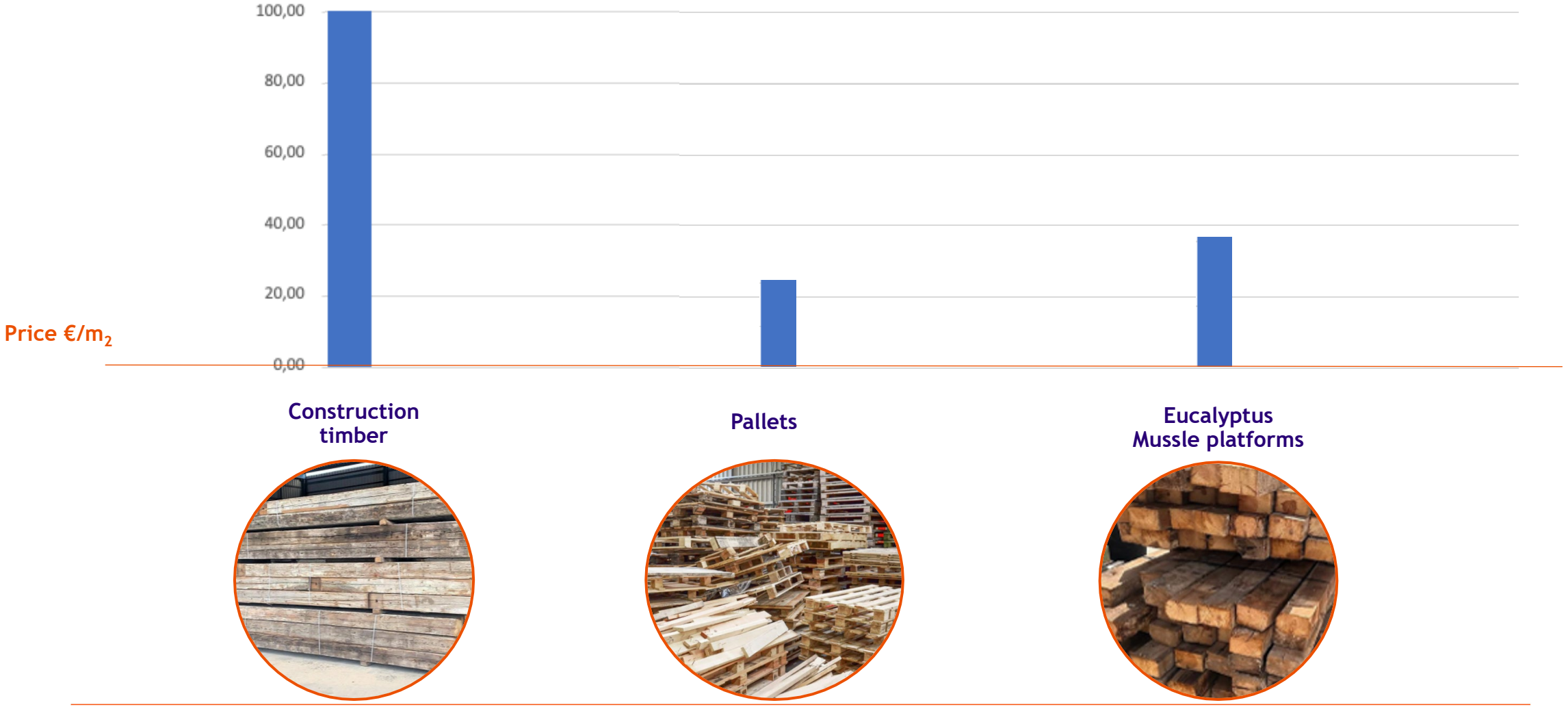
Reused wood



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Spanish Demo

Reclaimed Eucalyptus

mussle platforms

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