"HOW-TO" BOOK WITH GUIDELINES FOR VET TEACHER

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Index

1. PRESENTATION OF THE BOOK

Description

This "How-to" book will allow VET providers, trainers and teachers along with technical staff at industrial organizations interpret and apply the knowledge in eco-sustainability toolkit in order to be able to:

- Calculate the effects of activities of industrial organizations on the environment
- Diagnose organizational and activity-based problems - Identify the causes of the issues and their impacts
- Implement the correct solutions
- Interpret the depletion of the natural resources and climate change
- Understand the serious impacts of daily activities
- Identify the problems of the organizations and technical staff
- Have a deep understanding of the environmental and consumption vision and effectively manage the activities
- Contrast the differences of the environmental developments within the activities over time
- Check the conformity with the environmental regulations and legislations.

Target groups:

- VET providers, trainers, and teachers

– Technical staff working in production companies

- Research and development professionals

Elements of innovation:

Unique online "how-to book with guidelines for VET teachers" was never made available before. This result offers an innovative and accessible tool for the target audience that allows for a recreation of perspectives in the field of VET, production, research and development and consultants on sustainability and environmental issues.

2. ENVIRONMENTAL RECOMMENDATIONS AND TIPS ON LEARNING AND IMPLEMENTING PROJECT RESULT 1 CONTENTS ALONG WITH AUTHENTIC EXAMPLES TO CATER SUGGESTIONS ON REAL LIFE CASES ABOUT ENVIRONMENTAL PROBLEMS

2.1 FACTORIES AND PRODUCTION SITES

(Source of the image: https://www.eco-greenenergy.com/advantages-of-solar-energy-industrial/)

1. Use renewable energy

Factories and production sites can switch to renewable energy sources, such as solar and wind power, to reduce their reliance on fossil fuels. This can help to reduce greenhouse gas emissions and improve air quality.

2. Improve energy efficiency

Factories and production sites can improve their energy efficiency by installing energy-efficient lighting, motors, and appliances. This can help to reduce energy consumption and save money on energy bills.

(Source of the image: https://www.treehugger.com/beginners-guide-to-rainwater-harvesting-5089884)

3. Reduce water usage

Factories and production sites can reduce their water usage by implementing water conservation measures, such as rainwater harvesting and greywater recycling. This can help to protect water resources and save money on water bills.

(Source of the image: https://www.homedepot.com/p/Rubbermaid-10-38-Gal-Blue-Large-Deskside-Recycling-Bin-2099560/309841526)

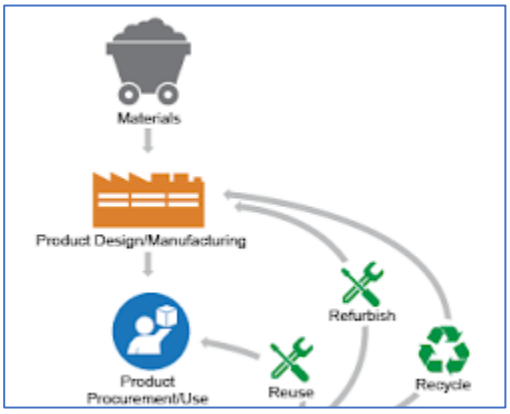
4. Recycle and compost

Factories and production sites can reduce waste by recycling materials and composting organic waste. This can help to reduce the amount of waste sent to landfills and incinerators.

(Source of the image: https://www.buildinggreen.com/primer/defining-recycled-content)

5. Use sustainable materials

Factories and production sites can use sustainable materials, such as recycled content and bio-based materials, in their products and packaging. This can help to reduce the environmental impact of their operations.



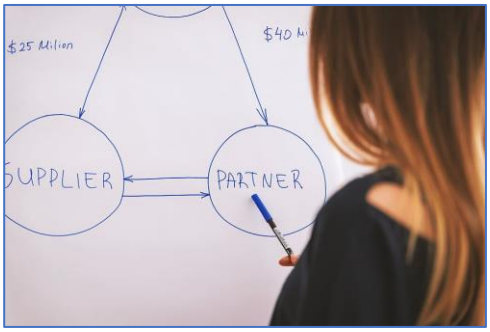
(Source of the image: https://www.epa.gov/smm-electronics/basic-information-about-electronics-stewardship)

6. Minimize waste

Factories and production sites can minimize waste by reducing the amount of materials used in their products and packaging, and by improving their waste management practices. This can help to reduce the environmental impact of their operations.

7. Empower employees

Factories and production sites can empower their employees to make sustainability improvements by providing them with training and resources. This can help to create a culture of sustainability within the workplace.



(Source of the image: https://p0.pxfuel.com/preview/976/633/243/5be94ebf0bde6.jpg)

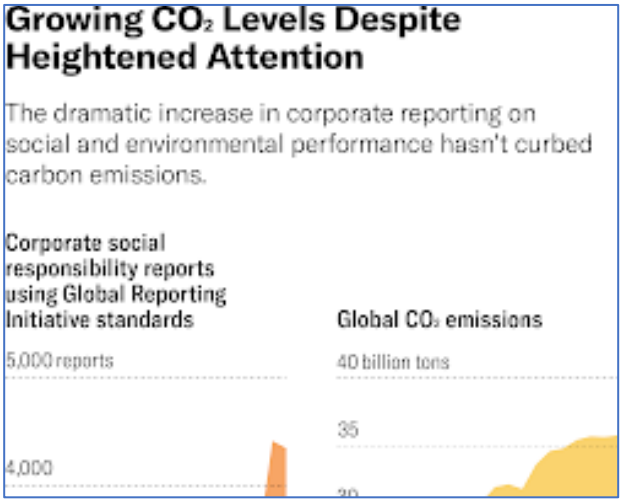
8. Partner with suppliers

Factories and production sites can partner with their suppliers to improve sustainability practices throughout the supply chain. This can help to reduce the environmental impact of their products and services.

(Source of the image: https://weldingdigest.aws.org/blog/hypertherm-announces-2030-environmental-sustainability-goals)

9. Set sustainability goals

Factories and production sites can set sustainability goals to track their progress and measure their impact. This can help them to stay on track and make continuous improvements.



(Source of the image: https://hbr.org/2021/05/overselling-sustainability-reporting)

10. Report on sustainability performance

Factories and production sites can report on their sustainability performance to stakeholders, such as customers, investors, and employees. This can help to build trust and transparency, and to demonstrate their commitment to sustainability.

2.2 TOURIST SERVICES & HOSPITALITY SECTOR

1. Follow Environmental Management Schemes and Initiatives

A sustainable approach in the Tourism Sector can often be compromised in order to secure a certain level of quality for the guests. Environmental management Schemes such as EU Ecolabel tourist accommodations criteria and the EMAS, provide efficient guidelines for hotels looking to manage their environmental performance when at the same time offer enough flexibility to ensure guest satisfaction.

These schemes offer guidance and solutions regarding over-consumption of water and energy, waste management and the use of toxic substances. In addition, they offer assured green labelling (e.g. Ecolabel products, ISO labels etc), for a wide range of related products such as furniture and bed mattresses, floor coverings, detergent products, rinse-off cosmetics, paper and textile products as well as cleaning services. (Source: http://ec.europa.eu/environment/ecolabel)

(Source of the image: http://ec.europa.eu/environment/ecolabel)

2. Establish an Environmental action plan

It is difficult for companies to monitor and measure their environmental performance and progress, without an Environmental Action Plan. If certified with the Environmental Management and Audit Scheme (EMAS) or ISO 14001, a company can define the right targets for their engagement in favour of the environment and measure the impact of their actions by requiring an environmental management system with a precise environmental policy, action program and internal evaluation process. For example, training of staff and information provision is required to raise awareness on environmental practices.

Data on the energy, water, food and product consumption per guest/night as well as the number of cleaning products used must also be monitored.


(Source of the image: http://istockphoto.com)

3. Avoid consumption of large amounts of energy, which contributes to carbon emission creation.

Ensure preventive maintenance is performed on appliances and devices. Water heating appliances, household air conditioning and air-based heat pumps must respect at least an energy class A. Similarly, up to 50% (and 100% after two years of certification) of the lighting must be of type class A. Furthermore, temperature in common areas and rooms must be

regulated with automatic switch off options, and hotels and camping sites cannot use any heating or air conditioning in outside areas. Finally, up to 100% of energy must be purchased from renewable energy sources depending on the number of contractors in the region.


(Source of the images: idem)

4. Avoid water wasted due to inefficient systems and equipment

Minimise the amount of water wasted in tourist accommodations through requirements on the average water flow rate of taps (which should not exceed 8.5 litres/minutes) and toilet flushing (which should be equal or below 4,5L). Furthermore, hotels and camping sites cannot change sheets and towels every day unless explicitly requested by guests.

Optional criteria also encourage tourist accommodations to have an optimised pool management policy, to recycle rainwater and grey water and finally to have efficient irrigation systems.

(Source of the images: idem)

5. Avoid the use the use of pesticides and toxic cleaning chemical substances.

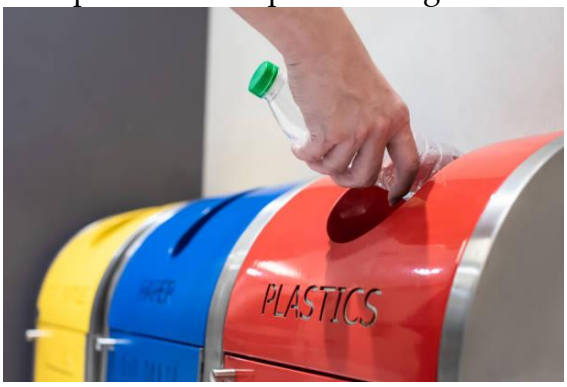
Outsource laundry and cleaning services to providers awarded with an ISO Type I label.

Purchase detergents, and rinse-off cosmetics with the EU Ecolabel or other Type I label which have less impact on the environment. Use at least two organic farming produce in daily meal preparations, and ban all use of pesticides in outside areas.

(Source of the images: idem)

6. Reduce solid waste which ends up in landfills instead of being properly recycled or recovered

Hotels and camping grounds cannot use any single dose packages for nonperishable food stuffs, and disposable toiletries items are prohibited unless they are requested by guests. Disposable food service items can only be used if the tourist accommodations have an agreement with a recycler and disposable towels and bed sheets are not allowed. Adequate containers for waste separation must be provided in the rooms or on all floors, and waste must be separated into specific categories for better recycling and disposal.



(Source of the images: idem)

7. Reduce the amount of carbon emissions due to transportation of guests and goods

Limit these emissions through detailing environmentally preferable means of transport, special agreements with transport agencies and by potentially offering ecofriendly transportation such as electric vehicles and bikes.

Tourist accommodations can also choose to prohibit combustion motor vehicles in the maintenance of the grounds.

Finally, aim to provide at least two locally sourced and not out of season food products at each meal and collaborate with local producers.

(Source of the images: idem)

8. Reduce food waste from kitchens and room service

Aim to limit food waste by requiring that your business follows a documented 'food waste reduction plan', including food waste monitoring linked to an action program focused on optimising both food and packaging waste.


(Source of the images: idem)

2.3. SCHOOLS AND OFFICES

To improve energy efficiency in offices, schools, and the banking sector, consider the following tips.

1. Lighting

Use natural daylight whenever possible, and install energy-efficient lighting systems, such as LED lights. Turn off lights in unoccupied areas and use motion sensors or timers to control lighting.

(Source of the image: https://lumennow.org/choosing-a-bulb/)

2. Equipment

Replace outdated and energy-intensive equipment with energy-efficient models. Encourage employees or students to turn off equipment when not in use and utilize power-saving features.

3. Heating, Ventilation, and Air Conditioning (HVAC) Optimization

Regularly maintain and upgrade heating, ventilation, and air conditioning (HVAC) systems to ensure efficient operation. Implement temperature setbacks during non-school hours and breaks to conserve energy. Set temperature controls at reasonable levels.

4. Energy Audit and Awareness

Begin with an energy audit to identify areas of high energy consumption. Raise awareness among students, teachers, and staff about the importance of energy conservation.

5. Lighting Upgrades

Replace traditional lighting fixtures with energy-efficient alternatives like LED bulbs. Install occupancy sensors in classrooms and hallways to ensure lights are only on when needed.

6. Waste Management and Recycling

Implement comprehensive waste management and recycling programs within the school premises. Provide designated recycling bins for paper, plastic, glass, and other recyclable materials.

7. Conduct an Energy Audit

Start by assessing your office's energy consumption and identifying areas where improvements can be made. This will help you prioritize your efforts and allocate resources effectively.

8. Optimize Lighting

Switch to energy-efficient LED bulbs and install motion sensors in areas with low occupancy. This ensures lights are only on when needed, reducing energy waste.

9. Upgrade Office Equipment

Replace outdated and inefficient office equipment with energy-efficient models. Look for devices with Energy Star ratings, which indicate high energy efficiency.

10. Implement Power Management

Encourage employees to enable power-saving features on their computers, such as sleep mode or automatic shutdown after a period of inactivity. This helps reduce energy consumption during office hours.

11. Promote Paperless Practices

Encourage digital documentation and communication to minimize paper usage. Implement cloud storage solutions, electronic signatures, and online collaboration tools to reduce printing and physical document storage.

3. NON-FORMAL EDUCATION ACTIVITIES ON LEARNING AND IMPLEMENTING PROJECT RESULT 1 CONTENTS

Non-formal education methodologies are varied, participatory, engaging and learner-centred. They include a mix of individual and group learning and encourage people to learn from each other. And they are focused on fostering a variety of skills, more than just learning a piece of knowledge.

The activities presented in this paragraph have been designed with the help of the template shown hereunder, which has been used as a guideline.

ACTIVITY n	
Title	*Brief and concise*
Learning Objectives (expected learning outcomes)	*Include in 3 to 5 bullet points what the participant will learn through the module.*
Description of the activity	*Detailed description of what to do, in chronological order, from introduction to closure: activities can be physical, digital or blended, individual or collective, synchronous or asynchronous*
Non formal education training methods	*Brief description of the teaching and training method(s) you intend to use*
Material/resources needed	*Files, links, etc, including PR1 materials*
Assessment and evaluation	*Briefly describe how to assess and evaluate the achievement of the learning objectives of this activity.* *Trainers can use a variety of methods to gather feedback from participants, such as surveys, focus groups, and individual interviews. They can also observe participants during the activity and collect data on their engagement, participation, and learning outcomes.*
Duration	*Number of minutes: (each activity should last between 45' and 90')*

3.1 ONLINE CARBON FOOTPRINT AND ECOLOGICAL EFFICIENCY CALCULATOR WITH PERIMETERS ON ENERGY USE, WATER CONSUMPTION, WASTE MANAGEMENT, BUYING AND TRANSPORTATION

ACTIVITY 1	
Title	**Carbon Footprint Calculator Workshop**
Learning Objectives (expected learning outcomes)	• Participants will be able to use the online carbon footprint calculator to calculate their personal carbon footprint. • Participants will be able to identify their biggest sources of carbon emissions. • Participants will learn about ways to reduce their carbon footprint.
Description of the activity	The workshop will begin with a brief introduction to the concept of carbon footprints. Participants will then be given a chance to use the online carbon footprint calculator to calculate their own carbon footprint. After they have calculated their carbon footprint, participants will work in groups to identify their biggest sources of carbon emissions. Finally, the facilitator will lead a discussion on ways to reduce carbon footprints.
Non formal education training methods	The workshop will use a variety of non-formal education training methods, including: • Lecture • Group discussion • Hands-on activities
Material/resources needed	• Laptops or tablets with internet access • Carbon footprint calculator • Whiteboard or flipchart • Markers
Assessment and evaluation	The facilitator will assess and evaluate the achievement of the learning objectives of the activity through a variety of methods, including: • A pre- and post-workshop survey

	• Group discussion • Individual interviews • Observation of participant engagement and participation
Duration (each activity should last between 45' and 90')	The workshop will last for approximately 90 minutes.

ACTIVITY 2	
Title	**Carbon Footprint Challenge**
Learning Objectives (expected learning outcomes)	• Participants will learn about the different ways to reduce their carbon footprint. • Participants will be motivated to act to reduce their carbon footprint.
Description of the activity	The carbon footprint challenge is a competition between individuals or teams to see who can provide tips and solutions for reducing their carbon footprint the most in a set period of time. Participants will be given a carbon footprint baseline at the beginning of the challenge. They will then have a chance to propose different changes to their lifestyle in order to reduce their carbon footprint. The participant or team with the lowest carbon footprint at the end of the challenge will win. The judge might be a teacher (or a group of teachers), who will assess the group/individual with the best solutions to reduce their carbon footprint.
Non formal education training methods	The carbon footprint challenge will use a variety of non-formal education training methods, including: • Individual coaching • Group support • Online resources
Material/resources needed	• Carbon footprint calculator • Online resources on reducing carbon footprint • Notebook/pen

	• Prizes for the winner(s)
Assessment and evaluation	The facilitator will assess and evaluate the achievement of the learning objectives of the activity through a variety of methods, including: • A final evaluation survey
Duration (each activity should last between 45′ and 90′)	The carbon footprint challenge will last for approximately 90 minutes.

ACTIVITY 3	
Title	**Carbon Footprint Scavenger Hunt**
Learning Objectives (expected learning outcomes)	• Participants will learn about the different ways to reduce their carbon footprint in their community. • Participants will be motivated to take action to reduce their carbon footprint.
Description of the activity	The carbon footprint scavenger hunt is a fun and interactive way to learn about the different ways to reduce your carbon footprint in your community. Participants will be divided into teams and given a list of items to find in their community that represent different ways to reduce carbon footprints. For example, participants might be asked to find a recycling bin, a public transportation stop, or a grocery store that sells locally-sourced food. Once they have found all of the items on their list, participants will return to the starting point and report their findings to the facilitator. The team with the most items on their list will win.
Non formal education training methods	The carbon footprint scavenger hunt uses a variety of non-formal education training methods, including: • Problem-solving • Teamwork

	• Exploration
Material/resources needed	Material/resources needed: • A list of items to find • A map of the community
Assessment and evaluation	The facilitator will assess and evaluate the achievement of the learning objectives of the activity through a variety of methods, including: • Observation of participant engagement • A final assessment of participants' knowledge of carbon footprints • A celebration of the winners
Duration (each activity should last between 45' and 90')	The carbon footprint scavenger hunt will last for approximately 90 minutes.

3.2 THREE STEPS PRACTICAL VISUAL TOOL WHICH WILL ENABLE USERS TO ANALYZE AND MANAGE INDIVIDUAL/ ORGANIZATIONAL ENVIRONMENTAL BEHAVIOR

ACTIVITY 1	
Title	**Energy Savings in Schools: Empowering Sustainable Practices**
Learning Objectives (expected learning outcomes)	1. Understand the importance of energy efficiency in school environments. 2. Identify key areas of energy consumption within schools. 3. Learn practical strategies to reduce energy consumption and promote sustainability. 4. Recognize the benefits of energy-saving practices for both the school and the environment. *5.* Develop a personalized action plan for implementing energy-saving measures.
Description of the activity	Introduction:

	- The facilitator introduces the importance of energy efficiency in school settings, linking it to environmental sustainability and cost savings - the facilitator provides an overview of the learning objectives and the structure of the module. Understanding Energy Consumption: - Participants engage in a discussion about the various areas of energy consumption within a school, including lighting, heating, cooling, and electronic devices. - Interactive activities or visual aids may be used to highlight energy usage patterns and potential areas for improvement. Strategies for Energy Savings: - the facilitator presents a range of practical strategies to reduce energy consumption, such as optimizing lighting, managing thermostat settings, and utilizing energy-efficient equipment. - Case studies or real-life examples are shared to illustrate successful energy-saving initiatives in educational institutions. Group Brainstorming and Planning: - Participants are divided into small groups. - Each group is tasked with brainstorming energy-saving ideas tailored to their school's context. - Groups share their ideas, fostering peer-to-peer learning and creative problem-solving. Creating an Action Plan: - Participants individually work on crafting an action plan outlining specific energy-saving measures they intend to implement in their schools. - Templates or guidelines may be provided to help participants structure their plans effectively.

	Implementation Strategies: the facilitator discusses effective strategies for overcoming barriers to implementing energy-saving measures in schools, such as engaging stakeholders, setting goals, and tracking progress. Video Watching Activity: Cutting Energy Costs Participants will engage in a video-watching activity focused on "Cutting Energy Costs." They will collectively watch a short educational video that showcases practical tips and strategies for reducing energy consumption in various settings. After watching the video, participants will engage in a group discussion, sharing their key takeaways from the video and brainstorming how these energy-saving practices can be applied to their own environments, such as homes, schools, or workplaces. This activity aims to promote awareness and encourage participants to adopt energy-efficient behaviors in their daily lives.
Non formal education training methods	Interactive presentations with visuals and multimedia. - Participants engage in a guided discussion led by the facilitator, focusing on identifying energy wastage and proposing solutions within their school environment. - Small group discussions encourage brainstorming and collaborative problem-solving to pinpoint potential areas of energy inefficiency. - Real-life examples and case studies are shared to inspire reflection and prompt participants to consider applicable strategies. - The facilitator leads conversations about practical energy-saving solutions, encouraging participants to adapt and implement these strategies within their school setting. - Throughout the interactive presentation, multimedia resources enhance engagement, aiding participants' comprehension of energy wastage scenarios and potential remedies, while - Encouraging active participation and sharing of insights.
Material/resources needed	PR1 materials, specifically A11

Assessment and evaluation	Facilitators gather feedback through surveys, focus groups, and individual interviews to assess participants' understanding of key concepts and their ability to apply strategies. Observations are made during the activities to gauge engagement, participation, and learning outcomes. Participants' action plans are reviewed to evaluate their ability to translate learning into actionable steps. The module's success is measured by participants' increased knowledge, confidence in implementing energy-saving practices, and commitment to sustainable behaviors.
Duration (each activity should last between 45' and 90')	The module is designed to last approximately 90 minutes to 2 hours, depending on the depth of discussion and engagement during activities.

ACTIVITY 2	
Title	"**Sustainable Living Self-Assessment**"
Learning Objectives (expected learning outcomes)	1. Self-awareness: Learners will learn to assess their own environmental behaviour and gain insight into their strengths and weaknesses in various sustainability-related areas. 2. Critical thinking: Learners will develop the ability to analyse the factors influencing their environmental behaviour and critically evaluate their impact on the environment. 3. Collaboration and communication: Through group discussions, participants will enhance their communication skills by articulating their thoughts, listening to others, and collaborating on solutions to improve environmental behaviour. 4. Goal setting and action planning: Participants will learn to set specific, measurable, and actionable goals for improving their environmental behaviour. They will also develop skills in creating structured action plans to achieve these goals. 5. Environmental stewardship: Learners will cultivate a sense of responsibility and commitment to environmental sustainability by identifying practical

	steps to reduce their environmental footprint and contribute to a more sustainable future.
Description of the activity	This three-step practical visual tool can help users analyse and manage individual/organizational environmental behaviour using non-formal education methodologies: Step 1: Environmental Behaviour Assessment Wheel - Create a visual representation of a wheel divided into segments, with each segment representing a different aspect of environmental behaviour. Label each segment with a specific behaviour or practice related to environmental sustainability. This could include segments like "Energy Usage," "Waste Management," "Transportation," "Water Conservation," and so on. Step 2: Self-Assessment - Have participants alone or in teams assess their own environmental behaviour by rating themselves on each aspect using a scale (e.g., 1 to 5, where 1 is poor and 5 is excellent). Participants can place a mark on the wheel for each aspect based on their self-assessment. Step 3: Group Discussion and Action Planning - After the self-assessment, gather participants for a group discussion. In this discussion: ● Encourage participants to share their self-assessment results. ● Discuss the reasons behind their ratings and the factors influencing their behaviour. ● Identify areas where there is room for improvement and areas where they are already doing well. ● Brainstorm actionable steps to improve environmental behaviour in the areas that need enhancement. ● Create a plan with specific goals, responsibilities, and timelines for implementing these improvements. This visual tool is participatory and learner-centred, as it involves self-assessment, group discussion, and collaborative action planning. It encourages participants to learn from each other's experiences and fosters skill development in the form of behaviour change for environmental sustainability.

Non-formal education training methods	These non-formal education training methods are participatory, learner-centred, and focused on skills development rather than passive knowledge transfer. They are designed to engage participants actively, foster critical thinking, and inspire action toward improved environmental behaviour. Group Discussion: Participants engage in open and interactive group discussions. This method encourages the exchange of ideas, sharing of experiences, and peer-to-peer learning. It fosters a sense of community and collective problem-solving. Self-Assessment: Participants individually assess their environmental behaviour, promoting self-reflection and personal responsibility. This method encourages participants to take ownership of their actions and decisions. Goal Setting: Participants set specific goals for improving their environmental behaviour. This method helps them develop skills in goal setting, an essential aspect of behaviour change and personal growth. Action Planning: Participants collaboratively create action plans with clear steps, responsibilities, and timelines for implementing behavioural changes. This method empowers learners to turn intentions into actionable strategies. Experiential Learning: Where applicable, participants may engage in hands-on activities related to environmental behaviour. For example, they could conduct waste audits or energy-saving experiments to reinforce their understanding of sustainability principles. Reflection: Throughout the activity, participants are encouraged to reflect on their learning, self-assessment results, and discussions. This reflective practice deepens understanding and promotes continuous improvement.

Material/resources needed	- Flipcharts or Whiteboards: Use these to draw diagrams, record participants' ratings, and facilitate group discussions. They provide a visual reference during the activity. - Markers and Sticky Notes: Participants can use markers and sticky notes to mark their ratings on the assessment wheel or jot down ideas during discussions. - Presentation Slides: Prepare PowerPoint or other presentation slides to introduce the activity, explain the assessment process, and provide prompts for group discussions. - Printed Handouts: Create handouts that summarize key concepts, guidelines for goal setting, and action planning templates. Participants can use these as reference materials during the activity. - Infographics: Provide visual representations of environmental impact data or success stories related to sustainability. Infographics can help illustrate the importance of behaviour change. - Environmental Data Charts: Use charts or graphs to present environmental data, trends, and statistics, helping participants understand the broader context of their behaviour. - Photos and Visual Examples: Share images or visual examples related to environmental issues, showcasing both problematic behaviours and sustainable alternatives.
Assessment and evaluation	Assessing and evaluating the achievement of the learning objectives for the environmental behavior assessment activity can be done through a combination of methods. Self-Assessment: Ask participants to conduct a post-activity self-assessment using the same Environmental Behavior Assessment Wheel or a similar tool. Compare their post-activity ratings to their initial ratings to measure changes in their perceived environmental behaviour. - Group Discussion: During or after the activity, gather feedback from participants through group discussions. Encourage them to share their insights, what they've learned, and how they plan to implement changes in

	their behaviour. Note the quality of discussions, depth of analysis, and level of engagement. - Action Plan Review: Evaluate the action plans created by participants. Assess the clarity, specificity, and feasibility of the goals and action steps they've set. This can provide insights into their ability to translate learning into actionable plans. - Observations: Trainers or facilitators can observe participants' behaviour, interactions, and level of participation throughout the activity. Note their engagement, communication skills, and collaborative efforts. - Surveys: Administer post-activity surveys to gather quantitative and qualitative feedback. Include questions that directly address the learning objectives, such as asking participants to rate their self-awareness or their ability to set and plan actionable goals. - Individual Interviews: Conduct one-on-one interviews with select participants to gain deeper insights into their learning experiences, challenges faced, and personal takeaways. - Feedback and Reflection: Encourage participants to provide feedback on the activity itself, its structure, and its effectiveness in achieving the learning objectives. Also, encourage participants to reflect on their personal growth in environmental consciousness and behaviour. - Peer Assessment: Encourage participants to assess and provide feedback on each other's action plans and progress. This can foster a sense of accountability and peer support.
Duration	Approximately 1.5 hours ● Self-Assessment: Allocating 15-30 minutes for participants to complete the self-assessment wheel individually is generally sufficient. ● Group Discussion: The group discussion phase can range from 30 minutes to an hour, depending on the number of participants and the level of engagement. It's essential to allow enough time for meaningful dialogue. ● Action Planning: Planning for behaviour change may take another 30 minutes to an hour, depending on the

	complexity of the action plans and the depth of discussion. ● Wrap-up and Reflection: Allocate 15-30 minutes at the end of the activity for summarizing key takeaways, reflecting on the learning experience, and discussing the next steps.

ACTIVITY 3	
Title	"**Environmental Impact Simulation Game**"
Learning Objectives (expected learning outcomes)	1. Increase awareness of the interconnectedness of environmental systems. 2. Develop a holistic understanding of the consequences of individual and organizational actions on the environment. 3. Enhance decision-making skills by simulating real-world environmental challenges. 4. Encourage collaboration and strategic thinking in mitigating environmental impact.
Description of the activity	In this simulation game, participants will engage in a dynamic and interactive experience that simulates the environmental impact of individual and organizational decisions. The game will span multiple rounds, each representing a different scenario related to environmental sustainability. Step 1: Introduction and Scenario Overview (30 minutes) Introduce participants to the simulation game and its objectives. Present the first environmental scenario, providing background information and context for the decisions participants will make. Step 2: Decision-Making Rounds (60 minutes) Conduct several rounds of decision-making, where participants, either individually or in teams, make choices that affect their virtual environmental impact. Scenarios may include resource consumption, waste management, energy usage, and ethical considerations. Facilitators can introduce unexpected events (e.g., environmental disasters, policy changes) to simulate real-world uncertainties.

	Step 3: Impact Assessment and Reflection (30 minutes) After each round, assess the cumulative environmental impact of participants' decisions. Facilitate a reflection session where participants discuss the consequences of their choices, identify patterns, and consider alternative approaches. Step 4: Collaborative Strategy Development (45 minutes) Introduce a collaborative element where participants work together to develop strategies for minimizing their collective environmental impact. Encourage discussions on sustainable practices, innovation, and long-term planning. Step 5: Final Impact Evaluation and Action Plans (30 minutes) Assess the overall impact of participants' decisions throughout the simulation. Have each participant or team create an action plan outlining concrete steps they can take in their personal or organizational lives to reduce their environmental impact.
Non-formal education training methods	Simulation and Role-Playing: Simulations provide a safe environment for participants to explore the consequences of their decisions. Role-playing helps participants empathize with various perspectives in the environmental impact scenarios. Reflection: Integrate reflection periods after each round to encourage participants to think critically about the consequences of their decisions and consider alternative approaches. Collaborative Learning:

	Emphasize collaboration by introducing a team-based element in strategy development. This encourages participants to leverage collective knowledge and skills. Critical Thinking and Decision-Making: The decision-making rounds require participants to think critically about the environmental impact of their choices, promoting effective decision-making skills. Experiential Learning: The interactive and hands-on nature of the simulation game promotes experiential learning. Participants learn by doing and experiencing the consequences of their actions.
Material/resources needed	• Simulation scenarios and decision-making cards. • Flipcharts, markers, and whiteboards for reflection and strategy development. • Virtual platforms or physical materials to conduct the simulation.
Assessment and Evaluation + Follow-up Steps	**Assessment and Evaluation:** Individual/Team Reflections: Assess the depth of reflection in individual or team reflections after each round. Evaluate participants' understanding of the environmental impact of their decisions. Collaborative Strategy: Evaluate the effectiveness of collaborative strategies developed by participants. Consider the creativity, feasibility, and sustainability of the proposed solutions. Action Plans: Assess the quality and specificity of the action plans created by participants. Look for actionable steps and measurable goals. Overall Impact: Evaluate the overall impact of participants' decisions on the simulated environment. Consider the cumulative effect of individual and collective choices. **Follow-up Steps:**

	Implementation of Action Plans: Encourage participants to implement the action plans they created during the activity. Provide support and resources as needed. Debrief and Discussion: Facilitate a debrief session where participants can discuss their experiences, lessons learned, and challenges faced during the simulation. Continued Learning: Provide resources and recommendations for ongoing learning on sustainable practices and environmental stewardship. Feedback Collection: Gather feedback on the simulation game to identify areas for improvement and make adjustments for future iterations.
Duration	The duration of Activity 3, can vary based on the complexity of the scenarios, the number of decision-making rounds, and the depth of discussions. **Suggested breakdown of time allocation:** Introduction and Scenario Overview (30 minutes): Introduce the simulation game and set the stage for the environmental scenarios. Decision-Making Rounds (60 minutes): Allocate time for multiple rounds of decision-making, allowing participants to make choices and experience the consequences. Impact Assessment and Reflection (30 minutes): Reflect on the outcomes of the decision-making rounds and discuss the environmental impact of participants' choices. Collaborative Strategy Development (45 minutes): Introduce a collaborative element where participants work together to develop strategies for minimizing their collective environmental impact.

	Final Impact Evaluation and Action Plans (30 minutes): Assess the overall impact of participants' decisions and have each participant or team create action plans. The total estimated duration for the entire activity is approximately **3.5 hours**. This allows sufficient time for an immersive and reflective experience while considering the need for meaningful discussions and collaborative strategy development. As always, facilitators should remain flexible and adapt the timing based on the group's dynamics, ensuring that participants have ample time for each phase without feeling rushed.

3.3 ENVIRONMENTAL TIPS ALONG WITH AUTHENTIC EXAMPLES TO CATER SUGGESTIONS ON REAL LIFE CASES ABOUT ENVIRONMENTAL PROBLEMS IN RELATION TO TOURISM AND HOSPITALITY

ACTIVITY 1	
Title	**Tourism: Does an Energy Efficiency Approach make sense for a good business?**
Learning Objectives (expected learning outcomes)	With the completion of this Activity, the learners should be able to understand the importance of energy efficiency and resource management in tourism especially in connection with the long term viability of the business. They will have a good understanding of the connection with the different focus areas such as heating ventilation & air-conditioning, lighting, equipment and additional services.
Description of the activity	-The trainer will make a general introduction on the "Connection between Climate Change and the /role of Tourism" based on the material from PR1 A11 "Environmental Tips & Examples for the Hospitality Sector" (in particular from Section "Benefits") (5 minutes). - The trainer will continue presenting, based again on A11, the significance of sustainable approach to tourism in connection with

	the Paris Agreement (in particular from Section "Business Case") (5 minutes). Group Activity The trainer will invite the group to an open conversation on: "Why a Tourism Business should follow an Energy Efficiency Approach" -Reasons will be collected from the group. -Then they will be compared with the equivalent part of A11 (in particular from Section with the above Title) -Similarities and differences will be discussed. (15 minutes) -Watch a Video (10 minutes): Cutting our energy costs - City Hotel Derry https://www.youtube.com/watch?v=KSYdFffKKEw -Discussion and Conclusion on what was taught and learned (5 minutes)
Non formal education training methods	The workshop will use a variety of non-formal education training methods, including: - Lecture - Group discussion - Brainstorming - Teamwork
Material/resources needed	PR1 materials, specifically A11; Tablets, laptops, projector; Worksheets, markers, pens; Assignment sheets; Online and visual tools
Assessment and evaluation	Surveys, focus groups, individual feedback, group discussions. Observe participants during the activity and collect data on their engagement, participation, and learning outcomes.
Team work Duration (each activity should last between 45' and 90')	40 – 50 minutes

ACTIVITY 2	
Title	**Areas of Interest & Focus: Where can you make more savings?**

Learning Objectives (expected learning outcomes)	With the completion of this Activity, the learners should be able to have a good understanding of the connection with the different focus areas such as heating ventilation & air-conditioning, lighting, equipment and additional services.
Description of the activity	Teamwork According to the initial number of learners, the group can be split into 2 or more smaller teams and work separately on: 1."Which could be the main Areas of Focus regarding Energy & Water consumption in a Hotel building" 2. "Which could be the main Areas / Activities & Services regarding Energy & Water Savings in a Hotel building" - Collect answers from Teams, compare and discuss (20 minutes). The trainer will go through the different Areas of Focus within a Hotel and discuss with the group energy & Water saving tips as they are mentioned in A11 (in particular from Section: "Where to start from (Easy Tips)" (20 minutes).
Non formal education training methods	The workshop will use a variety of non-formal education training methods, including: - Lecture - Group discussion - Brainstorming - Teamwork
Material/resources needed	PR1 materials, specifically A11; Tablets, laptops, projector; Worksheets, markers, pens; Assignment sheets; Online and visual tools
Assessment and evaluation	Surveys, focus groups, individual feedback, group discussions. Observe participants during the activity and collect data on their engagement, participation, and learning outcomes.
Team work Duration (each activity should last between 45' and 90')	35 - 45 minutes

ACTIVITY 3	
Title	**Practical Steps for Energy Savings in Hotels**

Learning Objectives (expected learning outcomes)	With the completion of this Activity, the learners should be able to have a real understanding of the resource consuming services and activities that a tourism business in operation is undertaking. The participants will have the opportunity to develop practical action plans and describe environmentally friendly procedures which should be applied for a sustainable approach to hospitality and tourism.
Description of the activity	Group Activity -Sheets of paper could be handed out to all members of the group, asking them to: "Create an Energy Saving Check List, with the main points of action that they should perform, if they were a member of a hotel: - housekeeping staff, leaving a guest - room ready for the next visitor - grounds and pool maintenance staff - Kitchen and laundry staff The Sheets of paper will be collected, discussed and compared with the material included in the related part of A11 (in particular Section: "Special focus on routine checks by housekeeping staff in guest rooms"- "Pool - Laundry- Kitchen energy & Water Savings"). Discussion and Conclusion on what was taught and learned.
Non formal education training methods	The workshop will use a variety of non-formal education training methods, including: - Lecture - Group discussion - Brainstorming - Teamwork
Material/resources needed	PR1 materials, specifically A11; Tablets, laptops, projector; Worksheets, markers, pens; Assignment sheets; Online and visual tools
Assessment and evaluation	Surveys, focus groups, individual feedback, group discussions. Observe participants during the activity and collect data on their engagement, participation, and learning outcomes.

Team work Duration (each activity should last between 45′ and 90′)	45 minutes

3.4 ENVIRONMENTAL TIPS ALONG WITH AUTHENTIC EXAMPLES TO CATER SUGGESTIONS ON REAL LIFE CASES ABOUT ENVIRONMENTAL PROBLEMS IN RELATION TO VET SECTOR

ACTIVITY 1	
Title	**Reducing Carbon Footprint in the VET Sector**
Learning Objectives (expected learning outcomes)	Understand the concept of carbon footprint and its significance in education and vocational training. Identify key factors contributing to the carbon footprint in the VET sector. Develop strategies to reduce the carbon footprint in educational and vocational institutions. Demonstrate the ability to measure and monitor carbon emissions. Collaborate effectively with peers to implement sustainable practices in a VET setting.
Description of the activity	In this interactive and hands-on workshop, participants will engage in a series of activities and discussions aimed at understanding and reducing the carbon footprint within the Vocational Education and Training (VET) sector. This activity is designed to raise awareness about the environmental impact of educational institutions and empower educators and administrators with the knowledge and tools to make their VET programs more sustainable. <u>Group Activity</u> - Break down the components of a carbon footprint, including energy consumption, transportation, waste, and resource use. Share real-world examples of educational institutions that have successfully reduced their carbon footprint. (15 minutes) - Encourage participants to brainstorm additional strategies that are relevant to their specific VET institutions. (15 minutes)

	- Each group will create an action plan for reducing the carbon footprint in their chosen area. (15 minutes) - Each group presents their action plan to the larger group, including specific steps, timelines, and expected outcomes. Encourage feedback and discussion. (15 minutes) -Watch a Video: Greening the VET Sector - Will Dalgliesh https://www.youtube.com/watch?v=p-MHZrxo-sQ -Discussion and Conclusion on what was taught and learned (5 minutes)
Non formal education training methods	The workshop will use a variety of non-formal education training methods, including: Lecture Group discussion Brain storming Team work Assignment Sheets Written Information Online and /visual tools
Material/resources needed	PR1 materials, Presentation materials Carbon footprint calculators or software Whiteboard and markers Handouts on sustainable practices Case studies on carbon reduction initiatives in education
Assessment and evaluation	Surveys, focus groups, individual feedback, group discussions. Observe participants during the activity and collect data on their engagement, participation, and learning outcomes.
Team work Duration (each activity should last between 45' and 90')	65-75 minutes

ACTIVITY 2	
Title	**Carbon Footprint Challenge: Quick Solutions for VET**
Learning Objectives (expected learning outcomes)	Understand the concept of a carbon footprint and its relevance in the VET sector.

	Identify key factors contributing to the carbon footprint of VET institutions. Brainstorm and propose practical, quick solutions to reduce carbon emissions. Encourage individual and collective responsibility for sustainability.
Description of the activity	<u>Team work</u> • Start with a brief introduction to the concept of a carbon footprint and its relevance in the VET sector. (10 minutes) • Each group will brainstorm and list factors contributing to the carbon footprint in VET institutions (e.g., energy usage, transportation, waste). (15 minutes) • In their small groups, participants will brainstorm and propose quick, practical solutions to reduce carbon emissions related to the factors identified in the previous step. (20 minutes) • Each group presents their carbon footprint factors and quick solutions to the larger group. (20 minutes) • A group discussion to evaluate the proposed solutions, addressing feasibility, potential impact, and challenges. (15 minutes) • Summarize the key takeaways and emphasize the importance of individual and collective action in reducing carbon emissions. (5 minutes) This activity provides a quick and interactive way to introduce the concept of carbon footprints and inspire participants to take immediate action to reduce emissions in their VET institutions. It encourages teamwork, creativity, and a sense of responsibility for sustainability.
Non formal education training methods	The workshop will use a variety of non-formal education training methods, including: Lecture Group discussion Brain storming Team work Assignment Sheets Written Information Online and /visual tools
Material/resources needed	PR1 materials, Presentation materials

	Whiteboard and markers Handouts on carbon footprint basics
Assessment and evaluation	Surveys, focus groups, individual feedback, group discussions. Observe participants during the activity and collect data on their engagement, participation, and learning outcomes.
Team work Duration (each activity should last between 45' and 90')	85 minutes

ACTIVITY 3	
Title	**Resource Savings Challenge: VET School Sustainability**
Learning Objectives (expected learning outcomes)	Raise awareness about the importance of resource conservation in VET institutions. Identify key areas and resources where savings can be achieved in VET schools. Brainstorm practical and quick solutions for resource savings. Promote individual and collective responsibility for sustainability.
Description of the activity	This activity is a dynamic and engaging workshop designed to inspire participants to think creatively about resource savings in VET schools. - <u>Group Activity</u> Each group will brainstorm and list key resources in VET schools where savings can be achieved (e.g., paper, water, energy). (10 minutes) In their small groups, participants will brainstorm and propose practical solutions for conserving these resources within VET schools. (15 minutes) Each group presents their resource conservation ideas to the larger group. (10 minutes) short discussion to evaluate the proposed solutions and discuss their feasibility. Participants can be asked to commit to implementing at least one of the proposed solutions in their VET schools. (10 minutes)

	Summarize the key takeaways and emphasize the importance of individual and collective action in resource conservation for sustainability. (5 minutes) This activity provides a quick and interactive way to introduce the concept of resource savings in VET schools and inspire participants to take immediate action to conserve resources. It encourages teamwork, creativity, and a sense of responsibility for sustainability.
Non formal education training methods	The workshop will use a variety of non-formal education training methods, including: Lecture Group discussion Brain storming Team work Assignment Sheets Written Information Online and /visual tools
Material/resources needed	PR1 materials, Presentation materials Whiteboard and markers Handouts on resource conservation basics
Assessment and evaluation	Surveys, focus groups, individual feedback, group discussions. Observe participants during the activity and collect data on their engagement, participation, and learning outcomes.
Team work Duration (each activity should last between 45' and 90')	50 minutes

4. CONCLUSIONS

Expected impact:

- Through the immediately usable and accessible result, the target group will be able to take authentic and effective steps to integrate innovative environmental solutions to their activities.
- The result will be utilized as a guide and a "how to" book by organizations, VET teachers, research and development staff, consultants and SME owners, helping them to transform their activities into an environmentally friendly actions through step-by-step instructions and real-life examples, preparing them for the future.

- This result will also lead to advanced projects, utilizing the result for further environmental initiatives.

Transferability potential:

- This "how-to" book can be further utilized and exploited in other projects and educational activities by experts focusing on VET quality improvement practices along with professionals working on sustainability and environmental education.

- It will be available also in project partner counties' national languages (German, Greek, Italian, Lithuanian, Portuguese and Turkish). Therefore, it will ready to be implemented across Europe and at international level with relevant extensions depending on the specific targets.

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