

TRAINING LESSON 2 - Part 1

Title	○ Concept of sustainability (Sustainable development)
Part of the training course referred to in this lesson	X Part 1 General information about sustainability and CE Part 2 Specific Information about: <input type="checkbox"/> Wood sector <input type="checkbox"/> Plastic sector <input type="checkbox"/> Agrifood sector
EQF level	Level 3
Where the lesson was tested	//
General Learning objective(s) according to the Bloom Taxonomy https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/	<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) <input type="checkbox"/> Analyze Draw connections among ideas (differentiate, organize, relate, compare, distinguish, test, experiment) X Apply Use information in new situations (execute, implement, solve, use, demonstrate, operate) X Understand Explain ideas or concepts (classify, discuss, describe, identify, locate, translate) X Remember Recall facts and basic concepts (define, duplicate, list, memorize, repeat)
Specific learning objective(s)	<ul style="list-style-type: none"> ● <i>Define the sustainable development concept</i> ● <i>Introduce 17 SDG</i> ● <i>Explain circular economy concept</i> ● <i>Present green economy concept</i>
Cognitive, socioemotional and behavioural outcomes based on https://www.unesco.d	SDG 17 Partnerships for the Goals Strengthen the implementation and revitalize the global partnership for sustainable development Cognitive learning objectives:

<p>e/sites/default/files/2018-08/unesco_education_for_sustainable_development_goals.pdf</p>	<p>The learner knows concepts for measuring progress on sustainable development.</p> <p>Socio-emotional learning objectives:</p> <p>The learner is able to experience a sense of belonging to a common humanity, sharing values and responsibilities, based on human rights.</p> <p>Behavioral learning objectives:</p> <p>The learner is able to become a change agent to realize the SDGs and to take on their role as active, critical and global and sustainable citizens.</p>																
<p>Green skill(s) addressed</p>	<table border="0"> <tr> <td><input type="checkbox"/> Creative problem-solving</td> <td><input type="checkbox"/> Management skills</td> </tr> <tr> <td><input type="checkbox"/> Forward-thinking</td> <td><input type="checkbox"/> Impact quantification</td> </tr> <tr> <td><input type="checkbox"/> Monitoring skills</td> <td><input checked="" type="checkbox"/> Life-cycle management</td> </tr> <tr> <td><input checked="" type="checkbox"/> Analytical skills</td> <td><input type="checkbox"/> Science skills</td> </tr> <tr> <td><input type="checkbox"/> Lean production</td> <td><input type="checkbox"/> Waste management</td> </tr> <tr> <td><input type="checkbox"/> Maintenance and repair skills</td> <td><input type="checkbox"/> Environmental auditing</td> </tr> <tr> <td><input type="checkbox"/> Pollution prevention</td> <td><input checked="" type="checkbox"/> Ecosystem management</td> </tr> <tr> <td><input type="checkbox"/> Eco-design</td> <td><input type="checkbox"/> Other _____</td> </tr> </table>	<input type="checkbox"/> Creative problem-solving	<input type="checkbox"/> Management skills	<input type="checkbox"/> Forward-thinking	<input type="checkbox"/> Impact quantification	<input type="checkbox"/> Monitoring skills	<input checked="" type="checkbox"/> Life-cycle management	<input checked="" type="checkbox"/> Analytical skills	<input type="checkbox"/> Science skills	<input type="checkbox"/> Lean production	<input type="checkbox"/> Waste management	<input type="checkbox"/> Maintenance and repair skills	<input type="checkbox"/> Environmental auditing	<input type="checkbox"/> Pollution prevention	<input checked="" type="checkbox"/> Ecosystem management	<input type="checkbox"/> Eco-design	<input type="checkbox"/> Other _____
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<p>Duration</p>	<p>15 – 20 min.</p>																
<p>The structure and content of the lesson</p>	<p>The lesson “Concept of sustainability (Sustainable development)” idea is to present sustainability from a historical perspective and show its importance.</p> <p>Lisa J. Sonter Sharon Kemp (2021) explained that “more than 30 years ago, Brundtland’s (1987) report for the United Nations, called for a global agenda for change to ensure a more sustainable future. This report appealed for global, intergenerational equity, challenging the perception that the environment was somehow separate from humans, and the view of development as being a concern for poorer nations only. To achieve a more sustainable world, global, transformational progress across social, economic, ecological, and political dimensions was required. Decades later, sustainable development encompasses many processes and pathways to achieve sustainability (UNESCO, 2019)”</p> <p>Kotob, Fadi & MPM, & BComm/BIS, & ADipIT, & DipIT,. (2011) say that „many studies attempted to research and define sustainability. Some were limited in their view of what the term means while others showed that the term can only be explained by looking at many interconnected aspects which together define the meaning of sustainability. <...></p>																

For instance, Operations Management literature tends to consider sustainability from an ecological perspective without incorporating the social aspects of sustainability (Sarkis, 2001; Hill, 2001; Daily and Huang, 2001)”.

Lesson consists of four main topics:

Topic 1 Sustainable development concept

Topic 2 Sustainable development 17 goals

Topic 3 Circular economy principles

Topic 4 Green economy concept

Topic 1 Sustainable development concept

A simple presentation of sustainable development and the Sustainable Development Goals (SDGs). The film is produced by Animaskin on behalf of the UN Association of Norway and UNICEF Norway, as part of an interdisciplinary learning program for students on the primary and secondary levels.

You can watch it here: <https://www.youtube.com/watch?v=7V8oFI4GYMY>

Lisa J. Sonter Sharon Kemp (2021) explains “sustainability, or a more sustainable world, is the long-term goal. Sustainable development focuses on inter- and intragenerational equity bound to the distinct but interconnected pillars of the environment, economy, and society (Mensah, 2019).

The UNESCO (2010, cited in Davis, 2015) illustration of sustainable development, as illustrated in Figure 1, distinguishes the political and social aspects of society further, identifying four interrelated dimensions: social, economic, natural, and political.

Based on the original findings from Brundtland’s (1987) report, it represents a broad, complex, and interconnected approach that aims to shift focus from the perception of sustainability as a singularly environmental concern”.

Based to Vogt, M., & Weber, C. (2019) perception of sustainability consists of seven dimensions, “which are indispensable for understanding the term ‘sustainability’ and its normative content:

- (1) ecological dimension,
- (2) political dimension,
- (3) ethical dimension,
- (4) socio-economic dimension,

- (5) democratic dimension,
- (6) cultural dimension,
- (7) theological dimension”.

Sustainability dimension understanding based on Vogt, M., & Weber, C. (2019).

- 1) ecological dimension - Generalizing the principle of sustainability as a rule for good resource management, it might seem that the property rights of one generation's natural resources are never unlimited. Sustainability is not seen merely as a law of balance and self-sufficiency to preserve the natural capital stock
- 2) political dimension - more than 25 years later, the term ‘sustainable development still lacks precise understanding or implementation as a guiding principle in a global partnership. The UN recently decided to implement the 17 Sustainable Development Goals (SDGs), at the highest global level, by achieving all 169 targets in various areas in 2015 (United Nations Department of Economic and Social Affairs, [2018](#)).

3) ethical dimension - intergenerational justice, as the normative core of sustainability, guarantees future generations an equal amount of natural resources.

4) socio-economic dimension - sustainability means maintaining a balanced system in nature that does not consume more resources than it can regenerate.

5) democratic dimension – The concept of participation and thus participant-oriented is at the heart of sustainability.

6) cultural dimension – The culture of sustainability recognizes that nature protection is a cultural task. This culture also uses environmental quality as a core value in the definition of wealth – at the cultural, social, health, political and economic levels. A sustainable culture expresses the rediscovery of an ethic of moderate living.

7) Theological dimension - Responsibility for nature in times of climate change, the increase in the number of people on the planet, and the lack of resources is not a matter of knowledge. The problem is one of belief and belief: we know about climate change and environmental issues, but we don't seem to actually know; in a deeper sense, we do not understand what the scientific data is telling us. We can't really imagine what this data means for us and for people around the world – or for life on the planet in general. Therefore, we cannot respond adequately. We have never experienced such profound and complex changes in living conditions. For most Westerners and the world's rich, the implications seem too vague. In the encyclical "Laudato si", Pope Francis called

it a reality "that lacks the perception of reality" because "there is a lack of physical contact" with nature and suffering people (Pope Francis, 2015, p. 49).

Topic 2 Sustainable development 17 goals

In this whiteboard animation, it is clear how the United Nations Sustainable Development Goals (SDGs) are interconnected (the SDG wedding cake) and how you can use them to understand how sustainable your country or your business is.

You can watch it here: <https://www.youtube.com/watch?v=qfOgdj4Okdw>



Picture: <https://en.unesco.org/sustainabledevelopmentgoals>

Lisa J. Sonter Sharon Kemp (2021) "The 17 SDGs define the focus for work towards future sustainability from 2016 to 2030. They aim to "secure a sustainable, peaceful, prosperous and equitable life on earth for everyone now and in the future" (UNESCO, 2017, p. 6). The goals reflect the global complexity of sustainable development across four intertwined dimensions (environmental, economic, social, and political) (UNESCO, 2010). This complexity is also demonstrated in the interconnection and interrelatedness of all the SDGs. Action in each goal impacts another".

Sustainable Development Goals	
1	No Poverty – End poverty in all its forms everywhere
2	Zero Hunger – End hunger, achieve food security and improved nutrition and promote sustainable agriculture
3	Good Health and Well-Being – Ensure healthy lives and promote well-being for all at all ages
4	Quality Education – Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
5	Gender Equality – Achieve gender equality and empower all women and girls
6	Clean Water and Sanitation – Ensure availability and sustainable management of water and sanitation for all
7	Affordable and Clean Energy – Ensure access to affordable, reliable, sustainable and clean energy for all
8	Decent Work and Economic Growth – Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
9	Industry, Innovation and Infrastructure – Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
10	Reduced Inequalities – Reduce inequality within and among countries
11	Sustainable Cities and Communities – Make cities and human settlements inclusive, safe, resilient and sustainable
12	Responsible Consumption and Production – Ensure sustainable consumption and production patterns
13	Climate Action – Take urgent action to combat climate change and its impacts
14	Life below Water – Conserve and sustainably use the oceans, seas and marine resources for sustainable development
15	Life on Land – Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
16	Peace, Justice and Strong Institutions – Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
17	Partnerships for the Goals – Strengthen the means of implementation and revitalize the global partnership for sustainable development

Note: Adapted from *Sustainable Development Goals* UNESCO (2015)
<https://en.unesco.org/sustainabledevelopmentgoals>

Topic 2 Circular economy principles

There is a world of opportunities to rethink and redesign the way we make things. “Progressive Rethinking” explores how, through a change of perspective, we can rethink the way our economy operates – designing products that can “come back” and provide renewable energy to the system. She wonders if, with creativity and innovation, we can build a resilient economy.

The Ellen MacArthur Foundation is a British charity working on business, learning, ideas, analysis and media to accelerate the transition to a circular economy. To learn more about our work, click here: www.ellenmacarthurfoundation.org

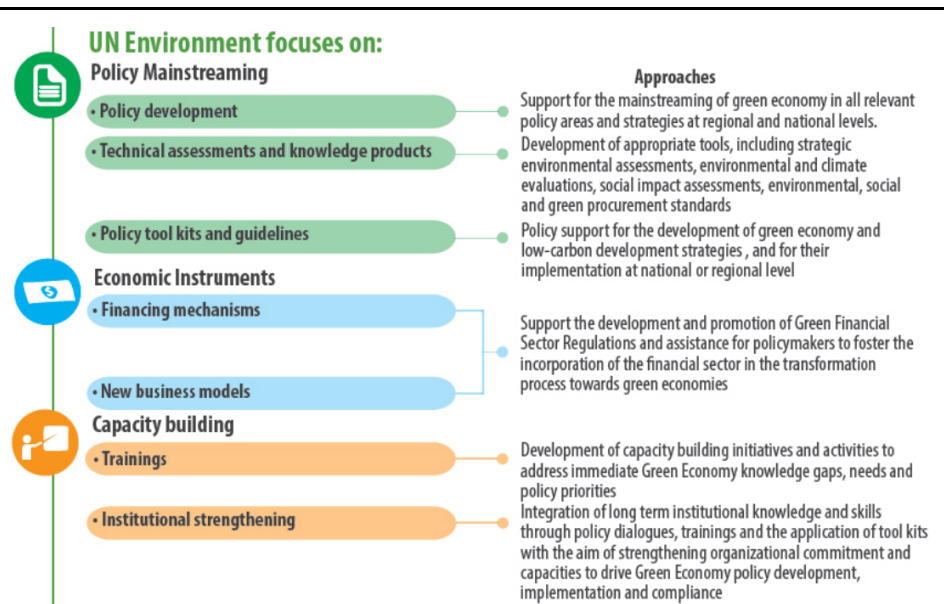
An analysis of Anne P.M. Velenturf and Phil Purnel (2021) shows that "the circular economy has gained momentum over the past decade, primarily through the approaches of practitioners such as the Ellen MacArthur Foundation, which places it squarely in the discourse of 'green growth, arguing that resource consumption Primary and associated emissions can be decoupled from GDP to further legitimize economic growth (Parique et al., 2019). Governments have committed to a circular economy, ranging from transnational initiatives such as those from the European Union to countries such as China and cities such as Tokyo and New York, and London (Purnell et al., 2020). In 2013, a third of global CEOs declared an active interest in the circular economy driven by personal beliefs, business interests, and concerns

about sustainability (Accenture and Compact, 2013). The Ellen MacArthur Foundation's "CE100" program provides companies with a supportive environment for learning and application of periodic practices (EMF, 2019). Global leaders in this purported practice-based circular economy include, for example, Apple, Coca-Cola, and Rolls Royce (Kiser, 2016; Purnell et al., 2020).

Anne P.M. Velenturf, Phil Purnell (2021) study found that “Circular economy has been implemented for economic purposes for hundreds of years. The history of the industry has many examples of “industrial symbiosis” were by-products from one industry form inputs for another ([Desrochers and Leppala, 2010](#)). Industrial symbiosis may be sustainable, but they can also commit to locking-in unsustainable material systems such as the network of [petrochemical industry](#) framework, many pillars of which are now considered fundamental for social and economic reasons thereby preserving a dependency on fossil fuel extraction (see this e.g. [Bansal and McKnight, 2009](#); [Wu et al., 2015](#)). In another power-related example, the diversion of “residual” waste from landfill to thermal waste-to-energy processes bursts the [carbon emissions](#) embodied in materials, destroys materials that could have been recycled (especially where energy-from-waste overcapacity is endemic), and maintains a greater dependency on the input of raw materials into the economy than would have been the case with better recycling rates ([European Commission, 2017](#); [Farmer et al., 2015](#))”

Topic 4 Green economy concept

The Green Economy website emphasizes the role of the green economy is sustainable consumption and production, improved production processes, waste generation and emissions throughout the life cycle of processes and products. Resource Efficiency refers to the way resources are used to create value for society with the goals of reducing the number of resources needed, and exudation and waste generated, per unit of product or service. The Green Economy provides a macro-economic approach to sustainable economic growth focusing on investments, employment, and skills.



The three main areas for the current work on Green Economy are:

- 1) Advocacy of macro-economic approach to sustainable economic growth through regional, sub-regional and national fora
- 2) Demonstration of Green Economy approaches with a central focus on access to green finance, technology, and investments
- 3) Support to countries in terms of development and mainstreaming of macro-economic policies to support the transition to a Green Economy

<https://www.unep.org/regions/asia-and-pacific/regional-initiatives/supporting-resource-efficiency/green-economy#:~:text=In%20a%20green%20economy%2C%20growth,of%20biodiversity%20and%20ecosystem%20services.>




Conclusion:

Sustainability can be understood in different ways and in different dimensions, however, the main aspect is the use of any resources with responsibility. Defined **SDG 17** shows the implementation directions and priorities.

The circular economy concept as a part of the **green economy** assures consumption habits, production and services re-using, waste management, reducing the impact on the environment, improving technologies, and social and organizational innovation.

References	Lisa J. Sonter Sharon Kemp (2021) Connecting the UNESCO Sustainable Development Goals with Australian Early Childhood Education Policy to Transform Practice. International Journal of Early Childhood Environmental
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	<p>Education Copyright © North American Association for Environmental Education ISSN: 2331-0464 (online) https://files.eric.ed.gov/fulltext/EJ1324255.pdf</p> <p>Kotob, Fadi & MPM, & BComm/BIS, & ADipIT, & DipIT,. (2011). What Is Sustainability?. https://www.researchgate.net/publication/282184670_What_Is_Sustainability</p> <p>Anne P.M. Velenturf, Phil Purnell, Principles for a sustainable circular economy, Sustainable Production and Consumption, Volume 27, 2021, Pages 1437-1457, ISSN 2352-5509, https://doi.org/10.1016/j.spc.2021.02.018. (https://www.sciencedirect.com/science/article/pii/S2352550921000567)</p> <p>Vogt, M., & Weber, C. (2019). Current challenges to the concept of sustainability. <i>Global Sustainability</i>, 2, E4. doi:10.1017/sus.2019.1 https://www.cambridge.org/core/journals/global-sustainability/article/current-challenges-to-the-concept-of-sustainability/DCF678F62B270E142077F8138FD60FDB</p> <p>Website Green Economy https://www.unep.org/regions/asia-and-pacific/regional-initiatives/supporting-resource-efficiency/green-economy#:~:text=In%20a%20green%20economy%2C%20growth,of%20biodiversity%20and%20ecosystem%20services.</p>
<p>Interactive questions for R3</p>	<p>1. Choose the best words for “sustainability” description? A. Ecology, biology, saving (X) B. Negative impact, rubbish, depletion C. Measurement, waste, garbages D. Pollution, contamination, soiling.</p> <p>2. What is the main purpose of a circular economy? A. Re-investing profit in activities/infrastructures to increase the value of the business B. Prolonging the life of a product to increase productivity and profitability C. Avoiding or reducing waste and recovering the value of all materials (X)</p>
<p>Keywords</p>	<p>SDG, circular economy, green economy</p>
<p>Questions for reflection</p>	<p>1) Do you recognize green skills in your profession? 2) Could you tell me about green jobs?</p>

Additional resources	//
Icons & related info for the hints of the PowerPoint presentation	<p data-bbox="467 409 555 499"></p> <p data-bbox="467 477 1377 544">This hint is used to indicate that there's a link to other websites with additional information.</p> <p data-bbox="488 580 555 790"></p> <p data-bbox="467 779 1377 846">This is used within the PPT to indicate that something important is written/ to invite the reader to pay attention to essential information.</p> <p data-bbox="464 902 564 1070"></p> <p data-bbox="563 1048 999 1081">It indicates a question for reflection.</p>
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