

R2. A1.2 PRACTICAL ACTIVITY TEMPLATE

Title	<ul style="list-style-type: none"> ○ Job Shadowing
Part of the training course referred to in this lesson	<ul style="list-style-type: none"> ○ <input type="checkbox"/> Part 1 General information about sustainability and CE Part 2 Specific Information about: <ul style="list-style-type: none"> <input type="checkbox"/> Wood sector X Plastic sector <input type="checkbox"/> Agrifood sector
Duration	From a few hours to a few weeks
Location	Inside and outside (when the shadowing experience includes for example meetings with clients)
Specific location requirement	<p>Ideally, this activity is organised within the structures / on the premises of circular economy companies (in this case companies operating in the plastic sector), which have developed the practice and have assigned staff members for the purpose of providing job shadowing opportunities to VET school or higher education students, thus exporting practical knowhow and at the same time creating a pool of potential future employees for their industry.</p> <p>What is relevant to mention is that safety should be an utmost responsibility for the assigned chaperons and for the experts who are providing training in the form of job shadowing. Any necessary precautions and safety measures need to be taken into consideration and explained to the trainees beforehand and carefully observed during the process of job shadowing.</p>
Equipment needed	Any specific protective or work clothing, hygiene, safety and production processes related equipment, depending on the particular job-profile being shadowed.
General Learning objective(s) according to the Bloom Taxonomy https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/	<ul style="list-style-type: none"> <input type="checkbox"/> Create Produce new or original work (design, assemble, construct, investigate, formulate) <input type="checkbox"/> Evaluate Justify a stand or decision (appraise, argue, defend, critique, select, support) X Analyze Draw connections among ideas (differentiate, organize, relate, compare, distinguish, test, experiment) <input type="checkbox"/> Apply Use information in new situations (execute, implement, solve, use, demonstrate, operate) X Understand Explain ideas or concepts (classify, discuss, describe, identify,

	<p>locate, translate)</p> <p><input type="checkbox"/> Remember Recall facts and basic concepts (define, duplicate, list, memorize, repeat)</p>
<p>Specific learning objective(s)</p>	<ul style="list-style-type: none"> ● To provide interested VET students with the opportunity to observe a circular economy company employee performing their daily work routine within their environment (Wiedower, 2021). ● To allow students to explore a career in the respective industry and to obtain a rather realistic picture of the tasks performed for particular jobs, from inside and outside sales to warehousing and branch management, thus narrowing their career focus. ● To allow hands-on interactions for the students when it is safe and appropriate to do so (Job Shadow About, n.d.). ● Prepare students for further education or for the workforce.
<p>Cognitive, socioemotional and behavioural outcomes based on https://www.unesco.org/sites/default/files/2018-08/unesco_education_for_sustainable_development_goals.pdf</p>	<p>Job shadowing in green companies develops change management competences and specific green skills so that students are prepared to take active part in the transition processes towards circular economy and to influence economic practices.</p> <p>As other training activities, job shadowing in companies that have adopted the principles and practices of circular economy and sustainable development is interrelated to sustainability challenges and to the SDGs. The plastic sector is among the sectors bearing huge responsibility for the successful transition towards circular economy and the introduction of measures and solutions, which can influence use, reuse, recycling and disposal but also marketing and distribution of its products. Some of the direct and indirect cognitive, socioemotional and behavioral outcomes from job shadowing in relation to the SDGs (UNESCO, 2017), considering that “the learners” stands for “the student, involved in job-shadowing”, are as follows:</p> <p>SDG4 “Quality Education”</p> <p>Cognitive outcomes: <i>the learner understands the important role of education and lifelong learning opportunities for all (formal, non-formal and informal learning) as main drivers of sustainable development, for improving people’s lives and in achieving the SDGs.</i></p> <p>Socio-emotional outcomes: <i>the learner is able to recognize the importance of their own skills for improving their life, in particular for employment and entrepreneurship. The learner is able to engage personally with ESD.</i></p> <p>Behavioral outcomes: <i>the learner is able to use all opportunities for their own education throughout their life, and to apply the acquired knowledge in everyday situations to promote sustainable development.</i></p> <p>SDG8 “Decent Work and Economic Growth”</p> <p>Cognitive outcomes: <i>the learner understands the relation between employment and economic growth, and knows about other moderating factors like a growing labour force or new technologies that substitute jobs.</i></p> <p>Socio-emotional outcomes: <i>the learner is able to discuss economic models</i></p>

	<p><i>and future visions of economy and society critically and to communicate them in public spheres. The learner is able to develop a vision and plans for their own economic life based on an analysis of their competencies and contexts.</i></p> <p><i>Behavioral outcomes: the learner is able to engage with new visions and models of a sustainable, inclusive economy and decent work. The learner is able to develop and evaluate ideas for sustainability-driven innovation and entrepreneurship.</i></p> <p>SDG 12 “Responsible Consumption and Production”</p> <p><i>Cognitive outcomes: the learner knows about strategies and practices of sustainable production and consumption. The learner understands dilemmas/trade-offs related to and system changes necessary for achieving sustainable consumption and production.</i></p> <p><i>Socio-emotional outcomes: the learner is able to communicate the need for sustainable practices in production and consumption.</i></p> <p><i>Behavioral outcomes: the learner is able to communicate the need for sustainable practices in production and consumption.</i></p> <p>SDG 13 “Climate Action”</p> <p><i>Cognitive outcomes: the learner knows about prevention, mitigation and adaptation strategies at different levels (global to individual) and for different contexts and their connections with disaster response and disaster risk reduction.</i></p> <p><i>Socio-emotional outcomes: the learner is able to explain ecosystem dynamics and the environmental, social, economic and ethical impact of climate change.</i></p> <p><i>Behavioral outcomes: the learner is able to evaluate whether their private and job activities are climate friendly and – where not – to revise them. The learner is able to support climate-friendly economic activities.</i></p>																
<p>Green skill(s) addressed</p>	<table border="0"> <tr> <td>X Creative problem-solving</td> <td><input type="checkbox"/> Management skills</td> </tr> <tr> <td>X Forward-thinking</td> <td>○ <input type="checkbox"/> Impact quantification</td> </tr> <tr> <td>X Monitoring skills</td> <td>X Life-cycle management</td> </tr> <tr> <td>X Analytical skills</td> <td>X Science skills</td> </tr> <tr> <td>X Lean production</td> <td>X Waste management</td> </tr> <tr> <td>X Maintenance and repair skills</td> <td>X Environmental auditing</td> </tr> <tr> <td>X Pollution prevention</td> <td>○ <input type="checkbox"/> Ecosystem management</td> </tr> <tr> <td>X Eco-design</td> <td>○ <input type="checkbox"/> Other: _____</td> </tr> </table>	X Creative problem-solving	<input type="checkbox"/> Management skills	X Forward-thinking	○ <input type="checkbox"/> Impact quantification	X Monitoring skills	X Life-cycle management	X Analytical skills	X Science skills	X Lean production	X Waste management	X Maintenance and repair skills	X Environmental auditing	X Pollution prevention	○ <input type="checkbox"/> Ecosystem management	X Eco-design	○ <input type="checkbox"/> Other: _____
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<p>Step by step instructions to implement the activity</p>	<p>The steps below are explained rather widely, in order to be applicable to any sector.</p> <p>Step 1. Planning the job shadowing experience</p> <p>The teacher should consider the careers that the students are most interested in exploring or which are most closely related to the educational profile of the VET school.</p> <p>The teacher supporting the process should consult directories and green company lists (for example winners of various awards, related to circular economy and sustainable development; environmental or circular economy start-ups). Those provide information about employers and professionals who could host students for job shadowing experiences on various careers. Further research into the practices of the short-listed companies can show whether they have offered job-shadowing opportunities, which would mean that they do have staff that is ready to provide both chaperoning and training services to the students.</p> <p>Once the teacher has identified careers and employers of interest, those should be contacted with an email and/or phone request. Timely requests, giving the potential hosts sufficient preparation time, can ensure the success in securing their cooperation.</p> <p>Considering that job shadowing can be a time intensive activity (if it is a longer one or if it includes the so called job-shadowing excursion – visiting and carrying out job-shadowing in different locations and with different employers or with one employer, but with more than one careers options), it needs to be timed appropriately. If it can be organized on an hourly basis over one or several days, it could happen during school days. Longer job-shadowing activities should however happen during semester breaks (Raven, Eksteen & Visser, 2014).</p> <p>If the teacher cannot include all interested students, selecting those to take part of the job-shadowing experience can take place on the grounds of certain criteria:</p> <ul style="list-style-type: none"> • Subject specialisation interests for higher education. • Age – students who are in their final year, exploring employment or continuous educational opportunities. • Academic diligence and dedication to academic success. • Students who need special support, such as career guidance, who are undecided on what to specialise in or students most isolated geographically from potential employers. <p>The next preparatory step to be considered by the teacher, organizing the job-shadowing, should include budgeting the activity. This is particularly important when the experience will be taking place in another city or cities,</p>
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generating travel costs, meals and accommodation related costs, professional insurance costs, etc.

Next the teacher needs to identify the chaperones supporting the students making sure that one or more of the academic staff accompany students at all times. Having a chaperone at the host employer is not obligatory, as they already invest a lot of time and effort for these experiences.

Last, but not least, negotiate the agenda with the host company and the assigned trainer/s always trying to include hands-on opportunities (if and when the school has secured professional insurances), which, rather than just talking students through the details of a carrier, actually give them chances to actively experience aspects of the job. E.g. students interested in a career as a Process operator could be given simple tasks related to construction, assembly or finishing of component parts. Students interested in becoming R&D engineers could be given tasks related to conducting tests to establish fitness for purpose and ease of manufacture or be included in improvements or sustainable design for reducing environmental impact investigations. Students interested in tool making can be given an opportunity to test a variety of tools and microprocessor-controlled machines to construct mould tools.

Where the school is planning a job-shadowing excursion, this should include as a focus a minimum of five careers and no more than 10 careers. When the student group is bigger, two careers per day with one employer can be arranged and the group can be split into two - group one spending half the day with one professional and group two with another. The groups can be swapped after lunch.

The students should be prepared with lists of possible questions, which can help them achieve a deeper understanding. The questions should be related to the company and the person assigned as trainer (responsibilities, common tasks, what triggered interest to this field, how did the person start, what education is needed, what equipment is used, ultimate career goals, etc.), to present/foreseen problems, trends or implications. There should also be some advice questions on salary, growth opportunities, obstacles and overcoming them.

The company, which is providing a prolonged job-shadowing opportunity, may assign a task to the students in order to utilise their time and provide an incentive for the company, when they have proper professional insurance. The companies have the right to request signing an NDA in order to prevent disclosure of practices, processes and other privileged company information.

Step 2 is the implementation of the job-shadowing experience itself, according to the negotiated and agreed upon plan with the host and with the constant support of the assigned chaperones and trainers.

Step 3 would involve reporting and evaluation of the experience in relation to both practicalities (what took place, when, where, with whom and how) and overall satisfaction, achieved clarity and understanding of the

	<p>requirements and the particularities of a certain profession, the exact results from practising it, as well as the competence attainment, based on what the job-shadowing offered in reality, compared to students' expectations.</p>
<p>Assessment tool / methodology</p>	<p>In order to give a chance for any unanswered job-related information gaps to be covered, the programme can be concluded with an opportunity for asking any further questions, for which time had been unavailable during the job-shadowing itself.</p> <p>A period of reflection to generate some feedback would also be extremely useful, both for the students as well as for the VET staff supporting the process.</p> <p>Reports, prepared by the students on their job-shadowing experiences could be of great benefit to other potential candidates, as well as to businesses themselves, for the purpose of improving their job-shadowing offers.</p> <p>A possible job-shadowing assessment by the guest student:</p> <ol style="list-style-type: none"> 1. Which green skills were you hoping to gain from the experience? (list of the green skills) 2. To what extent was this achieved? (from "not at all" to "fully" with a possibility for comments) 3. What worked well and why? 4. What did not work that well and why? 5. In what way has the experience been of benefit to you? 6. How do you envisage using the knowledge, skills or experience gained? 7. Would you recommend the job shadowing activity to fellow students? 8. Any other comments?
<p>Additional resources</p>	<p>Carnegie Mellon University (n.d.). <i>Take a Tartan to Work - Job Shadowing</i> https://www.cmu.edu. https://www.cmu.edu/career/resource-library/career-exploration/job-shadowing.html</p> <p>Nishimura, M. & Rowe, D. (2021). <i>Global Guidance for Education on Green Jobs: Connecting Higher Education and Green Opportunities for Planetary Health</i>. United Nations Environment Programme – UNEP</p> <p>The Universities at Shady Grove (n.d.) <i>Job Shadowing</i>. https://shadygrove.umd.edu. https://shadygrove.umd.edu/student-services/CISC/Employers/Employer-toolkit/Job-Shadowing</p>

	<p>BPF Career Zone (n.d.). <i>Career Pathways for the Plastic Industry</i>. https://www.bpf.co.uk/polymer-zone/career-zone/career-pathways.aspx</p>
<p>Source/s</p>	<p><i>Job Shadow About</i>. (n.d.). Job Shadow About; www.oakgov.com. Retrieved July 7, 2022, from https://www.oakgov.com/water/about/Pages/Job-Shadow.aspx</p> <p>Raven G., Eksteen L. & Visser Z. (2014). <i>Green Careers Excursion Toolkit</i>. GreenMatter Biodiversity Careers for University Students Programme</p> <p>UNESCO. (2017). <i>Education for Sustainable Development Goals Learning Objectives</i>.</p> <p>Wiedower, J. (2021, July 9). <i>The future green workforce: Creating opportunities at your organization U.S. Green Building Council. The Future Green Workforce: Creating Opportunities at Your Organization U.S. Green Building Council</i>; www.usgbc.org. https://www.usgbc.org/articles/future-green-workforce-creating-opportunities-your-organization</p>