FACT SHEET
CIRCULAR ECONOMY: TERMS & DEFINITIONS

ECONOMIC MODELS

In this section, three ECONOMIC MODELS related to Circular Economy and terms which are commonly used are explained.

GREEN ECONOMY

"UN Environment has developed a working definition of a green economy as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities."[1] "In its simplest expression, a green economy can be thought of as one which is low carbon, resource efficient and socially inclusive."[2]

BLUE ECONOMY

"Initiated by former Ecover CEO and Belgian businessman Gunter Pauli, the Blue Economy is an open-source movement bringing together concrete case studies […]. As the official manifesto states, 'using the resources available in cascading systems, […] the waste of one product becomes the input to create a new cash flow'"[3]

SHARING ECONOMY

"The sharing economy refers to the sharing of goods or other resources by multiple people. […] Sharing allows existing goods and resources to be used more fully, rather than letting them lay dormant, and depends greatly on either access to goods via a membership (car sharing, resource libraries), or peer-to-peer interaction (AirBnB [sic!], ride sharing, clothing swaps). […] The circular economy is more about goods as they are manufactured and as they are taken apart for reuse and reconstruction as new goods. It deals with the raw materials, ensuring that they never become waste or pollution."[4]

[1] https://www.unenvironment.org/explore-topics/green-economy/why-does-green-economy-matter/what-inclusive-green-economy
[2] http://www.unitar.org/sites/default/files/uploads/egp/Section1/PDFs/1.3%20Definitions%20for%20Green%20Economy.pdf
[3] https://www.ellenmacarthurfoundation.org/circular-economy/schools-of-thought/blue-economy
[4] http://www.theideatree.ca/the-difference-between-the-sharing-economy-and-the-circular-economy/

DESIGN

In this section, terms related to DESIGN are explained.

CIRCULAR DESIGN

"Circular design […] [is] at the heart of a circular economy. […] Skills in circular product design and production:

- ✓ Material choice optimised for circular setup
- ✓ More modularisation/standardisation
- ✓ Production process efficiency"[5]
- ✓ Design to last
- ✓ Easier disassembly

MODULAR DESIGN

"Modular design is a design approach that creates things out of independent parts with standard interfaces. This allows designs to be customized, upgraded, repaired and for parts to be reused."[6]

ECODESIGN

"Ecodesign […] means the integration of environmental aspects into product design with the aim of improving the environmental performance of the product throughout its whole life cycle[.]"[7]

"The EU legislation on Ecodesign and energy labelling is an effective tool for improving the energy efficiency of products."[8]

"[D]ifferences between the current Ecodesign Directive and circular design"[9] approach based on a report[10] by De Groene Zaak and Ethica are listed here:

ECODESIGN DIRECTIVE	CIRCULAR DESIGN APPROACH
• Product focused, limited to energy-consuming and energy-related product groups	• Systems approach: value chain, cross-organisational and cross-sector approach

[5] Ellen MacArthur Foundation (2012): Towards the Circular Economy Vol. 1: an economic and business rationale for an accelerated transition
[6] http://simplicable.com/new/modular-design
[7] Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products (Text with EEA relevance)
[8] http://ec.europa.eu/growth/industry/sustainability/ecodesign_en
[9] http://degroenezaak.com/Boosting Circular Design for a Circular Economy.pdf
[10] Table and included text are based on http://degroenezaak.com/Boosting Circular Design for a Circular Economy.pdf

• Framework directive; does not directly set minimum environmental requirements	• Pursues value creation and innovation, focuses on new business opportunities
• Trying to improve energy efficiency of products and curb CO_2 emissions	• Circular design, business model and clean energy go hand in hand
• Aims to minimize negative environmental impact through energy focus: 'be less bad'	• Focuses on maximizing a positive footprint: a so called net positive approach (not only zero emissions or zero waste, but creating a regenerative impact): 'be more good'
• Maintains the linear economy approach: accommodates environmental standards into the current system	• Requires the whole ecosystem support, no organization alone can make a transition to Circular Economy
• Ecodesign is an environmental issue	• Circular design is an economic opportunity

WASTE MANAGEMENT & RECYCLING

In this section, terms related to WASTE MANAGEMENT & RECYCLING are explained.

WASTE

"[W]aste […] means any substance or object which the holder discards or intends or is required to discard[.]"[11]

WASTE MANAGEMENT

„[W]aste management […] means the collection, transport, recovery and disposal of waste, including the supervision of such operations and the after-care of disposal sites, and including actions taken […] in the role of principal to purchase and […] sell waste […] [or actions] arranging the recovery or disposal of waste[.]"[12]

[11] Directive 2008/98/EC of the European Parliament and of the Council of 18 November 2008 on waste and repealing certain Directives (Text with EEA relevance)
[12] Directive 2008/98/EC of the European Parliament and of the Council of 18 November 2008 on waste and repealing certain Directives (Text with EEA relevance)

WASTE HIERARCHY

"The […] waste hierarchy shall apply as a priority order in waste prevention and management legislation and policy:

1. prevention
2. preparing for re-use
3. recycling
4. other recovery, e. g. energy recovery […]
5. disposal"[13]

PREVENTION

"[P]revention […] means measures taken before a substance, material or product has become waste, that reduce:

- the quantity of waste, including trough the re-use of products or the extension of the life span of products;
- the adverse impacts of the generated waste on the environment and human health; or
- the content of harmful substances in materials and products[.]"[14]

RE-USE

"[R]e-use […] means any operation by which products or components that are not waste are used again for the same purpose for which they were conceived[.]"[15]

TREATMENT

"[T]reatment […] means recovery or disposal operations, including preparation prior to recovery or disposal[.]"[16]

[13] Directive 2008/98/EC of the European Parliament and of the Council of 18 November 2008 on waste and repealing certain Directives (Text with EEA relevance)
[14] Directive 2008/98/EC of the European Parliament and of the Council of 18 November 2008 on waste and repealing certain Directives (Text with EEA relevance)
[15] Directive 2008/98/EC of the European Parliament and of the Council of 18 November 2008 on waste and repealing certain Directives (Text with EEA relevance)
[16] Directive 2008/98/EC of the European Parliament and of the Council of 18 November 2008 on waste and repealing certain Directives (Text with EEA relevance)

RECOVERY

"[R]ecovery 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."[17]

PREPARING FOR RE-USE

"[P]reparing for re-use […] means checking, cleaning or repairing recovery operations, by which products or components of products that have become waste are prepared so that they can be re-used without any other pre-processing[.]"[18]

RECYCLING

"[R]ecycling […] means 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[.]"[19]

DISPOSAL

"[D]isposal […] means any operation which is not recovery even where the operation has as a secondary consequence the reclamation of substances or energy."[20]

DOWNCYCLING

Downcycling means "to recycle [(waste) materials] […] in such a way that the resulting product[s are] […] of a lower [quality] […] than the original"[21] ones.

UPCYCLING

Upcycling means to "[r]euse […] discarded objects or material […] in such a way as to create a product of higher quality or value than the original."[22]

[17] Directive 2008/98/EC of the European Parliament and of the Council of 18 November 2008 on waste and repealing certain Directives (Text with EEA relevance)
[18] Directive 2008/98/EC of the European Parliament and of the Council of 18 November 2008 on waste and repealing certain Directives (Text with EEA relevance)
[19] Directive 2008/98/EC of the European Parliament and of the Council of 18 November 2008 on waste and repealing certain Directives (Text with EEA relevance)
[20] Directive 2008/98/EC of the European Parliament and of the Council of 18 November 2008 on waste and repealing certain Directives (Text with EEA relevance)
[21] https://www.merriam-webster.com/dictionary/downcycle
[22] https://en.oxforddictionaries.com/definition/upcycle

CLOSED LOOP

"[M]aterials, components and products […] are 'technical or biological nutrients' circulating in closed loops, where nothing is wasted but instead channelled to different processes depending on […] [the] remaining properties and characteristics [of the materials, components and products]."[23]

OPEN LOOP

Open loops are the opposite of closed loops. Therefore, an "open loop […] system creates waste or by[-]products for which there is no use. Getting rid of unwanted by[-]products usually costs money, degrades the environment, or both. Despite the economic efficiency of a closed loop system, most modern-day production is open loop."[24]

CASCADING

"Cascading use of […] resources […] means an efficient use of these resources from the point of view of natural resource, material and land consumption. It is effectively a principle to increase the productivity and efficient use of scarce and valuable raw material resources. The cascading use principle gives priority to higher value uses that allow the reuse and recycling of products and raw materials and promotes energy use only when other options are starting to run out. It concretely prioritizes material use […] before energy use since burning implies the raw material being lost."[25]

See also DOWNCYCLING

[23] Eleni Iacovidou et al.: A pathway to circular economy: Developing a conceptual framework for complex value assessment of resources recovered from waste, Journal of Cleaner Production, Volume 168, 1 December 2017, Pages 1279-1288.
[24] https://sustainabletompkins.org/signs-of-sustainability/tompkins-weekly-column/close-the-loop-for-a-more-sustainable-future/
[25] http://www.birdlife.org/sites/default/files/attachments/cascading_use_memo_final.pdf