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International Team for Circular and Accessible Tourism

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Glossary

a. General Information



Importance of Glossary as a tool

Glossary is an alphabetical list, with meanings, of the words or phrases in a text, paper or in a specific subject area that are difficult to understand. Glossary is tightly related with terminology. The majority of documents today are designed for specialist communication. Thus, they are written in specialist language, 30-80% of which (depending on the particular domain and type of text in question) is composed of terminology. In other words, terminology is the main vehicle by which facts, opinions and information are represented and conveyed. The communication of specialist knowledge and information, whether monolingual or multilingual, is thus irretrievably bound up with the creation and dissemination of terminological resources and with terminology management in the widest sense of the word. This process is not restricted to science and engineering, but is also vital to law, public administration, and health care etc. In addition, terminology plays a key role in the production and dissemination of documents, and in workflow. Terminological resources are also valuable in many other ways: as collections of names or other representations, as the object of standardization and harmonization activities, and as the input (or output) of a wide range of applications and disciplines. In this context, it is quite evident the importance and a glossary within a text or even independently.

In general, a glossary is appropriate when¹:

- the definition is too long and will break up the flow of reading too much, or
- not all readers will require the definition and you want to save the knowledge-able readers some time

In addition, glossaries can be useful for in the learning process as it helps students identify and acquire the vocabulary of the discipline. Having students intuitively understand words from their use in readings or in class is often not the best solution since not all students have the skills required to learn vocabulary from limited exposure. Additionally, providing a glossary ensures that students have an accurate source for word definitions. By learning and understanding the words found in the glossary the student can become more adapt at properly using the discipline specific vocabulary and through practice acquire a better understanding of the related concepts. Glossaries can be used to provide our students with not only the definitions, but examples of using the words in context.

In a report, the glossary section is placed either before the start of the report, between the table of contents and the summary, or, more commonly, at the end, between the

¹ Ewald, T. Writing in the Technical Fields: A Practical Guide (Feb. 2017)



recommendations and references sections. Its contents should be alphabetical and formatted for easy scanning².

How to create a Glossary

The first and foremost purpose is to clearly determine the target audience of the glossary. Equally important is to define the cognitive area of the terms that will be provided by the glossary. Each glossary has to have a clear target about the audience and about the cognitive area in order to be useful.

After those targets are set, the editor of the glossary has to read over the main text or to search the literature of the cognitive area for unfamiliar terms. Identify terms that may be unfamiliar to the average reader, technical or academic terms that may need to be further explained in more detail outside of the main text, or even terms that need to be clarified further, even if it's a term the reader may already recognize³.

Sometimes, when the editor is also the author of the text it is quite difficult to identify the terms that need to be included in the glossary, as he/she knows the content well and also, he/she may have an expertise on the specific cognitive area. In those cases, and in order to facilitate the process and have a better outcome, an editor or someone else should take a fresh look of the text to identify the terms that should be included in the glossary.

In some cases, when the target audience is not the scientific community but everyone, the reader can also be a friend or a family member with no expertise just an average reading level. In this way, the text and the glossary will be as helpful as possible for the average reader.

Once all the terms for the glossary are defined, they have to be collected together in one separate document. Analyze the terms suggested by your editor and by readers. Make sure the terms listed cover any concepts or ideas that may be unfamiliar to someone.

Going on, we should highlight that the glossary terms should be broad and but not excessive and complicated. A general useful guideline is one to two pages of terms maximum for a five to six-page paper, unless there are many academic or technical terms that need to be explained further.

Regarding the creation of the definitions, several issues should be taken into consideration. At first it is advised to write a brief summary for each term. Once the terms are identified, there should be written a brief summary for each term. The summary should be kept short and to the point and they should not be more than two to four sentences for each term. If

² Ewald, T. Writing in the Technical Fields: A Practical Guide (Feb. 2017)

³ For example, you may notice you have a technical term that describes a process, such as "ionization." You may then feel the reader needs more clarification on the term in the glossary. You may also have a term that is mentioned in the main text, but not discussed in detail. You may then feel this term could go into the glossary so you can include more information for the reader.



you're an expert on a topic, it might be easy to go into extreme detail. Not only are readers less likely to read long definitions, but also a long definition takes the reader out of the content you want the reader to focus on. Writing the summary is an important step and it should be original work. Copy and pasting a definition from another glossary is not proposed, however, if another source is used it should be cited properly.

Definitions have two main uses:

- Definitions clarify a description of a new development or a new technology in a technical field. (ex. a zoologist who has discovered a new animal species names and defines it.)
- Definitions help specialists communicate with less knowledge able readers. (ex. A manual explaining how to tune up a car includes definitions of parts and tools.)

Definitions operate by equating the word or phrase to be defined (the definiendum) with words or phrases (the definiens) that fix the meaning. The definiens allows the definition's reader to better understand the word or phrase to be defined (the definiendum). To fulfill their function good definitions, tend to have two qualities:

(1) The definition's consumer already has familiarity with and a clear understanding of the words or phrases in the definiens.

(2) The words or phrases in the definiens provide the definition's consumer with and understanding of the word or phrase defined, often by providing a set of characteristics or methods for picking out the referent or extension of the definiendum, i.e., the definiens facilitates categorization.



Types of Definitions

Definitions, like arguments, are artifacts with a particular structure created for a particular purpose. The structure of this specific artifact consists in equating a definiendum with a definiens. People create definitions for the purpose of fixing meaning—most often to eliminate or decrease vagueness, ambiguity, or both. Five types of definitions are the most usual.

Lexical Definitions: The type of definition with which students have greatest familiarity is a lexical definition. A lexicon is the vocabulary of a given language, person, or branch of knowledge. Thus, the specialized goal of a lexical definition consists in capturing the common usage or usages of a word or phrase within a given linguistic community. Dictionaries provide one with a Diagram of a regular hendecagon comprehensive collection of lexical definitions for a given language. A good lexical definition has a descriptive component—it describes common usage for a specific community. Additionally, a good lexical definition equates the definiendum with a descriptive phrase that captures common usage simply and effectively using commonly understood words. In other words, good lexical definitions seek to describe common usage of a word or phrase to the widest possible audience in an easily comprehensible manner.

Précising Definitions: Précising definitions seek to define a term or phrase in a more precise manner than common usage. Most often précising definitions seek to eliminate vagueness in the use of a word or term for a specific purpose.

Theoretical Definitions: Theoretical definitions also seek to define ordinary terms in a more precise fashion. However, theoretic definitions seek to provide the consumer with a deeper understanding of the thing defined by specifying the meaning of the term or phrase using a theoretic framework.

Stipulative Definitions: A stipulative definition seeks to stipulate a



However, definitions should be kept simple, clear, reader-friendly and tailored for the average reader. Using technical terms to define a term should be avoided, as this will likely just confuse the reader. The glossary is not like a dictionary and it should not be used language that is overly academic. The definition should explain what the term means in the context of the main text in the simplest terms possible. Finally, in the glossary there should not be used abbreviations. Abbreviations should go in a separate list called “List of Abbreviations.” They do not belong in a glossary, as doing this can end up confusing the reader. When there are a lot of abbreviations in the main text, they should go in a list separate from the glossary.

Writing a fluent definition is not an easy process. Fluent sentences are easy to read because of clear connections, variety, and emphasis. Their varied length and word order eliminate choppiness and monotony. Fluent sentences enhance clarity, emphasizing when it is essential. Fluent sentences enhance conciseness. Some strategies⁴ to write fluently are the following:

- The sentences of a definition should not be disconnected, so, short sentences should be avoided as sometimes they look choppy and wordy, but also unclear.
- Related ideas, within a definition, often need to be linked in one sentence, so that readers can grasp the connection.
- Don't replace technically precise words with nontechnical words that are vague or imprecise.
- Every profession has its own shorthand and accepted phrases and terms. For example, stat is medical jargon for drop everything and deal with this emergency. For computer buffs, a glitch is a momentary power surge that can erase the contents of internal memory; a bug is an error that causes a program to run incorrectly. Such useful jargon conveys clear meaning to a knowledgeable audience.
- Avoid overstatement. Exaggeration sounds phony. Be cautious when using words such as best, biggest, brightest, most, and worst.
- Avoid imprecise words. Even words listed as synonyms can carry different shades of meaning.
- Avoid an overly informal tone. We generally do not write in the same way we would speak to friends at the local burger joint or street corner. Achieving an understandable tone does not mean lapsing into substandard usage, slang, profanity, or excessive colloquialisms.

In this section it is really useful to provide some general writing tips⁵ that could apply when writing the glossary, as well.

- Cut out excess nouns. A sentence full of nouns is hard to read. If you can, use verbs instead. The result will often be a shorter, simpler and more dynamic text.

⁴ Lannon M. J., 2006, Technical Communication, Library of Congress Catalog, University of Massachusetts, Dartmouth

⁵ European Commission. Claire's Clear Writing Tips. Available at:
https://ec.europa.eu/info/sites/default/files/clear_writing_tips_en.pdf



- Be concrete, not abstract. Replace vague and abstract expressions with concrete language. The text will be clearer, more meaningful, and often shorter too.
- Prefer active verbs to passive. Sentences are usually clearer and simpler (and shorter) if the verbs are in the active form rather than the passive.
- Beware of false friends (*faux amis*). False friends are pairs of words in two languages that look similar, but differ in meaning.
- Take care when using adjectival/adverbial phrases.
- Take care with the word 'which'
- Be careful with the use of comma

Summing up, what should be kept in mind is that the key objectives of a good glossary are: clarity, conciseness, accuracy, organization, and ethics.

Glossary formatting

Glossaries may be formatted in a number of ways, but generally terms are listed in alphabetical order with their definitions, and a line space separates each entry. When formatting the glossary, the most usual is to put the terms in alphabetical order, starting with "A" and end with "Z." Having the glossary terms in alphabetical order will make it easier for the reader to flip through the pages to find the one they are looking for. Make sure you order the terms by first letter and then by the second letter in the term. If a term has multiple words, use the first word in the phrase to determine where to put it in the glossary. Afterwards, it is important to separate the terms with bullet points or spacing. Choose one formatting style and stick to it so the glossary looks clean and polished. Italicizing or bolding the terms in the glossary may help the image and the easy use as well; the terms will stand out from the definitions and make them easier to spot in the text. Of course, it should be chosen either italicizing or bolding for the terms so that the glossary appears uniform.

Additionally, for certain subjects, images might be incredibly useful for the understanding of a term. Video may also be helpful for explaining terms. For example, procedural terms like a certain technique may be easily explained with a video. This gives a quick, engaging answer that may provide a better answer than if you only used words.

How to read a glossary

One of the most important features of a good glossary is navigation ease. The readers of the glossary should be able to easily find the term they are looking for.

To fulfill this, in the following glossary about circular tourism, the terms are organized in alphabetical order. As it is already argued, the alphabetical order is the most usual, and in this case, we believe that it is the best way to organize our glossary to help the reader to find a specific term a lot faster than if they had to search through the whole glossary.



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In the first page of a glossary – when it is a separate document – there should be provided:

The provided Glossary is used to define terminology specific to the problem domain, explaining terms that may be unfamiliar to the reader of the use-case descriptions or other project documents. Often, glossaries can be used as an informal data dictionary, capturing data definitions so that use-case descriptions and other project documents can focus on what the system must do with the information.



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Glossary of Training Items for CAT

b. Circular Tourism terms

Circular Tourism Introduction

Circular tourism follows the principles of the circular economy, which falls within the framework of sustainable development.

Its objective is to produce goods and tourist services while greatly limiting the consumption and waste of non-renewable energy sources.

The aim is to ensure that the tourism industry continues to grow but in a sustainable way by using resources efficiently to gain the most value from them. Tourism products are becoming eco-designed and tourists are becoming eco-acting.

It is easier to see how the concepts of circular economy can affect the manufacturing sectors rather than the service sectors as, for instance, the tourism industry. But the circular economy concept can be adaptable to any industry, including - tourism.

Circular tourism group tourism to new perspectives - sustainable, ecological, organic, or even responsible solidarity.

A tourist is defined by the World Tourism Organization as a person travelling and staying at least one night and less than one year to a destination outside his usual environment. Consumption of tourism starts with travellers' preparation for the trip. When reaching the destination, the traveller likely uses local transports, settles in his chosen accommodation, consumes food and partakes in some local activities. Finally, travel back. All steps are compatible with the circular economy.

The tourism industry is deeply interlinked with and dependent on multiple key resources flows, asset and commodity value chains in society – from agriculture to food, to the built environment and transport industries to name a few. Travel and tourism actors can act as powerful enablers of circularity and benefit from shared circular value creation and value capture within relevant value chains.

It is important to introduce a new thinking and acting approach. All tourism sectors should question the purpose of their operations and the natural, social, economic impacts of their business models.

The need for a new positive tourism paradigm regenerative of natural and social capital is pressing. The circular economy offers a compelling new paradigm and a set of tools to guide an innovative, balanced, resilient tourism industry recovery and sustainable future.

Examples of best practices in the circular tourism industry:

- Implements environmentally friendly approaches and offers sustainable services. This can include waste reduction, renewable energy usage (for example a solar-powered), etc.
- Conserve environmental resources and protect biodiversity. Protects natural habitats, implements strictly controlled tourism. Ensure that sustainable tourism stays relatively untouched. Example: Limit tourist flow, partly income goes back to environmental protection.

- Respect and preserve the cultures of host communities whilst benefiting them. Provide traditional awareness training and workshops, hands-on technique. Example: organise pottery class from locally collected clay, weaving class - local materials, or traditional food cooking class from locally grown food. Workshops don't provide waste, materials can be recycled, reused or compost.

Resources:

- <http://www.circular-tourism.com/>
- <https://www.oneplanetnetwork.org/resource/circular-economy-travel-and-tourism-white-paper>
- <https://circulartourism.eu/resources/handbooks/>
- <https://www.unwto.org/covid-19-oneplanet-responsible-recovery-initiatives/circular-economy-in-travel-and-tourism-a-conceptual-framework-for-a-sustainable-resilient-and-future-proof-industry-transition>
- <https://hospitalityinsights.ehl.edu/circular-economy-tourism-sector>

Circular Tourism Glossary

How to read glossary

Term

Definition

Describe the concept(s) underlying the term. Definitions should be as concise as possible, but still give a clear description of the headword's meaning and usage in a given context.

References

List of links used to explain the term

Details

Additional information related to the term that is being defined.

Visual material

Visual material (photo, video, infographic etc.) related to the term that is being defined.

Learn more

More sources (links, published paper citations etc) with information about the term that is being defined.

Related best practice

Cross reference with the related best practice from the training Material (if there is one).
Key Words.

Related training skills

Skill/competence linked to the term that learners shall obtain, apart from the knowledge.

Notes

A comment/note, if it is necessary, to clarify an aspect related to the term that is being defined.

Please translate following terms and write translated version in alphabetic order.

| Nr. | English translation | Partners national translation in alphabetic order |
|-----|------------------------------------|--|
| 1 | Best practice | |
| 2 | Biodegradable | |
| 3 | Biodiversity | |
| 4 | Biological productivity | |
| 5 | Biological Degradation | |
| 6 | Blue Economy | |
| 7 | By-Product | |
| 8 | Circular Tourism | |
| 9 | Circular Economy | |
| 10 | Circular development model | |
| 11 | Climate change | |
| 12 | Clean-up | |
| 13 | Co-Product | |
| 14 | Digital and scientific competences | |
| 15 | Eco-design thinking | |
| 16 | Eco-Efficiency | |
| 17 | Ecolabel | |
| 18 | Ecological Footprint | |
| 19 | Ecosystem | |
| 20 | Emissions | |
| 21 | Environment | |
| 22 | Environmental movement | |
| 23 | Environmental Sustainability | |
| 24 | Global warming | |
| 25 | Greenhouse effect | |
| 26 | Green products and services | |
| 27 | Green purchasing | |
| 28 | Green waste | |
| 29 | Greenwashing | |
| 30 | Interdependency | |
| 31 | Life cycle (of a product) | |
| 32 | Natural resources | |
| 33 | Pay-by-weight systems | |
| 34 | Raw materials | |
| 35 | Reclaimed materials | |
| 36 | Recycling of waste | |
| 37 | Recovery of waste | |
| 38 | Redesign | |
| 39 | Reduce | |
| 40 | Remanufacture | |
| 41 | Renewable energy source | |
| 42 | Reuse | |

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| 43 | 3Rs | |
| 44 | 4Rs | |
| 45 | 5Rs | |
| 46 | Sustainability | |
| 47 | Sustainable Tourism | |
| 48 | Waste | |
| 49 | Waste management | |
| 50 | Waste reduction | |
| 51 | Zero waste | |

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| Best practice | A process, technique, or innovative use of technology, equipment or resources or other measurable factors that have a proven record of success. |
| Best practices are a set of guidelines, ethics, or ideas that represent the most efficient or prudent course of action in a given business situation. Best practices may be established by authorities, such as regulators or governing bodies, or they may be internally decreed by a company's management team. Best practices are also used in course material. | |
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| Biodegradable | Capable of being decomposed through the action of organisms, especially bacteria. |
| Biodegradable and compostable materials can be broken down by microorganisms into water, carbon dioxide, mineral salts and new biomass within a defined period of time. Whether a biodegradable or compostable plastic item biodegrades and how quickly that happens, strongly depends on the conditions it is exposed to during disposal. These include temperature, duration, the presence of microorganisms, nutrients, oxygen and moisture (De Wilde et al., 2013; van den Oever et al., 2017). | |
| 1. https://www.youtube.com/watch?v=YeVLBkypPRU | 1. https://www.eea.europa.eu/publications/biodegradable-and-compostable-plastics/biodegradable-and-compostable-plastics-challenges |

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| Biodiversity | Biodiversity is the variability among living organisms from all sources, including terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems. |
| The value of biodiversity can also be understood through the lens of the relationships we form and strive for with each other and the rest of nature. We may value biodiversity because of how it shapes who we are, our relationships to each other, and social norms. These relational values are part of peoples' individual or collective sense of wellbeing, responsibility for, and connection with the environment. The different values placed on biodiversity are important because they can influence the conservation decisions people make every day. | |
| 1. https://www.youtube.com/watch?v=GK_vRtHJZu4 2. https://www.youtube.com/watch?v=XTC4qiXd36Q | 1. http://www.millenniumassessment.org/documents/document.354.aspx.pdf |

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| Biological productivity | The capacity of a given area to produce biomass; different ecosystems (i.e. pasture, |
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| | forest, etc.) will have different levels of bioproductivity. Biological productivity is determined by dividing the total biological production (how much is grown and living) by the total area available. |
| Biological productivity may apply to a single organism, a population, or entire communities and ecosystems. Productivity can be expressed in terms of dry matter produced per area per time (net production), or in terms of energy produced per area per time (gross production = respiration + heat losses + net production). Biological productivity is realized in each individual case through the reproduction of species populations of plants and animals that takes place at a certain rate and that can be expressed by a definite quantity—production per year (or some other unit of time) per unit of area (for terrestrial and bottom-dwelling organisms) or per unit of volume (for organisms living in open water or soil). | |
| 1. https://slideplayer.com/slide/7920166/ | 1. https://www.britannica.com/science/biological-productivity 2. https://encyclopedia2.thefreedictionary.com/Biological+Productivity |
| Biological Degradation | A process by which micro-organisms break down waste materials. Nutrient additives may be introduced into a contaminated area (such as groundwater or soil) for the specific purpose of encouraging biodegradation |
| | 1. https://circulareconomy.europa.eu/platform/sites/default/files/the_circular_economy_and_the_bioeconomy_-_partners_in_sustainabilitythal18009enn.pdf |
| Blue Economy | The “blue economy” concept refers to promoting economic growth, social inclusion, and preservation or improvement of livelihoods while at the same time ensuring environmental sustainability. At its core it refers to the decoupling of socioeconomic development through oceans-related sectors and activities from environmental and ecosystems degradation |
| The blue economy contributes to climate change mitigation by developing offshore renewable energy, decarbonizing maritime transport and greening ports. It will make the economy more circular by renewing the standards for fishing gear design, for ship recycling and for the decommissioning of offshore platforms. Developing green | |

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| infrastructure in coastal areas will help preserve biodiversity and landscapes, while benefitting tourism and the coastal economy | |
| 1. https://www.worldbank.org/en/news/infographic/2017/06/06/blue-economy 2. https://openknowledge.worldbank.org/bitstream/handle/10986/26843/115545.pdf?sequence=1&isAllowed=y 3. https://www.youtube.com/watch?v=fzZMJi6uyt o | 1. https://ec.europa.eu/oceans-and-fisheries/ocean/blue-economy/sustainable-blue-economy_el 2. https://blueindicators.ec.europa.eu/sites/default/files/2021_06_BlueEconomy_Report-2021.pdf |

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| By-Product | A useful and marketable product or service that is not the primary product or service being produced. See also co-product |
| Byproducts occur in almost all industries not just manufacturing. Take farming for example. Dairy farmers breed and raise cows to produce milk in order to sell it to grocery stores, restaurants, and distributors. What is a byproduct of cattle? Manure. The farmer isn't trying to start a manure farm. He or she is interested in producing milk, but the manure is created during the process. Unfortunately, many by-products are simply waste that can't be used for anything. Take a nuclear power plant for example. The plant generates electricity using a nuclear process that produces nuclear waste. Not only is this material not salable, it is hazardous to store and dispose of. Companies must build highly specialized facilities to store this material and hire employees who can take caution in handling, transporting, and disposing of it. | |
| 1. https://www.youtube.com/watch?v=XG3PcUh5m0M | 1. https://www.impel.eu/impel-circular-economy-guidance-mentioned-in-eu-study-to-assess-ms-practices-on-by-products-and-end-of-waste/ |

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| Circular Tourism | Follows the logic of the circular economy, a business model consistent with the principles of sustainable development. In the same way, circular tourism proposes a model which each actor (traveller, host, tour operator and supplier) adopts and eco-friendly approach |
| Circular Tourism objective is to produce goods and tourist services while greatly limiting the consumption and waste of non-renewable energy sources. The aim is to ensure that the tourism industry continues to grow but in a sustainable way by using resources efficiently to gain the most value from them. Tourism products are becoming eco-designed and tourists are becoming eco-acting. | |
| 1. https://www.circularcityfundingguide.eu/wp-content/uploads/2019/12/circular-tourism.png | 1. https://circulareconomy.europa.eu/platform/sites/default/files/circular-economy-in-travel-and-tourism.pdf 2. https://circulareconomy.europa.eu/platform/sites/default/files/cirtoinno-handbook_eng-rev.-4.pdf 3. https://hospitalityinsights.ehl.edu/circular- |

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| | economy-tourism-sector 4. https://circulartourism.eu |
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| Circular Economy | Economic system that tackles global challenges like climate change, biodiversity loss, waste, and pollution |
| <p>Looking beyond the current take-make-waste extractive industrial model, a circular economy aims to redefine growth, focusing on positive society-wide benefits. It entails gradually decoupling economic activity from the consumption of finite resources, and designing waste out of the system. Underpinned by a transition to renewable energy sources, the circular model builds economic, natural, and social capital. It is based on three principles:</p> <ul style="list-style-type: none"> - Design out waste and pollution - Keep products and materials in use - Regenerate natural systems | |
| <p>1. https://www.ellenmacarthurfoundation.org/circular-economy/concept/infographic 2. https://www.youtube.com/watch?v=zCRKvDyyHml</p> | <p>1. https://www.ellenmacarthurfoundation.org/circular-economy/concept/building-blocks</p> |

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| Circular development model | Circular development is a new normative model for urban development, conceived, which focuses on the processes creating the infrastructure and urban activities supporting circular urban systems. |
| <p>Circular development allows cities to adapt to shocks and long-term changes in the wider landscape, with minimal ecological impact. It aims to reduce urban resource consumption (materials, land, water, infrastructure and energy), waste and green-house gas emissions (GHGs), whilst regenerating the urban ecosystem and building urban resilience. Circular development enables the healthy renewal of cities. It could also help to deliver many of the sustainable development goals.</p> | |
| | <p>1. http://www.r2piproject.eu/wp-content/uploads/2017/04/Defining-the-Concept-of-Circular-Economy-Business-Model.pdf 2. Williams, J. (2021). Circular Cities: What Are the Benefits of Circular Development?. Sustainability, 13(10), 5725.</p> |

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| Climate change | A change in weather over time and/or region; usually relating to changes in temperature, wind patterns and rainfall; although may be natural or anthropogenic, common discourse carries the assumption that climate change is anthropogenic |
| <p>Human activities, such as burning fossil fuels for energy or cutting down rainforests, increase the concentrations of greenhouse gases (such as carbon dioxide, CO2) in the</p> | |

Earth's atmosphere, raising average global temperature and causing climate change. The effects are being felt on all continents and are predicted to become more and more intense. Scientists have warned that global warming of 1.5°C above pre-industrial levels will have serious and partly irreversible consequences for our environment and societies. Human-induced warming has already reached around 1°C.

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| <p>1. https://ec.europa.eu/clima/change/causes_en 2. https://ec.europa.eu/clima/change/consequences_en</p> | <p>1. https://climate.nasa.gov/evidence/ 2. https://www.ipcc.ch/ 3. https://www.un.org/sustainabledevelopment/climate-change/ 4. https://www.copernicus.eu/en/copernicus-services/climate-change 5. https://www.un.org/en/un75/climate-crisis-race-we-can-win</p> |
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| <p>Clean-up</p> | <p>Actions taken which deal with a release or threat of a release of hazardous substances that could adversely affect public health and/or the environment. The word "clean-up" is sometimes used interchangeably with the terms remedial action, removal action, response action, remedy, remediation, or corrective action</p> |
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Clean-up activities are frequently organized on special occasions, e.g. on World Environment Day (June 5th) or on World Ocean Day (June 8th), in which several associations participate. The cleaning activities take place mainly on beaches located near urban centres and lead to the collection of tons of bags of waste. Over 80% of the waste found is made up of plastic: first of all, bottles and bags, followed by caps, straws and glasses. In almost all the monitored beaches there are cigarette butts, and in 40% of the cleaned beaches gloves, masks or waste related to the mismanagement of PPE were found.

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| <p>http://www.enicbcmec.eu/common-clean-med-2020-over-2000-participants-and-13-tons-waste-removed</p> | <p>https://www.plasticfreevenice.org/international-clean-up-campaign-world-environment-day-venice Cleanup The World: https://www.cleanuptheworld.org/</p> |
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| <p>Co-Product</p> | <p>something produced jointly with another product</p> |
| <p>Products which are simultaneously produced using the same input, in a common process and each product carries considerably high sale value. In the case of Co-product costs are settled with an apportionment structure. When both products are equally important then they can be a co-product.</p> | |
| <p>https://www.youtube.com/watch?v=bXTcsAvg_NY</p> | <p>https://www.stechies.com/difference-between-byproduct-coproduct-differentiate-them-b/</p> |

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| <p>Digital and scientific competences</p> | <p>Digital competence involves the</p> |
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| | <p>responsible use of digital technologies; communication and collaboration, media literacy, digital content creation, safety, intellectual property related questions, problem solving and critical thinking. It includes the ability to use information via a range of digital technologies, to question available information; curiosity and open-minded attitude.</p> <p>Competence in science refers to the ability to use knowledge; to identify questions and to base opinions on evidence. It includes the ability to use logical and critical thinking, to handle technological tools and to communicate conclusions and reasoning behind them.</p> |
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Digital and Scientific Competences are listed among the 8 key competences for Lifelong Learning by the European Commission.

Digital competence requires a sound understanding and knowledge of the nature, role and opportunities of IST in everyday personal and social life as well as at work. This includes main computer applications such as word processing, spreadsheets, databases, information storage and management, and an understanding of the opportunities.

https://www.ellenmacarthurfoundation.org/assets/downloads/publications/ EllenMacArthurFoundation_PolicymakerToolkit.pdf
<https://ec.europa.eu/jrc/en/digcomp>

<https://journals.openedition.org/factsreports/5498>

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| <p>Eco-design thinking</p> | <p>a method and process that “considers environmental aspects at all stages of the product development process, striving for products which make the lowest possible environmental impact throughout the product life cycle”</p> |
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Eco-design is a word mainly used to deal with environmental issues and reduce impacts of human activities on biodiversity, species, commons. We speak of design for sustainability, circular design, responsible design... But we all mean the same; developing goods and activities that don't impact negatively the environment.

<https://www.ecodesignthinking.com/>
[Eco-design, what are we talking about? https://circulab.com/eco-](https://circulab.com/eco-design-what-are-we-talking-about/)

Circular design: Definition, main principles and examples.
<https://circulab.com/circular-design-what-is-it/>

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| design-definition/ | |
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| Eco-Efficiency | is a management strategy of doing more with less. It is based on the concept of creating more goods and services while using fewer resources and creating less waste and pollution. |
| <p>Eco-efficiency is a sustainability measure combining environmental and economic performances. Eco-efficiency can be seen either as an indicator of environmental performance or as a business strategy for sustainable development. The most common eco-efficiency is defined as:</p> <ul style="list-style-type: none"> • A ratio between environmental impact and economic performance • A ratio between economic performance and environmental impact <p>Eco-efficiency is achieved through three objectives:</p> <ul style="list-style-type: none"> • Increasing product or service values • Optimizing the usages of resources • Reducing environmental impacts | |
| <p>EE models:</p> <p>https://www.sciencedirect.com/topics/engineering/eco-efficiency</p> | <p>Eco-Efficiency, an overview</p> <p>https://www.sciencedirect.com/topics/engineering/eco-efficiency</p> |

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| Ecolabel | Established in 1992 and recognised across Europe and worldwide, the EU Ecolabel is a label of environmental excellence that is awarded to products and services meeting high environmental standards throughout their life-cycle: from raw material extraction, to production, distribution and disposal. |
| <p>With eco-labels, we can select products and services according to specific environmental and social criteria. What this means is that as consumers, eco-labels guide our purchasing decisions by providing information about the 'world' behind the product. For businesses, eco-labels are a means of measuring performance and also communicating and marketing the environmental credentials of a given product. And for governments, crucially these tools encourage the behavioural change of producers and consumers towards long-term sustainability.</p> | |
| <p><u>Logo:</u></p> <p>https://ec.europa.eu/environment/ecolabel/images/ecolabel.png</p> | <p>UN Environment Programme</p> <p>https://www.unep.org/explore-topics/resource-efficiency/what-we-do/responsible-industry/eco-labelling</p> |

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| Ecological Footprint | the impact of human activities measured in terms of the area of biologically productive land and water required to produce the goods consumed and to assimilate the wastes generated. More simply, it is the amount of the environment necessary to produce the goods |
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| | and services necessary to support a particular lifestyle. |
| <p>On the demand side, the Ecological Footprint measures an individual or a population's demand for plant-based food and fiber products, livestock and fish products, timber and other forest products, space for urban infrastructure, and forest to absorb its carbon dioxide emissions from fossil fuels.</p> <p>On the supply side, a city, state, or nation's biocapacity represents its biologically productive land and sea area, including forest lands, grazing lands, cropland, fishing grounds, and built-up land.</p> <p>The Ecological Footprint can be calculated for a single individual, city, region, country and the entire planet.</p> | |
| <p><u>Example from Japan by WWF:</u> <u>https://www.overshootday.org/kids-and-teachers-corner/what-is-an-ecological-footprint/</u></p> <p><u>Food and the Ecological Footprint:</u> <u>https://www.youtube.com/watch?v=d07B3_aFzK8</u></p> | <p>Earth Overshoot Day: <u>https://www.overshootday.org/kids-and-teachers-corner/what-is-an-ecological-footprint/</u></p> <p>Footprint Network: <u>https://www.footprintnetwork.org/our-work/ecological-footprint/</u></p> |

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| Ecosystem | a system in which the interaction between different organisms and their environment generates a cyclic interchange of materials and energy. |
| <p>Ecosystems contain biotic or living, parts, as well as abiotic factors, or nonliving parts. Biotic factors include plants, animals, and other organisms. Abiotic factors include rocks, temperature, and humidity.</p> <p>Every factor in an ecosystem depends on every other factor, either directly or indirectly. For thousands of years, people have interacted with ecosystems. Many cultures developed around nearby ecosystems... As human populations have grown, however, people have overtaken many ecosystems.</p> <p>Ecosystems can recover from damage.</p> | |
| <p>Examples of different Ecosystems: <u>https://www.nationalgeographic.org/encyclopedia/ecosystem/</u></p> | <p>National Geographic Encyclopedia: Ecosystem <u>https://www.nationalgeographic.org/encyclopedia/ecosystem/</u></p> <p>Ecosystem, Britannica Science <u>https://www.britannica.com/science/ecosystem</u></p> |

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| Emissions | the discharge of pollutants into the atmosphere from stationary sources such as smokestacks, other vents, surface areas of commercial or industrial facilities and mobile sources, for example, motor vehicles, locomotives and aircraft. |
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In 2019, Greenhouse Gas Emissions (GHG) generated by industries and households in the EU-27 stood at 3.8 billion tonnes of CO2 equivalents. Sources of consideration:

- agriculture, forestry and fishing
- mining and quarrying
- manufacturing
- electricity, gas, steam and air conditioning supply
- transportation and storage
- other services, water supply and construction
- households — households as consumers.

Air emissions accounts measure the interplay between the economy and the environment with respect to air emissions, in order to assess whether current production and consumption activities are on a sustainable path of development.

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| <p>Global Carbon Atlas: http://www.globalcarbonatlas.org/en/CO2-emissions</p> | <p>Eurostats: Greenhouse gas emission statistics - air emissions accounts https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Greenhouse_gas_emission_statistics_-_air_emissions_accounts#Greenhouse_gas_emissions</p> <p>UN Environmental Programme: Emissions Gap Report 2020: https://www.unep.org/emissions-gap-report-2020</p> |
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| <p>Environment</p> | <p>the external surroundings including all of the biotic and abiotic factors that surround and affect the survival and development of an organism or population</p> |
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The environment differs from one perspective to another. Types of Environment:

- Internal and external
- Natural and Built
- Aquatic, terrestrial, and atmospheric

The ecosystem is the external environment wherein all organisms function together along with all non-living things in the environment. Living organisms within the ecosystem form complex relationships with abiotic factors in their environment to support their development and survival.

The environment is facing many challenges due to human technologies.

Environmentalism is a social movement that aims to eliminate or minimize the harmful effect of humans on the environment. environmentalism is mainly concerned with natural environments and issues they are facing such as the extinction of species, change in climate, loss of old forests, and pollution.

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| <p>Biology Online: Environment https://www.biologyonline.com/dictionary/environment</p> | <p>Human Impact on the Environment: https://www.nationalgeographic.org/interactive/human-impacts-environment/</p> |
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| <p>Environmental movement</p> | <p>Both the conservation and green movements; a diverse scientific, social, and political movement.</p> |
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| | <p>In general terms, environmentalists advocate the sustainable management of resources and stewardship of the natural environment through changes in public policy and individual behaviour. In its recognition of humanity as a participant in ecosystems, the movement is centered around ecology, health, and human rights.</p> |
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The environmental movement is a philosophical, social, and political movement that arose in the late 19th century that advocates the fair and sustainable management of resources. Its major goal is to protect the quality of the natural environment through changes in human behavior and also with altered measures of political, economic and social organization. There is a range of organizations, companies that advocate the environmental movement, and nowadays several religious organizations have programs and activities dedicated exclusively to environmental issues.

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| <p>https://theboar.org/wp-content/uploads/2020/01/mika-baumeister-g4ELq-X8PRg-unsplash-e1578321265547.jpg</p> | <p>1. https://www.britannica.com/topic/environmentalism/History-of-the-environmental-movement 2. https://www.bbc.com/future/article/20200420-earth-day-2020-how-an-environmental-movement-was-born</p> |
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| <p>Environmental Sustainability</p> | <p>Maintenance of ecosystem components and functions for future generations.</p> |
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According to the United Nations (UN) World Commission on Environment and Development, environmental sustainability is about making life choices that secure the natural resources available for future generations to lead a way of life equal to or better than our own. Environmental sustainability aims to improve the quality of life and to find a balance between the world and consumerist human culture by reducing the burden on ecosystems.

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| <p>https://deltalogix.blog/wp-content/uploads/2021/07/Sustainability-2-English-1.png</p> | <p>https://sphera.com/glossary/what-is-environmental-sustainability/</p> |
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| <p>Global warming</p> | <p>The observable increase in global temperatures considered mainly caused by the human induced enhanced greenhouse effect trapping the Sun's heat in the Earth's atmosphere.</p> |
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Global warming is the long-term warming of the Earth's climate system observed since the pre-industrial period (between 1850 and 1900) due to human activities, primarily the burning of fossil fuels, which increases levels of heat-trapping greenhouse gases in the Earth's atmosphere. The term is often used interchangeably with the term climate change, although the latter refers to both human- and naturally-produced warming and the effects it has on our planet. Human beings have been contributing to global warming, which will have consequences for temperature, the sea, and others.

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| https://justdigg.it.org/climate-change/?gclid=CjwKCAjw7fuJBhBdEiwA2ILMYZPrviTKQs_W4J4K6ZAiRTIY-Xp_R_vkFrCf0wkl4365wzl1aL4rxoCTWcQAvD_BwE | https://www.nrdc.org/stories/global-warming-101 |
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| Greenhouse effect | The process in which the emission of infrared radiation by the atmosphere warms a planet's surface. |
| Human activities are changing Earth's natural greenhouse effect. Burning fossil fuels like coal and oil puts more carbon dioxide into our atmosphere. NASA has observed increases in the amount of carbon dioxide and some other greenhouse gases in our atmosphere. Too much of these greenhouse gases can cause Earth's atmosphere to trap more and more heat. This causes Earth to warm up. | |
| <ol style="list-style-type: none"> 1. https://www.youtube.com/watch?v=SN5-DnOHQmE&t=3 2. https://www.eagrovision.com/wp-content/uploads/2019/05/156327529311-768x766.png | https://climatekids.nasa.gov/greenhouse-effect/ |

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| Green products and services | Products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. Green products or services may include, but are not limited to, those which contain recycled content, reduce waste, conserve energy or water, use less packaging, and reduce the amount of toxics disposed or consumed. |
| A 30% increase in resource productivity resources by 2030 would create two million two million more jobs. In this way, the circular economy can reduce the annual greenhouse gas emissions by 2% to 4%. This is why more than more than 650 million euros for 650 million have been earmarked for "industry in the circular economy under Horizon 2020, the EU's current funding programme, along with other funds and EU-wide initiatives aimed at stimulating "green growth stimulating "green growth". | |
| <ol style="list-style-type: none"> 1. https://ec.europa.eu/environment/pubs/pdf/factsheets/green_products_services_en.pdf 2. https://www.youtube.com/watch?v=UsVPN5LVw7k | https://cms.business-services.upenn.edu/purchasing/sustainable-purchasing/green-products-and-services.html |

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| Green purchasing | Purchasing goods and services that minimise impacts on the environment and that are socially just. |
| Sustainable products are generally defined as products and services that have a lesser or reduced effect on environmental and human health. This compared to services and products that have the same purpose. Since purchasing sustainable products benefited the environment, improved efficiencies and several times saved money, these practices became an integral part of public procurement. Government waste, emissions, and environmental risks are being recognized as often being directly linked to the quantity and quality of the goods and raw materials a government purchases. | |
| https://www.naspo.org/green-purchasing-guide/ | https://www.naspo.org/green-purchasing-guide/ |

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| Green waste | Plant material discarded as non-putrescible waste - includes tree and shrub cutting and pruning, grass clippings, leaves, natural (untreated) timber waste and weeds (noxious or otherwise). |
| So-called green waste is considered an untapped treasure trove, since it is biodegradable waste and can be reused. Green waste can be processed in a local processor, becoming compost. Recycling this waste is very beneficial. The organic material which makes up waste can be processed through a different disposal method. | |
| https://www.youtube.com/watch?v=Jn-4IJE9VzM&t=5s | https://skipthetip.com/what-is-green-waste/ |

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| Greenwashing | Companies that portray themselves as environmentally friendly when their business practices do not back this up. Generally applies to excessive use of green marketing and packaging when this does not take account of the total ecological footprint. |
| Greenwashing is the process of giving a false impression or providing, through your marketing network, misleading information that a company's products are environmentally friendly. Companies use this method to make themselves look good. The most classic example might be a company that sells fossil energy, but advertises in its campaigns that it is working on and developing research into renewable energy, yet uses energy that causes the greatest negative environmental impact. | |
| https://consumerfed.org/wp-content/uploads/2019/08/Greenwashing-Infographic-.png | https://youmatter.world/en/definition/definitions-greenwashing-definition-what-is-greenwashing/ |

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| Interdependency | Reciprocal relation between mutually dependent entities. |
| The interdependence of tourism demand is a relatively new topic in the field of tourism economics. If there is no direct competition between two destinations, tourism demand growth for destination "A" increases and so does for destination B, becoming complementary. | |

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| https://www.yourdictionary.com/interdependency | https://www.researchgate.net/publication/312038614 In terdependence of Transport and Tourism |
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| Life cycle (of a product) | All stages of a product's development, from raw materials, manufacturing through to consumption and ultimate disposal. |
| The life cycle of a product is considered to be a process that starts at its market entry and ends at its exit. The cycle is divided into four parts: Introduction, growth, maturity, and decline. The concept is used to increase advertising, reduce prices, and expand into new markets. | |
| https://www.thestreet.com/.image/c_limit%2Ccs_srgb%2Cq_auto:good%2Cw_700/MTY3NTM5NDQ4MjA0NDM3Mzkw/image-placeholder-title.webp | <ol style="list-style-type: none"> https://www.twi-global.com/technical-knowledge/faqs/what-is-a-product-life-cycle https://productlifecyclestages.com/ |

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| Natural resources | Natural resources are natural assets (raw materials) occurring in nature that can be used for economic production or consumption. |
| Natural resources are materials and substances that occur naturally and can be used for economic gain. They include minerals, forests, fertile land, and water. Natural resources are oil, coal, natural gas, metals, stone and sand. Other natural resources are air, sunlight and soil. Animals, birds, fish and plants are natural resources as well. Natural resources are used to make food, fuel and raw materials for the production of goods. | |
| <ol style="list-style-type: none"> https://www.studynlearn.com/images/gallery/Natural_resource_types.png https://www.youtube.com/watch?v=7pPa0mRCky4 https://lh3.googleusercontent.com/V9n5WN2KfrWPnINCwy8QjcxtnZwdgtXBP2urRczpwVkB8Cx2jn6O8PbMCyeLmTH7c39QGPe_g8TDPd_G6VDwN7O6zmf0HxTyq5CLPMwRd1CGXvbTtoWH3hulZ9x9WW3Se1Q_aY6x | |

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| Pay-by-weight systems | Financial approaches to managing waste that charge prices according to the quantity of waste collected, rather than a price per pick-up or fixed annual charge. |
| Pay-by-weight allows the customer to affect their own cost for waste management; less waste generated equals lower bill. This becomes an incentive to climb the waste hierarchy by increasing material recycling. Pay-by-weight systems may provide an incentive to reduce waste generation. | |
| 1. https://www.werswaste.ie/wp-content/uploads/2019/01/wers-pay-by-weight.jpg | 1. https://www.botek.se/en/insights/pay-by-weight/ |

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| Raw materials | Raw materials are materials or substances used in the primary production or manufacturing of goods. |
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Raw materials are materials or substances used in the primary production or manufacturing of goods. Raw materials are commodities that are bought and sold on commodities exchanges worldwide. Though all the raw materials are obtained naturally, they can be divided into 3 types based according to where it is derived from:
 Plant/tree-based – materials like vegetables, fruits, flowers, wood, resin, latex are obtained from plants and trees.
 Animal-based– materials like leather, meat, bones, milk, wool, silk are all obtained from animals.
 Mining-based– materials like minerals, metals, crude oil, coal, etc. are obtained by mining the earth.

1. https://eitrawmaterials.eu/wp-content/uploads/2018/03/03_06_CE-Draft-1.jpg
 2. https://www.youtube.com/watch?v=uRh96rvK_h0

1. <https://eitrawmaterials.eu>
 2. <https://rawmaterials.eu>
 3. https://ec.europa.eu/growth/sectors/raw-materials/industries_en

Reclaimed material

Discarded materials that are recovered and used in another process or product, requiring only minor alterations and or refinishing.

Non-Linear Thinking is thought characterised by expansion in multiple directions, rather than in one direction, and based on the concept that there are multiple starting points from which one can apply logic to a problem.

1. <https://image.slidesharecdn.com/howardqulocworkshop17052013-130516220226-phpapp01/95/slide-14-1024.jpg>

Recycling of waste

Any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes.

Recycling is the process by which salvaged materials become usable products. Specifically, the reuse of specific consumer or industrial items in order to conserve scarce materials, reduce pollution and littering and generally improve the condition of the environment. Any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations.

1. <https://cdn1.vectorstock.com/i/1000x1000/65/20/waste-recycling-infographic-concept-vector-9686520.jpg>
 2. https://thumbnails-visually.netdna-ssl.com/facts-about-recycling_547854d535997_w1500.png
 3. <https://www.mydraw.com/NIMG.axd?i=Templates/Infographics/Eco-FriendlyInfographic/Eco->

1. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Waste_statistics#Total_waste_generation
 2. <https://www.plasticseurope.org/en/focus-areas/circular-economy/zero-plastics-landfill/recycling-and-energy-recovery>

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| <p>FriendlyInfographic.png 4. https://mir-s3-cdn-cf.behance.net/project_modules/max_1200/9da75676787283.5c7467d6cad2e.jpg</p> | <p>3. https://visual.ly/community/Infographics/environment/facts-about-recycling 4. https://hummingbirdinternational.net/infographic-recycling-benefits/ 5. https://hummingbirdinternational.net/infographic-recycling-by-the-numbers/</p> |
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| <p>Recovery of waste</p> | <p>Any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy.</p> |
| <p>Recovery means any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy. Resource recovery is the extraction and utilisation of materials and energy from waste.</p> | |
| <p>1. https://suez.azureedge.net/-/media/suez-global/images/slideshow/news/infographie-energy-from-waste-sans-logo.jpg?h=495&la=en&w=880&v=1&d=20170424T160929Z&crop=1&hash=3A97B4C85D36F58217E26F411385BFDFD66E53FC</p> | |

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| <p>Redesign</p> | <p>Revise in appearance, function, or content.</p> |
| <p>Processes and assesses whether specific functions, products, and/or services should be changed or eliminated.</p> | |
| <p>1. https://4.bp.blogspot.com/-oxVAJYOgeyk/VvU9V6B5m2I/AAAAAAAAAHII/M6-hanpx1eoUUStEpWOuV7u3xYlvVzGTw/s640/design-process.png</p> | <p>1. http://www.circular-design.eu/automatisch/</p> |

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| <p>Reduce</p> | <p>The action or practice focusing on new product consumption and use of items already available.</p> |
| <p>Process of preventing or decreasing the amount being generated through waste prevention, recycling, or purchasing recycled and environmentally preferable products. Reducing waste - reduce impact on the environment. "Reduce" involves product consumption using re-usable items and composting at home.</p> | |
| <p>1. https://cdn3.vectorstock.com/i/1000x1000/70/67/infographic-on-how-to-reduce-plastic-waste-vector-31897067.jpg 2. https://www.lessplastic.org.uk/wp-</p> | <p>1. https://www.epa.gov/recycle/reducing-waste-what-you-can-do 2. https://clark.wa.gov/sites/default/files/d</p> |

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| content/uploads/2018/09/9-Ways-You-Can-Reduce-Ocean-Plastic-21cm.jpg | ept/files/public-health/SWEO/SWMP/Chapter4-1-5-15.pdf |
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| Remanufacture | Process of recovery, disassembly, repair and sanitizing components or parts for resale and reuse. |
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Rebuilding of a product to specifications of the original manufactured product using a combination of reused, repaired and new parts. It requires the repair or replacement of worn out or obsolete components and modules. Remanufacturing is a comprehensive and rigorous industrial process by which a previously sold, worn, or non-functional product or component is returned to a "like-new" or "better-than-new" condition and warranted in performance level and quality.

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| 1. https://www.youtube.com/watch?v=um0IJ88i2ks | 1. https://www.remanufacturing.eu/about-remanufacturing.php 2. https://www.ceguide.org/Strategies-and-examples/Make/Remanufacturing |
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| Renewable energy source | Energy sources that do not rely on fuels of which there are only finite stocks. The most widely used renewable source is hydroelectric power; other renewable sources are biomass energy, solar energy, tidal energy, wave energy, and wind energy. |
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Renewable energy examples:
 Geothermal energy – heat emitted from within the Earth’s crust as hot water or steam and used to generate electricity after transformation;
 Hydro energy – potential and kinetic energy of water used to generate electricity;
 Solar energy – solar radiation used for hot water production and electricity generation (does not include passive solar energy to heat and cool buildings etc.);
 Tidal/ocean/wave energy– mechanical energy from water movement used to generate electricity;
 Wind energy – kinetic energy of wind motion used for electricity generation using turbines

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| 1. https://www.youtube.com/watch?v=1kUE0BZtTRc 2. https://www.youtube.com/watch?v=KEeH4EniM3E | |
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| Reuse | The use of a product more than once in its original form, for the same or a new purpose |
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The second pillar of the waste hierarchy - recovering value from a discarded resource without reprocessing or remanufacture e.g. clothes sold through opportunity shops strictly represent a form of re-use, rather than recycling.

1. <https://www.tandfonline.com/doi/abs/10.1080/09669582.2016.1206553>

3Rs

Sustainability principle based on 3 components - reduce, reuse, recycle

Used by society and population in general in a more informal way. Waste Hierarchy is used by researchers and the European Union in formal contexts.

1. https://www.youtube.com/watch?v=ado_tbsDGacw 2. <https://www.youtube.com/watch?v=u8MQwOR2og8> 3. <https://www.youtube.com/watch?v=i4a7aeA8F60>

1. <https://onlinelibrary.wiley.com/doi/10.1002/bse.2809?af=R> 2. <http://www.secheresse.info/spip.php?article96768> 3. <https://www.green-tourism.com/documents/view/98250bc4-5bf0-4eaf-a49e-c2adeaea7140>

4Rs

Sustainability principle based on 4 components - reduce, reuse, recycle, recover (energy). Sometimes also "renew" or "rot" (as in composting and making biogas).

Used by society and population in general in a more informal way. Waste Hierarchy is used by researchers and the European Union in formal contexts.

1. <https://www.youtube.com/watch?v=L5gyO7asuuw>

1. <https://www.trvst.world/sustainable-living/importance-of-4rs-refuse-reduce-reuse-recycle/>

5Rs

Sustainability principle based on 5 components - reduce, remanufacture, reuse, recycle, recover. Or refuse, reduce, reuse, recycle, restore, or other based on activity.

Used by society and population in general in a more informal way. Waste Hierarchy is used by researchers and the European Union in formal contexts.

1. <https://www.youtube.com/watch?v=SoX5qBpdnll> 2. <https://www.youtube.com/watch?v=hz0eMWUH Jg> 3. <https://www.youtube.com/watch?v=sVtjRKO GgUE>

1. <https://www.roadrunnerwm.com/blog/the-5-rs-of-waste-recycling> 2. <https://cleanmanagement.com/blog/the-importance-of-the-5rs-of-waste-management/> 3. <https://earthchangers.medium.com/plastic-free-travel-5rs-for-more-sustainable-tourism-b88c61064075>

Sustainability

Human practices that do not result in the permanent damage, alteration or depletion of

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| | the environment, ecosystems, species or natural resources. |
| Also defined as meeting the needs of the present without compromising the ability of future generations to meet theirs. It has 3 main pillars: social, economic and environmental. | |
| 1. https://www.youtube.com/watch?v=5r4loXPyx10 | 1. https://www.investopedia.com/articles/investing/100515/three-pillars-corporate-sustainability.asp |

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| Sustainable Tourism | Refers to addressing the needs of visitors, the industry, the environment and host communities while at the same time taking into account of its current and future economic, social and environmental impacts. |
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| 1. https://www.youtube.com/watch?v=efgmEbjbGR9 2. https://www.youtube.com/watch?v=AMlG-c1hXEE | 1. https://www.unwto.org/sustainable-development 2. https://www.thetravelfoundation.org.uk/resources-categories/what-is-sustainable-tourism/ |

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| Waste | Any material (liquid, solid or gaseous) that is produced by domestic households and commercial, institutional, municipal or industrial organisations, and which cannot be collected and recycled in any way for further use. For solid wastes, this involves materials that currently go to landfills, even though some of the material is potentially recyclable. |
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| 1. https://www.youtube.com/watch?v=efgmEbjbGR9 2. https://www.youtube.com/watch?v=AMlG-c1hXEE | 1. https://www.unwto.org/sustainable-development 2. https://www.thetravelfoundation.org.uk/resources-categories/what-is-sustainable-tourism/ |

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| Waste management | Practices and procedures that relate to how the waste is dealt with. |
| There are 8 types or categories of waste management: source reduction and reuse, animal feeding, recycling, composting, fermentation, landfills, incineration, and land application. | |

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| | 1. https://www.conserve-energy-future.com/waste-management-and-waste-disposal-methods.php |
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| Waste reduction | Measures to reduce the amount of waste generated by an individual, household or organisation. |
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| 1. https://www.youtube.com/watch?v=1TDC-Zud_uM | |
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| Zero waste | Turning waste into resource; the redesign of resource-use so that waste can ultimately be reduced to zero; ensuring that by-products are used elsewhere and goods are recycled, in emulation of the cycling of wastes in nature. |
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Zero waste in tourism goes both sides. Local entities have to create initiatives to promote it and make it easier for the tourist while the tourist has to be familiar with the term and willing to collaborate. A common misconception is that zero waste means more recycling, when it actually means less.

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| 1. https://www.youtube.com/watch?v=YeLAoYFJaDs 2. https://www.youtube.com/watch?v=kWnsmzSSgdl | 1. https://ecotourism-world.com/zero-waste-initiatives-in-2020/ |
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Best practices of Circular Tourism

How to read good practice

Categories:

Reuse: Reuse product items and packaging.

Reduce: Reduce waste and use non-recyclable products.

Rethink: Use innovative approach regarding use of natural resources.

Repurpose: Repurpose, repair, upcycle used items

Relocate: Local products and suppliers

Restore: Engage in environmental protection/ nature conservation

Indicators:

Evaluate what aspects comply with the principles of Circular Tourism.

What makes this the best practice example? For example: nature activities, accommodation, transportation, catering, other

Brief Description:

A brief but concise description of the best practice

Key Terms:

Cross reference with the related glossary term (if there is one)

Objectives:

Presentation of the best practice objectives

Detailed description:

Detailed description of the best practice

Impact:

Impacts of the best practice on environment (local, nation, EU?)

Summary:

Why others should implement this practice?

Reduce

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| <p>Fruits and vegetables have the highest wastage rate. This problem was also observed by the owner of "Vecpapāni" who is engaged in retail trade of fruit and vegetables.</p> <p>To reduce food waste, dried fruit and vegetable chips and berry wine was created as a by-product.</p> | <p>"Vecpāpani", Ranka, LV-4416, Latvia</p> |
| <p>Objectives:</p> <ol style="list-style-type: none"> 1. To reduce food waste 2. To create new products 3. To create new employment opportunities | <p>Rural tourism and food production</p> <p>Local impact:</p> <ul style="list-style-type: none"> - Food loss and waste has been reduced - New employment opportunities have been created - Cooperation with local businesses |
| <p>Fruits and vegetables which do not meet the market standards or are bruised are given second chance and are turned into dried chips and wine.</p> <p>Fruit trees and raspberries are grown in the farm. Dried chips are made from apples and home wine is made from various fruit and berries (raspberries, black currant, apples) as a by-product.</p> <p>No food is going to waste, all products are organic and locally grown and hand-picked. After production, fruit leftovers are composted to be used as fertiliser to grow future products. Wine bottles can be refilled and reused.</p> <p>The farm also offers a guest house, camping sites and sauna where one can relax with his family or friends in a cosy place to enjoy the rural side of north-eastern Latvia. Relaxation at nature, looking at domestic birds, fruit and raspberry gardens, fishing is offered. They also offer hikes on a nature trail created by them which leads to interesting stones.</p> | <p>Keywords:</p> <p>Food waste; Rural tourism; By-product; Environment</p> |
| <p>Food waste is a serious issue because almost half of the produced fruits and vegetables are wasted. Everyone should do their best to prevent this from happening.</p> | <p>Click here for more information</p> |

Rethink

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| <p>The QO was born of the need to stop the wasteful, one-use approach to hospitality. Instead, the hotel is embracing a sustainable, circular approach as the only way to create a genuinely positive impact – for both people and planet.</p> | <p>Amsterdam, Netherlands</p> |
| <p>Objectives: The objective of a system based on the circular economy is to reduce the consumption of resources as much as possible through the reuse of everything that's available and by minimising waste. In its management of water, one of the most important resources for any hotel, the QO adheres to very high standards.</p> | <p>Accommodation</p> <p>Impact: The QO is a living building where loops are closed: CO2, water, energy, and waste.</p> |
| <p>The key ways in which the QO moved away from single-use and into circularity:</p> <ul style="list-style-type: none"> - Using natural and existing resources to the greatest possible extent; a third of the used concrete came from the old Shell tower, and carpets are made from 100% recycled yarn from fishing nets. - Sourcing materials and consumables created locally, - Urban farming system on the 21st floor, providing fresh ingredients for the restaurant and bar - Long-lasting instead of disposable items; stone paper packaging for amenities - Reusing, repurposing or recycling at every opportunity, even grey water is filtered and reused to flush WCs | <p>Keywords: Environmental Sustainability, Natural resources conservation, Non-linear/circular thinking</p> |
| <p>Sustainability' in its widest sense. The challenge was to deliver a high-end hotel meeting the requirements of both business and leisure travellers while still demonstrating a sensitivity to nature in every aspect of its operations. The uniqueness of this project lies in its overall circular design and the integration of its green principles in all parts of the hotel – from architecture to public areas and the room.</p> | <p>Click here for more information</p> |

Relocate

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| <p>The catering sector has a great influence on the adoption and dissemination of the concept of the proximity market, Km 0, Farm to Fork (Green Deal). The choice of suppliers based on these conditions is a factor of sustainability.</p> | <p>Calle Herrero, 33 bajo A. 12005 Castelló, Spain</p> |
| <p>Objectives:</p> <ol style="list-style-type: none"> 1. Support traditional cuisine; 2. Provide proximity; 3. Implement education in values; 4. Feeding the future; 5. Promote healthier living | <p>Impact:</p> <ul style="list-style-type: none"> - Health and well-being - Responsible production and consumption - Cooperation with local businesses |
| <p>The raw materials used to prepare the menus come from products selected for their sustainability and proximity to the point of consumption, with the aim of improving their quality, respect for the environment and social sustainability, developing networks of sustainable rural businesses that favour the stability of the rural population. In addition, the health and education of its customers are also objectives.</p> | <p>Keywords:</p> <p>life cycle; seasonal products; Km 0; Farm to Fork; sustainability; education; reduction of food waste</p> |
| <p>The HORECA sector is responsible for the generation of a significant part of the impacts related to food production. Its control is essential to improve sustainability.</p> | <p>Click here for more information</p> |

Rethink

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| <p>4-star Danish hotel and conference centre with 92 rooms, established in 2009 based on a holistic approach to sustainability and circularity, integrated in almost all aspects of its operation. The environmental initiatives cover a variety of accommodation, food, energy and water-related aspects of hospitality services.</p> | <p>Hotel Green Solution House, Denmark</p> |
| <p>Objectives:</p> <ol style="list-style-type: none"> 1. establish a "selling point" of the hotel as a 'living lab' 2. exposition of the latest technological, 3. organisational and other sustainable and circular developments in the building industry | <p>Impact: As a pioneering green hotel, GSH has inspired widespread technological communities and their development, adaption and implementation of the many green solutions have been carried out through close interaction between GSH and its diverse technology and service suppliers.</p> |
| <p>Hotel Green Solution House (GSH) is an example of a traditional hotel, built in the 1960s that is transitioning into a refurbished cradle-to-cradle modern hotel. Thus in an existing building that in and of itself presents a series of opportunities and challenges. 75 new or adapted 'green solutions' encompassing circular energy and water systems, upcycled furniture, reusable carpets, curtains and paints, elimination of food waste, local supplies of foods and building materials, and interaction with the surrounding landscape and biotopes.</p> <ul style="list-style-type: none"> - Self-production energy: solar thermal system, on-site pyrolysis plant to provide both electricity and heat - Energy generating Skylights - Biological Water Purification - Clean Air Active Materials - Upcycled Furniture - Gabriel Fabrics - Intelligent Indoor Climate | <p>Keywords: circular tourism, ecodesign thinking, green products and services, environmental sustainability</p> |
| <p>GSH shows that the transition to CT is potentially possible for many hospitality structures. Most of the 'green solutions' implemented in GSH are known technologies slightly adapted to local conditions and needs, and only few (such as the energy generating skylights) are truly new solutions developed specifically on the demand of GSH.</p> | <p>Click here for more information</p> |

Rethink

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| <p>Hotel use energy, water, and environmental design strategies to maintain their ecological footprint, hold environmental conversations to raise awareness, and use natural materials in all their spaces.</p> | <p>France and England</p> |
| <p>Objectives:</p> <ol style="list-style-type: none"> 1. Reduce waste 2. Keep an ecological footprint 3. Use recycled materials 4. Innovate approaches | <p>Accommodation, Environment, Energy, Awareness, Resources.</p> |
| <p>Hotel implement a wide range of energy, water and environmental design strategies to keep our footprint small.</p> <ul style="list-style-type: none"> -they try to have conversations about the environment and our role in protecting it in order to raise awareness. -From air and water filtration systems, to biophilic design principles and the use of natural materials in all our spaces, they put health and wellness at the center of design, construction, facilities and operational decisions. | <p>Impact:</p> <p>Reduction of environmental impact, resilience and continuous improvement of performance, responsibility for food and drink, Reduction of plastics</p> |
| <p>To maintain their ecological footprint, hotels take these measures to reduce their environmental impact and promote sustainability.</p> | <p>Keywords:</p> <p>Circular economy, best practices, environment, natural materials</p> <p>Click here for more information</p> |

Rethink

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| <p>“Pavāru māja Līgatnē” is a wild and slow food restaurant and the owner grows the ingredients by himself and uses only local and seasonal products.</p> <p>They organise also birdwatching, beekeeping, permaculture activities, and other environmental workshops.</p> | <p>“Pavāru māja Līgatnē”, Pilsoņu iela 2, Līgatne, LV-4110, Latvia</p> <p>Rural tourism Restaurant service</p> |
| <p>Objectives:</p> <ol style="list-style-type: none"> 1. To grow its own products 2. To use local and seasonal products 3. To consume nature's bounties so that the biodiversity is preserved 4. To use products that come from responsible farming and fishing 5. To use every single part of the product in cooking 6. To explore unique tastes of the natural foods in cooperation with wildlife experts | <p>Local impact:</p> <ul style="list-style-type: none"> - Reduced transportation emissions - New employment opportunities have been created - Cooperation with local businesses - Biodiversity is preserved |
| <p>Each time of the year provides different bounties and flavors. They cook using seasonal and pure farm-grown and wild products, so that you can enjoy an unforgettable flavor adventure.</p> <p>The garden surrounding Pavāru māja is an opportunity to stop, listen and learn about nature — bird songs, bug hotels, butterfly-attracting flowers and bushes, raised beds of herbs and vegetables. It's a place where you can rewind and see things from a new perspective; and where children can run wild and have fun on the swing set.</p> <p>Pavāru māja is located in the historical center of Līgatne paper mill, on the riverbank, surrounded by high trees and hills. The building has long been important for the people of Līgatne — it was built in 1901 as the maternity home "Wilhelma". The owner of the restaurant is proud to have renovated this house, being able to keep it alive and tell the story of Līgatne history.</p> | <p>Keywords:</p> <p>Parmaculture; Responsible business; Local suppliers; Biodiversity</p> |
| <p>This restaurant is a new environment to gain a fresh outlook on life, inspiration and share memorable moments in a close group. The restaurant offers menu made from seasonal and local products, and they pay particular attention to reducing food waste as they use every single part of the product in cooking.</p> | <p>Click here for more information</p> |

Restore

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| <p>Villages Nature Paris is a major innovation in sustainable tourism in Europe. Every detail has been designed to minimize the site’s ecological footprint with an important focus on the reduction of carbon footprint. Its Sustainable Action Plan is based on concrete targets for construction and operation, over the 10 One Planet Living principles.</p> | <p>Paris, France</p> |
| <p>Objectives: Villages Nature Paris is the first in a new generation of resort destinations, close to major metropolitan areas, easy to get by train or car, and firmly committed to a transition towards renewables energy and sustainability with the ambition of becoming a neutral carbon destination.</p> | <p>Destination</p> <p>Impact: It provides a simple way to plan, deliver and communicate sustainable development, so that projects and organisations support local communities and promote healthy, happy lives while respecting the planet’s natural limits. Also, more than 600 jobs created including 75% from Seine et Marne, plus a further 1,600 jobs supported in the local area.</p> |
| <p>Other sustainability features of this project include:</p> <ul style="list-style-type: none"> • Major works to create habitat and enhance biodiversity on site – planting 28,800 trees and 430,000 other plants including 2.5 miles of lake banks planted with natural vegetation. Many of the buildings have extensive green walls and roofs. • Less than 10% of the entire 259 hectare area, formerly low-biodiversity, intensively cultivated farmland, is being built on. • Extensive use of timber, a carbon-storing material, in the visitor accommodation and the Aqualagon, with all of the timber used in construction coming from certified managed forests in Europe. The Aqualagon also used low-carbon concrete. • Visitors can easily travel from hundreds of miles away by public transport, and also use it to visit the French capital. The resort has plans for a large share of its visitors to travel without using their cars. | <p>Keywords: biodiversity</p> |
| <p>This action plan addresses the three pillars of sustainable development (environmental performance; community and local economic impact; and guests and employees health and happiness) and the progresses are evaluated every year by a public governing body. The “Zero Carbon” target is one of the major highlights of the Sustainable Action Plan. The strategy to reach this ambitious objective relies on four main levers of action: build high performance buildings, maximize the use of renewable energy, favour low carbon material for construction (for example to choose low-carbon concrete and eco-friendly wood) and ease access by low-carbon public transportation means.</p> | <p>Click here for more information</p> |

Rethink

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| <p>Rural tourism establishments in developing countries should aim to meet sustainability criteria to avoid making the mistakes of developed countries.</p> | <p>Guanacascos Hotel & restaurant. Avda. Eleuterio Galeano Trejo. Gracias Lempira. Honduras</p> |
| <p>Objectives:</p> <ol style="list-style-type: none"> 1. Reduce consumption of drinking water; 2. Reduce consumption of shampoo and soaps; 3. Reduce consumption of plastics; 4. Selective sorting and recycling of organic waste. | <p>Rural tourism. Hotels in developing countries</p> <p>Impact:</p> <ul style="list-style-type: none"> - Clean water and sanitation (water footprint reduction); - Reduced water waste - New employment opportunities have been created - Implemented responsible production and consumption |
| <p>Hotels in rural areas in developing countries are a real possibility for economic development. It is important that sustainability conditions are observed in their implementation, so that they are also tools for disseminating the values of sustainability among the community and clients. It is also important to prevent them from becoming centres of negative impacts by learning from experiences in developed countries.</p> | <p>Keywords: sustainability; rural tourism; economic development</p> |
| <p>Sustainable hotel development in developing countries has an important multiplier effect on environmental and social aspects.</p> | <p>Click here for more information</p> |

Reduce

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| <p>A Belgian chain of 14 hotels in 9 cities. Martin's Hotels unite their environmental efforts under the slogan "Tomorrow needs today". Their initiatives are primarily a waste and energy reduction scheme that aims to close resource loops and completely de-sign out waste. The company collaborates with its suppliers in this transition.</p> | <p>Martin's Hotels, Belgium</p> |
| <p>Objectives: To implement ambitious reduction of ecological footprint for a medium sized hotel chain and to initiate substantial change by carefully selecting suppliers and collaborating with them over a longer period.</p> | <p>Accommodation, Catering, Water and Waste</p> <p>Impact: EMAS award 2017. Setting a green example of "Supply Chain Management" in CT.</p> |
| <p>Martin's Hotels' Circular waste treatment focusses on separating different types of waste in order to increase their reuse value such as:</p> <ul style="list-style-type: none"> - separating and collection of used oils in the kitchen. - reuse or recycling of electronic waste - repair of carpets, changing only worn-out parts - linen leasing and eco-friendly laundry services. <p>According to their environmental report, Martin's interact with 5 collaborators for different types of waste treatment.</p> | <p>Keywords: Waste management, 3Rs</p> |
| <p>The case shows how important developing an ambitious circular business model is for firms and that transitioning toward a circular economy takes place in steps and may require business plans that span several phases.</p> <p>Demonstrating that although many initiatives may be beyond reach in the present, the re-imagining of the ho-tel's 'green' efforts lies at the heart of real change.</p> | <p>Click here for more information</p> |

Reduce

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| <p>Hotel that uses measures to control and reduce energy and water consumption.</p> | <p>Portugal</p> |
| <p>Objectives:</p> <ol style="list-style-type: none"> 1. Reduce energy costs 2. Reduce water consumption 3. Reduce environmental impact 4. Increase the level of sustainability | <p>Accomodation, Energy, Water</p> <p>Impact:</p> <ul style="list-style-type: none"> -Reduction of electric energy, -Reduction of water use, -Provides work to local market |
| <p>The hotel won the Sustainability Award in 2015, it has sustainable tourism. It uses an innovative process to capture and treat sea water and waters the garden with this water. It has partnerships with local artisans, from whom they have purchased handmade bathroom towels and ceramics.</p> <p>It has in its possession solar panels that are used to produce power and water.</p> | <p>Keywords: Best practice; solar energy; sustainability</p> |
| <p>Innovation in this sector allows reducing the environmental impact, promotes sustainability, and the hotel itself has less expenses with these aspects (energy, water).</p> | <p>Click here for more information</p> |

Restore

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| <p>The horse ranch "Klajumi" has almost 100 years of history. Several houses are offered for overnight stays. Most of them are antique houses that have been renovated using natural materials. The most environmentally friendly is the house "Krasti". It is a 104-year-old log house equipped with solar energy, well water and an aura of peace. They also offer horse riding, reittherapy, and other services.</p> | <p>Horse ranch "Klajumi", Krāslavas county, LV-5668</p> |
| <p>Objectives:</p> <ol style="list-style-type: none"> 1. To raise awareness of environmental resources 2. To use solar energy in their farm 3. To maintain the Latvian heritage by offering traditional bathhouse services and birch besoms 4. To promote rural tourism | <p>Rural tourism. Reusable energy. Solar batteries</p> |
| <p>There is almost 100 years history of the horse ranch "Klajumi". In 1936 with the governmental support to strengthen the Latvian eastern border, a young farmer Janis Stabulnieks established a farm near the Latvian-Belarusian border and gave it the name "Klajumi" – in translation "fields" – because he did himself made fields free from brushes and built new brick buildings. They offer several houses for overnight stays and also sauna and black sauna services. One of the guest houses is suitable for people with special needs, and one guest house uses solar energy and water from the well. They have horses and they offer horse riding, reittherapy and other services. Upon reservation, it is possibly to order dishes of Latgale culinary heritage.</p> | <p>Local impact:</p> <ul style="list-style-type: none"> - The use of renewable energy - Promotion of rural tourism - Raising awareness of environmental resources |
| <p>Nowadays both old and new generations are working to save culture and historical heritage and nature's values. It is necessary to think about ways how to save the cultural heritage, and it can be done through rural tourism, restoring old buildings, preserving traditions, and other ways. In addition, it is important to be aware of the available resources and to use renewable ones when possible.</p> | <p>Keywords: Renewable energy; Redesign</p> |
| <p>Nowadays both old and new generations are working to save culture and historical heritage and nature's values. It is necessary to think about ways how to save the cultural heritage, and it can be done through rural tourism, restoring old buildings, preserving traditions, and other ways. In addition, it is important to be aware of the available resources and to use renewable ones when possible.</p> | <p>Click here for more information</p> |

Recycle

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| <p>Framed by its commitment to caring for the Planet, NH Hotel Group has reinforced its flagship circular economy initiative – CORK2CORK – thanks to which it gives a second life to the cork stoppers collected at the restaurants located in some of the Company’s hotels.</p> | <p>Spanish hotel chain, with hotel all around the world</p> |
| <p>Objectives: The goal of the project is to recover and recycle the cork stoppers from wine bottles in order to provide them with a new application, specifically converting them into covering and insulation materials for subsequent use in building new rooms. In addition to acting as a heat insulator, this recycled material reduces noise pollution and the need for artificial temperature control, thus enhancing the rooms’ and overall hotel’s energy efficiency.</p> | <p>Accommodation</p> |
| <p>It is a pioneering initiative in the European hotel sector which dates back to 2011, when NH Hotel Group conceived of the idea together with the leading producer of cork and cork covering materials, Amorim. Encouraged by the strong results to date, having collected 1,994 kilograms of cork for reuse in the construction of 300 new rooms (around 8,000 sqm), the Group is looking to step up the programme by collecting not only cork stoppers but also other hotel products for recycling and utilisation.</p> | <p>Impact: Thanks to CORK2CORK, the emission of 37,221 kilograms of carbon dioxide has been avoided since 2011, thus contributing to the configuration of a low carbon economy.</p> |
| <p>Natural cork is a material which, duly recovered and reprocessed, can be reused to make wall and floor coverings and powerful insulation materials which reduce buildings’ noise pollution and artificial heating and cooling requirements, thereby making them more energy efficient. In addition to these construction applications, recycled cork can also be used to make numerous products, including products for the aeronautics, fashion and furniture industries.</p> | <p>Keywords: Recycle, Recover</p> <p>Click here for more information</p> |

Reduce

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| <p>The family beach tourism hotel sector has an important economic and environmental impact on the Spanish coast. The adoption of sustainability measures is essential to maintain its leading position.</p> | <p>Hotel Voramar, Paseo Marítimo Pilar Coloma, 1. 12560 Benicàssim, Castellón, Spain</p> |
| <p>Objectives:</p> <ol style="list-style-type: none"> 1. Reduce energy consumption from non-renewable sources; 2. Reduce carbon footprint; 3. Reduce use and consumption of natural resources; 4. Minimise landfill and waste generation. | <p>Impact:</p> <ul style="list-style-type: none"> - Clean and clean energy (solar panels and collectors); - Responsible production and consumption (reducing landfills and waste). |
| <p>This coastal hotel dedicated to family tourism, through its sustainability plan, has developed five lines of environmental action.</p> <p>Adoption of energy efficiency measures through the installation of photovoltaic panels and thermal energy collectors; employee training in good practices; strategic plans for the selection of environmentally friendly materials; environmentally friendly production of vegetables; relations with stakeholders to promote the circular economy; labour equality policies.</p> | <p>Keywords:</p> <p>sustainability; family tourism; economic development; energy efficiency</p> |
| <p>Coastal hotels represent a sector with a strong presence in Spain, and their number makes it advisable to adopt measures to ensure that they are more respectful of the environment in order to preserve and conserve their commercial product, which is their surroundings.</p> | <p>Click here for more information</p> |

Repurpose

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| <p>A bio-based circular economy project that organises the transfer of expertise on the best available technologies and cooperation models. It features a Good practice by the Bio&Co, a Romanian NGO that collects food waste and crop residues to make compost, which is used in organic farming.</p> | <p>BIOREGIO, Sud - Muntenia, Romania</p> |
| <p>Objectives:</p> | <p>Environment & Resource Efficiency</p> |
| <p>Huge amounts of food are wasted even before reaching consumers and are discarded by supermarkets, usually going to landfills. Also, a large proportion of domestic waste is made up of bio-degradable materials, which could be recycled through composting.</p> <p>The Bio&Co good practice started in 2015 in Ciocanari, Dambovita county, with technical support from Réseau Cocagne, France. Bio&Co collects waste food from supermarkets, hotels and restaurants on a 1000 m2 composting platform. The compost is used in the Bio&Co's organic farm and greenhouse and the produce is delivered via a short supply chain to customers, mainly in Bucharest.</p> | <p>Impact: Positive impact on the social and workforce integration of extremely disadvantaged people, responsible waste management and environmental protection, and solidarity and responsibility for sustainable development.</p> |
| <p>Considering the similarly large amounts of food discarded from supermarkets and restaurants across the rest of Europe, there is huge potential for replication or adaptation of this good practice, reducing waste and promote the circular flow of organic materials, as well as creating green jobs for unemployed people in these areas.</p> | <p>Keywords: waste management, biodegradable, waste reduction</p> <p>Click here for more information</p> |

Reduce

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| <p>FeelViana was awarded the European Union Eco-label (EU Ecolabel). The attribution of this label of environmental excellence, recognized throughout Europe and the world, reflects our active policy of using renewable energy sources, saving energy and water, reducing waste and improving the local environment.</p> | Portugal |
| <p>Objectives:</p> <ol style="list-style-type: none"> 1. Use of renewable energy 2. Energy and water savings 3. Implementation of waste reduction activities 4. Improvement of the local environment. | <p>Accommodation, Energy, Water</p> <p>Impact:</p> <ul style="list-style-type: none"> - Energy-efficient space heating and water heating appliances; - Waste prevention - Waste sorting and sending for recycling - Use of organic and local products - Energy-efficient air conditioners and heat pumps |
| <p>FeelViana believe that reducing emissions and adapting to climate change are essential to the System's collective success and resilience, and that this will increase long-term business value by ensuring sustainable energy supply, improving security of supply of raw materials, and reducing exposure and increased environmental risks.</p> | <p>Keywords: Environment, reduction of gas emission, sustainability; Solar energy</p> |
| <p>These planned measures promote sustainability and being an organization of enormous search, being located in the most diverse locations is an asset to the environmental world.</p> | <p>Click here for more information</p> |

Rethink

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| <p>Getliņi EKO is the largest municipal solid waste landfill in the Baltic states.</p> <p>Since 26 October 2015, biodegradable waste has been used for production of biogas, meanwhile materials and metal products useful for processing have been delivered to companies engaged in the recovery and recycling of these materials.</p> | <p>SIA Getlini EKO, Kaudzīšu iela 57, Rumbula, LV-2121, Latvia</p> <p>Household waste landfill</p> |
| <p>Objectives:</p> <ol style="list-style-type: none"> 1. To use the biogas obtained as a by-product for growing vegetables 2. To use the landfill gas to produce electricity which is then sold to the local electricity company | <p>Impact:</p> <ul style="list-style-type: none"> - Rethinking how to reduce waste coming from the actual waste brought to the landfill |
| <p>SIA Getliņi EKO produces heat as a by-product, the use of which is limited. Their attitude to environmental safety does not allow them to simply release the heat “into the air”, so they constructed greenhouses and grow vegetables in them, since the heat they produce is relatively cheap.</p> <p>Modern greenhouses that are 5.5 m high and span a total area of 11,412 m² are built in the territory of SIA Getliņi EKO landfill. Greenhouse plants occupy an area of 10,512 m² and amount to 25,000 seedlings planted. Annually, SIA Getliņi EKO produces about 500 tonnes of tomatoes.</p> <p>The greenhouses are equipped with climate control facilities which provide the conditions necessary for growing plants. Cultivated plants are grown in mineral wool and hung in planting beds positioned 70 cm above the ground level. The nutrition for the plants is provided with the assistance of computerised fertiliser mixing and dosage programme which provides plants with the necessary nutrients.</p> | <ul style="list-style-type: none"> - Creation of new workplaces - Selling locally grown vegetables <p>Keywords: Circular economy; Biodiversity; By-product; Waste management</p> |
| <p>SIA Getliņi EKO has been growing tomatoes since 2011, providing them during the season when healthy local vegetables are hardly available in Latvia. Every year their tomato marketing season begins in November and continues until August. When buying locally grown vegetables, the carbon footprint is reduced and the people are able to get locally grown food.</p> | <p>Click here for more information</p> |

Redesign

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| <p>Established to promote lifestyles that are in harmony with nature, the Ladybird Farm leisure centre in Hungary aims to mitigate this by reducing visitors' environmental footprint. Over the past 10 years it has developed a wide ranging sustainability concept and now attracts 65 000 people a year.</p> | <p>Patca, Hungary</p> |
| <p>Objectives: Help to spread the concept of sustainability more widely among the public.</p> | <p>Destination</p> |
| <p>Aware of the responsibility of each individual – and business – to preserve the natural environment, Ladybird Farm's owners and its 15 employees promote sustainability and the circular economy to visitors in a practical and easily understandable way. The idea is that, even if visitors only retain one or two things, their visit will help to spread the concept of sustainability more widely among the public. The farm's Pay by Waste scheme is another example of promoting the concept of the circular economy. It allows visitors to pay part of their entrance fee in household waste such as plastic, aluminium or paper, giving them a financial incentive to act sustainably and a new idea of waste – that of a product with monetary value.</p> | <p>Impact: The 100 attractions operate with only renewable energy produced on site</p> |
| <p>The importance of raising awareness of sustainability is underlined by the farm's location in Hungary's South Transdanubia region, where circular economy issues have not always had as high a profile as in other parts of the EU. Although Hungary has made great strides in areas such as household waste recycling, selective waste collection is still not as widely practised as it could be.</p> | <p>Keywords: Redesign</p> |
| <p>The importance of raising awareness of sustainability is underlined by the farm's location in Hungary's South Transdanubia region, where circular economy issues have not always had as high a profile as in other parts of the EU. Although Hungary has made great strides in areas such as household waste recycling, selective waste collection is still not as widely practised as it could be.</p> | <p>Click here for more information</p> |

Reuse

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| <p>The hotel sector produces a significant amount of waste which, through selective collection and subsequent treatment for reuse, saves resources.</p> | <p>CATALONIA Hotels & Resorts, México</p> |
| <p>Objectives:</p> <ol style="list-style-type: none"> 1. Avoidance of environmental pollution; 2. Reduction of the carbon footprint associated with transport and waste disposal; 3. Improvement of the establishment's image in the eyes of guests and the local population. | <p>Hotel and resort chains, multiplier effect</p> |
| <p>As part of the implementation of its sustainability plan, the hotel chain has developed rules to encourage reuse through the collection and subsequent treatment of various materials. Reuse is carried out in two ways, one internal and the other external through a contracted company. The elements and materials that are subject to reuse and recycling are: PET, hard plastic, paper, cardboard, glass, cans, scrap metal and Tetrapack-type laminated packaging. These measures are accompanied by training courses and workshops for employees and information points for customers.</p> | <p>Impact:</p> <ul style="list-style-type: none"> - Reduction of electric energy -Reduction of water use, -Provides work to local market - Economic benefits through cost reduction and income generation; |
| <p>The application of environmentally friendly measures in hotel chains with a strong market presence is important because of its high multiplier effect.</p> | <p>Keywords: recycling of waste; environmental training; cost reduction</p> <p>Click here for more information</p> |

Rethink

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| <p>FRUSH is an annual circular economy business, expertise and funding event held in September in the city of Forssa, Finland.</p> | <p>Forssa, Finland</p> |
| <p>Objectives: To help new innovations and start-ups to find investors to get their ideas and/or products launched.</p> | <p>Networking, Event, Fundraising</p> |
| <p>The FRUSH event aims to boost the development of growth and start-up enterprises and create and promote new business opportunities around circular economy. The FRUSH model includes speeches by respected professionals, decision makers and innovators; workshops etc. for students to encourage them to develop Circular Economy and Industrial Symbiosis; a pitching competition for startups to find investors; B2B matchmaking meetings; exhibitions of new innovations and products based on CE; international events for exchanging experiences and to develop collaboration. FRUSH has been arranged two times. The feedback was encouraging: the number of participants in 2018 was quadruple from 2017 and plenty of participants announced their interest to join the event in 2019 as well. The event is annually growing and getting more international as well.</p> | <p>Impact: - Community awareness raising - Cooperation with local businesses</p> |
| <p>As new innovations and start-ups are in difficulties to find investors to get their ideas and launched, FRUSH is an event organized by 2 important institution: Häme University of Applied Sciences (HAMK) and Forssa Business Development Ltd (FYKKI) to boost the development of growth and start-up enterprises.</p> | <p>Keywords: Circular economy, best practice</p> <p>Click here for more information</p> |

Reuse

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| <p>A network of powerful electric scooters and an ecological car park. Fiqsy electric scooter and Fiqsy e-Auto will be the real helpers for easy and fast short distances within the city limits. This Latvian company offers electric cars and scooters in order to help reduce CO2 emissions and also air and noise pollution.</p> | <p>Riga, Latvia</p> |
| <p>Objectives:</p> <ol style="list-style-type: none"> 1. Car sharing 2. To reduce air and noise pollution 3. To reduce CO2 emissions | <p>Short-term rent of electric cars and scooters</p> |
| <p>The 100 % electric cars and scooters get all their power from rechargeable batteries, which means they have no internal combustion engine and produce zero emissions while driving. Air and noise pollution are at an all-time high and will only get worse if nothing is done. Electric driving is the first step in helping our environment regenerate and grow. This Latvian company strives to make Riga more clean and quiet, so they offer electric vehicles to share.</p> | <p>Local Impact:</p> <ul style="list-style-type: none"> - Reduced fuel consumption - New employment opportunities have been created - Cooperation with local businesses |
| <p>Sharing a ride is easy, environmentally friendly and promotes sustainable actions. Fiqsy cars and scooters are available all around city. Take - use - leave it for the next one.</p> | <p>Keywords:</p> <p>Circular economy; Emissions;</p> <p>Click here for more information</p> |

Reduce

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| <p>Natural Habitat Adventures intention is to encourage and inspire its colleagues to adopt more sustainable tourism practices by demonstrating effective methods to reduce environmental impacts while providing outstanding guest experiences.</p> | <p>Boulder, CO, USA</p> |
| <p>Objectives: It hopes to create an enduring ripple effect by inspiring travelers to make conscious choices in their everyday lives that contribute to the long-term health of the planet.</p> | <p>Tour Operator</p> <p>Impact: - Cooperation with local businesses - community awareness raising</p> |
| <p>Natural Habitat Adventures operated what it has called the “World’s First Zero Waste Adventure” on the July 6-12, 2019 – a safari in Yellowstone Country. The small group of this safari diverted 99 percent of all on-trip waste produced as a byproduct of Nat Hab-sponsored trip operations. “Zero waste” encompassed all guest-related activities that Nat Hab managed and sponsored throughout the trip—from the moment a guest books through the airport transfer on the final day. Nat Hab encouraged this small group of eco-conscious travelers to focus on refusing potential waste (such as plastic straws and individually wrapped condiments) while minimizing the waste they did produce along the journey. At the end of the trip, the group was able to fit all waste produced into a single small container. This first trip will be a catalyst for incremental changes that will gradually result in significant waste reduction across all Nat Hab trips.</p> | <p>Keywords: Waste</p> |
| <p>Summary</p> | <p>Click here for more information</p> |

Restore

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| <p>The development of the hotel group's environmental policy has managed to establish quantifiable objectives. In this case, exceeding 40% of recycled waste, as a commitment to the circular economy.</p> | VINCCI HOTELS |
| <p>Objectives:</p> <ol style="list-style-type: none"> 1. Organise material recycling; 2. Disposal of single-use plastic materials 3. Implements CSR principles | <p>Accommodation</p> |
| <p>The VINCCI HOTELES hotel chain has incorporated the quantification of annual targets in its CSR master plan. At present, the percentage of recycled material in all its establishments exceeds 40% of the total waste generated. Among others, paper and cardboard, glass, batteries, organic material, textiles, etc. Also the replacement of single-use plastic utensils with biodegradable and reusable products.</p> | <p>Impact</p> <ul style="list-style-type: none"> - Reduction of waste - Economic benefits through cost reduction and income generation |
| <p>The result of setting quantifiable targets for material recycling together with the substitution of single-use plastic utensils is a step towards the overall goal of environmental friendliness.</p> | <p>Keywords: waste recycling; circular economy; disposal of single-use plastic products</p> <p>Click here for more information</p> |

Rethink

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| <p>Circular Valley is an innovation hub for the development of businesses that ease the transition to a Circular Economy.</p> | <p>Netherland</p> |
| <p>Objectives: Ensure the dialogue between different stakeholders involved in the transition towards a Circular Economy</p> | <p>Networking, Exchange of knowledge</p> <p>Impact: - Community awareness raising - Cooperation with local businesses</p> |
| <p>Circular Valley is an innovation hub that offers an environment specifically designed to boost and support circular economy-related activities by bringing together stakeholders related to the topic, ranging from designers to NGOs, start-ups, SMEs, corporate and governmental organizations.</p> <p>Even though it is a very young initiative, its success is demonstrated by the number of innovative organisations hosted and supported, that so far are 6.</p> | <p>Keywords: Circular economy, waste, best practice, environment</p> |
| <p>Circular Valley is an innovation hub for the development of businesses that ease the transition to a Circular Economy</p> | <p>Click here for more information</p> |

Rethink

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| <p>It was from the third edition in Rio de Janeiro that the For a Better World project was born to use the power of the festival to motivate people to seek improvements in their lives through daily changes.</p> | <p>Portugal, Brazil and Las Vegas</p> |
| <p>Objectives:</p> <ul style="list-style-type: none"> - Energy; - Catering; - Accommodation; - Mobility; - Communication; - Governance | <p>Nature activities, Environment Event</p> |
| <p>Certification in ISO Standard 20121 - SUSTAINABLE EVENTS; Calculation of the carbon footprint; Demanding waste management plan; Donation of materials at the end of the event; Donation of waste food in good condition (Lisbon and Las Vegas); All artists receive a zero carbon certificate award for sponsors and suppliers with the best sustainability practices in the city of rock.</p> | <p>Impact:</p> <ul style="list-style-type: none"> - Planted 304 000 trees - Development of a school in Tanzania - Development a health center in Maranhão - Educated 3200 young people in Basic Education in Rio de Janeiro - installation of 760 solar panels in 38 schools in Portugal. |
| <p>Reduce CO2 emissions and waste generated, in addition to improving with each edition and maintaining certification in the ISO 20121 standard – Sustainable Events. Rock in Rio provides a sustainability plan to companies working at the event so that sustainable practices are part of the routine of their suppliers and partners.</p> | <p>Keywords: Engagement; Zero Waste; Safety</p> <p>Click here for more information</p> |