JUMP!	**Sustainability in construction**	SUSTAIN unit 2

Learning outcomes — Level 5

RESPONSIBILITY AND AUTONOMY

- Contribute to implement relevant aspects of the UN SDGs (Sustainable Development Goals) in the training centre or site and into the training program
- Create interest in and awareness of the multiple possibilities to use natural materials in a given context
- Convey understanding of the sustainable principles behind technical solutions for building and living
- Support learners to deal with data and interact with others about them
- Link data with the quality of living and working spaces in eco-construction
- Give hope and inspiration and create direct experience with natural materials
- Rely on local economy and resources and contribute to local networks for the training
- Set up a monitoring system to collect updated data about the performance or impact of materials and processes

KNOWLEDGE (summary)

SYSTEMIC PROBLEMS IN THE CONSTRUCTION INDUSTRY
- How the building industry contributes to climate breakdown and Earth overshoot
- Substances and processes harmful to health and the environment
- Design and decision making processes

SUSTAINABLE APPROACHES IN CONSTRUCTION
- Bioclimatic design
- Building biology
- European frames of reference/labels
- Charters and manifestos
- Sustainable Development Goals (SDGs)
- Diversity, participation, social intensity

PRINCIPLES OF ECOBUILDING
- Low inputs and consumption, cradle to cradle
- Connection to and inspiration from place, nature and culture
- Local, biological and renewable resources
- Natural building materials
- Holistic approach aiming for health and well-being
- Including and empowering builders and users
- Considering the wider impact of choices

QUALITY IN CONSTRUCTION TRAINING AND PRACTICE
- Linking quality approach and sustainability
- Quality work and quality of construction detailing
- The importance of work organisation and cooperation

TOOLS FOR MONITORING AND MEASURING SUSTAINABILITY
- Critical analysis of sources, data and testing
- Principles of standardization
- Life cycle analysis (LCA)

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SKILLS (summary)

- Facilitate group interaction about negative impacts of the building industry
- Use different ways to share knowledge about sustainable approaches and natural materials in building
- Explain and demonstrate principles and technical solutions of eco-building
- Meet quality requirements and transmit them to trainees
- Reflect on decision making processes
- Communicate economic models, legal and organizational options for different forms of construction projects
- Encourage critical thinking in relation to data and testing
- Provide assessment tools and ecolabels relevant to the construction sector in a given location
- Explain and use different methods, resources and tools for measuring, assessing, monitoring

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KNOWLEDGE (detailed list)	SKILLS (detailed list)
PROBLEMS ○ How the building industry contributes to climate breakdown, pollution, destruction of habitat and depletion of resources ○ Elements harmful to health and the environment present in building processes and materials ○ Design and decision making processes excluding the builders and the users ○ Greenwashing **SUSTAINABLE APPROACHES IN CONSTRUCTION** ○ Bioclimatic design ○ Building biology ○ European frames of reference/labels for ecoconstruction: calculated, qualitative approaches, calculation tools ○ Charters and manifestos for sustainable building and architecture ○ Sustainable Development Goals (SDGs) connected to building and living ○ High tech, low tech, hand tech: the diversity of sustainable building ○ Participative building sites ○ Social intensity **PRINCIPLES OF ECOBUILDING** ○ Low inputs and consumption, cradle to cradle ○ Connection to and inspiration from place, nature and culture ○ Local, biological and renewable resources ○ Natural building materials ○ Holistic approach aiming for health and well-being ○ Including and empowering builders and users ○ Considering the wider impact of choices around materials and methods on society and economy **QUALITY IN CONSTRUCTION TRAINING AND PRACTICE** ○ Linking quality approach on construction site or in training centre to sustainability ○ The importance of quality work and quality of construction detailing ○ The importance of good, efficient work organisation, cooperation and healthy work environment and habits **TOOLS FOR MONITORING AND MEASURING SUSTAINABILITY** ○ Critical analysis of sources, data and testing ○ Principles of standardization ○ Life cycle analysis (LCA) ○ STEP modules and handbooks U6 and U7	○ Facilitate group interaction about negative impacts of the building industry on people and the planet ○ Use different ways to share knowledge about - sustainable approaches in construction - the qualities (physical and other), diversity, possibilities and sector development of natural materials ○ Explain and demonstrate principles of ecobuilding during training: - Use local, biological and renewable resources - Use resources sustainably. Reuse, recycle and sort waste in training and building. Take into account the scarcity of resources. Implement reuse or recycling of building materials. - Use skills and principles inspired and informed by vernacular building and by nature's builders - Show the creative and artistic potential of natural materials - Show how natural materials reduce the toxicity of buildings and impact on air quality - Rely on and look for a holistic approach in all choices, aiming at health and well-being - Show how sustainable development relates to regional and local economies ○ Meet quality requirements and transmit them to trainees ○ With the group, discuss and reflect on decision making processes in the building sector ○ Communicate economic models, legal and organizational options for different forms of construction projects (participative work camps, activity cooperatives, occasional building workers, self-managed coop-type work collective...) ○ Encourage critical thinking in relation to data, monitoring and testing, to understand their limitations ○ Provide, explain and use different methods, resources and tools to - measure or assess sustainability of buildings and processes - evaluate materials and constructive modes - do LCA and monitoring - calculate primary energy content, R value and density of materials