What is Cirular Economy?

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Abstract

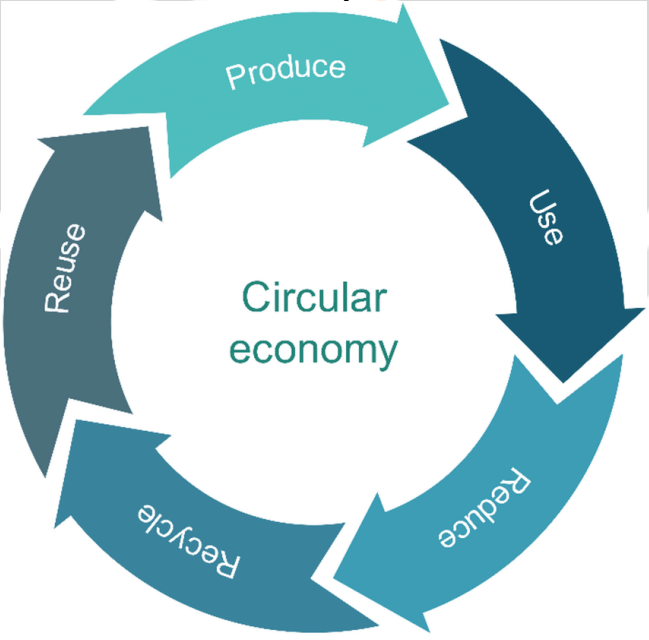
In practice, circular economy implies reducing waste to a minimum. When a product reaches the end of its life, its materials are kept within the economy wherever possible thanks to recycling. These can be productively used again and again, thereby creating further value. Denmark has banned the construction of incineration plants; Scotland is charging for plastic bags and Sweden is aiming to increase its metal recycling. Countries around the world are trying to implement a circular economy, or at least its fundamental elements. Europe is the leading continent right now. India is making serious efforts to make the circular economy a major tool for urban development. The circular economic system uses resources again and again, multiple times.

KEYWORDS: *circular economy, waste management, sharing, leasing, reusing, repairing, renewing, recycling, refurbishment, CO2, carbon footprints, 4Rs, reduce, reuse, recycle, and remove.*

Introduction: India is making serious efforts to make the circular economy a major tool for urban development. The circular economic system uses resources again and again, multiple times. Prime Minister Narendra Modi announced this decision in post-budget webinar speech, in 2023. The circular economy presents an economic approach focused on minimizing/eliminating wastage while promoting the optimal use or complete reuse of resources. India ranks seventh globally in Solid Waste Generation (SWG).

The present rate of SWG in India is 0.34 kg per capita per day, which is expected to increase to 0.7 kg per day by 2025. India will generate 165 million tonnes of waste by 2030.

Out of 8 million tonnes of plastic waste in the world's oceans, the Meghna-Brahmaputra-Ganges River system dumps close to 73 thousand tons, making it the 6th most polluting river system contributing to marine plastic waste in the world. This is very shameful of our attitude.



Denmark, Netherlands, Scotland, Sweden, and Japan are ranking among top countries who have made their economies compulsorily circular economies. These countries have a set of regulations and fiscal and financial measures that have resulted in a leading role regarding the collection of household waste, e-waste, regulated car demolition, and so on. The producers of waste are responsible for recycling it. Extended producer responsibility and voluntary targets with sector organisations are at the heart of waste management in these countries.

The circular economy is a model of production and consumption, which involves sharing, leasing, reusing, repairing, renewing, and recycling existing materials and products as long as possible. In this way, the life cycle of products is extended.

Vermigold Ecotech is a cleantech waste management technology company. The company designs, develops and market innovative products for organic waste composting. The company was formed to specifically address the need for an innovative and technologically sound provider of Environmentally Sound Technologies (EST). Vermigold is an on-site biological recycling automation solution that blends superior vermicomposting biology with superior technology to allow end-users to collect organic material in a hassle-free and environmentally beneficial way. It is India's only globally accredited waste treatment technology, indicating its pathbreaking system.

The FMCG leader Unilever has an ambition to create a waste-free world, amongst other targets, the company is committed to ensuring that their packaging is recyclable, reusable, or compostable by 2025.

At ITC, all Businesses Units are directed to ensure recycling of 100% waste generated. This not only conserves precious natural resources and energy but also prevents waste from reaching landfills, with all its attendant problems like health hazards, increase in Greenhouse Gas Emission (GHG), soil and ground water contamination, etc.

Circular economy also creates significant employment opportunities for the marginalised sections of society. India is well on track to become the third-largest economy in the world. Prime Minister Narendra Modi has highlighted that *Aatmanirbhar Bharat*, or 'Self-Reliant India', which is a launch pad that will put India on a high economic growth path that is inclusive and sustainable. With Self-Reliant India, the aim is to make the country and its citizens independent, and the vision is firmly rooted in sustainability.

From landfill to wardrobe

Indian fashion industry has also embraced the new sense with the principles of upcycling with a fresh vigour. Upcycling is also known as creative reuse. It is the process of transforming by-products, waste materials products into new materials or products identified to be of greater quality, such as artistic value or environmental value. For example, ecological fashion brand 'Doodlage' is India's most famous eco-friendly clothes brand which asserts 100 per cent of its collection is upcycled, recycled, and manufactured with zero-waste. Bengaluru-based ethical fashion brand Gujarat-based label 'RaasLeela', runs business with all-women's team. It makes products where

every design, material and process are chosen thoughtfully keeping first the environment, process, and the maker in mind. The tagline of the business is “We are not a fashion brand! Fashion is a byproduct.”

Bagasse is the fibre that remains when sugarcane juice has been extracted. This fibre is then moulded into versatile and sturdy trays, cups, spoons, food packaging boxes, and other food packaging products through a high-pressure, high-heat process.

Furthermore, the circular economy is no longer a choice for India, rather it is has become a need of the hour. With a rising population, urbanization, environmental challenges, and international commitments, shifting towards a circular economy has become imperative for India. "Be true to yourself," has been the guiding principle of the Modi government India development agenda. If India grows without following the principle of sustainability, then the growth would be pretentious for the sake of numbers only. Therefore, India's economic development must align with the principles of circularity, eliminating waste and pollution, circulating products and materials (at their highest value), and regenerating nature.

As per recent data, the European Union produces more than 2.2 billion tonnes of waste every year. It is currently updating its legislation on waste management to promote a shift to a more sustainable model known as the circular economy. To reduce waste and its impact on the environment, the EU has adopted ambitious targets on recycling and landfill and is working on packaging waste. The goal is to promote the shift towards a more sustainable model.

In 2022, EU exports of waste to non-EU countries amounted to 32.1 million tonnes. This was a slight decrease of 3% compared to 2021. Most of the waste exported outside the EU (55%) consists of ferrous metals waste (iron and steel), which mostly goes to Türkiye. EU exported a lot of paper waste as 15% to India.

A circular carbon economy is a framework for managing and reducing emissions. It is a closed loop system involving 4Rs: reduce, reuse, recycle, and remove. Saudi Arabia and Aramco have adopted the circular carbon economy framework to reduce their carbon footprints.

Carbon dioxide (CO_2) performs a delicate life-sustaining function on Earth, but the dramatic increase in greenhouse gases since industrialization has emitted too much CO_2 into our atmosphere. The circular carbon economy is an important concept toward managing the world’s excessive CO_2 emissions. Road transport presently accounts for 12% of India's energy-related CO_2 emissions and is a key contributor to urban air pollution. As India seeks to meet the increasing demand for private mobility and the transport of goods, energy use and CO_2 emissions from road transport could double by 2050.

In practice, circular economy implies reducing waste to a minimum. When a product reaches the end of its life, its materials are kept within the economy wherever possible thanks to recycling. These can be productively used again and again, thereby creating further value. It is a removal from the traditional, linear economic model, which is based on a take-make-consume-throw away pattern. This model relies on large quantities of cheap, easily accessible materials and energy.

The best part of this model is planned obsolescence, when a product has been designed to have a limited lifespan to encourage consumers to buy it again. The European Parliament has called for measures to tackle this practice. Many consumer electronics are designed to make it impossible to repair them or replace parts. Sometimes it is physically impossible because the product pieces are welded together to prevent replacement and the remains cannot be opened without breaking it. Some laptops, mobile phones and electric toothbrushes have lithium-ion

batteries with a useful life of two or three years. These cannot be replaced by the owner of the device, who has no option but to buy a replacement. Also, some other examples are batteries, inkjet printers.

Conclusion: The circular economy is a system where materials never become waste. In the economy, products and materials are kept in circulation through processes like maintenance, reuse, refurbishment, remanufacture, recycling, and composting. This process helps to eliminate waste and pollution. Keep products and materials in use to regenerate natural systems.

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