



TRAINING FICHE

04. ENVIRONMENTAL SUSTAINABILITY IN USE OF RESOURCES

(Sections in italic only for internal use, not to be published)

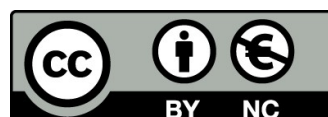
Area	<i>Use of Resources</i>
Level	<i>ADVANCED</i>
Topic	
Module	
Keywords	Resource consumption; renewable / non-renewable resources; land occupation; biodiversity; air pollution; greenhouse gas (GHG); oceans; waste generation; metals; wood; ozone layer; hydric footprint; carbon footprint; responsible consumption; consumerism

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Introduction
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including spaces)

Consumption is necessary since all people need to have goods and services that we cannot generate by ourselves. But although consumption is something legitimate, the spiral of consumerism in which we are involved represents an excess that results in the overexploitation of the planet's resources. The problem is that we not only use resources that are finite and cannot be renewed, but also that we overuse those that can be renewed and that are doing so at a lower rate than they are consumed.

Its most obvious effects are the climate change and the loss of biodiversity, with the resulting consequences that this entails: change in weather patterns, rise in temperatures, more intense storms and heat waves, drought, melting ice and rise in sea level, air pollution, depletion of energy and mineral sources, excess waste, loss of species, food shortages, more diseases and epidemics, poverty, migratory displacements, increased mortality, etc.

Reducing the consumption of all types of resources is essential to ensure environmental sustainability, but for this it is necessary to have information that facilitates the development of a more responsible consumption. There are some critical indicators that must be known and considered in our purchasing decisions if we want to achieve a more responsible way of life.

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Impacts/Benefits
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Water footprint: all products and services take water to be made. The water footprint measures the amount of water used to produce each of the goods and services we use. It can be measured for a single process or for an entire company. The water footprint can also tell us how much water is being consumed in a specific river basin or from an aquifer. It is also possible to use the water footprint to measure the amount of water required to produce all the goods and services consumed by the individual or community, a nation or all of humanity. This also includes the direct water footprint, which is the water used directly by the individual(s) and the indirect water footprint – the summation of the water footprints of all the products consumed. The European water footprint per capita is 5,011 litres a day but in the US it rises to 7,800 litres.

Carbon footprint: The trail of greenhouse gases (GHGs) left by human activities is known as a carbon footprint. It represents the total volume of greenhouse gases (GHG) produced by the economic and daily activities of the human being — expressed in tons of CO₂ emitted. This environmental indicator measures both direct and indirect emissions of compounds such as methane (CH₄), nitrogen oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF₆) and, above all, the most abundant and most abundant and contributing most to global warming since 1990: carbon dioxide (CO₂). The carbon footprint has increased 11-fold since 1961 and now accounts for 60% of the total impact of human activities on the environment. It can be measured for individuals, communities, companies, or countries.

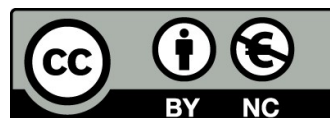
Waste production and management: Europe produces annually over 250 million tonnes of municipal waste and more than 850 million of industrial waste. The annual average rate of

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increase of these wastes since 1985 in the OECD European area is estimated at around 3 per cent. In 2020 the amount of municipal waste generated per person in the EU amounted to 505 kg, 4 kg per person more than in 2019 and 38 kg more than in 1995. The main problem concerning waste is not only its production but also its management, that means, the prevention, collection, treatment and recycling. EU member States should make efforts to ensure the following waste recycling quotas by 2030: 80% of paper and cardboard, 70% of packaging, 80% of ferrous metals, 75% of glass, 60% of aluminium, 55% of plastic and 30% of wood. On the other hand, targets have also been set for municipal waste, whose recycling must be at least 60% in 2030.

Other significant indicators of the ecological impacts of consumption are the following:

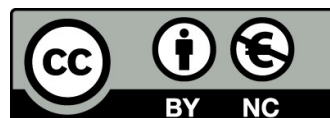
- Loss of earth and marine biodiversity, reduction of wild areas, coastal effects.
- Plastic waste generation and recycling.
- Land occupation, degradation, desertification.
- Consumption of raw materials and non-renewable materials.

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Good practices
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characters including
spaces)

EU for solar panels: In December 2022, Parliament voted in favour of making that new buildings have solar panels mandatory for EU countries to ensure that permits to install solar energy equipment on buildings are delivered within one month. This does not apply except for smaller installations below 50kW, as a simple notification procedure would be enough. Installing solar equipment would be exempt from the requirement to conduct an environmental impact assessment. The process to issue a permit for the installation of heat pumps should not exceed one month.

Dual water supply systems: dual distribution systems involve the use of water supplies from two different sources in two separate distribution networks. The two systems work independently of each other within the same service area. Dual distribution systems are usually used to supply potable water through one distribution network and non-potable water through the other. The systems would be used to augment public water supplies by providing untreated, or poorly treated, water for purposes other than drinking. Such purposes could include firefighting, sanitary flushing, street cleaning, or irrigation of ornamental gardens or lawns.

Green Logistics / Eco-friendly delivery: it is the process of minimising damage to the environment due to the logistics operation of an organisation. Logistics include transportation and resource intensive processes such as procurement, inventory management, warehousing, order fulfilment and distribution. It also includes reverse processes such as disposal logistics concerning reuse, recycling and waste disposal. Companies that are examples of sustainable logistics are *Lidl*, *IKEA* or *UPS*.

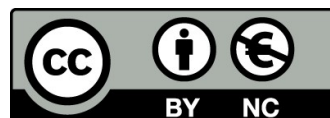
Melia Hotels International has been recognised as the Most Sustainable Hotel Company in Spain and Europe for the Third Consecutive Year (2019, 2020, 2021). The company is also second in the world

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ranking prepared by S&P Global, the sustainable investment agency that evaluates companies in the Dow Jones Sustainability Index. "With a global presence on four continents, we are committed to working towards a new sustainable and responsible hospitality model, increasing the contribution of the industry to society and helping protect the planet. We are very proud that Meliá is the brand that is leading this transformation and that we are seen as a benchmark for sustainability in the world, given that this will be key to the tourism of the future", stated Gabriel Escarrer, CEO of Meliá Hotels International.

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Current and future challenges
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The challenges to reduce and mitigate the consumption of resources necessarily involve working for the SDGs related to this concern, namely:

- SDG 6 for a healthy and efficient management of drinking water.
- SDG 7 for the development of clean and cheap renewable energy sources.
- SDG 9 for the improvement and strengthening of industrial infrastructure and innovation.
- SDG 11 to make cities more liveable and sustainable.
- SDG 12 to promote responsible consumption and production.
- SDG 13 to act against climate change.
- SDG 14 to protect water and marine life.
- SDG 15 to restore and defend terrestrial ecosystems and biodiversity.
- All of this requires collaboration and public-private investment as established in SDG 17.

We can summarise the great challenges of the future in two blocks:

- Increasing education and awareness of the population (consumers), towards a more responsible way of consumption. This mainstreaming education must begin at school and be developed all along the life for acting on the market demand.
- Promoting investment in innovation and development to advance in more sustainable goods, services and technologies, that concerns mainly governments and companies, to influence the market supply.

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Language	English
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Further references	The Water Footprint Network: https://waterfootprint.org/en/water-footprint/what-is-water-footprint/ Waste management and recycling in Europe: https://environment.ec.europa.eu/topics/waste-and-recycling_en The Carbon Footprint Website: https://www.carbonfootprint.com/ Sustainable Wood and Forestry Certifications: https://www.buildwithrise.com/stories/wood-certification-programs

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