

# Sustainability business insights

The circular economy

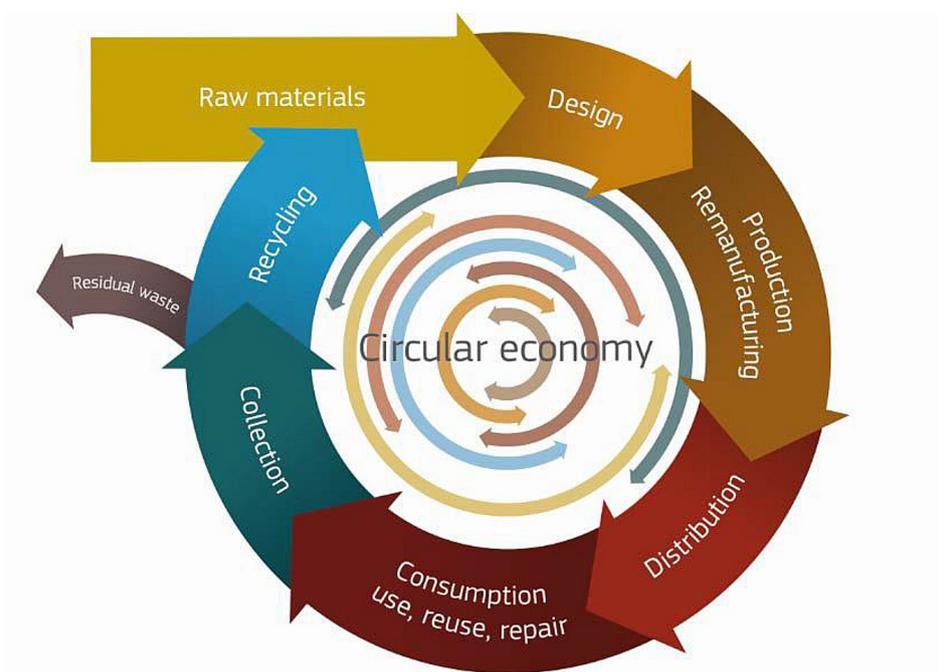


## Introduction

For over 250 years the global economy has been based on the **linear economy model** of “take, make, use and discard”. Businesses and governments around the world are increasingly acknowledging that growing demands on natural resources now pose a threat not only to economic growth, but also to environmental and geopolitical stability. This is being driven by growth in the global population (9.5 billion by 2050); increasing consumer affluence which is leading to a much greater demand for goods; and increasing use of materials dependent on resources at risk. “Business as usual” is no longer sustainable and for economies around the world to continue to thrive and survive, resource use must be decoupled from economic growth.

The **circular economy model** can provide a viable and scalable alternative that decouples growth from resource use and enables economic development within the Earth’s natural resource limits. It is based on the principles of **designing out waste and pollution**, keeping products and materials in use, and regenerating natural systems.

Figure 1 – The circular economy [Source: European Commission DG Envi]



### The circular economy global opportunity

Only 9% of the 92.8 billion tonnes of minerals, fossil fuels, metals and biomass that enter the global economy are re-used annually (The EU Circularity Gap Report (2019)).

**Transitioning to a circular economy** can shift the focus on using globally finite and scarce resources much more efficiently towards **reusing** resources.

**Estimated global savings of €1.8 trillion** are potentially available to businesses that transition to more circular ways of working.

Figure 2 – Waste to Wealth-P. Lacey & J. Rutqvist

#### Four known linear economy wastes

**Wasted resources**-materials and energy that cannot be continually regenerated. They are consumed and gone forever when used.

**Wasted capacity**-products with capacity that sit idle unnecessarily. For example, cars typically sit unused 90% of the time.

**Wasted lifecycles**-products with artificially short working lives or those disposed of even if there is still demand for them from other users.

**Wasted embedded values**-components, materials and energy that are not recovered from disposed products and put back to use.

Opportunities for businesses can be found where a **large resource exposure** exists or a significant opportunity to eliminate one, or some, of the four identified types of linear wastes above.

The circular economy is now a key policy priority in leading economies including the European Union and China, which signed a Memorandum of Understanding on Circular Economy Co-operation in 2018. This is paving the way for a global shift towards an economic system that works for business, people and the environment. The Scottish Government has taken a strong leadership role to position Scotland as a world-leader in applying circular economy practices. As winners of the World Economic Forum's prestigious Award for Circular Economy Governments, City & Regions, its policy leadership is already recognised internationally. Scotland's circular economy strategy, [Making Things Last](#) (2016), sets out its clear vision and priorities for action to move towards a more circular economy. More recently it set a series of new ambitious targets to drive circularity across the economy.

### Why should businesses adopt more circular practices?

Businesses are recognising the benefits of the circular economy as a strategic opportunity to increase their competitiveness and as a means of achieving real market advantage with increasingly environmental savvy customers and consumers. Advantages in taking action can include:

- Protection from risks posed by scarce resources and volatile pricing
- Productivity improvements by reducing demand and costs of raw materials
- Innovation through product re-design. For example, for longevity, disassembly, re-use and re-manufacture
- Creation of new products and market opportunities resulting in new revenue streams
- Enhanced customer and supplier relationships through new value propositions
- Opportunities for symbiotic collaborative working across many different industries

### How can businesses adopt more circular practices?

The five circular business models identified below by Accenture ([Circular Advantage Report \(PDF\)](#)) offer ways, either alone, or in combination, to drive resource productivity improvements in innovative ways that can reduce costs, generate revenue streams and enhance customer value and differentiation.

Figure 3-Accenture-Circular Advantage Report (2014)

#### Five circular business models

1. **Circular supplies**-fully renewable, recyclable or biodegradable input material to replace single-lifecycle inputs.
2. **Resource recovery**-recovery of useful resources/energy out of disposed products or by-products.
3. **Product life extension**-extension of the working lifecycle of products and components by repairing, upgrading or re-selling them.
4. **Sharing platform**-facilitates increased utilisation rates of products and components by making shared use, access or ownership possible.
5. **Product as a service (or servitisation)**-offers product access to customers but retains ownership to internalise the benefits of circular resource productivity.

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Finding the right way of adopting new models within a business will be wholly dependent on **understanding how and which to use** to either protect its existing value proposition, capture additional value, or change the way it delivers value to its customers.

### What actions need to be taken to get started?

Businesses should consider the following aspects in order to prepare for any changes they make to the way they deliver value to their customers.

### Risks and opportunities

- Check for exposure to any finite or scarce resources
- Check environmental legislation that applies to key resources used
- Identify opportunities that exist due to inefficiencies in the current value chain to minimise or eliminate these through the adoption of one or more of the business models above

### Value chain

- Identify and understand how and where real value is delivered to customers. For example, is it in product(s) or is it with customers?
- Investigate where and how value can be monetised across the whole life cycle of product(s)
- Identify how more value can be created and how this can be delivered without any being lost to third parties. For example, lost to waste management companies as products are recyclable but not returned to enable the recovery of valuable resources

### New technologies and digitisation

- Identify and understand current and future trends in technologies in science, engineering and/or digital, that could impact the business
- Identify how these developments could disrupt the existing value chain
- Identify fast changing technological developments that could enable the scaling up of more circular approaches. For example, remote visibility or control of assets or enabling of dematerialisation

### Skills and capabilities

- Assess whether it has the skills and capabilities required to support circular business models(s) selected. For example, strategic management, sales/marketing, engineering
- Consider whether different types of raw materials require to be sourced from suppliers, from the existing value chain or via a closed loop system
- Consider if the business has the requisite skills it will require in: business planning and strategy development; innovation, and product and service development; procurement and manufacturing; sales and marketing; reverse logistics and return chain

### Timing

- Decide how quickly changes must be made, for example, first mover advantage
- Consider whether there is already a market segment or new markets seeking new circular offerings
- Identify whether circular products would add value to existing customers or products and services
- Consider how barriers to change could impact the business, for example, cultural and financial

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### Support, Guidance and Case Studies

The Ellen MacArthur Foundation provides a range of downloads for information on the Circular Economy as well as tools and case studies [www.ellenmacarthurfoundation.org/](http://www.ellenmacarthurfoundation.org/)

Zero Waste Scotland Circular Economy Team  
[www.zerowastescotland.org.uk/our-work/circular-economy](http://www.zerowastescotland.org.uk/our-work/circular-economy)

Scottish Institute for Remanufacturing [www.scot-reman.ac.uk/](http://www.scot-reman.ac.uk/)

References:

*Waste to Wealth –The Circular Economy Advantage* (2015) Peter Lacey & Jacob Rutqvist

<https://circulareconomy.europa.eu/platform/en/news-and-events/all-news/2019-circularity-gap-report-reveals-world-only-9-circular-and-trend-negative>

Raw Materials Critical to the Scottish economy: Non-technical summary-ER27

[www.sepa.org.uk/media/163166/raw\\_materials\\_non-technical\\_summary.pdf](http://www.sepa.org.uk/media/163166/raw_materials_non-technical_summary.pdf)



If you are interested in finding out more about the topic of this guide or any other aspect of making your business more sustainable please contact the Scottish Enterprise Sustainability team by emailing [sustainability.specialists@scotent.co.uk](mailto:sustainability.specialists@scotent.co.uk).