

## Talking Circular Economy: Optimising Global Resource Consumption

by Anjali Taneja and Piotr Barczak

*In this two-part blog series, we share some of our research learning on circular economy (CE). At the same time, we revisit our experiences from the recently concluded World Circular Economy Forum (WCEF) 2024, where we got an opportunity to participate, network, and share the findings of our respective works on CE at the Center for Study of Science, Technology and Policy (CSTEP) and Africa Circular Economy Network (ACEN) Foundation. This first blog delves into the core principles of CE and its global relevance in the context of reducing the overconsumption of finite resources.*

According to the Circularity Gap Report 2024, the world is only 7.2% circular. At the same time, the latest [Global Resources Outlook](#) reports that high-income economies consume six times more resources or materials and generate ten times more climate impacts than low-income economies. Moreover, resource consumption in upper-middle-income economies has more than doubled over the past 50 years. Considering that the world is expected to face significant resource scarcity in the near future, there is an urgent need to reduce material consumption.

Interestingly, the adverse impact of this unmindful resource consumption is now scientifically recognised, much like that of climate change. For instance, as the European Commission's Joint Research Centre concluded in 2023, resource extraction and processing are responsible for the following:

- 90% of global biodiversity loss and water stress
- 50% of global greenhouse gas (GHG) emissions
- Over 30% of air-pollution-related health impacts

In other words, our core ecological problem is not just climate change but also [overconsumption of global resources](#). But unlike the field of climate change, where multiple targets to counter the adverse impacts, such as those for reducing GHGs, have been established, there are no such targets in the area of resource overconsumption. This is where circularity or a CE comes into play as the most robust solution for ensuring mindful consumption of global resources.

### **Unlocking the core principles of circular economy**

A CE — an alternative to the usual linear economy with the approach of extract, make, use, and dispose — focuses on optimising the use of resources to maintain the maximum value of products and materials. In other words, circularity aims to minimise and eventually eliminate waste while ensuring the continual use of resources. It emphasises products and materials moving through loops of production, use, reuse, disposal, and reintegration. Thus, the key to CE lies in the design of durable products and systems that extend lifespans (slow loops), minimise resource use, and reduce material flows (thin loops).

The key characteristics of a CE include the following:

- Reduce dependency and gain competitiveness
- Achieve the 6 Rs: reduce, reuse, recycle, redesign, remanufacture, and refurbish

- Embrace a holistic view of products and processes
- Foster self-sufficiency

However, not everyone understands the CE in the same way, with some even calling waste-to-energy incineration a CE. The following 1-minute video produced by the European Environmental Bureau underlines the core CE principles.

<https://youtu.be/PTIEOn-6FJQ>

### ***Promoting circularity for greater gains***

Incentivising circularity into our economies could lead to significant environmental, social, and economic benefits. For instance, an estimate from the 2021 Circularity Gap Report claims that a CE could reduce global GHG emissions by 39% by 2032. Moreover, almost [6 million jobs](#) could be generated globally by extending activities underlined by the core CE principles at the end-of-life of a product. CE loops could also benefit the local communities (local loops), keep waste within local hierarchies, and promote the use of non-toxic materials (clean loops). However, these loops should be sustained by sustainable and renewable resources (materials and energy). Besides, reducing the reliance on virgin critical raw materials, replacing the excessive use of finite resources with bio-based options or nature-based solutions, mainstreaming options for efficient resource recovery, and ensuring mindful consumption could pave the way for holistic sustainable development. Finally, we also feel that sufficiency policies are critical for building a sustainable and secure future.

Having said this, at the heart of these measures lies extensive sensitisation drives, awareness building, and information dissemination for promoting circularity at scale. One such global platform is the WCEF, which encourages open debates, discourses, and interactions on such and related topics besides highlighting the key solutions for achieving a smooth transition to a global CE world. We had the privilege of participating in WCEF 2024.

*Stay tuned to read our next blog in the series, where we spell out our learning and experiences in detail.*

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