



MAKING DISCOVERIES



CIRCULAR ECONOMY

Summary from WCEF 2018

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1. GENERAL TRENDS

Motto: „Nature is circular. Why is the economy linear?“

Circular economy (CE) is the only approach that enables to counter the steep increase in consumption of all resources at the global level. As much as the consumption grows, more waste is generated. The world unfortunately still lacks ways how to efficiently make use of waste, since only the minimum is processed circularly.

The extreme rate of consumption growth, and thus of waste, is well illustrated by an example of the Japanese city of Yokohama, where the population between the years 1960-2000 rose 2.5 times, but the amount of waste increased 16 times.

The European Union (EU) is a leader in the area of circular economy, while the turning point was the Circular Economy Package, and especially the European Strategy for Plastics in a Circular Economy. The EU is aware of the fact that the circular economy principles cannot be adapted without technological progress and breakthrough innovations, therefore the EU significant financial resources to support science and research within the concept of CE.

Although Brand Owners (BO) have adopted strategies in the field of circular economy (they are mostly focused on recycling), they lack the interconnection. A company can have a strategy to have 100% products from recycled materials but if recyclables are not on the market, it cannot fulfil the strategy.

The issue of the concept of circular economy is very complex and interconnected, it is necessary to create completely new models of functioning. And they do not exist yet.

Circular economy does not mean only recycling, although recycling represents an important part of it.

Bioplastics pose a topic that is part of the circular economy concept, but at present, due to various bad experience, a negative view on bioplastics prevails. In case of biodegradable bioplastics, biodegradability is not a solution to the issue of plastics. Due to the biodegradability properties, product's value is lost. Biodegradability of the material can also lead to an irresponsible consumption (people would gain the feeling that they can throw away the waste because it degrades in nature) and thus to the opposite result than the CE concept promotes. Bioplastics still lack sufficient credible information, particularly in the area of Life Cycle Assessment (LCA) and biodegradability.



Japan is focused on the recycling of industrial waste, in which the country is a global leader. Other types of waste are utilized as an energy source. Japan stands at the forefront in terms of a number of municipal waste incinerators. However, the processing of biowaste is still completely neglected in Japan.

1.1 Key trends in circular economy

- Avoid waste
- Avoid using new sources
- Re-use
- Decarbonisation

The first country in the world with the "Plastic Road Map" is Finland. The document, which is de facto a guide to tackle plastic pollution, is considered to be very realistic and complex.

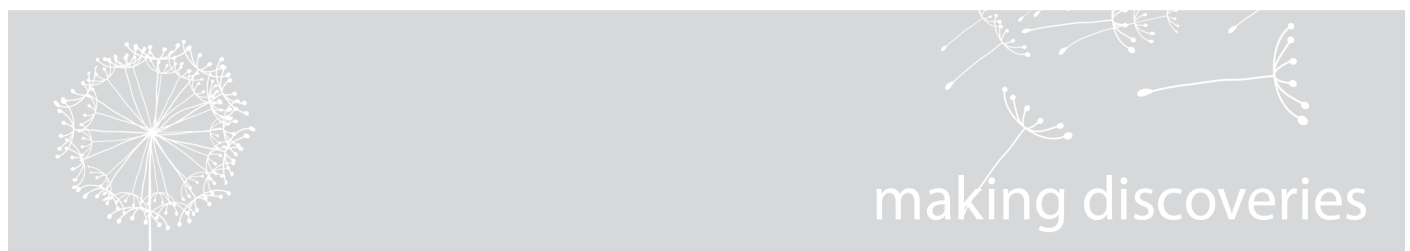
It is absolutely essential to protect natural resources that have the highest and absolute priority, and replace everything that is possible with waste materials. This approach should also be accepted as a priority by Brand Owners, who in the context of responsible production, should also replace materials that are considered "natural" because these materials are also burdened by the negative impacts of the natural resources extraction (often with obsolete technologies) and high energy and water consumption.

LCA is the only tool that enables quantification of the technology and production impacts on the environment

Banks and investment companies see a potential in the circular economy. They have already tools to support projects under this concept. Investors also show a high interest in the CE concept - "Money with a meaning".

2. ATTITUDE TOWARDS PACKAGING

The packaging industry belongs to significant waste generators, while 95-99% of all packaging loses its value immediately after the use.



The lack of the so-called eco-design packaging represents the biggest challenge. It is necessary to know “end of life” of the packaging before its actual production. A German representative of the Ministry of the Environment (MoE) noted: "for what reason do we recycle when products are not suitable for recycling?" In other words, the topic of packaging and products design is absolutely crucial.

IKEA's experience can serve as an inspiration for other companies. According to IKEA's advises, if a company wants to adopt circular solutions for thousands of products, it needs to create a whole new model, and not only focusing on packaging but also on the product use itself.

In this area, there are no comprehensive solutions, which cannot be brought by just one subject.

Expert recommendations:

- To simplify packaging – remove everything that is unnecessary
- To avoid composite materials, copolymers - all that makes recycling impossible. It is ideal to use monopolymeric materials.
- To start developing a path of chemical recycling, which brings the greatest value.
- To establish a system of green public purchasing – as a support for recycling and the circular economy.
- To create new systems of cooperation with suppliers and other stakeholders in the value chain, and to begin research and development in order to find new solutions in packaging (design) and related systems.
- To set criteria for the product design and recyclability – ideally based on LCA

Current state of the production is linear, the so called "linear trip". Each participant in the value chain stays in their "bubble" and focus on their issues. Thus, they miss opportunities.

Every product and packaging are unique. There is no general and simply applicable solution. It is necessary to search for a solution for each product.

The EU's objective in the field of plastics is not to defame plastics but to make them circular.



3. THE MOST SIGNIFICANT BARRIERS OF THE CIRCULAR ECONOMY DEVELOPMENT

- A. **Consumer is considered to be the most significant barrier.** There is no system of educating the public about their purchasing decisions' consequences. In this area, unfortunately only a minimal progress has been done. Hence, in many countries, new products are not being accepted. The only "benefit" an ordinary consumer sees, is a higher price of the new product. In this area, there is also a lack of examples of good practices. Only individual campaigns occur.
- B. **The second biggest barrier is the fact that despite the verbal and financial support of the circular economy concept, subsidies and incentives are designed on the linear economy.**
- C. **The third barrier is that most solutions, which are in accordance with the principles of circular economy, are local.** There is no scale up to the global level.
- D. **The fourth barrier is a lack of cooperation.** We do not cooperate with each other and we are unable to say "Let's do it together". The lack of time does not allow each actor to develop an individual approach, which leads to the state, in which thousands of companies do the same. Global warming and other irreversible changes are coming.

