The European Green Deal – a booster for circular economy

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Sofia, 29th September 2022

Conference on "***Circular Economy - development of the circular Economy in Bulgaria and current business practices***"

organized by German-Bulgarian Chamber of Industry and Commerce (GBCIC) in partnership ADVANTAGE AUSTRIA

Who we are?

***NET ZERO Foundation International Climate Network** is:*

- non-governmental
- not-for-profit
- expert institution, which adheres to high professional standards
- geared towards an open dialogue with the Bulgarian citizens as well as international cooperation, above all with partners in the EU, Central and South East Europe
- civic debate platform

- We promote the European Green Deal in Bulgaria and the wider region;

- We believe that EGD is a unique opportunity for economic, energy and social transformation of Europe;

The World Economic Forum's Definition Of Circular Economy

"A circular economy is an industrial system that is restorative or regenerative by intention and design. It replaces the end-of-life concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals, which impair reuse and return to the biosphere, and aims for the elimination of waste through the superior design of materials, products, systems, and business models. "

The Circular Economy's Principles

- ***NARROW*** - ***USE LESS*** By minimizing the overall material inputs into an economy, the emissions present in resources and end-products lowers especially if priority is given to the flows with the highest embodied emissions. In practice: Sharing and rental models, material light weighting, multifunctional products or buildings, energy efficiency, digitalization;

- ***SLOW*** -***USE LONGER*** In extending the functional lifetime of resources, the emissions attached to material flows are spread out and reduced over time. In practice: Durable material use, modular design, design for disassembly, repair, remanufacturing, refurbishing, renovation, remodeling;

- ***REGENERATE*** -***MAKE CLEAN*** In using regenerative resources, the emissions in fossil fuels and unsustainable biomass are cut from the economy. In practice: Regenerative material use, renewable energy, regenerative agriculture;

- ***CYCLE*** - ***USE AGAIN*** Depending on the energy used and emissions released during cycling, this strategy has the potential to eliminate embodied emissions from inputs. In practice: Design for recyclability (both technical and biological), design for disassembly, recycling, waste-to-energy;

Source: The Circularity Gap Report 2022

The EU Green Deal – a roadmap to sustainable economy

- EGD aims to boost the efficient use of resources by moving to a clean, circular economy and stop climate change, revert biodiversity loss and cut pollution;
- EGD covers all sectors of the economy, notably transport, energy, agriculture, buildings, and industries such as steel, cement, ICT, textiles and chemicals;
- EGD provides an action plan to boost the efficient use of resources by moving to a clean, circular economy and to restore biodiversity and cut pollution;

EGD Circular Economy Package

- The Circular Economy Package has been adopted with a view to boosting global competitiveness, fostering sustainable economic growth and generating new jobs;

- It consists of 2 EU Action Plans for the Circular Economy (2015 and 2020), with measures covering the full life cycle of products: from production and consumption to waste management and the market for secondary raw materials;

- The CEAP II focuses on resource intensive sectors where the potential for circularity is high; Aiming to keep resources in economic cycles as long as possible, the plan addresses key product value chains: electronics and ICT, batteries and vehicles, packaging, plastics, textiles and food;

Making sustainable products the norm

EC's 4 key initiatives:

1. A Regulation on Eco-design for Sustainable Products (ESPR)

2. The Eco-design and Energy Labelling Working Plan 2022-2024

3. Amendments to the Consumer Rights Directive
   - traders will be required to provide information on durability, repairs and updates

4. The Unfair Commercial Practices Directive (UCPD)
   - amendments will reduce greenwashing and early obsolescence of productions (e.g., products with an artificially limited lifetime)

Economic Benefits Of The Circular Economy

- ***Increased Potential For Economic Growth*** It is important to decouple economic growth from resource consumption. The increase in revenues from new circular activities, together with a cheaper production by getting products and materials more functional and easily disassembled and reused, has the power to increase GDP and therefore economic growth, according to a McKinsey report.
- ***More Resources Saved*** has the potential to lead to a bigger (up to 70%) amount of material savings. Considering that the total demand for materials will increase due the growth of the world population and middle class, a circular economy leads to lower material needs, as it skips landfills and avoids recycling, focusing on making materials' cycles last longer.
- ***Innovation -*** adopting more circular business models would bring improved innovation across the economy. It is already proving a vibrant terrain for entrepreneurs who target the benefits of an economy that operates with higher rates of technological development; improved materials, labour, and energy efficiency, and more profit opportunities for resource-productive companies. Circularity as a 'rethinking device' has proved to be a powerful new frame, capable of sparking creative solutions and stimulating innovation.
- ***Employment Growth*** - created through increases in:
  - Recycling and repairing practices, where one could add new designers and mechanical engineers to make lasting and easily disassembled products and materials at the transformation/production stages;
  - An increase in new businesses (and niches) due to innovation processes and new business models;
  - An increase in consumption and spending by lower prices;
- ***Lasting benefits for a more resilient economy*** - any increase in materials productivity is likely to have a positive impact on economic development beyond the effects of circularity on specific sectors.

Benefits Of The Circular Economy On Businesses

- ***New Profit Opportunities*** Lower input costs and in some cases create entirely new profit streams that can be achieved by businesses that move to the circular economy model. In this circular sphere, profit opportunities may come from playing in new markets, cutting costs off with waste and energy reductions and the assurance of continuity of supply
- ***Volatility Reduction And Safeguarded Supplies*** - reducing the number of raw materials used. Instead, more recycled (or even reusable or easily transformed) inputs that have a higher share of labor costs would be used, leaving companies less dependent on the volatility of the price of raw materials. This would also protect companies from geopolitical crises and safeguard them regarding their supply chains – whose probably to be destroyed or damaged because of climate change events is increasing every day. In the end, the circular economy model would turn businesses more resilient, or in other words, make them more resistant and prepared to deal with unexpected changes.
- ***The Demand For New Services*** -Ellen McArthur's Foundation report
  - Collection and reverse logistics companies that support end of life products being reintroduced into the system
  - Product marketers and sales platforms that facilitate longer life or higher utilization of products
  - Parts and component remanufacturing and product refurbishment offering specialized knowledge
- ***Getting To Know Clients Better*** - The circular economy model seems to foster business models where products are rented or leased by customers during different periods of time, depending on the type of products. This gives businesses the chance to learn about their customer's usage patterns and behaviors, as they get to interact more often with them. Ultimately, this new relationship might just improve customer satisfaction and loyalty, and contribute as well for the development of products and services that suit clients better. In a market where suppliers remain responsible for the product supplied for a longer period, communicating well and understanding the clients' preferences and needs is more important than ever.

Top 8 Circular Economy Trends in 2022

1. ***Waste-to-Resources*** - upcycle waste to energy by incineration, gasification, anaerobic digestion, and pyrolysis. This allows waste management companies to get rid of the waste effectively as well as provide an additional stream of clean energy for power utilities. For instance, the fashion industry is now upcycling textile waste to produce new apparel, shoes, and accessories;

2. ***Reuse***
   - asset sharing platforms allow businesses to earn revenue by lending materials or machines that otherwise mostly remain unused;
   - food sharing applications reduce food waste while preventing losses from unsold food;
   - reusable packaging made with durable materials to survive multiple lifecycles. Reusable packaging is also gaining traction in the manufacturing, automotive, and consumer goods industries;

3. ***Internet of Waste*** -IoT-based smart waste management solutions to reduce the inefficiencies in trash collection. Such solutions leverage sensors, IoT platforms, and mobile applications. Smart bins, for example, transmit real-time fill level information to waste collectors. This streamlines the pickup process and eliminates inefficient visits to near-empty trash bins, saving time, fuel, and labor;

Top 8 Circular Economy Trends in 2022

5. ***Artificial Intelligence*** - AI-powered sensors differentiate among items made from different materials as well as nuances among the ones of the same materials; detects chemical contamination in the items; AI-driven machines sort recyclables much faster than humans using computer vision and deep learning algorithms; AI enables waste management companies to reduce the need for manual labor, thus, cutting costs and maximizing efficiency;

5. ***Bio-based materials*** - produced from renewable sources; they are generally compostable and easier to recycle, allowing companies and consumers to reduce their carbon footprints. They find applications in packaging, construction, healthcare, and automotive sectors;

6. ***Remanufacturing*** - involves rebuilding a product to its original condition with reused, repaired, and some new parts, making it as good as new. Advanced technologies like Laser Metal Deposition (LMD), an additive manufacturing process, not only restore a component but also add extra features for improved performance. This allows Original Equipment Manufacturers (OEMs) to cut down their capital expenditures while also reducing the carbon footprint;

7. ***Blockchain*** - enables two important functions in the circular economy — providing transparency and traceability, and incentivizing circular behavior. Startups use blockchain's immutability to verify the origin of products, assuring that they meet their sustainability claims;

8. ***Repair*** extends the life of products; reduces waste and the use of new raw materials;

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