Training Plan

TABLE: Tackling environmental sustainability through blended learning opportunities for iVET in the furniture and wood sector
# Table of contents

1. Introduction ......................................................................................................................... 3
2. Aims and activities of Intellectual Output 1 ........................................................................... 3
3. Methodology ........................................................................................................................ 4
4. The TABLE training course ................................................................................................. 5
   4.1 Target group ................................................................................................................... 5
   4.2 Delivery method ............................................................................................................ 6
   4.3 Training course contents and structure ........................................................................ 6
5. Competence profile ............................................................................................................. 7
   5.1 European Qualification Framework (EQF) .................................................................... 7
   5.2 European Credit system for Vocational Education and Training (ECVET) ................... 8
   5.3 Competence framework ............................................................................................... 11
2.2 Biodiversity and the forest and wood sectors at the forefront of challenges but also of opportunities ................................................................. 11
6. Validation path .................................................................................................................... 39
7. Guidelines on content development .................................................................................... 41
8. Conclusions ......................................................................................................................... 42
9. References .......................................................................................................................... 42
1 Introduction

The TABLE project intends to deliver a completely innovative training system based on micro-learning opportunities to i-VET teachers in the furniture and wood sector.

The idea behind the project is to give teachers new knowledge about environmental sustainability and reduction of the consumption of natural resources to increase the engagement of students into VET programmes related to furniture.

To reach this objective, the project consortium will develop a MOOC for i-VET teachers to learn about this subject and how to transfer this knowledge and skills to their students. This represents the first Intellectual Output of the project.

The present document is the training plan on which the MOOC will be based. The training plan will define the learning objectives, the set of knowledge, skills and attitudes for I-VET teachers and the training methodology. Furthermore, the plan includes a validation path and guidelines for the development of the training content by the project partners.

At the time of writing, the training course development has not started yet. Therefore, this document should be considered as a preliminary work and it may be updated with as the work on the training course advances.

2 Aims and activities of Intellectual Output 1

The first intellectual output of the TABLE project consists in the development of a training course for i-VET teachers to introduce sustainability in the furniture and wood sector. More specifically, the output title is “Educational tips: learning snacks for i-VET teachers in the furniture and wood sector”.

The expected results from the implementation of this training course are to:

1. Empower VET school teachers on how to engage students starting from environmental sustainability and climate change as motivational spring;

2. Increase in the competences of VET teachers in terms of innovative pedagogy, online learning and environmental sustainability applied to furniture and wood classes in VET schools (and not only);

3. Increase in the digital and linguistic competences of VET teachers attending the course both online (digital) and offline (with like-minded colleagues during the C1 activity);
4. Higher awareness for the teachers in VET schools to have a central role as “change makers” to make GREEN CAREERS more attractive to students and the workers of tomorrow;

5. Increase the exchanges among the teachers and experts working in the field of furniture and sustainable development, increasing the chances of peer learning and building bridges among different realities.

The specific activities that the consortium is implementing within this output are:

IO1.A1: Perform a training need assessment
IO1.A1: Local focus group
IO1.A2: Training need grid
IO1.A2: Course design
IO1.A2.1: Design the training course according to the EQAVET criteria

**IO1.A2.2: Training plan**

IO1.A3: Training course development v1
IO1.A4: Training activity
IO1.A5 Training course development v2
IO1.A5.2 Knowledge dissemination platform

In the next sections we will focus on the description of the training plan (IO1.A2.2), which will be the bases for the design of our training course.

### 3 Methodology

As mentioned in the previous section, there were several preliminary activities that led to the development of the present deliverable.

**Training need assessment and local focus group**

The first step consisted in a training need assessment which was done by setting up a local focus group in each partner country. Experts and professionals in the furniture and wood sector were invited to be part of these focus groups and contribute to the project development. The first activity involving the focus groups consisted in answering a survey of training needs. The survey was distributed in different languages and a total of 107 answers was gathered.
Training need grid

The second step consisted in elaborating a training need grid based on the feedback received through the survey. P3 – UNITBV carried out this task and the document produced is available on the TABLE project website: https://tableproject.eu/results/

The training need grid provided a first structure of the course, the competences to be achieved and the topics to be covered. At this stage, the local focus groups were once again consulted to provide additional comments to the suggested course outline. After that, the comments received were taken into account and the course structure was updated accordingly through a collaborative work within the consortium.

Design the training course according to the EQAVET criteria

One of the objectives of the project is to increase the quality in the VET provision through the application of the EQAVET standards and enhancing the access to training and qualification to all. To ensure that the course is implemented with a quality assurance approach, P1 – EM developed a guidance document for the application of EQAVET to the TABLE training course, highlighting the EQAVET standards that are most relevant for this intellectual output.

Development of the training plan

Based on the steps mentioned, the project partners worked in a collaborative way to define the training plan. The learning unit and the structure of each unit were defined, and each learning unit was assigned to a partner responsible for its development, according to each organisation’s competences. Each partner then proceeded to defining the learning outcomes for the module they were responsible for as well as related knowledge, skills, responsibility and autonomy in order to develop a competence framework (see section 5.3).

4 The TABLE training course

4.1 Target group

The project consortium identified direct and indirect target groups, as well as other relevant stakeholders:

- Direct target group: I-VET teachers and trainers who work with students in technical and vocational training in the field of furniture and wood that would like to increase their competences in the field of sustainability and build strong partnership with universities and SMEs to innovate the sector.
- Indirect target group: VET schools, training centres, NGOs, universities dealing with sustainability and sustainable consumption of the natural resources.

- Stakeholders: regional development centres, local and national authorities and city halls who would like to share best practices and green jobs.

4.2 Delivery method

As the title of the first intellectual output suggests (Educational Tips: Learning Snacks For I-Vet Teachers In The Furniture And Wood Sector), the course will made of micro-learning opportunities and scenario-based material, allowing teachers to learn anytime and anywhere according to their learning methodology. Indeed, the training programme is designed to support teachers in learning by listening to podcasts, watch webinars and downloading and sharing documents (such as research papers). Furthermore, the course material will be developed in a way that single resources and exercised can be extrapolated and integrated in existing training plans, reaching the objective of integrate the sustainability aspect into mainstream i-VET training on furniture and wood.

The TABLE course will be a blended course based on an online learning environment. The platform will have some interactive functionalities allowing teachers and students to take assessments on the topics covered.

The content will be available as an Open Educational Resource, namely any type of educational materials that are in the public domain or introduced with an open license. In terms of social learning, it will have a free software license, which will allow end users like organizations, companies or individuals to use, share, and even modify the produced course.

The course will be available in English, French, Italian, Romanian, Spanish, and Polish.

The training materials will be uploaded in a ppt format according to a template described in section 6.

4.3 Training course contents and structure

Based on the work described in section 3, it was agreed to organise the course into 6 learning units.

<table>
<thead>
<tr>
<th>Module 1</th>
<th>Wood Sustainability in the Context of the Sustainable Development Goals: From Theory to Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module 2</td>
<td>Climate change, biodiversity and renewable energies – The wood industry at the forefront of challenges</td>
</tr>
<tr>
<td>Module 3</td>
<td>Eco and sustainable design in the furniture and wood sector</td>
</tr>
<tr>
<td>Module 4</td>
<td>Waste management in the furniture and wood sector</td>
</tr>
<tr>
<td>Module 5</td>
<td>Impact and use minimisation of resources in the furniture and wood sector</td>
</tr>
<tr>
<td>---------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Module 6</td>
<td>Green skills, communication strategy and market development in/for the furniture and wood sector</td>
</tr>
</tbody>
</table>

Each unit will be structured in three core parts:

<table>
<thead>
<tr>
<th>Part A</th>
<th>- Theoretical content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part B</td>
<td>- Examples and case studies</td>
</tr>
<tr>
<td>Part C</td>
<td>- Supporting documents (Bibliography, Serious games, Online resources (Videos), Experiences)</td>
</tr>
</tbody>
</table>

At the time of writing, we estimate that each module will have an average duration of 10 hours. This estimate was done according to the Spanish National guidelines on the duration of e-learning courses¹.

5 Competence profile

5.1 European Qualification Framework (EQF)

The TABLE competence profile presented here fulfils the educational requirements described by level 4 of the European Qualification Framework² (EQF). By the end of the training, participants should have gained the following set of knowledge, skills and responsibility and autonomy:

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Skills</th>
<th>Responsibility and autonomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factual and theoretical knowledge in broad contexts within a field of work or study</td>
<td>A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study</td>
<td>Exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change; supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities</td>
</tr>
</tbody>
</table>

¹ Boletín Oficial del Estado, Núm. 249, Jueves 17 de octubre de 2013, Sec. I. Pág. 84521.
Level 4 of EQF was considered by the consortium in line with the objectives of the TABLE project and the most appropriate for i-VET teachers who will have to transfer those competences to their students. In line with the EQF, we defined the learners’ competences according to knowledge, and responsibility and autonomy for each learning unit.

### 5.2 European Credit system for Vocational Education and Training (ECVET)

The course will be developed based on the European Credit system for Vocational Education and Training (ECVET) system, hence each learning unit will be designed by describing its specific learning outcomes that will help the learner understand and describe learning achievements.

ECVET aims to give people greater control over their individual learning experiences and make it more attractive to move between different countries and different learning environments.

The system aims to facilitate the validation, recognition and accumulation of work-related skills and knowledge acquired during a stay in another country or in different situations. It should ensure that these experiences contribute to vocational qualifications. ECVET aims for better compatibility between the different vocational education and training (VET) systems in place across Europe and their qualifications. It aims to create a technical framework to describe qualifications in terms of units of learning outcomes, and it includes assessment, transfer, accumulation and recognition procedures.

In ECVET, an individual’s learning outcomes are assessed and validated in order to transfer credits from one qualification system to another or from one learning pathway to another.

According to this approach, learners can accumulate the required learning outcomes for a given qualification over time, in different countries or learning situations.

The following table summarises some key concepts of ECVET.

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Formal outcome of an assessment and validation process which is obtained when a competent institution determines that an individual has</th>
</tr>
</thead>
</table>

**Training Plan**
<table>
<thead>
<tr>
<th>Units of Learning Outcomes</th>
<th>achieved learning outcomes to a given standard.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Outcomes (L.O.)</td>
<td>A Unit of learning outcomes is a component of a qualification, consisting of a coherent set of knowledge, skills and competence, which can be assessed, validated and recognised.</td>
</tr>
<tr>
<td>ECVET points</td>
<td>L.O. are statements of knowledge, skills and competence that can be achieved in a variety of learning contexts.</td>
</tr>
<tr>
<td></td>
<td>L.O. are statements of what a learner knows, understands and is able to do on completion of a learning process defined in terms of knowledge, skills and competence.</td>
</tr>
<tr>
<td>Credit for L.O.</td>
<td>Numerical representation of the overall weight of learning outcomes in a qualification and of the relative weight of units in relation to the</td>
</tr>
<tr>
<td></td>
<td>Credit is given for assessed and documented learning outcomes of a learner. Credit can be transferred to other contexts (learning programmes or qualifications) and accumulated to achieve a qualification on the basis of the qualifications standards and regulations existing in the participating countries.</td>
</tr>
<tr>
<td>Memorandum of Understanding (MoU)</td>
<td>Mutual trust and partnership among participating organisations are expressed in memoranda of understanding and learning agreements</td>
</tr>
</tbody>
</table>
MoU is an agreement between competent institutions which sets the framework for credit transfer and accumulation. It formalises the ECVET partnership by stating the mutual acceptance of the status and procedures of competent institutions involved. It also establishes partnerships’ procedures for cooperation.

<table>
<thead>
<tr>
<th><strong>Learning Agreement</strong></th>
<th>Individualised document which sets out the conditions for a specific mobility period. It specifies, for a particular learner, what learning outcomes s/he should achieve and how they will be assessed, validated and recognised.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Competent institution</strong></td>
<td>Institution which is responsible for designing and awarding qualifications or recognising units or other functions linked to ECVET, such as the allocation of ECVET points to qualifications and units, assessment, validation and recognition of learning outcomes under the rules and practices of participating countries.</td>
</tr>
<tr>
<td><strong>Assessment of learning outcomes</strong></td>
<td>Methods and processes used to establish the extent to which a learner has attained particular knowledge, skills and competence.</td>
</tr>
<tr>
<td><strong>Recognition of learning outcomes</strong></td>
<td>The process of attesting officially achieved learning outcomes through the awarding of units or qualifications</td>
</tr>
<tr>
<td><strong>Validation of learning outcomes</strong></td>
<td>The process of confirming that certain assessed learning outcomes achieved by a learner correspond to specific outcomes which may be required for a unit or a qualification.</td>
</tr>
</tbody>
</table>
### Credit accumulation

Process through which learners can acquire qualifications progressively by successive assessments of learning outcomes.

### The Personal Transcript

Document containing information on credit (positively assessed learning outcomes) the learner has achieved. It is a record of learning achievements.


### 5.3 Competence framework

The curriculum is structured in the following way:

<table>
<thead>
<tr>
<th>Module 1</th>
<th>Wood Sustainability in the Context of the Sustainable Development Goals: From Theory to Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Within this module, participants foster their knowledge of wood as a sustainable material for building. Furthermore, this module sheds light on novel strategies and methods to implement sustainable consumption and production patterns into existing approaches to sensibilize innovation and the evolution of sustainable concepts for green consumer standards to protect the environment.</td>
</tr>
<tr>
<td></td>
<td>1.1 From sustainable development to the Sustainable Development Goals</td>
</tr>
<tr>
<td></td>
<td>1.2 Wood sustainability: from theory to reality and vice versa</td>
</tr>
<tr>
<td></td>
<td>1.3 Transforming the narrative: promoting a systemic approach in the wood sector</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module 2</th>
<th>Climate change, biodiversity, and renewable energies – The wood industry at the forefront of challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Within this module, the participants learn about wood sustainability to understand the neutral carbon foodprint of natural and renewable wood materials for building. In this light, the participants learn novel concepts and strategies of the wood</td>
</tr>
<tr>
<td></td>
<td>2.1 Climate change, the heat is on</td>
</tr>
<tr>
<td></td>
<td>2.2 Biodiversity and the forest and wood sectors at the forefront of challenges but also of opportunities</td>
</tr>
</tbody>
</table>

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sector to minimize climate change effects and the conservation of biodiversity. In particular, participants learn the role of renewable energies and technologies using natural and renewable raw material to minimize climate change and the loss of biodiversity. Moreover, the course promotes creativity and innovation with new learning methods to enhance the functioning of renewable wood material to help solving environmental degradation.

<table>
<thead>
<tr>
<th>Module 3</th>
<th>2.3 Energies and renewable energies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainable design in the furniture and wood sector</td>
<td></td>
</tr>
<tr>
<td>Within this module, the participants will learn what eco and sustainable design is and how to implement it in the furniture and wood sector. The learner will get familiar with key principles and strategies of eco and sustainable design and understand the importance of minimising the impact of a product throughout the phases of its life cycle.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module 4</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste management in the furniture and wood sector</td>
<td></td>
</tr>
<tr>
<td>Within this module, the participants will be trained to learn to prevent and reduce wood waste and what are the methods by which recyclable materials can be transformed into new ideas and opportunities. Also, they will be trained about measures that can be applied to reduce the wood waste and to recycle hazardous waste. Then the participants will be trained about how to implement the methods regarding waste separation and how can be used recycled materials to obtain new innovative products/by-products, and also how to use waste for transforming them into energy and how to design new products for green buildings/passive houses.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module 5</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact and use minimisation of resources in the furniture and wood sector</td>
<td></td>
</tr>
<tr>
<td>Within this module, the participants will be trained to learn about solid wood and its properties, and also about different types of engineered wood</td>
<td></td>
</tr>
</tbody>
</table>

| 3.1 Introduction to eco and sustainable design |                                     |
| 3.2 Principles and strategies of eco and sustainable design |                                     |
| 3.3 Cost and life cycle analysis in eco and sustainable design |                                     |
| 3.4 Implementation of eco and sustainable design |                                     |

| 4.1 Prevention and minimization of hazardous waste |                                     |
| 4.2 Waste reduction |                                     |
| 4.3 Extended producer responsibility system (EPR) furniture recyclability evaluation |                                     |
| 4.4 Waste management and waste to energy |                                     |

| 5.1 Material use |                                     |
| 5.2 Impact quantification and impact monitoring |                                     |
products (EPW) such as: veneers, laminated wood (LVL, Glulam, etc.), wood-based panels (PB, OSB, MDF, HDF, etc.) and their properties. Also, they will be trained about quantification Environmental Footprint of product or organization. They will be trained how collect data and report impact on environment through Eco-Management and Audit Scheme.

5.3 Reporting and verification

Module 6
Green skills, communication strategy and market development in/for the furniture and wood sector

Within this module, the participant will be trained to understand the concept of green skills and how to include green jobs in the furniture and wood sector. Also, they will become aware of the environmental impact of a job, and its possible contribution to greener economies.

After finalising the module, participants will acquire new and emerging skill needed on the greening job market and will know how to implement sustainable communication strategies and green marketing strategies.

6.1 Green jobs and skills in furniture and wood sector

6.2 Sustainable communication strategy

6.3 Green marketing in wood & furniture sector

SUSTAINABILITY IN THE FURNITURE AND WOOD SECTOR

<table>
<thead>
<tr>
<th>EQF LEVEL</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Duration</td>
<td>60 hours approximately</td>
</tr>
<tr>
<td>Total ECVET credit points</td>
<td>2.4</td>
</tr>
</tbody>
</table>

Upon successful completion of this course, the participant will be able to:
- Understand and communicate the relevance of environmental sustainability in the furniture and wood sector;
- Teach I-VET students how to work sustainably in the furniture and wood sector;
- Engage students on the topics of sustainable development and climate change;
- Make green careers more attractive to I-VET students;
### Module 1

**WOOD SUSTAINABILITY IN THE CONTEXT OF THE SUSTAINABLE DEVELOPMENT GOALS: FROM THEORY TO PRACTICE**

<table>
<thead>
<tr>
<th>Duration of Module 1</th>
<th>10 hours approximately</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECVET Points of Module 1</td>
<td>0.4</td>
</tr>
</tbody>
</table>

**Description of learning outcomes**

Within this module, the participant will be trained to learn how the wood industry plays an important role of the sustainable use of natural resources and why wood industry can take responsibility to establish a global environmental concept within the company.

#### 1.1 FROM SUSTAINABLE DEVELOPMENT TO THE SUSTAINABLE DEVELOPMENT GOALS

**Sub-units**

1.1.1 The Sustainable Development Goals (SDGs): A systemic approach for development

1.1.2 Improving environmental sustainability through education

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Skills</th>
<th>Responsibility and autonomy</th>
</tr>
</thead>
</table>
| • Basic concepts, terminology and methods connected to wood sustainability.  
• Vocabulary of technical terms related to wood sustainability  
• Environmental, economic, and social benefits of wood sustainability.  
• Main factors that influence sustainability to | • Eco-thinking  
• Systemic thinking.  
• Critical thinking.  
• Recognising ethical issues.  
• Environmental awareness and responsibility.  
• Versatility and adaptability.  
• Entrepreneurialism and innovation.  
• Corporate social responsibility. | • Understanding of the sustainability concept in the wood industry to enhance foundational knowledge of environmentally friendly building  
• Understand the meaning of wood sustainability and how it applies to society.  
• Acknowledge sustainability as an emerging field of |
improve wood sector for environmentally friendly performance.
• Possible difficulties that may arise during decision making and during implementation.

- System dynamics.
- Sustainability management
- Sustainable education

importance in the furniture and wood sector.
• Learn to take responsibility for their work by understanding the positive impact of sustainability, and ways to mitigate this impact by gaining a practical understanding of the field.
• Understand and describe the cycle of sustainability in the wood industry and the impact of processes on natural systems, people, places, life cycle, energy, and natural resources.
• An ability to identify strategic opportunities and communicate with appreciation about sustainability and environmentally friendly wood buildings with community, employees, suppliers and clients.

### 1.2 WOOD SUSTAINABILITY: FROM THEORY TO REALITY AND VICE VERSA

<table>
<thead>
<tr>
<th>Sub-units</th>
<th>1.2.1 An unsustainable and critical situation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.2.2 Forests and the wood sector: a cornerstone in the life on Earth</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Skills</th>
<th>Responsibility and autonomy</th>
</tr>
</thead>
</table>
| - Principles underpinning sustainable | - Eco-innovation.  
- Systemic thinking.  
- Creative thinking. | - Demonstrate critical awareness of |
Development and environmental awareness.
- Actions and methods of sustainability
- Dynamic of ethics and aesthetics as integral components of sustainable development in furniture products.
- Efficient use of the resource to increase its beneficial impact on climate change mitigation
- Wood sustainability in the EU and abroad
- Specific regulations of sustainability in the furniture market.
- Knows the concept of circular economy and how it can be applied in the wood industry for sustainable development
- Wood as the most important renewable resource for a future sustainable bioeconomy

- Green design.
- Creation of new products.
- Research new materials.
- Critical thinking.
- Recognising ethical issues.
- Environmental awareness and responsibility.
- Versatility and adaptability.
- Entrepreneurialism and innovation.
- Organisation and planning.
- Political, legal and ethical aspects of sustainable development.
- Corporate social responsibility.
- System dynamics.
- Consumption dynamics.
- Emerging technologies

Ecological concerns in general and understanding the ecological impacts implicit with building activities within the furniture and wood sector.
- Recognise the role of the furniture sector workers in ensuring global environmental sustainability.
- Prevent, reduce and/or minimise the environmental impact of the furniture and wood products.
- Incorporate environmental and sustainability criteria into the basic requirements of product design for the furniture and wood sector.
- Face the development stages of a new furniture product with strategies favouring eco and sustainable design.
- Integration of eco and sustainable design product policy in the furniture and wood sector.
- Effective use of resources, eco-innovation,
sustainable consumption and production, and circular economy. Implement ecological design and labelling.

## 1.3 TRANSFORMING THE NARRATIVE: PROMOTING A SYSTEMIC APPROACH IN THE WOOD SECTOR

### Sub-units

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Skills</th>
<th>Responsibility and autonomy</th>
</tr>
</thead>
</table>
| - Basic concepts, terminology and methods connected to eco and sustainable production.  
- Environmental, economic, and social benefits connected to eco and sustainable design.  
- Main factors that influence eco and sustainable products to identify where is possible to intervene to improve the environmental performance of a product to facilitate green consumption.  
- Possible difficulties that may arise during decision-making and during implementation.  
- Eco and sustainable market chains and | - Eco-innovation  
- Systemic thinking.  
- Critical thinking.  
- Ethical Issues.  
- Environmental awareness and responsibility.  
- Versatility and adaptability.  
- Entrepreneurialism and innovation.  
- Corporate social responsibility.  
- System dynamics.  
- Consumption dynamics.  
- Strategic design.  
- product innovation  
- Foundational knowledge.  
- Strong leadership  
- An ability to identify strategic opportunities  
- Forward-Thinking  
- Creative problem-solving  
- Calculate and Pitch Potential Value.  
- Basic Data Skills.  
- Understand and bring into play the basics of eco and sustainable design when a new furniture and/or wood product is designed and developed.  
- Positive (or less negative) influence on the environment  
- Understand the meaning of sustainable design and how it applies to society.  
- Acknowledge eco and sustainable design as an emerging field of importance in the furniture and wood sector.  
- Learn to take responsibility for their work by |
evolution over time and status.
- Differences in the steps performed when implementing eco and sustainable wood products.
- Decoupling economic growth from environmental degradation, increasing resource efficiency and promoting sustainable lifestyles.

understanding the impact it has on our environment, and ways to mitigate this impact by gaining a practical understanding of the field of eco and sustainable design.
- Understand and describe the impact of the design process on natural systems, people, places, life cycle, energy, and natural resources.

<table>
<thead>
<tr>
<th>Module 2</th>
<th>CLIMATE CHANGE, BIODIVERSITY, AND RENEWABLE ENERGIES – THE WOOD INDUSTRY AT THE FOREFRONT OF CHALLENGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration of Module 2</td>
<td>10 hours approximately</td>
</tr>
<tr>
<td>ECVET Points of Module 2</td>
<td>0.4</td>
</tr>
<tr>
<td>Description of learning outcomes</td>
<td>This module describes the technical aspects of climate change, biodiversity and renewable energies in the wood industry. Upon successful completion of module 2, learners will be able to:</td>
</tr>
<tr>
<td></td>
<td>• Understand the fundamental basis of climate change, biodiversity and renewable energies for sustainable wood industry</td>
</tr>
<tr>
<td></td>
<td>• Educational concepts and implementations to transitioning to a green economy.</td>
</tr>
<tr>
<td></td>
<td>• Teach capacity to understand climate change, biodiversity and renewable energies for sustainable wood production in the context of sustainable land management that is developed at all levels;</td>
</tr>
<tr>
<td></td>
<td>• Engage students on the topics of climate change, biodiversity and renewable energies</td>
</tr>
<tr>
<td></td>
<td>• Make green careers more attractive to I-VET students;</td>
</tr>
</tbody>
</table>
• Use increased competences in terms of innovative pedagogy, online learning and climate change, biodiversity and renewable energies applied to furniture and wood classes in VET schools (and not only)
• Sustainable wood value chains and sustainable wood products are broadened and the use of renewable energies to minimize climate change and biodiversity loss will be transmitted
• Integrate training material on climate change, biodiversity and renewable energies in the furniture and wood sector in existing training courses and classes.

2.1 CLIMATE CHANGE, THE HEAT IS ON

<table>
<thead>
<tr>
<th>Sub-units</th>
<th>2.1.1 Science is ringing the urgency bell</th>
<th>2.1.2 The climate change negotiation agenda</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>Skills</td>
<td>Responsibility and autonomy</td>
</tr>
</tbody>
</table>

- Basic concepts, terminology and methods connected to climate change, biodiversity and renewable energies
- Vocabulary of technical terms related to climate change, biodiversity and renewable energies.
- Environmental, economic, and social benefits connected to climate change, biodiversity and renewable energies.
- Main factors that influence climate change, biodiversity and renewable energies to improve the environmental performance of a product.
- Possible difficulties that may arise during

- Eco-innovation
- Systemic thinking.
- Critical thinking.
- Recognising ethical issues.
- Environmental awareness and responsibility.
- Versatility and adaptability.
- Entrepreneurialism and innovation.
- Corporate social responsibility.
- System dynamics.
- Consumption dynamics.
- Strategic design
- Product innovation.
- Technical understanding of environment

- Understand and bring into play the basics of climate change, biodiversity and renewable energies when a new furniture and/or wood product is designed and developed.
- Understand the meaning of climate change, biodiversity and renewable energies in the wood industry and how it applies to society.
- Acknowledge climate change, biodiversity and renewable energies as an emerging field of importance in the furniture and wood sector.
2.2 BIODIVERSITY AND THE FOREST AND WOOD SECTORS AT THE FOREFRONT OF
CHALLENGES, BUT ALSO OF OPPORTUNITIES

<table>
<thead>
<tr>
<th>Sub-units</th>
<th>Knowledge</th>
<th>Skills</th>
<th>Responsibility and autonomy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Basic concepts, terminology and methods connected renewable energies in</td>
<td>• Eco-innovation</td>
<td>• Understand and bring into play the basics of eco and sustainable design when a new</td>
</tr>
<tr>
<td></td>
<td>the wood sector.</td>
<td>• Systemic thinking.</td>
<td>furniture and/or wood product is designed and developed.</td>
</tr>
<tr>
<td></td>
<td>• Vocabulary of technical terms related to renewable energies in the</td>
<td>• Critical thinking.</td>
<td>• Understand the meaning of sustainable design and how it applies to society.</td>
</tr>
<tr>
<td></td>
<td>wood sector.</td>
<td>• Ethical Issues.</td>
<td>• Acknowledge eco and sustainable design as an emerging field of</td>
</tr>
<tr>
<td></td>
<td>• Environmental, economic, and social benefits connected to renewable</td>
<td>• Environmental awareness and responsibility.</td>
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</tr>
<tr>
<td></td>
<td>energies in the wood sector.</td>
<td>• Versatility and adaptability.</td>
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</tr>
<tr>
<td></td>
<td>• Main factors that influence eco and sustainable design by</td>
<td>• Entrepreneurialism and innovation.</td>
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<td></td>
<td></td>
<td>• Corporate social responsibility.</td>
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<td></td>
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<td>• System dynamics.</td>
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<td></td>
<td></td>
<td>• Consumption dynamics.</td>
<td></td>
</tr>
</tbody>
</table>

2.2.1 Biodiversity at risk or the need for a collective awakening

2.2.2 Nature-based solutions: a treasure of opportunities
renewable energies in the wood sector and where it is possible to intervene to improve the environmental performance of a product.
- Possible difficulties that may arise during decision making and during implementation.
- Evolution of renewable energies in the wood sector over time and current status.
- Differences in the steps performed when implementing renewable energies to improve eco and sustainable design vs. traditional design.

- Strategic design.
- Product innovation.

importance in the furniture and wood sector.
- Learn to take responsibility for their work by understanding the impact it has on our environment, and ways to mitigate this impact by gaining a practical understanding of the field of eco and sustainable design using renewable energies.
- Understand and describe the impact of renewable energies on wood furniture design process within natural systems of people, places, life cycle, energy, and natural resources.
- Be able to communicate with appreciation with community, employees, suppliers and clients about the company's improvement to use renewable energies for eco and sustainable design commitment and explain it for everyone.

### 2.3 ENERGIES AND RENEWABLE ENERGIES

<table>
<thead>
<tr>
<th>Sub-units</th>
<th>2.3.1 Fact and figures - Fossils fuel, the killing giant versus the needed energy transition</th>
<th>2.3.2 Renewables energies: a world of opportunities</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Skills</th>
<th>Responsibility and autonomy</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>
**Training Plan**

- Basic concepts, terminology and methods connected to renewable energy technologies.
- Vocabulary of technical terms related to renewable energy technologies.
- Environmental, economic, and social benefits connected to renewable energy technologies.
- Main factors that influence eco and sustainable design by renewable energy technologies and identifying where it is possible to intervene to improve the environmental performance of a product.
- Possible difficulties that may arise during decision making and during implementation.
- Evolution of renewable energy technologies over time and current status.
- Differences in the steps performed when implementing renewable energy technologies for the wood industry.

<table>
<thead>
<tr>
<th>Eco-innovation</th>
<th>Systemic thinking.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical thinking.</td>
<td>Recognition of ethical issues.</td>
</tr>
<tr>
<td>Environmental awareness and responsibility.</td>
<td>Versatility and adaptability.</td>
</tr>
<tr>
<td>Entrepreneurialism and innovation.</td>
<td>Corporate social responsibility.</td>
</tr>
<tr>
<td>System dynamics.</td>
<td>Consumption dynamics.</td>
</tr>
<tr>
<td>Strategic design.</td>
<td>Product innovation.</td>
</tr>
</tbody>
</table>

- Understand and bring into play the basics of renewable energy technologies when a new furniture and/or wood product is designed and developed.
- Understand the meaning of renewable energy technologies and how it applies to society and industry.
- Acknowledge the role of renewable energy technologies for eco and sustainable design as an emerging field of importance in the furniture and wood sector.
- Learn to take responsibility for their work by understanding the positive impact renewable energy technologies have on our environment, and ways to gaining a practical understanding of the field of eco and sustainable design.
- Understand and describe the impact of renewable energy technologies for the design process on natural systems, people, places, life cycle, energy, and natural resources.
- Be able to communicate with appreciation with community, employees,
Suppliers and clients about the company's eco and sustainable design commitment and explain it for everyone.

Module 3

**SUSTAINABLE DESIGN IN THE FURNITURE AND WOOD SECTOR**

<table>
<thead>
<tr>
<th>Duration of Module 3</th>
<th>10 hours approximately</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECVET Points of Module 3</td>
<td>0.4</td>
</tr>
</tbody>
</table>

This module describes the technical aspects of eco and sustainable design. Upon successful completion of module 3, learners will be able to:

- Understand and obtain a global vision of eco and sustainable design and the possibilities of utilization of the results obtained in the TABLE project for the knowledge of the company, sellers, consumers and society in general.
- Assess environmental aspects of ecological and sustainable design in the furniture and wood industry.
- Understand what is eco and sustainable design, its different stages, and the benefits it provides to a company.
- Describe the product lifecycle analysis along with its application phases.
- Identify action plans to mitigate the environmental impact in the furniture and wood industry.
- Relate ideas and new products with social problems in furniture design processes.
- Analyze different environmental and sustainable design aspects applicable to the furniture and wood industry.

3.1 **INTRODUCTION TO ECO AND SUSTAINABLE DESIGN**

<table>
<thead>
<tr>
<th>Sub-units</th>
<th>3.1.1 Basic concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.1.2 Benefits and barriers</td>
</tr>
<tr>
<td></td>
<td>3.1.3 Traditional design Vs. eco and sustainable design</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Skills</th>
<th>Responsibility and autonomy</th>
</tr>
</thead>
</table>
- Basic concepts, terminology and methods connected to eco and sustainable design.
- Vocabulary of technical terms related to environmental systems and eco and sustainable design.
- Environmental, economic, and social benefits connected to eco and sustainable design.
- Main factors that influence eco and sustainable design to identify where is possible to intervene to improve the environmental performance of a product.
- Possible difficulties that may arise during decision making and during implementation.
- Eco and sustainable design evolution over time and current status.
- Differences in the steps performed when implementing eco and sustainable design vs. traditional design.

<p>| | |</p>
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</tbody>
</table>

- Eco-innovation
- Systemic thinking
- Critical thinking
- Ethical Issues
- Environmental awareness and responsibility
- Versatility and adaptability
- Entrepreneurialism and innovation
- Corporate social responsibility
- System dynamics
- Consumption dynamics
- Strategic design
- Product innovation

- Understand and bring into play the basics of eco and sustainable design when a new furniture and/or wood product is designed and developed.
- Understand the meaning of sustainable design and how it applies to society.
- Acknowledge eco and sustainable design as an emerging field of importance in the furniture and wood sector.
- Learn to take responsibility for their work by understanding the impact it has on our environment, and ways to mitigate this impact by gaining a practical understanding of the field of eco and sustainable design.
- Understand and describe the impact of the design process on natural systems, people, places, life cycle, energy, and natural resources.
- Be able to communicate with appreciation with community, employees, suppliers and clients about the company’s eco and sustainable design commitment and explain it for everyone.
## 3.2 Principles and Strategies of Eco and Sustainable Design

### Sub-units

<table>
<thead>
<tr>
<th>3.2.1 Stages of Eco and Sustainable Design</th>
<th>3.2.2 Strategies of Eco and Sustainable Design</th>
<th>3.2.3 EU Legal Framework of Eco and Sustainable Design</th>
</tr>
</thead>
</table>

### Knowledge

- Principles underpinning sustainable development and environmental awareness.
- Actions and methods contained in the Lifecycle Design Strategies (LiDS) and the Ecodesign Strategic Wheel.
- Dynamic of ethics and aesthetics as integral components of sustainable development in furniture products.
- Awareness of the environment and how the materials used and design selections in the furniture sector can impact it.
- Legal framework for eco and sustainable design in the European Union.
- Specific regulations governing eco and sustainable design that certify the sustainable products launched in the furniture market.
- General principles of the Certifications of Quality and Environment for companies (ISO9001, etc.).

### Skills

- Eco-innovation.
- Systemic thinking.
- Creative thinking.
- Green design.
- Creation of new products.
- Research new materials.
- Critical thinking.
- Recognition of ethical issues.
- Environmental awareness and responsibility.
- Versatility and adaptability.
- Entrepreneurialism and innovation.
- Organisation and planning.
- Political, legal and ethical aspects of sustainable development.
- Corporate social responsibility.
- System dynamics.
- Consumption dynamics.
- Strategic design.
- Product innovation.

### Responsibility and autonomy

- Demonstrate critical awareness of ecological concerns in general and understanding the ecological impacts implicit with design activities within the furniture and wood sector.
- Recognise the role of the furniture sector workers in ensuring global environmental sustainability.
- Prevent, reduce and/or minimize the environmental impact of the furniture and wood products.
- Incorporate environmental and sustainability criteria into the basic requirements of product design for the furniture and wood sector.
- Face the development stages of a new furniture product with strategies favouring eco and sustainable design.
- Integration of eco and sustainable design.
ISO14001 and EMAS, among others, process management, the identification of environmental aspects, legal requirements, etc.

- Communication tools for eco and sustainable design: certified eco-labels by accredited bodies.
- General principles of Green Public Procurement.

3.3 COST AND LIFE CYCLE ANALYSIS IN ECO AND SUSTAINABLE DESIGN

<table>
<thead>
<tr>
<th>Sub-units</th>
<th>3.3.1 Life Cycle Assessment</th>
<th>3.3.2 Life Cycle and Cost Assessment Stages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>Skills</td>
<td>Responsibility and autonomy</td>
</tr>
</tbody>
</table>

- The complete life cycle stages (extraction and processing of raw materials, production, transport and distribution, use, reuse and maintenance, recycling and disposal).
- The Life Cycle Assessment (LCA) methodology for assessing and estimating the environmental impacts attributable to a product or service during all stages of its life.
- Life Cycle Assessment advantages and regulations.

- Eco-innovation.
- Creation of new products.
- Critical thinking.
- Recognising ethical issues.
- Environmental awareness and responsibility.
- Entrepreneurialism and innovation.
- Organization and planning.
- Corporate social responsibility.
- System dynamics.
- Product development and evaluation.
- Data-driven strategic analysis.
- Consumption dynamics.
- Strategic design.

- Be able to analyze the entire life cycle of the furniture and wood product and explain the environment friendly view toward its entire life cycle.
- Be able to develop and to implement a furniture and wood product life cycle and circular strategy in everyday activities.
- Be able to note and describe the principles of the furniture and wood product life cycle.
- Be able to implement the different phases of the Life Cycle and Cost...
- Characteristics and implementation of the Life Cycle and Cost Assessment Stages.
- Evaluation of costs of eco and sustainable design and other methods both initial and long term.

### 3.4 IMPLEMENTATION OF ECO AND SUSTAINABLE DESIGN

**Sub-units**

<table>
<thead>
<tr>
<th>3.4.1 Eco and Sustainable Design Audit</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.4.2 Eco and Sustainable Design Implementation Stages</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Skills</th>
<th>Responsibility and autonomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Methodology and factors involved in the development of an eco and sustainable design project in the furniture and wood sector.</td>
<td>- Eco-innovation.</td>
<td>• Integrate concepts of sustainability into the design process of furniture and wood products from the inception of the design through the execution of the design development.</td>
</tr>
<tr>
<td>- Theoretical knowledge and practical experience in respect to the environmental ramifications of furniture and/or wood product specifications.</td>
<td>- Systemic thinking.</td>
<td>• Be able to design the guidelines and models for the creation of durable and long-lasting furniture and wood products based on the principles of eco and sustainable design.</td>
</tr>
<tr>
<td>- Fundamental actions to be carried out for the project preparation, the selection and consideration of the environmental aspects throughout the product cycle, the generation and prioritization of ideas for improvement, the development of concepts, the definition of the product in detail,</td>
<td>- Creative thinking.</td>
<td>• Be able to create the products using principles of eco-design and incorporating strategies from circular economy.</td>
</tr>
</tbody>
</table>

- Environmental awareness and responsibility.
- Versatility and adaptability.
- Corporate social responsibility.
- System dynamics.
- Product development and evaluation.
- Consumption dynamics.
- Strategic design.
- Product innovation.
the blueprint of the action plan for its integration into design and management and the subsequent evaluation measures.

- Ensure that the furniture and/or wood company manages the design and development of its products in such a way that they continue to improve as regards their impact on the environment.
- Understand the impact of the designing experience by looking beyond the single object, moment, page or place to see how they collectively make an impact on the environment.
- Explain how higher added value will be achieved in the company through the integration of eco and sustainable design strategies.

<table>
<thead>
<tr>
<th>Module 4</th>
<th>WASTE MANAGEMENT IN THE FURNITURE AND WOOD SECTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration of Module 4</td>
<td>10 hours approximately</td>
</tr>
<tr>
<td>ECVET Points of Module 4</td>
<td>0.4</td>
</tr>
</tbody>
</table>
| Description of learning outcomes | Upon successful completion of this course, the participant will be able to:  
  - Identify new policy and waste sources;  
  - Identify the hazardous wastes; |
- Assess the resource recyclability;
- Identify the technological development for clean production and green products;
- Identify the hazardous resource consumption;
- Explain the methods to reduce resource consumption;
- Identify the cause for which the disposable products are restricted to be used;
- Identify solutions to transform the waste into environmentally friendly products;
- Define appropriate ways to collect information and use it to propose green products;
- Create green products ideas

### 4.1 PREVENTION AND MINIMIZATION OF HAZARDOUS WASTE

<table>
<thead>
<tr>
<th>Sub-units</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1.1. Waste Policy and Implementation Direction</td>
</tr>
<tr>
<td>4.1.2. Waste Generation Status</td>
</tr>
<tr>
<td>4.1.3. Waste Treatment</td>
</tr>
<tr>
<td>4.1.4. Cleaner Technology and Low-waste Product Production</td>
</tr>
<tr>
<td>4.1.5. Education, Training, Raising Awareness, and Capacity Building</td>
</tr>
<tr>
<td>4.1.6. Administration, and Other Relevant Measures</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Skills</th>
<th>Responsibility and autonomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Knowledge about waste policy and implementation direction</td>
<td>• Is able to use the implementation direction in waste policy</td>
<td>• Applies waste policy lines in its daily professional work</td>
</tr>
<tr>
<td>• Knowledge about hazardous waste</td>
<td>• Is able to identify the waste generation status</td>
<td>• Applies the circular economy principles</td>
</tr>
<tr>
<td>• Knowledge about waste generation status</td>
<td>• Is able to adopt proactive attitude to reduce the hazardous resource consumption in furniture manufacturing</td>
<td>• Evaluates the waste generation status</td>
</tr>
<tr>
<td>• Knowledge about waste treatment</td>
<td>• Acquires strong personal values in relation to wastes generation</td>
<td>• Implements the strategies focused on waste treatment</td>
</tr>
<tr>
<td>• Knowledge about cleaner technology and low-waste product</td>
<td>• Is able to recycle and/or reuse the waste resulted</td>
<td>• Tests and implements cleaner technologies</td>
</tr>
<tr>
<td>• Production</td>
<td></td>
<td>• Applies low stocks of wood waste on the technological flow</td>
</tr>
<tr>
<td>• Knowledge about education, training,</td>
<td></td>
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</tbody>
</table>
### Training Plan

#### 4.2 WASTE REDUCTION

<table>
<thead>
<tr>
<th>Sub-units</th>
<th>Knowledge</th>
<th>Skills</th>
<th>Responsibility and autonomy</th>
</tr>
</thead>
</table>
| **4.2.1. Restricting the Use of Disposable Products** | • Knowledge about restricting the use of disposable products  
• Knowledge about preventing packaging waste generation  
• Knowledge about wood waste reduction | • Is able to implement the eco design concepts in furniture manufacturing  
• Is able to be aware of restraining the use of disposable products  
• Is able to collect and use information about disposable products | • To develop eco-friendly products to replace the disposable products  
• Design the eco-friendly packaging for furniture purpose  
• Allocate resources from the production of wood wastes for |
| **4.2.2. Preventing Packaging Waste Generation**   |                                                                         |                                                                                                |                                                                                           |
| **4.2.3. Wood Waste Reduction**                   |                                                                         |                                                                                                |                                                                                           |
| **4.2.4. Products that use the recyclable materials** |                                                                         |                                                                                                |                                                                                           |

- Participates to training for raising awareness and capacity building for applying new technologies and innovate new products with wood waste
- Applies measures to reduce the wood waste and recycle hazardous waste

---

- Knowledge about raising awareness, and capacity building
  - Knowledge about administration, and other relevant measures
  - Knowledge about application the waste treatment in furniture production
  - Is able to use the clean technologies in furniture production
  - Is able to assimilate knowledge on clean production and eco-management for the companies
  - Is able to set up a management system based on prevention and minimization on hazardous waste
  - Skills to construct a resource recycling society

After the production process
- Is able to apply the waste treatment in furniture production
- Is able to use the clean technologies in furniture production
- Is able to assimilate knowledge on clean production and eco-management for the companies
- Is able to set up a management system based on prevention and minimization on hazardous waste
- Skills to construct a resource recycling society

---

**TABLE**
### Knowledge
- Knowledge about products that use the recyclable materials

### Skills
- Is able to develop and propose green products
- Is able to propose new materials for replacing solid wood in furniture manufacturing
- Is able to include wood waste in new innovative products
- Is able to develop an open attitude to use the recyclable materials to transform new ideas in new opportunities

### Responsibility and autonomy
- Small sized wooden objects
- Develops new products made from recyclable materials
- Evaluate the possibilities of using new designed products in the daily activities
- Attitude of reduction the negative impact on the environment by proposing green products

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**4.3 EXTENDED PRODUCER RESPONSIBILITY SYSTEM (EPR) FURNITURE RECYCLABILITY EVALUATION**

<table>
<thead>
<tr>
<th>Sub-units</th>
<th>Knowledge</th>
<th>Skills</th>
<th>Responsibility and autonomy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4.3.1. Public awareness on waste separation</strong></td>
<td>- Knowledge about public awareness on waste separation&lt;br&gt;- Knowledge about wastes from furniture industry manufacturing system&lt;br&gt;- Knowledge about innovation and innovative products with recycled materials&lt;br&gt;- Knowledge about solutions of wood waste recycling</td>
<td>- Is able to implement a positive attitude regarding the waste separation&lt;br&gt;- Is aware of the obligations of the manufacturers to recycle a certain amount of their products/by-products&lt;br&gt;- Is able to innovate products with recycled materials</td>
<td>- Creates relevant network system to collect and select the waste resulted from furniture production&lt;br&gt;- Develops and implements a sustainable plan to implement a network system for waste separation&lt;br&gt;- Develops the innovative skills</td>
</tr>
<tr>
<td><strong>4.3.2. Waste from furniture industry manufacturing system</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4.3.3. Innovation and innovative products with recycled materials</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>4.3.4. Solutions of wood waste recycling</strong></td>
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<tr>
<td><strong>4.3.5. Changing the public opinion on the reuse of used goods</strong></td>
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</tbody>
</table>
4.4 WASTE MANAGEMENT AND WASTE TO ENERGY

<table>
<thead>
<tr>
<th>Sub-units</th>
<th>Knowledge</th>
<th>Skills</th>
<th>Responsibility and autonomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.4.1. Wood waste management Policy</td>
<td>• Knowledge about wood waste management policy</td>
<td>• To be aware of the necessity of the existence of a disposal system of hazardous treated wood</td>
<td>• Implement the wood waste management policy</td>
</tr>
<tr>
<td>4.4.2. Waste to energy and bio-energy</td>
<td>• Knowledge about waste to energy</td>
<td>• To have knowledge about the technology of transforming wood waste into fuels</td>
<td>• Seeks and contacts researchers to study the possibility of using wood waste for fuels</td>
</tr>
<tr>
<td>4.4.3. Green buildings</td>
<td>• Knowledge about green buildings</td>
<td>• To be able to tests the calorific power of fuels made from wood waste</td>
<td>• Applies the concept of green buildings in designing new products and materials</td>
</tr>
<tr>
<td>4.4.4. Passive houses</td>
<td>• Knowledge about passive houses</td>
<td>• To have knowledge about the concept of</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Knowledge about bio-energy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Knowledge about change public opinion on the reuse of used goods
- Is able to evaluate the possibilities of recycling the wood waste
- To have a positive attitude to find solutions of waste valorisation and recycling
- Is able to valorise old furniture in order to prolong the life cycle of these products
- Through specialized trainings
- Develops and tests new products made of recycled materials from furniture industry
- Applies innovative ideas by using the end-of-life products in new ones
- Applies innovative ideas in wood waste recycling
- Creates a communication strategy to change the public opinion on on the reuse of used goods

Through specialized trainings
- Develops and tests new products made of recycled materials from furniture industry
- Applies innovative ideas by using the end-of-life products in new ones
- Applies innovative ideas in wood waste recycling
- Creates a communication strategy to change the public opinion on on the reuse of used goods

Knowledge
- To be aware of the necessity of the existence of a disposal system of hazardous treated wood
- To have knowledge about the technology of transforming wood waste into fuels
- To be able to tests the calorific power of fuels made from wood waste
- To have knowledge about the concept of

Skills
- To be aware of the necessity of the existence of a disposal system of hazardous treated wood
- To have knowledge about the technology of transforming wood waste into fuels
- To be able to tests the calorific power of fuels made from wood waste
- To have knowledge about the concept of

Responsibility and autonomy
- Implement the wood waste management policy
- Seeks and contacts researchers to study the possibility of using wood waste for fuels
- Applies the concept of green buildings in designing new products and materials
green buildings and passive houses
  • To have ability to understand the connection between bio-fuels and bio-energy
  • Applies the passive houses concept in development of new wall building structures
  • Develops and implements the concept related to bio-energy

<table>
<thead>
<tr>
<th>Module 5</th>
<th>IMPACT AND USE MINIMISATION OF RESOURCES IN THE FURNITURE AND WOOD SECTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration of Module 5</td>
<td>10 hours approximately</td>
</tr>
<tr>
<td>ECVET Points of Module 5</td>
<td>0.4</td>
</tr>
</tbody>
</table>
| Description of learning outcomes | Upon successful completion of this course, the participant will be able to:
  • Understand the structure and composition of engineered wood products (EWP)
  • Select feasible strategies
  • Identify impact quantification methods
  • Create Environmental Footprint Report
  • Understand reporting and verification methods |

5.1 MATERIAL USE

<table>
<thead>
<tr>
<th>Sub-units</th>
<th>5.1.1 Solid wood. Properties and uses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5.1.2 Veneers and laminated wood products (LVL, Glulam, etc)</td>
</tr>
<tr>
<td></td>
<td>5.1.3 Knowledge of wood-based panels (PB, OSB, MDF, HDF, etc)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Skills</th>
<th>Responsibility and autonomy</th>
</tr>
</thead>
</table>
| • Knowledge of solid wood properties and uses
  • Knowledge of veneers and laminated wood products (LVL, Glulam, etc.) | • Ability to assess the impact of the EWP to the environment and human health
  • Environmental awareness and responsibility
  • Product innovation; eco-innovation | • Encourage observation, experience and reflection on the interaction between the ecosystem introduced by human design and environment. |
- Knowledge of wood-based panels (PB, OSB, MDF, HDF, etc)
- Knowledge of other EWP

- Skill to evaluate the ecosystem introduced by human design or interaction with the environment.
- Skill to convey the awareness for the rational use of wood resources

- Understand and bring into play the basics of eco design
- Learn to take responsibility for their work

## 5.2 IMPACT QUANTIFICATION & IMPACT MONITORING

<table>
<thead>
<tr>
<th>Sub-units</th>
<th>Knowledge</th>
<th>Skills</th>
<th>Responsibility and autonomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.2.1. Legislation of impact</td>
<td>• Knowledge on legislation</td>
<td>• Skills to identify impact quantification methods</td>
<td>• Implementation of feasible strategies to reduce the potential impact</td>
</tr>
<tr>
<td>5.2.2. Impact Quantification</td>
<td>• Knowledge on structure of normalization and legislation</td>
<td>• Skills to convey the awareness of each person’s responsibility</td>
<td>• Discusses impact quantification methods work by understanding the impact it has on our environment, and ways to mitigate this impact by gaining a practical understanding of the field of eco and sustainable design</td>
</tr>
<tr>
<td>5.2.3. Impact monitoring</td>
<td>• Knowledge on Product/Organisation Environmental Footprint</td>
<td>• Skills to identify impact monitoring methods</td>
<td>• Understand and describe the impact of the design process on natural resources</td>
</tr>
<tr>
<td></td>
<td>• Knowledge on environmental management and audit scheme EMAS</td>
<td>• Ability to using ISO Standards</td>
<td>• Recognise and describe the impact assessment categories</td>
</tr>
<tr>
<td></td>
<td>• Knowledge on potential environmental impact</td>
<td>• Organization and planning.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Knowledge on monitoring strategies</td>
<td>• Environmental awareness and responsibility.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Knowledge on tools made for Environmental Footprint</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 5.3 REPORTING AND VERIFICATION

#### Sub-units

<table>
<thead>
<tr>
<th>5.3.1. Reporting techniques and strategies</th>
<th>5.3.2. Verification and registration</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Skills</th>
<th>Responsibility and autonomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Knowledge on impact reporting techniques and strategies according to EMAS</td>
<td>• Skill to identify impact reporting methods</td>
<td>• Implementation of feasible strategies for impact reporting</td>
</tr>
<tr>
<td>• Knowledge on impact verification techniques and strategies according to EMAS</td>
<td>• Skill to organize existing appropriate resources</td>
<td>• Discusses impact reporting methods</td>
</tr>
<tr>
<td>• Knowledge on verification procedure and verifier</td>
<td>• Skill to describe verification procedure</td>
<td>• Discusses impact verification methods</td>
</tr>
<tr>
<td></td>
<td>• Skill to prepare report documentation</td>
<td>• Understand and describe benefits of EMAS registration</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Creates Environmental Footprint report</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module 6</th>
<th>GREEN SKILLS, COMMUNICATION STRATEGY AND MARKET DEVELOPMENT IN/FOR THE FURNITURE AND WOOD SECTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration of Module 6</td>
<td>10 hours approximately</td>
</tr>
<tr>
<td>ECVET Points of Module 6</td>
<td>0.4</td>
</tr>
</tbody>
</table>

#### Description of learning outcomes

Within this unit, the participant will be trained to:

- Understand the concept of green skills
- Know how to include green jobs in the furniture and wood sector
- Recognize the importance of environment in general policy statements, the skills dimension of climate change and low-carbon policies
- Understand the environmental impact of a job, and its possible contribution to greener economies
- Integrate sustainable development and environmental issues into existing qualifications
- Capture new and emerging skill needs on the greening job market
- Know the sustainable communication strategy of their company/factory with all interested parties
- Implement green marketing strategies
6.1 GREEN JOBS AND SKILLS IN FURNITURE AND WOOD SECTOR

<table>
<thead>
<tr>
<th>Sub-Units</th>
<th>6.1.1 Green Jobs</th>
<th>6.1.2 Green Skills</th>
<th>Eco-innovation Culture</th>
<th>6.1.4 Lifelong Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>Skilled in...</td>
<td>Skilled in...</td>
<td>Skilled in...</td>
<td>Skilled in...</td>
</tr>
<tr>
<td></td>
<td>Knows the concept of green job</td>
<td>Knows the concept of green skills</td>
<td>Knows the concepts of eco-innovation culture and environmental management system strategy</td>
<td>Understands the concept of lifelong learning and its importance</td>
</tr>
<tr>
<td></td>
<td>Is able to use the concepts of green job and skills in its professional career</td>
<td>Is able to apply the concept of circular economy for sustainable development</td>
<td>Is able to implement the eco design modalities in its professional activities</td>
<td>Is able to set up an environmental management system strategy</td>
</tr>
<tr>
<td></td>
<td>Applies green skills in its daily professional work</td>
<td>Creates networks with other stakeholders in order to apply the circular economy principles</td>
<td>Uses the eco design modalities</td>
<td>Designs and develops innovative products from the waste resulted in the production process</td>
</tr>
<tr>
<td></td>
<td>Creates networks with other stakeholders in order to apply the circular economy principles</td>
<td>Develops an environmental management system strategy</td>
<td>Includes alternative resources in its final products</td>
<td>Tests and implements new approaches in the technological field</td>
</tr>
<tr>
<td></td>
<td>Uses the eco design modalities</td>
<td>Develops an environmental management system strategy</td>
<td>Identifies opportunities and innovative ideas for sustainable development</td>
<td>Tests and implements new approaches in the technological field</td>
</tr>
<tr>
<td></td>
<td>Designs and develops innovative products from the waste resulted in the production process</td>
<td>Includes alternative resources in its final products</td>
<td>Tests and implements new approaches in the technological field</td>
<td>Tests and implements new approaches in the technological field</td>
</tr>
</tbody>
</table>
# Training Plan

- Adopts a proactive attitude and establishes routines for lifelong learning in the workplace
- Acquires strong personal values in relation to environmental challenges
- Participates in training activities periodically
  - Includes their personal values in creating eco-products and disseminates to customer these beliefs
  - Facilitates the transition to a “green” wood and furniture industry

## 6.2 SUSTAINABILITY COMMUNICATION STRATEGY

<table>
<thead>
<tr>
<th>Sub-Units</th>
<th>6.2.1 Sustainability communication</th>
<th>6.2.2 Corporate Social Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>Skills</td>
<td>Responsibility and autonomy</td>
</tr>
</tbody>
</table>

- Knows the importance of communication in the suppliers and partners’ chain
- Knows the concept of sustainable communication
- Knows the concept of sustainable communication plan
- Knows the storytelling concept
- Knows how to approach and communicate with the targeted customer segment/niche market
- Develops communication skills for creating a relevant value network of suppliers and partners
- Is able to create a sustainable communication plan
- Is able to communicate about sustainability actions especially on social media
- Is able to approach and communicate with the targeted customer segment/niche market
- Use external expertise to increase overall sustainability of the final product/service provided, ability to collaborate with external experts to provide access
- Applies its communication skills and creates relevant networks of suppliers and partners
- Develops and implements the sustainable communication plan
- Creates posts and awareness campaigns about sustainability actions
- Creates a communication strategy for the targeted customer segment/niche market
- Seeks and contacts external experts for product development
- Understands the importance of collaborating with external experts for developing new eco-projects/eco-products
- Knows the importance of communicating with customers concerning the maintenance of the products
- Allocates time in its daily professional routine to communicate with clients concerning the maintenance of the products

### 6.3 GREEN MARKETING IN WOOD & FURNITURE SECTOR

<table>
<thead>
<tr>
<th>Sub-Units</th>
<th>6.3.1 Green Marketing</th>
<th>6.3.2 Green Advertising</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Knowledge</strong></td>
<td><strong>Skills</strong></td>
<td><strong>Responsibility and autonomy</strong></td>
</tr>
<tr>
<td>• Knows new and green marketing approaches</td>
<td>• Is able to use the green marketing approaches</td>
<td>• Implements green marketing approaches</td>
</tr>
<tr>
<td>• Knows how to adjust or enhance existing marketing thinking and practice, for including eco-marketing concepts in their marketing strategy</td>
<td>• Is able to include new approaches for creating a green marketing strategy</td>
<td>• Develops a new marketing strategy focused on green approaches</td>
</tr>
<tr>
<td>• Knows how to create a “Green Marketing Strategy”</td>
<td>• Promotes the sustainable value of manufactured products</td>
<td>• Uses marketing sustainable packaging</td>
</tr>
<tr>
<td>• Knows component of the marketing sustainable packaging (product modification, changes to the production process, sustainable packaging,</td>
<td>• Is able to use the marketing sustainable packaging for its products</td>
<td>• Designs and promotes green advertising</td>
</tr>
<tr>
<td></td>
<td>• Is able to apply the green advertising concepts</td>
<td>• Uses green promotional channels</td>
</tr>
<tr>
<td></td>
<td>• Is able to use green promotional channels</td>
<td></td>
</tr>
</tbody>
</table>
In this section we present a validation plan that will be implemented within the course to make sure that the learning outcomes and competences acquired by teachers are assessed and recognised.

A key reference for validation of competences in the VET sector in non-formal and informal education are the European guidelines for validating non-formal and informal learning developed by CEDEFOP. The guidelines state that validation is, first, about making visible the diverse and rich learning of individual that often takes place outside formal education and training. Secondly, about attributing value to the learning of individuals, irrespective of the context in which this learning took place.

According to the guidelines, there are four steps in the validation process:

- **Identification** of an individual’s learning outcomes acquired through non-formal and informal learning;

- **Documentation** of an individual’s learning outcomes acquired through non-formal and informal learning;

- **Assessment** of an individual’s learning outcomes acquired through non-formal and informal learning;

- **Certification** of the results of the assessment of an individual’s learning outcomes acquired through non-formal and informal learning in the form of a qualification, or credits leading to a qualification, or in another form, as appropriate.

The guidelines state that “these phases are mixed and balanced in different ways, reflecting the particular purpose of each validation arrangement”. In the case of the TABLE training course, the goal of our validation is to assess the achievement of learning outcomes and

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knowledge, skills, responsibility and autonomy outlined in the competence framework. Therefore, major relevance is given to the “assessment” phase over the other three phases.

The “identification” phase will be also covered, namely through self-reflection exercises for learners.

The “certification” phase will consist in awarding open badges to learners that successfully complete one training unit or the full course. The certification system will be developed once that the first version of the training content is ready in order to identify the most suitable approach.

**Validation tools**

Per each unit and sub-unit of learning outcomes, a set of quizzes and self-assessment activities will be designed to test the knowledge acquired by participants. Since the delivery environment of the course will be an e-learning platform, quizzes have been identified as the most suitable method to carry out the required evaluation, as they will allow learners to proceed autonomously with the programme, in consistency with the principles of online open education services. The questions will be developed to enhance learners’ engagement and to help them assess whether and what they are actually learning.

**Quizzes**

The TABLE training course might include 6 types of quiz questions, in accordance with the tools available within the selected e-learning platform.

1. **Yes or No**
   The yes or no format is the easiest and most intuitive way to design questions. Simply put, this involves asking a question to which the learner either answers yes or no.

2. **Open-ended**
   Open-ended questions will be provided to stimulate learners’ active engagement, getting them to think creatively about a problem that doesn’t have a single fixed and defined solution.

3. **Multiple choice**
   Multiple choice questions are among the most effective ways to test learners on the content of the e-course. They present several possible answers to a question, only one of which is right and the others being “distractors” meant to draw attention away from the real answer. In some cases, although, multiple choice questions may have more than one correct answers, asking the learners to spot them among a generally longer list of answers. These are also called “Check all that apply” questions.

4. **Matching**
In a matching question, different phrases or concepts are provided along with several words, and the learner has to fill in which word goes with which phrase or concept. Matching gives learners some hints to go on, and is therefore a good approach if you want to give students more time to absorb material.

5. Definitions
Questions about definitions can be designed using the same matching format outlined above, or in alternative using a drag and drop method. Both of them will ask the learners to associate key words or phrases with their most relevant and exact definition, in accordance with the theoretical contents previously provided.

6. Fill in the blanks
Within this format, learners are provided with a normally short text where some key words or phrases have been removed, and their task is to put them again in the right place, thus “fixing” the text. A set of possible answers can or cannot be placed below to give some hints to the learners.

Self-assessment exercises

For quality assurance purposes, the course will recommend the use of self-assessment questionnaire templates provided in Annex I of the Handbook for VET providers developed by CEDEFOP⁵. These include, among others:

- Questionnaire to teachers for self-reflecting on student’s assessment
- Questionnaire to students for self-reflection
- Teacher self-reflection on assessment
- Teacher assessment form
- Questionnaire to teachers for reflecting and assessing teaching

The templates will be included as an additional resource on the training platform and their use will be recommended to apply the quality cycle approach to the training.

7 Guidelines on content development

Partners will develop the training content based on a template provided by AMUEBLA, available here. The template reflects the structure of the learning units and it has been created in line with the design and the functionalities of the e-learning platform.

The content will be first developed in English and then translated into the partners’ languages once it has been consolidated. Therefore, when creating training resources partners should bear in mind that they should be translatable.

The content should be provided in the form of “Educational snacks”, which may consist in videos, readings, podcasts, webinars or other kinds of resources. This means that little or few preliminary knowledge should be needed to start learning, since teachers may decide to learn just about the aspects or the training that are most interesting for them, or choose to learn the content in a different order than the one suggested by our course.

AMUEBLA will be in charge of uploading the training material and make sure that the content is consistent in terms of layout across the different units.

Each training unit will start will one introductory video, developed by AMUEBLA with contributions from the partners. Furthermore, it was agreed that each training unit will include at least one case study.

8 Conclusions

This deliverable outlined the training plan of the TABLE training course. We described the previous steps made to gather insights on the training needs, we described the aims and background of the course, and developed a competence framework outlining knowledge, skills, responsibility and autonomy associated with each topic.

On this basis, the TABLE consortium is going to develop the training contents for each module, as well as the assessment exercises.

As stated in the introduction, we emphasize that this document is a guidance to the development of the training course, therefore while developing the training courses it is possible that changes to the training plan will be made in order to best meet the objectives of our project.

9 References

Boletín Oficial del Estado, Núm. 249, Jueves 17 de octubre de 2013, Sec. I. Pág. 84521.


Description of the eight EQF levels: https://europa.eu/europass/en/description-eight-eqf-levels