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CIRCULAR ECONOMY

Explained

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Every year, the global economy pulls roughly 100 billion tonnes of raw materials from the earth. Most of it ends up as waste. The industrial model that powered two centuries of economic growth was built on a simple model: We extract resources from the earth, turn them into products, use them for a while, and then throw them away. It has worked for a while; however, this “take-make-waste” model is now running into hard limits. Landfills are swelling, oceans are filling with plastic, and the climate is shifting in ways that threaten food systems, cities, and livelihoods. The concept of a circular economy gives us a different way of thinking about production and consumption.

At its core, a circular economy is a system designed to eliminate waste and keep materials circulating for as long as possible. Instead of discarding products at the end of their useful life, products are designed to be repaired, reused, remanufactured, or recycled back into new products. For example, office chairs designed with modular parts allow us to unclip and replace just a worn-out cushion, keeping the durable metal frame in use for decades instead of sending the whole chair to a landfill. The Ellen MacArthur Foundation, which has done more than any other organisation to popularise the concept, frames it around

three principles: design out waste and pollution, keep products and materials in use, and regenerate natural systems.

Why is a circular economic model central to sustainability?

The connection between how we produce things and the environmental crises we face is direct. Resource extraction and processing account for roughly half of global greenhouse gas emissions; material use also drives habitat destruction, water stress, and soil degradation. A circular approach reduces the demand for virgin materials, cuts emissions tied to extraction and manufacturing, and lessens pressure on ecosystems. It also builds economic resilience. Countries that depend heavily on imported raw materials are exposed to price shocks and supply disruptions. Using materials more efficiently is not just an environmental goal. It is an economic one. And it connects directly to several of the UN Sustainable Development Goals, from responsible consumption to climate action.

How does the circular economy work in practice? The first step is design. A product designed for easy disassembly and repair stays in use longer and is far easier to recycle at the end of its life. For example, modular electronics, clothing made from mono-materials, or packaging engineered to be composted rather than landfilled.

Beyond design, circular systems depend on strategies that extend product life. Patagonia’s repair programme and IKEA’s

furniture buyback schemes are well-known examples, but smaller and less visible operations matter just as much.

When products do reach the end of life, responsible recycling and material recovery close the loop. However, it is important to note that the quality of recycling matters a lot, too. Downcycling a plastic bottle into a lower-grade product is better than landfilling it, but it is not truly circular.

Underlying all of this are new business models. Leasing instead of selling, product-as-a-service arrangements, and take-back schemes shift incentives so that companies benefit from durability rather than disposability. None of this works without coordination and intent from producers, consumers, and broadly, everyone involved in the economy.

Now, the question arises: What is our role in the circular economy? The circular economy is a concept that also involves actively reshaping everyday choices. When we repair a phone instead of replacing it, buy second-hand clothing, share tools within a community, or choose products with minimal packaging, we are supporting circular systems.

Governments also play a critical role. Policies such as extended producer responsibility (EPR), right-to-repair laws, and landfill taxes create incentives for companies to design better products. Without policy support, circular practices

often struggle to compete against cheaper, disposable alternatives.

In other words, circularity is not a lifestyle trend; it is a shift that requires effort and coordinated action from everyone.

Many people think recycling alone makes an economy circular. It doesn’t. Recycling matters, but it’s the last resort, not the first. A truly circular system starts by using less, then reusing and repairing what we already have. Only when something can no longer be used should it be recycled. Even then, recycling takes energy and often weakens materials over time. If products aren’t designed properly in the first place, they may not be recyclable at all. That’s why good design sits at the heart of circular thinking.

The linear economy helped build the modern world, but it was never designed to last forever. As environmental pressures grow and resources become more strained, continuing to extract, use, and discard at today’s scale is no longer sustainable. The circular economy offers a practical alternative that rethinks waste as a design failure and treats materials as valuable resources rather than disposable goods. If sustainability means securing a livable future, then moving toward circularity is essential.

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