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# Circular economy

'The circular economy' describes human value systems which minimise waste by repurposing by-products and discards. The unwanted outputs of one value chain become the feedstock of another, or are fed back into the original system, creating loops. While the idea of the circular economy is not new, it has been moving rapidly towards the mainstream in the last few years.

A number of factors are pushing commerce and sectors to think beyond waste as something with no value, presenting only the problem of safe disposal, and to reframe it as a resource, generating both efficiencies and opportunities.

One factor is resource shortages, prompting new quests for secure supplies. Another is increasing demand for supply chain transparency; this, in turn, is driving awareness among business and [consumers](#) of the sheer amount of waste generated by systems of linear consumption. Global waste production has risen tenfold over the last century, the journal Nature reports, straining landfill sites and polluting the oceans. [1]

Already, examples of the circular economy in action are credited with increasing rates of employment, capital productivity and competitive advantage through better resource efficiency and resilience against volatile resource prices. Meanwhile, social and technical innovations in reuse, recycling, upcycling and new applications for biodegradable materials are helping to minimise waste.

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Footnotes:

1. [Nature \(2013, Oct\)](#)

## Implications

- Cost savings and material efficiencies will continue to support the emergence of circular economies.
- Barriers to scale include the need for regulatory change, new technology, cross-industry collaboration and changes in consumer behaviour.
- The ideal circular economy goes beyond recycling: it requires a company to rethink its relationships with suppliers and end-users too, accessing new skills and developing new incentives, so that value is retained and regenerated as materials are re-circulated. This could disrupt some sectors, and may incite resistance.

## Current trajectory

- Circularity is not a new concept. In Guangzhou, China, farmers have perfected the Dike-Pond System over the past 2000 years. It integrates intensive agriculture with the polyculture of carps and other freshwater fish, on a geographic and economic scale unrivalled elsewhere in the world. The water and land synergies create food and bioenergy for a waste-free ecosystem. [1]
- The idea of a transition from linear to circular economies today has largely been driven by the Ellen MacArthur Foundation. The Foundation collaborates with Global Partners (such as Cisco, Kingfisher, Philips, Renault, Unilever), and its CE100 network (businesses, governments and cities), to develop

circular business initiatives and build capacity. It is also reaching out to educational institutions to promote learning on the circular economic. [2]

- According to the Ellen MacArthur Foundation, if companies focused on building up circular supply chains, over US\$1 trillion a year could be generated for the global economy by 2025, and 100,000 new jobs created for the next five years. Currently, only 20% of material goods are recovered, primarily to be reused or decomposed. [3]

Footnotes:

1. [Institute of Science in Society \(2006, Oct\)](#)
2. [McKinsey \(2015\).](#)
3. [The Ellen MacArthur Foundation, WEF and McKinsey & Company \(2014\)](#)