



BUILDING MATTERS

Sustainable Building Materials Knowledge Package

One of the main project activities in Building Matters, are toward creation of knowledge package on the topic of sustainable building materials. As identified in the Transnational report on the status of sustainable building materials, the awareness and the scarce of the available trainings for knowledge sharing are the biggest challenges for their more significant deployment.

Developed training curricula

In order to bridge the gap in the training offer related to sustainable building materials, a self-guided training programme is developed to provide the basic knowledge and familiarization with key elements and issues related to sustainable building materials.

Q: Who are our trainees?

A: Construction professionals, Building designers and practitioners, Construction entrepreneurs especially young and women, Individual contractors, Procurement practitioners

Q: What knowledge and skills will our trainees achieve?

A: The knowledge achieved will target: awareness on environmental aspects, energy and carbon footprint of building materials; familiarization with the procedures for life cycle assessment methodology; good knowledge of the European legislation, labeling practices and standards on construction materials; using the concept of sustainable construction and novel approaches, processes including sustainable materials.

The new skills that the training will provide are: understanding the ecological impact of traditional construction materials; ability to calculate the environmental aspects of construction materials (amount of carbon emissions, embodied energy etc.); capability to use different software tools for life cycle analysis of building materials in all phases of construction, readiness for life cycle cost assessment for the purpose of selection of the most appropriate building material; familiarization with different labeling schemes for building materials; capability for proper selection of the construction material, based on the labeling requirements; ability to select among different construction materials; familiarization with the advantages of reused and recycled materials; knowing the proper use of tools for assessment of energy performance of buildings; understanding the concept and labeling of green buildings.

“In order to achieve a sustainable construction we have to put an end to those bad long-standing habits of squandering natural resources...”

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- Content of the training modules



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Acting toward raising awareness on sustainable building materials

Training programme in Sustainable building materials

Module 1: Environmental aspects of building materials

The impact of construction industries. Environmental impact of construction activities: raw material consumption, pollution and waste generation, energy consumption, deforestation, climate change, land degradation, sand mining, depletion of non-renewable resources.

Carbon production in building materials manufacturing. Carbon footprint of building materials and databases.

Embodied energy of building materials. Parameters and analysis of Embodied energy. Databases of Embodied energy of building materials.

Module 2: Life Cycle Assessment of building materials

Life Cycle Thinking for building materials. Identify key impacts and mitigation approaches for assessment of building materials. Conceptual Diagram of Building Material Life Cycle.

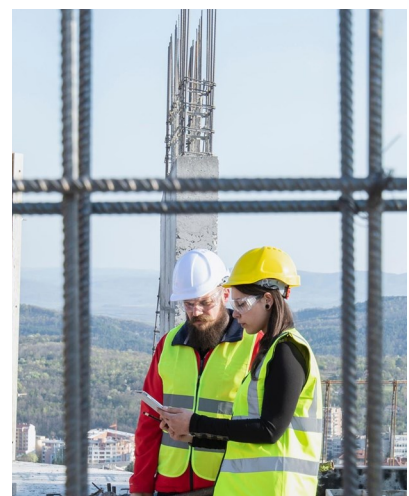
Life Cycle Costing approaches. Cost categories can be included in a Life Cycle Costing analysis. Life cycle costing in procurement.

Building design and material selection. Life Cycle Assessment principle in a building materials value chain as a tool for evaluation of spatial and temporal aspects.

Objectives

The course provides end users with enhanced green competences for tackling environmental and climate transition challenges that the construction sector faces, through the promotion and providing fundamental knowledge on the use of sustainable building materials. The aim of the course is highlighting the environmental impacts of building materials and the importance of initiatives and aspirations that will drive the necessary shift toward the use of sustainable and environmental friendly materials and approaches in the construction sector in future.

The training will impact with enabling behavioral changes and build competences in line with the New European Bauhaus initiative, that calls for reskilling and fostering VET in the affected sectors such as the construction one, for effective use of new materials and relevant tools.



Enhancing green competences



Structure of the training curricula

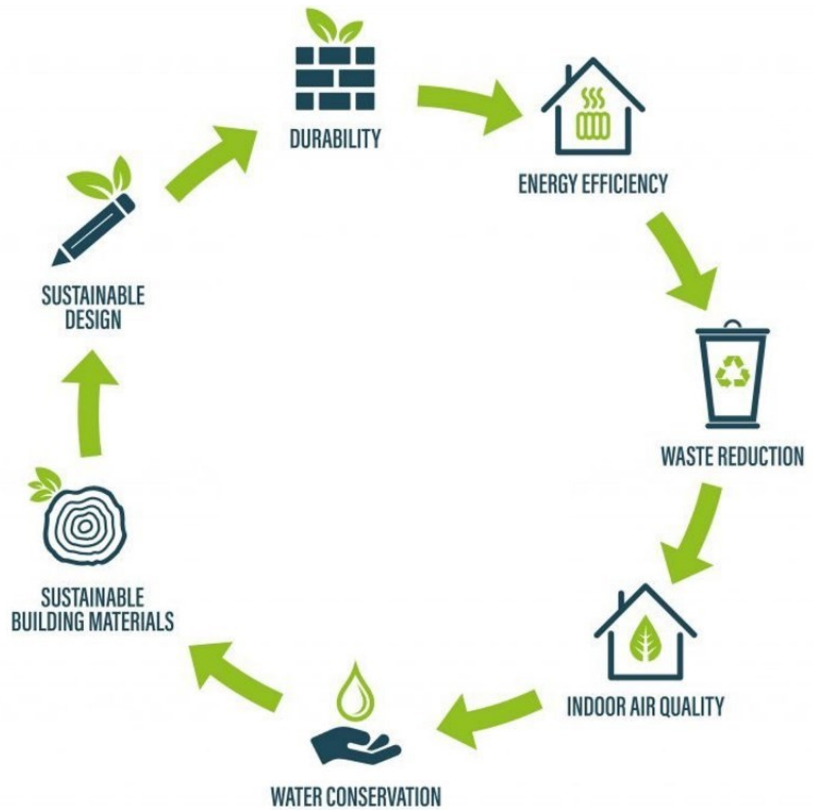
Type of course/ curricula: Self-guided microlearning training, enabling consecutive progress through the content.

Structure: 4 independent training modules

Type format of course/ curricula: Online training through digital e-learning platform

Certificate: 1 ECVET

Level: Introductory



The role of Sustainable building materials in concept of sustainable construction

Module 3: EU standards and labeling of building materials

The role of green building materials in green procurement processes

ECO Labeling concept and types of ecolabels.

EU standards for ECO Labeling and legal framework. EU Ecolabel.

Module 4: Awareness of novel sustainable building materials

The concept of sustainable construction. Building materials and sustainability. The role of the LCA concept and application in construction. Novel sustainable building materials.

Environmental management and strategies for building material reuse and recycle. Construction waste impacts. Low-cost and reusable building materials.

Energy efficient buildings: Energy performance of buildings directive, Long-term renovation strategies, Nearly zero-energy buildings. Certificates and inspections. Green building concept.

Next steps

Reaching next project objective: to develop training activities to build green competences in sustainable decision making in building projects, and in implementing materials strategies that reduce lifecycle carbon emissions, which together will drive down both energy demand and emissions.

It will be achieved by facilitating access to high quality learning opportunities by involving the provision of virtual, digital and blended learning opportunities, fostering the sharing of information, mutual learning and experience from each other. It will result with modernizing the VET sector to accommodate the aforementioned trends and green sectoral competence needs resulted from the labor market.

Find more profound details on the project approach in developing e-learning platform in the next issue of the project Newsletter to be released in March 2024.

Background motivation

To create new generation of key stakeholders who positively contribute to the energy and climate change targets, that will contribute to raise of awareness on the building materials environmental impact along with sustainable products coming from recycled and secondary raw materials.

Contact Us

BUILDING MATTERS:
Mitigating climate change transition risks of the construction sector through building capacity in sustainable building materials

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