



Circular economy in the business sector

Anthi Charalambous

Director ideopsis Ltd

a.charalambous@ideopsis.com

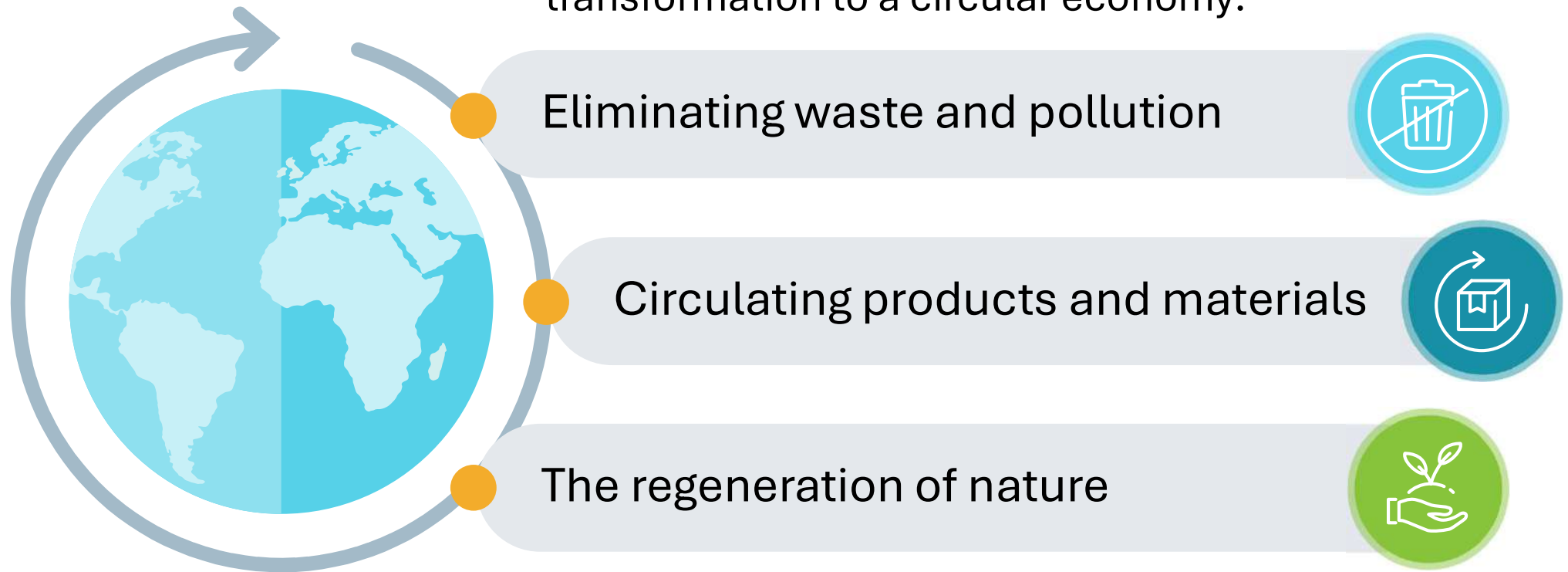
www.ideopsis.com



The Three Principles of Circular Economy

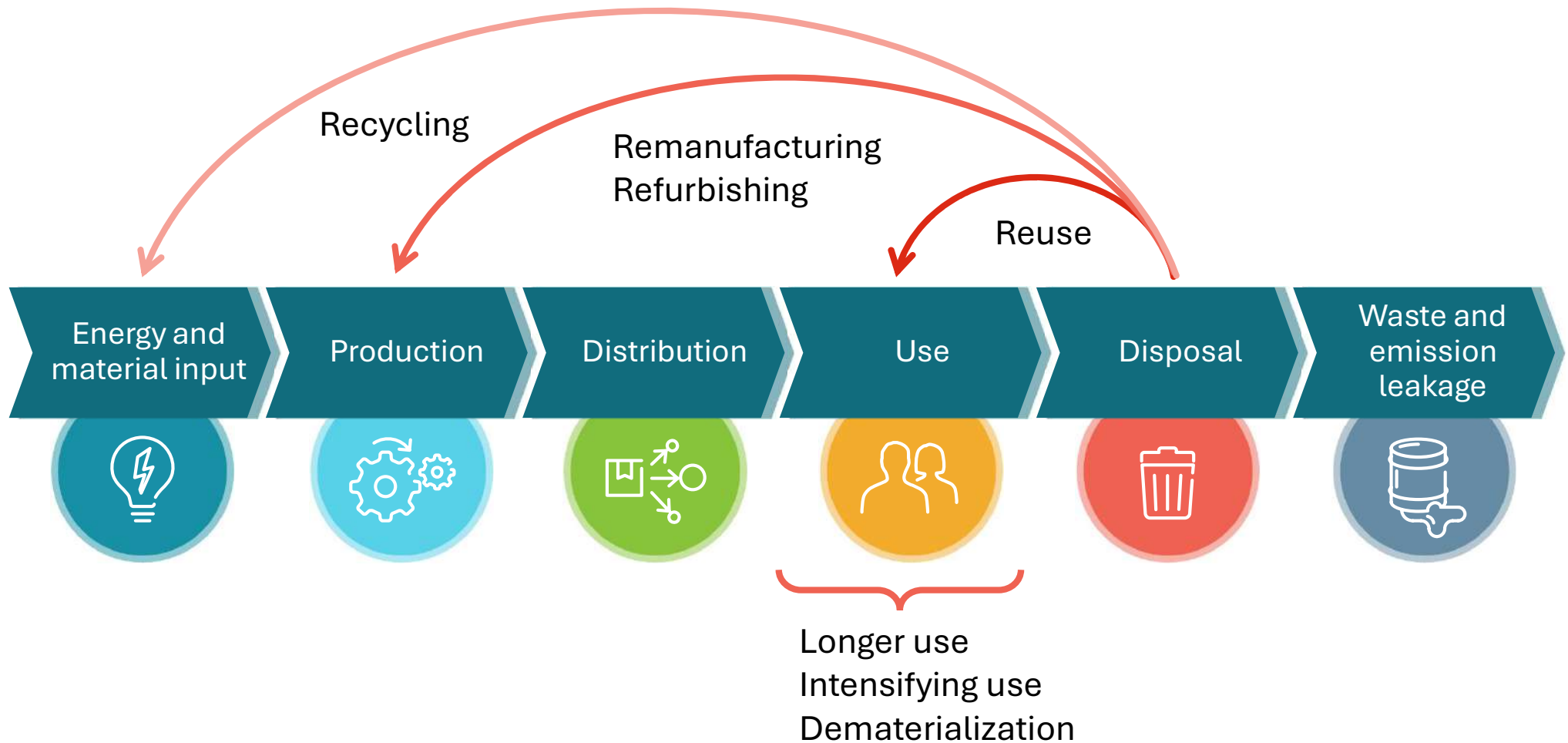
Eliminating Waste, Circulating Products, Regeneration of Nature

The three principles needed for the transformation to a circular economy:



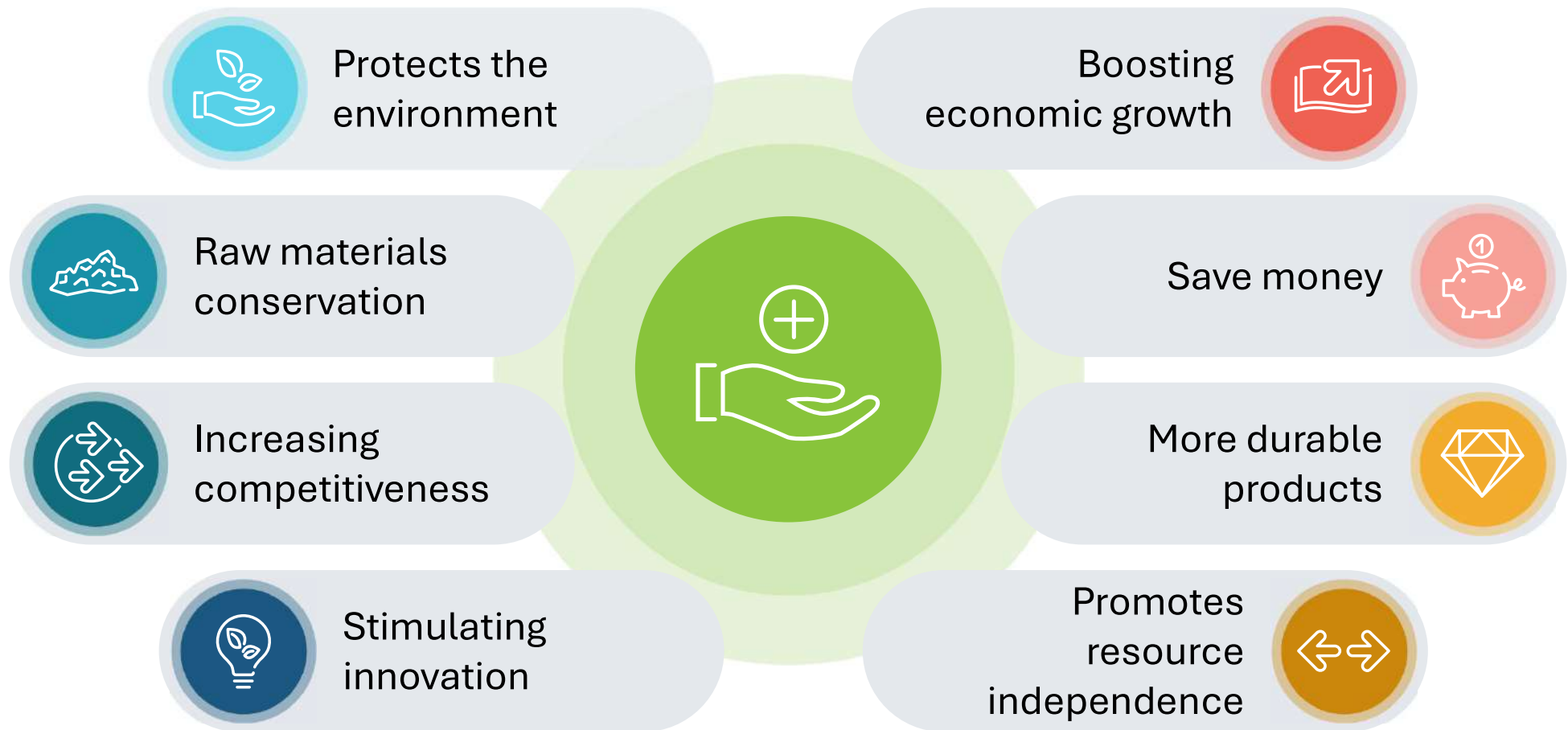
Circular Economy vs Linear Approach Diagram

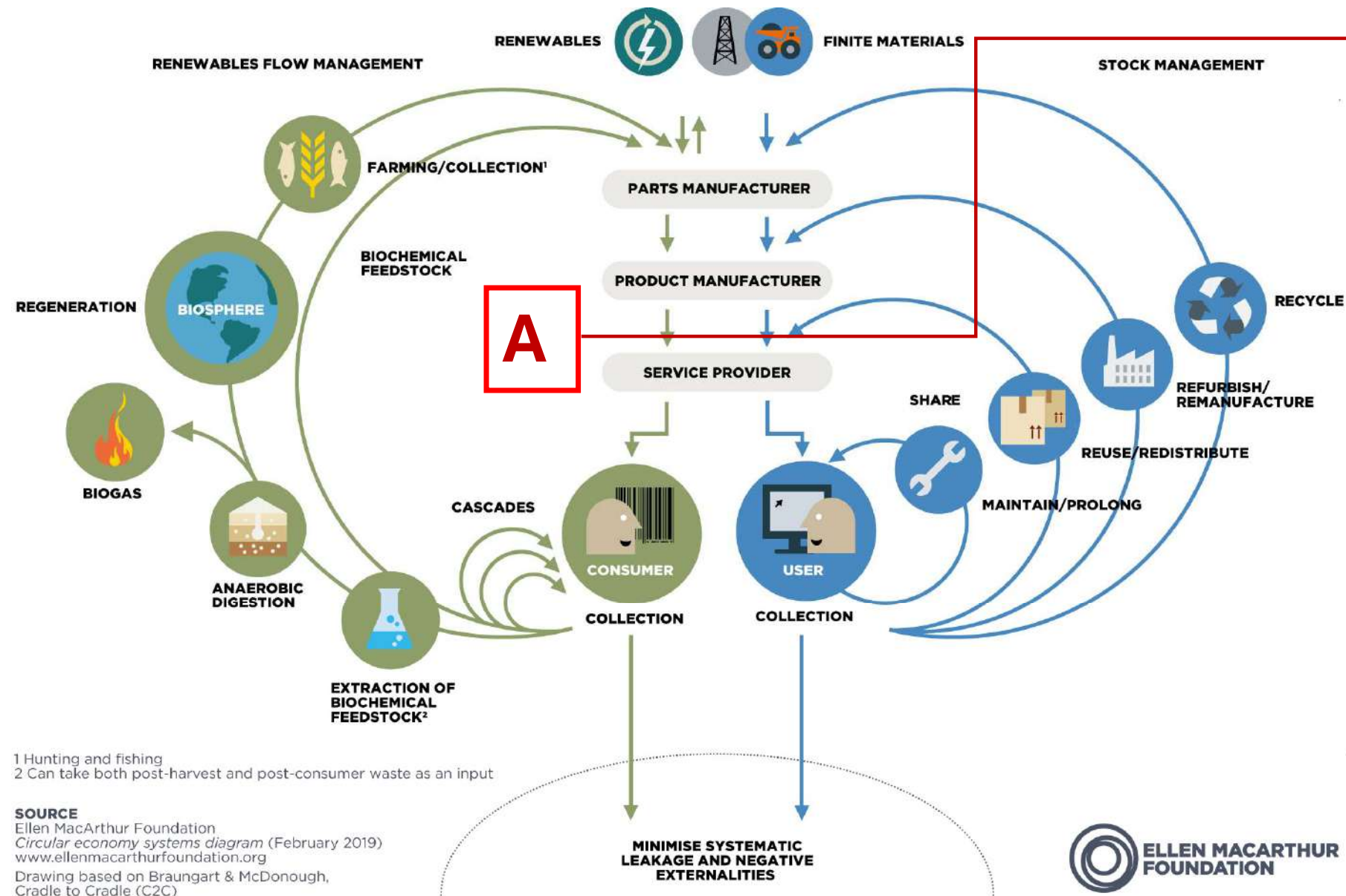
Energy, Production, Distribution, Use, Disposal, Waste, Emission Leakage



Benefits of the Green Sustainable Economy

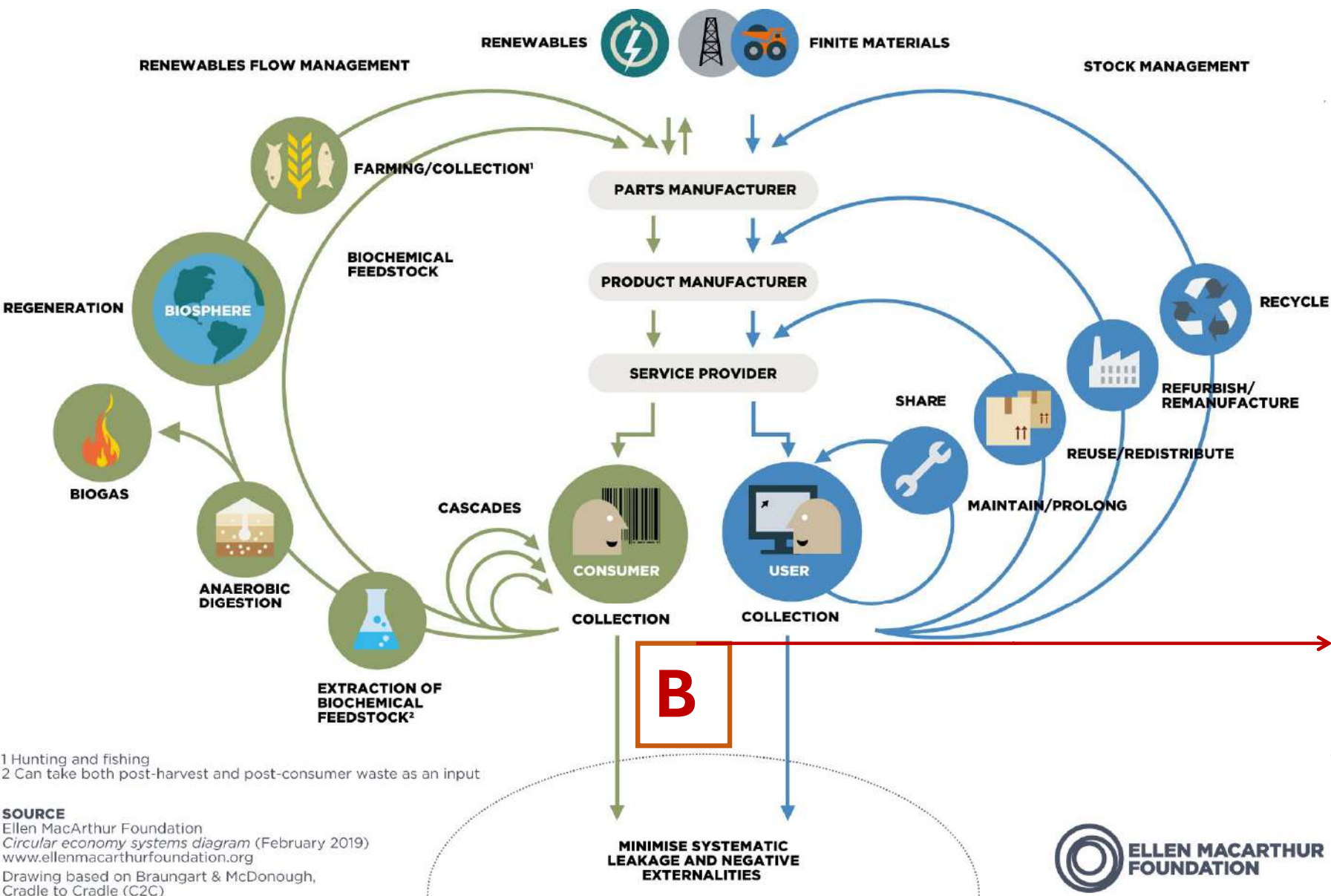
Environment Protection, Conservation, Economic Growth, Innovation, Resource Independence





Skills- Circular Product Design & Production

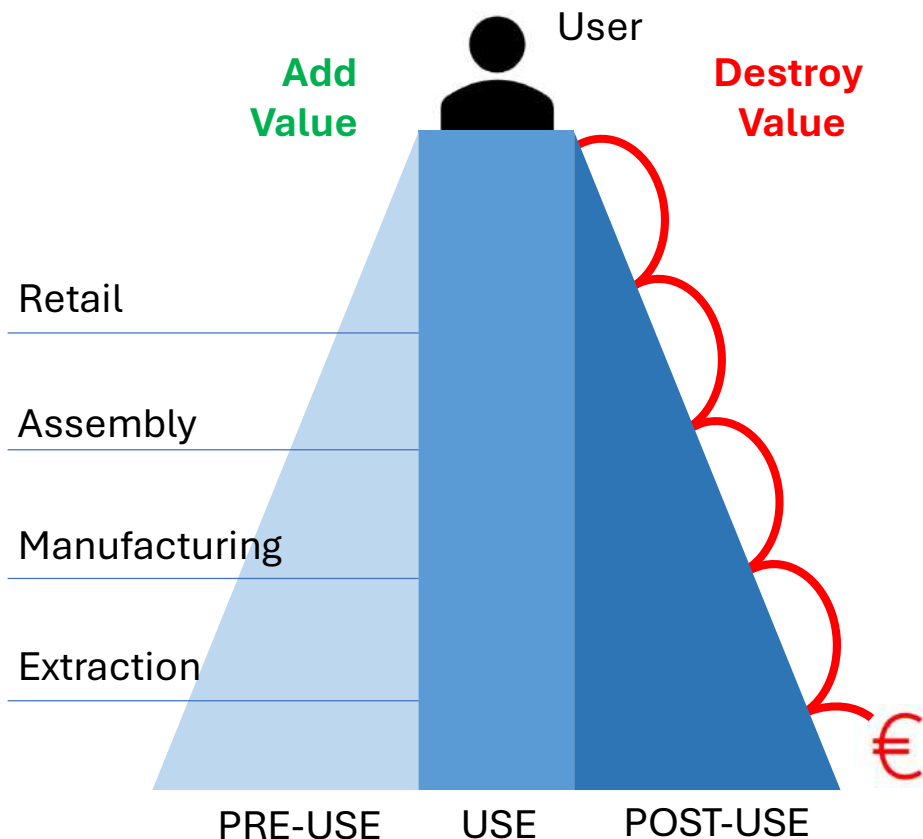
Improvements in circular product design are crucial for the transition to the circular economy. Some strategies include design for easy separation of biological and technical materials, ease of disassembly, zero waste production, use of materials that are free of toxic substances. Innovation plays a very important role.



New business models

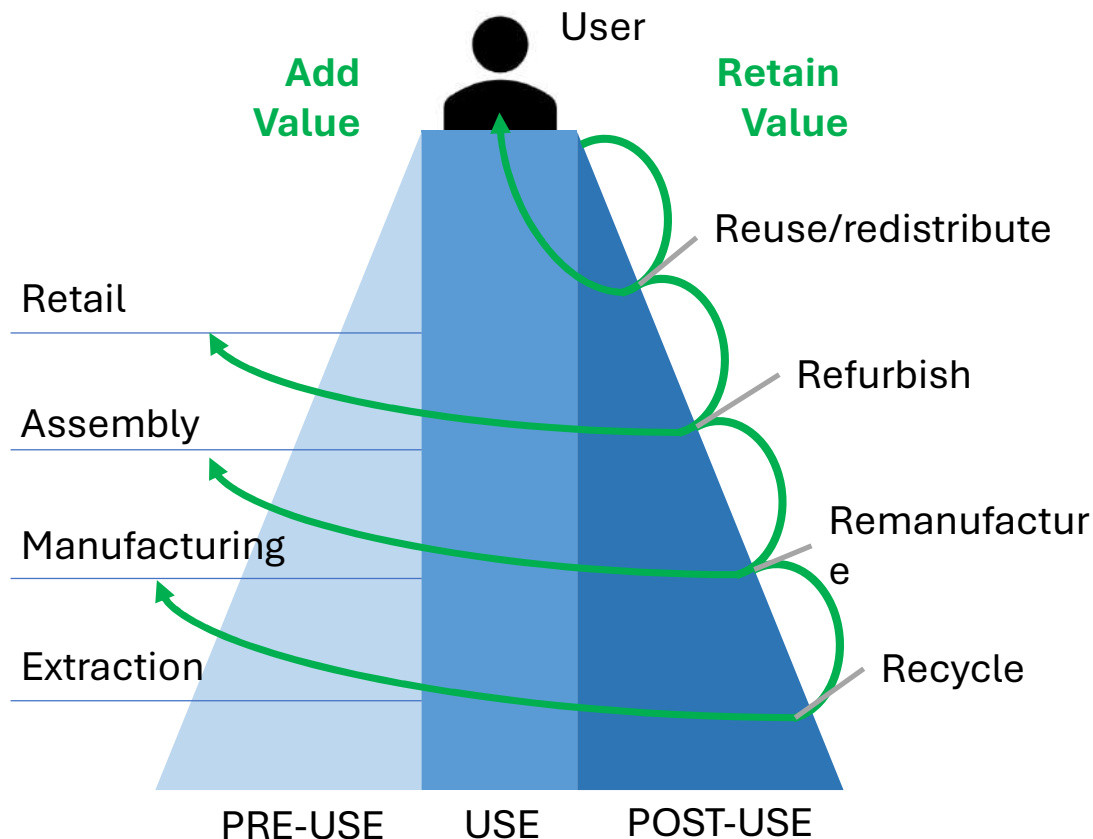
For the success of the transition to the circular economy a change of business model is required

Value in a linear economy



- Traditional business models generally focus on sales, with revenues primarily derived from selling as many products as possible.
- This creates an incentive for producers to design products with relatively short lifespans, encouraging frequent repurchases.
- As a result, old products often end up in landfills or are incinerated, quickly destroying the value created during the manufacturing process.
- Value is added as the product progresses through its life cycle (the upward slope), reaching its peak at the top.
- After a relatively short period, the product's value rapidly declines, and its price drops accordingly.

Value in a circular economy

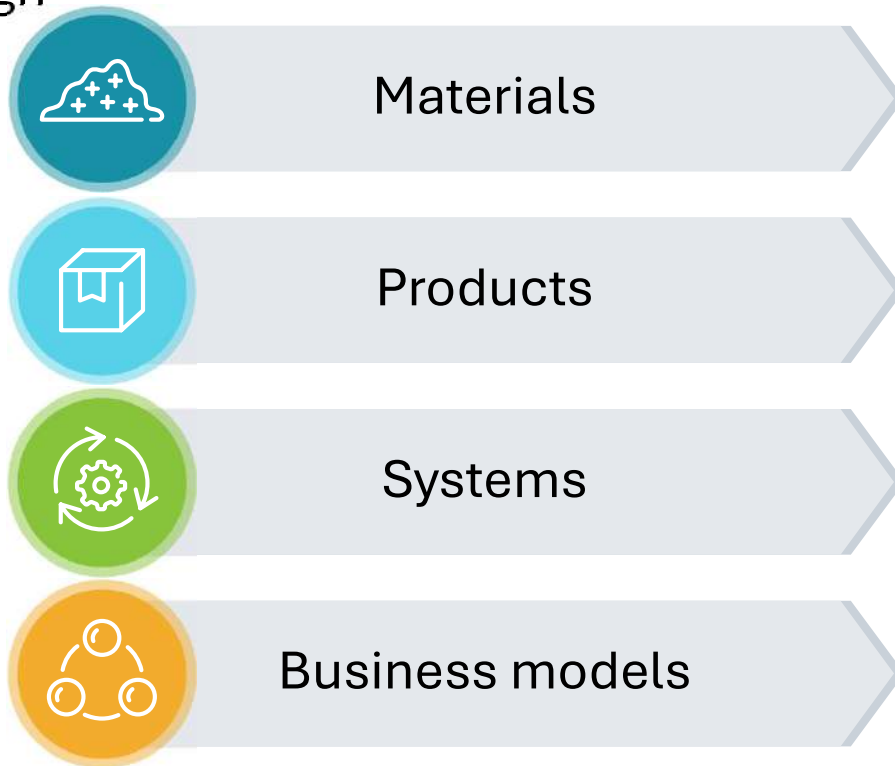


- Circular business models aim to preserve the added value of a product for as long as possible.
- Value is created as the product moves "uphill," and circular strategies are designed to keep it at peak value (the top of the hill) for an extended period.
- Products are designed for durability, ease of maintenance, and repairability, which slows resource consumption and extends their use phase.
- When a product eventually begins its "downhill" phase, the decline is managed gradually, allowing its remaining resources to be reused or reintegrated into other systems.

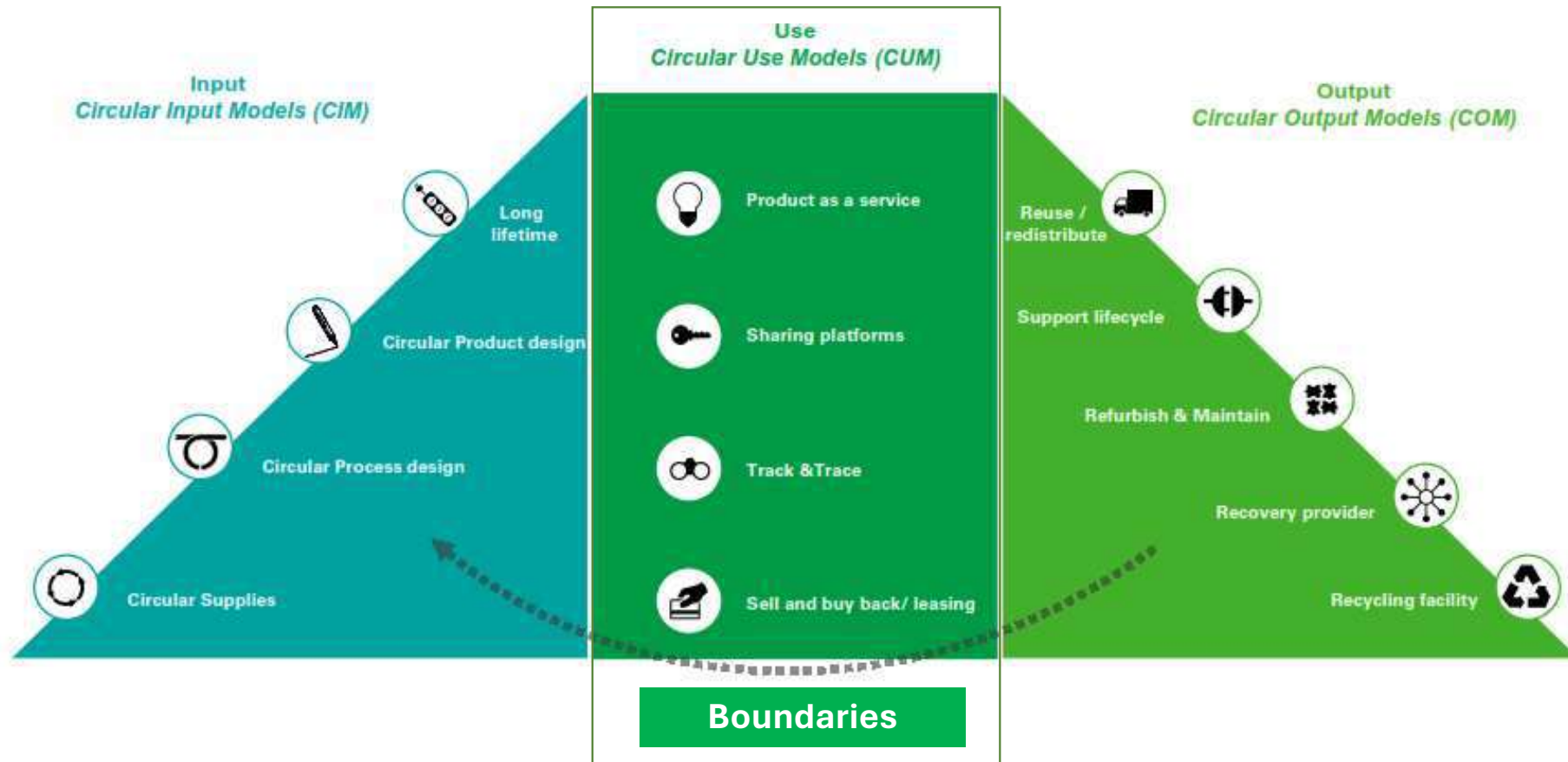
Circular Economy - How to Reach Goals

Materials, Product, Systems, Business models

CE aims to reach those goals through smart design



Circular Business Models



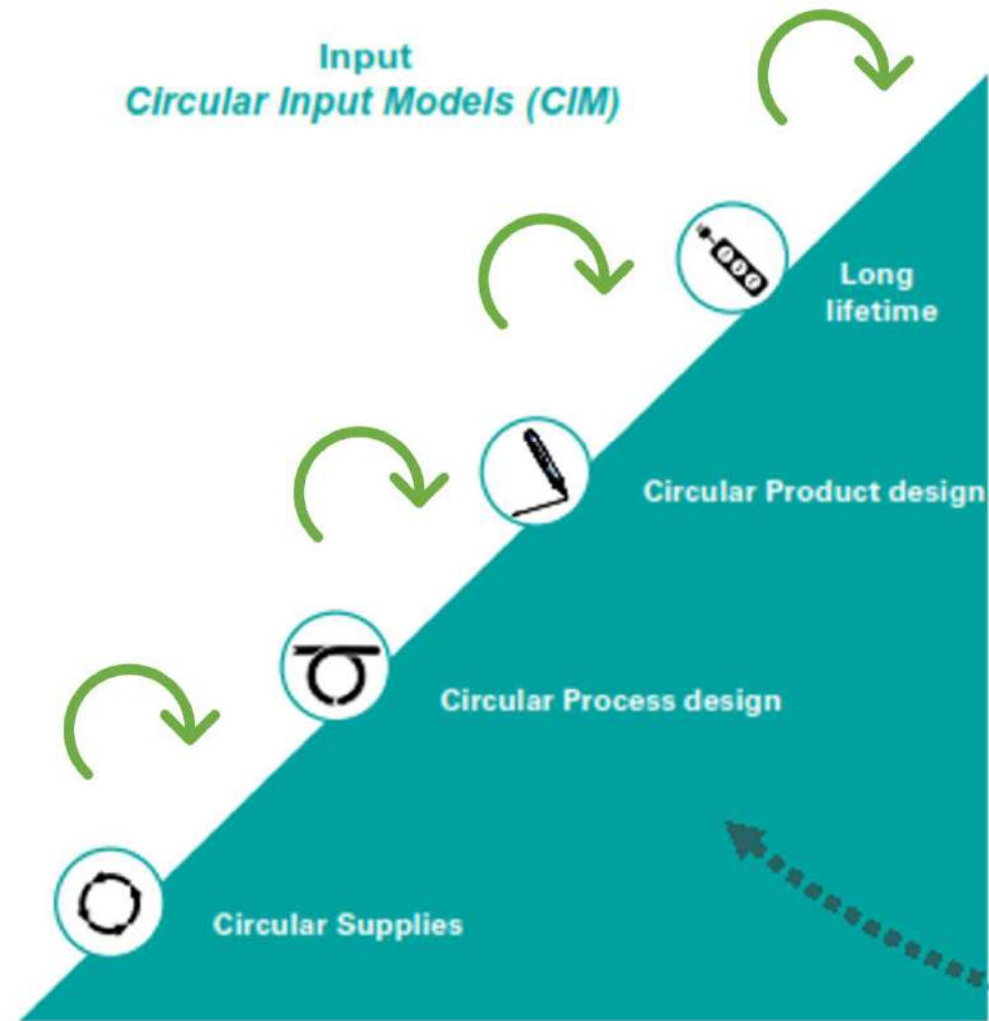
Circular business models in the supply chain

Circular Input Models (CIM)

Circular Input Models (CIM)		
Business model	Explanation	Examples
 Circular supplier	The circular supplier provides raw materials such as renewable energy, biodegradable, fully recycled materials, etc.	https://www.smurfitkappa.com/
 Process design	Development of processes that improve the potential for reuse, recycling of industrial products or by-products and minimise waste	http://www.desso.com/
 Product design	Creating products that are designed to have a longer lifespan, be easy to maintain, repair and rebuild (e.g. modular)	https://www.fairphone.com/en/
 Long lifespan	Classic business model where long-life materials are sold at higher prices	https://www.bundles.nl/

Circular INPUT Models (CIM)

1. Circular suppliers
2. Circular process design
3. Circular design of products and services
4. Extended/Long Lifetime



EXAMPLE: Circular Supplier



Smurfit Kappa is one of the leading providers of paper-based packaging in the world, with operations in 22 European countries, 13 countries in the Americas, and 1 country in Africa.

Almost all the raw materials are sourced from **Smurfit Kappa** paper mills.

Smurfit Kappa global paper and board capacity is approximately 8,3 million tonnes per annum.

Smurfit Kappa provide recycling solutions to ensure that clients' corrugated packaging and paper is recycled responsibly, efficiently and reliably.

Smurfit Kappa reprocess over 8 million tonnes of recovered paper across the globe.

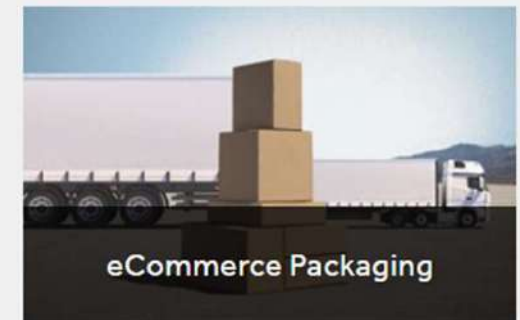
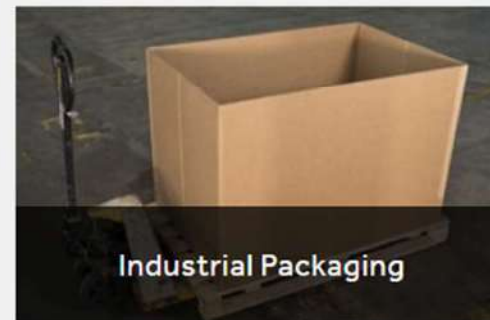
Smurfit Kappa own approximately 68.000 hectares of forest globally.

Smurfit Kappa forest estate management is based on sustainable development principles, promoting economic growth, a responsible use of natural resources and fostering social equity.

EXAMPLE: Circular Supplier



Our packaging solutions are designed to your requirements



<https://www.smurfitkappa.com/products-and-services>

EXAMPLE: Circular Supplier



<https://www.biopak.com/uk/>

EXAMPLE: Circular Process Design



<https://www.youtube.com/watch?v=1Ex8ZyPksoo>

https://professionals.tarkett.com/en_EU/node/circular-flooring-with-circular-selection-sustainable-flooring-13141

EXAMPLE: Circular Design of Products & Services



The Agency of Design

<https://agencyofdesign.co.uk/design-out-waste>

EXAMPLE: Circular Design of Products & Services

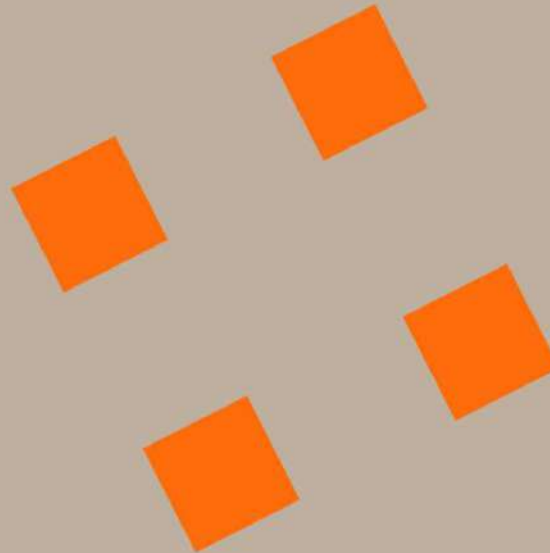


WHAT WE DO

**We design to use again,
so materials don't end
up in the trash. Ever.**

We are material lovers. We redesign products for circularity, so materials won't end up as waste. However, a recyclable product that isn't returned won't be recycled. That's why return is key.

The scannable Niaga® tag enables end users to return their product when they're done using it. This helps recyclers and producers to keep valuable materials in the loop for future generations. That's how the Niaga® tag contributes to a waste-free world.



<https://www.niaga.world/en/what-we-do>

EXAMPLE: Circular Design of Products & Services

Gispen's Repurposed REMADE, Netherlands

The back panel is finished with fabric made from 100% recycled denim and corporate apparel.



REMADE Standing-workstation (A)



REMADE Concentration-workstation (B)



REMADE Phone booth (C)



REMADE Waiting bench (D)

EXAMPLE: Long Lifespan



ZERO WASTE SHAVE KIT

The easiest way to get started with zero waste shaving. Includes all the essentials you'll need to begin a lifetime... [Learn more](#)

\$ 60.00 ~~\$ 67.00~~

STYLE

Butterfly

Butterfly XL

3-Piece

Quantity

- 1 +

ADD TO CART +

Buy with **shop** Pay

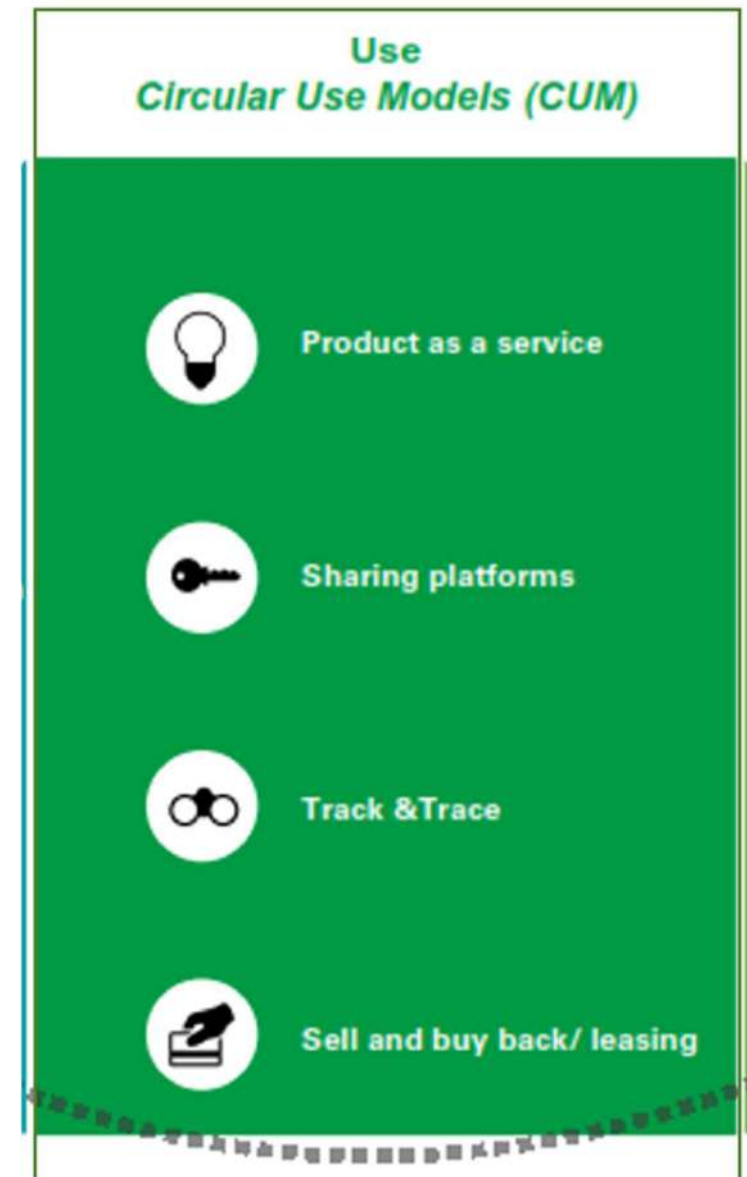
More payment options

<https://albatrossdesigns.it/>

<https://albatrossdesigns.it/products/albatross-shaves-the-world-from-plastic-premiumbutterfly-razor>

Circular USE Models (CUM)

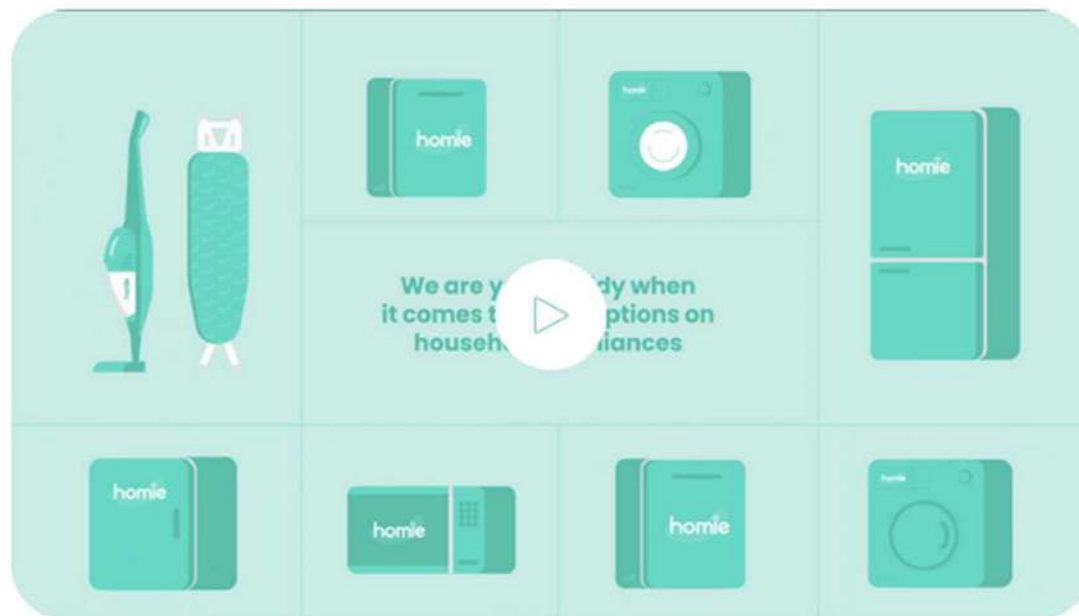
- **Product as a service**
- **Sharing platforms**
- **Track & Trace**
- **Sell & Buy Back/ Leasing**



Circular USE Models (CUM)

Circular Use Models (CUM)		
Business model	Explanation	Examples
 Product as a Service (PAAS)	Delivers product performance rather than the product itself through a combination of product and services. Ownership of the product is retained by the service provider. Primary revenue stream from payments for performance delivered _t .	https://www.homiepayperuse.com/en/our-story/
 Sharing Platforms	Enables an increased utilization rate of products by enabling or offering shared use/access/ownership _t .	https://www2.zipcar.com/
 Tracing Facility	Providing services to facilitate the tracing, the marketing and trade of secondary raw materials _t .	https://www.madaster.com
 Circular Leasing/repurchasing agreements / sell and buy back	Sells a product on the basis that it will be purchased back after a period of time _t .	http://www.desso.com/ https://www.healthcare.siemens.com/

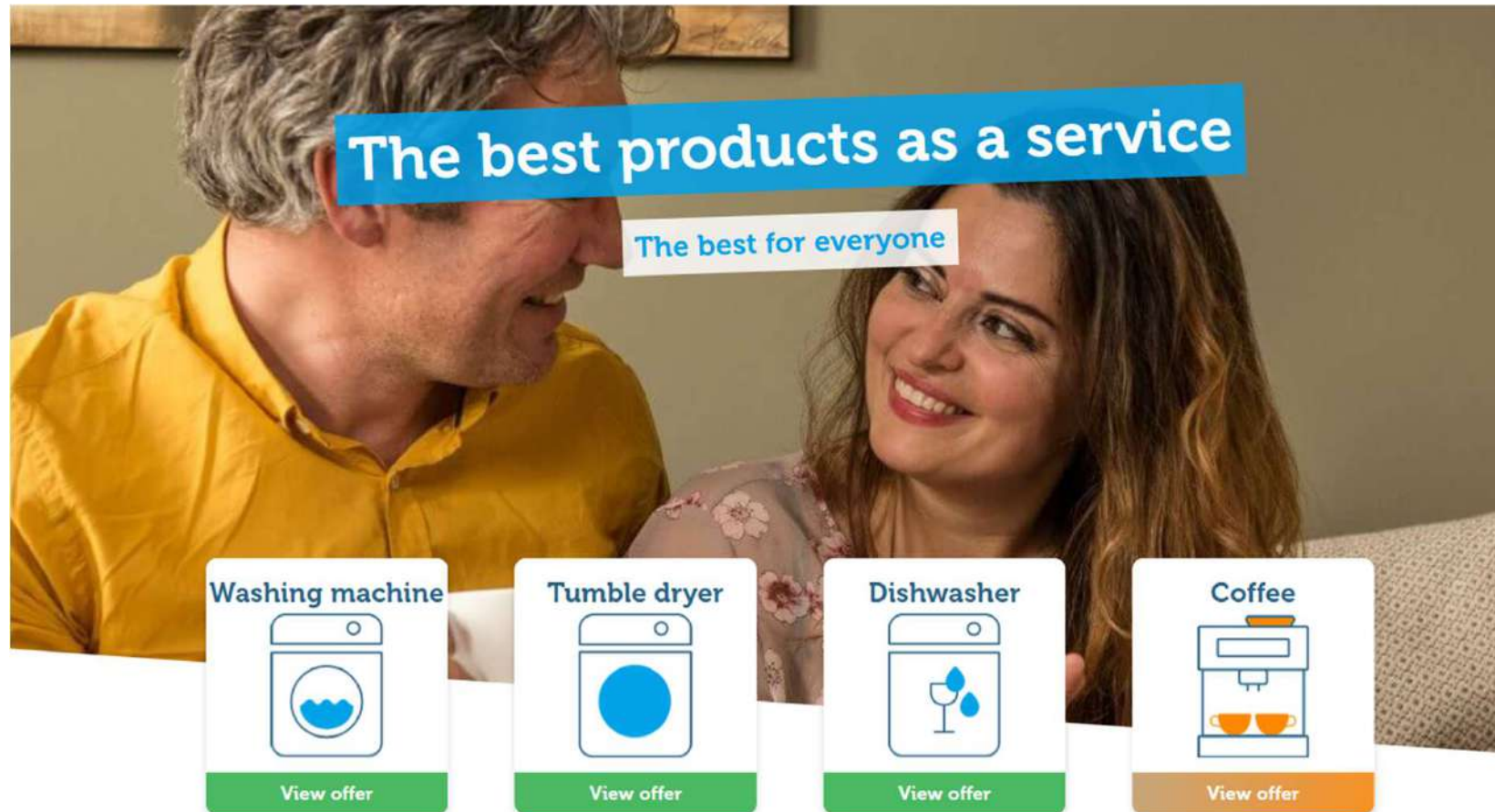
EXAMPLE: Product as a service



Homie contributes to a circular economy by offering its appliances as a service (product-as-a-service) and by encouraging energy-efficient use. The end user only pays for the use of the appliance and Homie remains the owner and therefore responsible for the appliance. With our Pay-Per-Use model you never have to buy an appliance again, whilst we stimulate sustainable and efficient appliance use and encourage manufacturers to develop long-lasting appliances. This promotes the lifespan of devices and reduces energy consumption and CO₂ emissions

<https://www.homiepayperuse.com/en/>

EXAMPLE: Product as a service

An advertisement for Bundles. It features a photograph of a smiling man and woman. Overlaid on the photo is a blue banner with the text "The best products as a service" and a white banner with "The best for everyone". Below the photo are four product cards: "Washing machine", "Tumble dryer", "Dishwasher", and "Coffee". Each card has an icon, a "View offer" button, and a colored footer (green for the first three, orange for the last).

<https://bundles.nl/en/>

EXAMPLE: Tracing Facility



Madaster is a unique, innovative, disruptive online platform that offers users the opportunity to make their real estate data transparent and to comply with statutory rules and regulations.

<https://www.madaster.com/>

EXAMPLE: Sell and Buy Back/Leasing

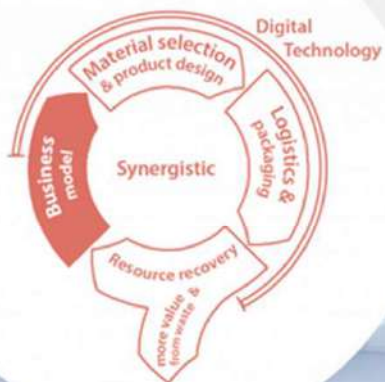


Sustainable and Cost-efficient Healthcare Solutions

AGITO Medical provides flexible rental solutions and cost-efficient medical imaging equipment to hospitals, clinics and distributors worldwide, including spare parts from all major brands.



<https://agitomedical.com/>



#39 Agito Medical - Reselling pre-owned medical equipment



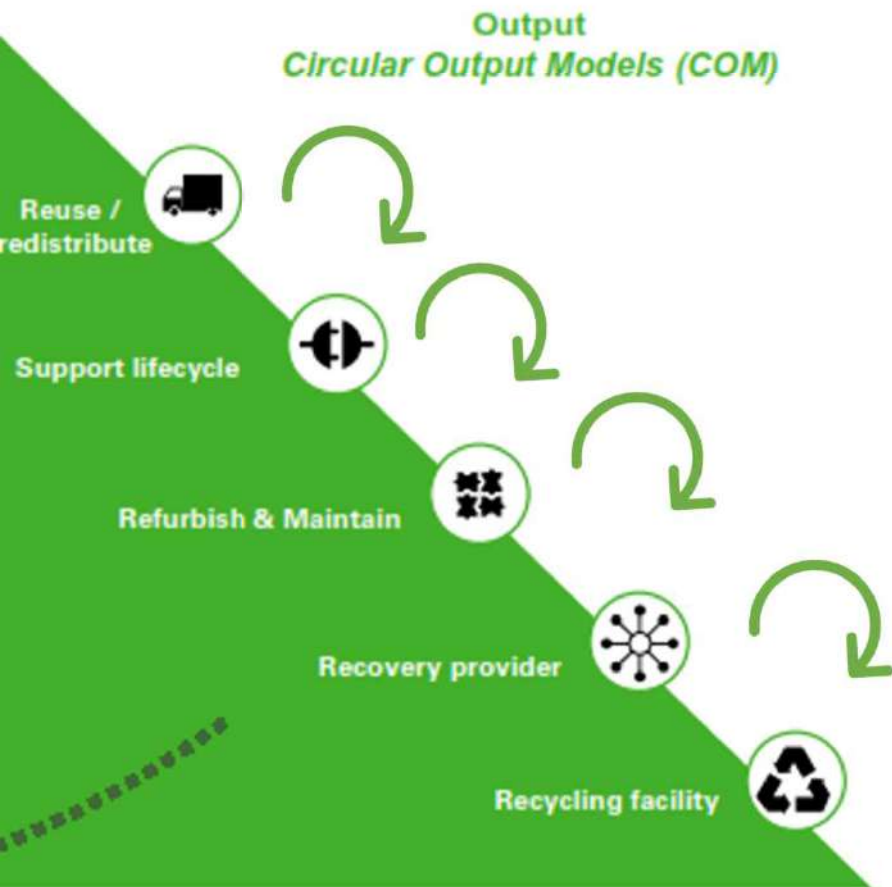
AGITO Medical sells **pre-owned medical imaging equipment** and **spare parts** to European hospitals, and clinics, thus **providing medical equipment to less privileged customers** worldwide.



Read more about this and other Nordic cases of circular economy at circuitnord.com



Circular OUTPUT Models (COM)



- 1. Reuse/Redistribute**
- 2. Support Lifecycle**
- 3. Refurbish & Maintain**
- 4. Recovery**
- 5. Recycling**

Circular business models in the supply chain

Circular Output Models (COM)

Circular Output Models (COM)

Business model	Explanation	Examples
 Reuse/redistribute/ recaptured (material) supplier	Sells used products, materials and components to be used instead of virgin or recycled material.	Second-hand stores, koers group building materials
 Support lifecycle	Sells consumables, spare parts and add-ons to support the life cycle of long-lasting products ₁ .	https://www.goospares.com/
 Refurbish & Maintain	Refurbishes and maintains used products in order to sell them ₁ .	http://recover-e.nl/
 Recovery provider	Provides take-back systems and collection service to recover useful resources disposed products or by-products ₁ .	http://recover-e.nl/
 Recycling facility	Transforms waste into raw materials. Additional revenue can be created through pioneering work in recycling technology ₁ .	http://www.adidas.com/us/parley

EXAMPLE: Reuse/Redistribute

The social enterprise Bristol Wood Recycling Project operates under the Community Wood Recycling network in the city of Bristol and reuses 50% of the wood it receives from businesses, industries and homes in Bristol (the rest is recycled), providing the local community with cheap reusable timber. In the on-site workshop, they can make bespoke furniture for domestic or commercial customers using reclaimed wood.

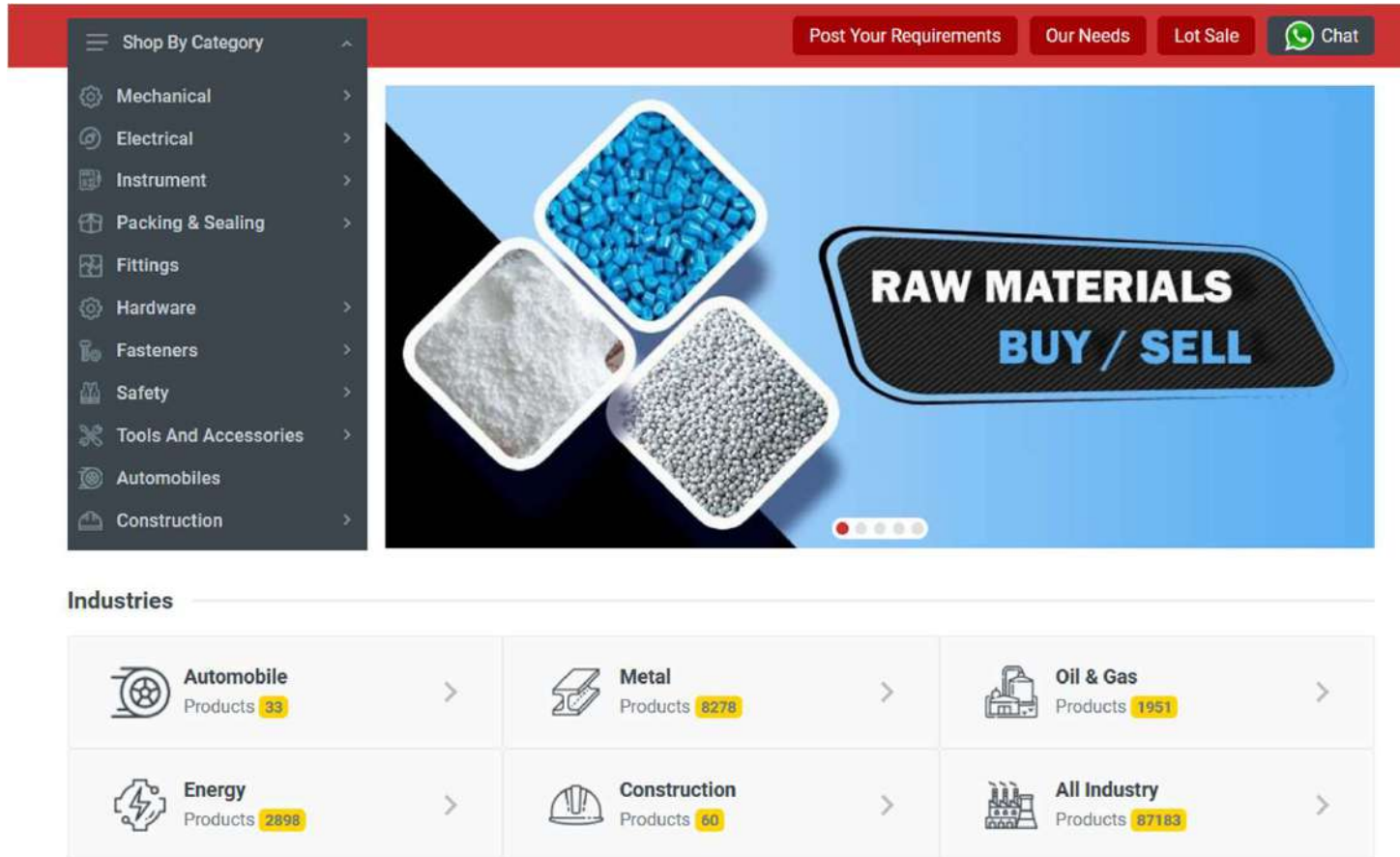


<https://www.bwrp.org.uk/what-how-we-collect>

Recovery for Re-use Second Hand



EXAMPLE: Support Lifecycle



<https://www.goospares.com/>

EXAMPLE: Support Life Cycle



<https://repeat.audio/>

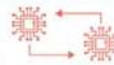
EXAMPLE: Refurbish & Maintain



#35 Refurb – Repair, refurbishment and resale of used IT



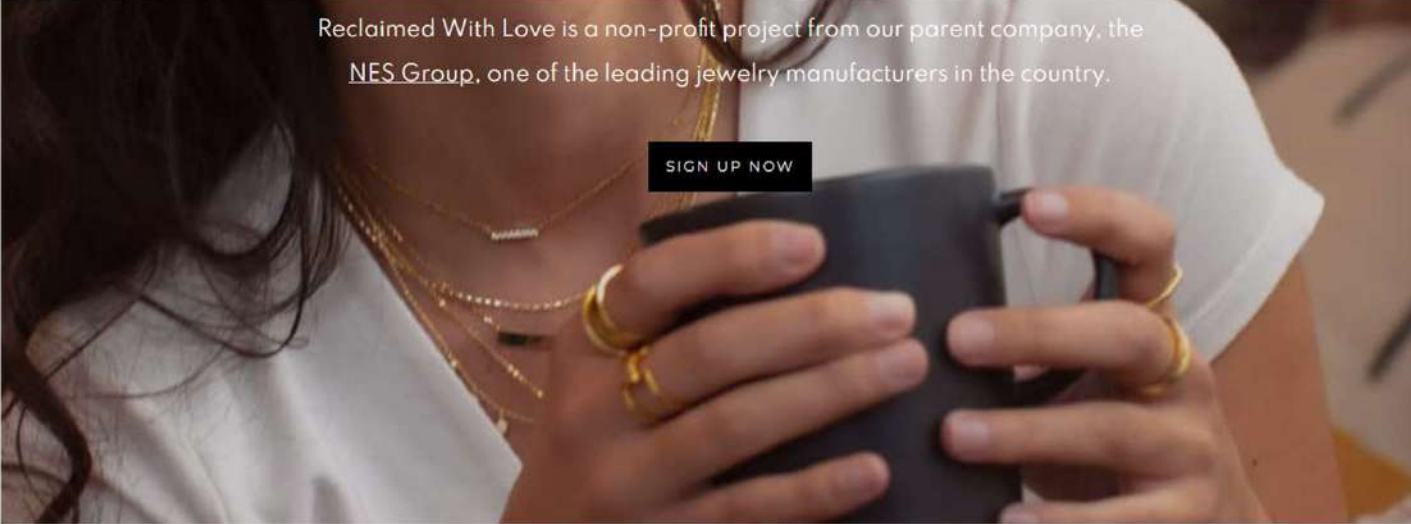
Refurb buys **used IT equipment** and **repairs**, **refurbishes** and **resells** it. The purpose is to make **an alternative** to new IT.

 **Repair**  **Refurbish**  **Resell**

Read more about this and other Nordic cases of circular economy at circuitnord.com

Refurb buys used IT equipment and repairs, refurbishes and sells it. The purpose is to make an alternative to new IT.

EXAMPLE: Recovery provider

A close-up photograph of a woman's torso and hands. She is wearing several gold necklaces of different lengths and styles, and multiple gold rings on her fingers. She is holding a dark-colored mug with both hands. The background is slightly blurred, showing what appears to be a workshop or studio setting.

Reclaimed With Love is a non-profit project from our parent company, the NES Group, one of the leading jewelry manufacturers in the country.

[SIGN UP NOW](#)

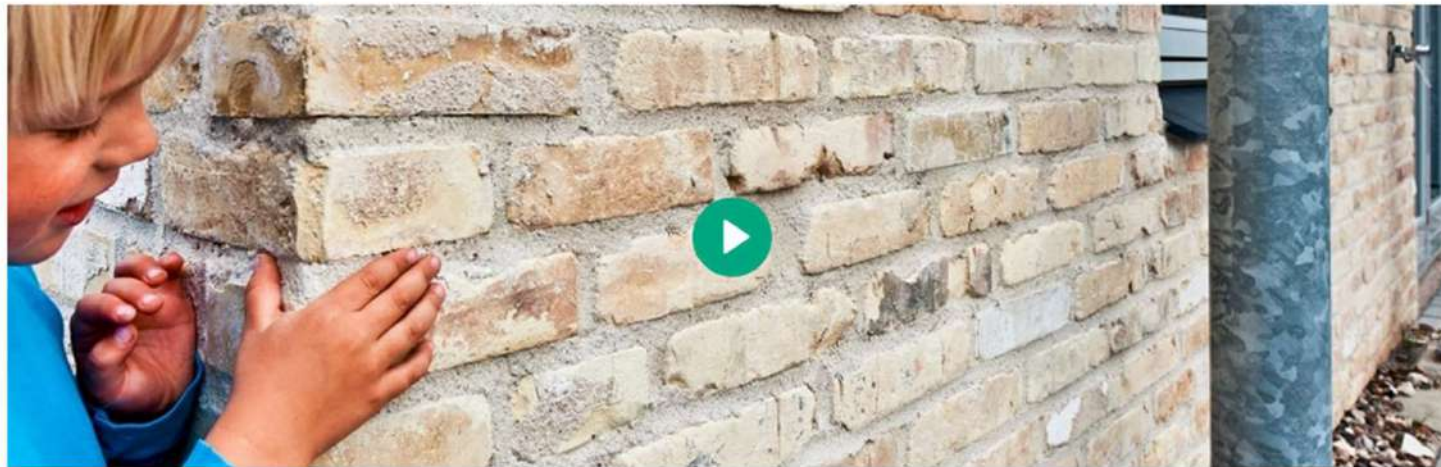
Our Goal is to Reduce the Demand for
New Jewelry by Upcycling Premium
Pieces that Might Otherwise Be
Discarded.

<https://reclaimedwithlove.com/pages/about>

EXAMPLE: Recycling

SOLUTION PROVIDER COMPANY

REBRICK/Gamle Mursten



<https://stateofgreen.com/en/solution-providers/rebrickgamle-mursten/>

Recovery for Recycling



EXAMPLE: Recycling



Enablers (Enablers)

help businesses become circular

**systems
thinking**

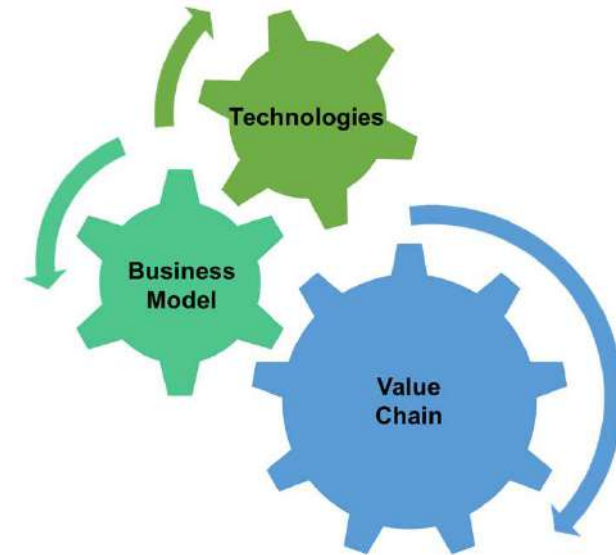
**Innovation and
relearning**

Interested parties

**Partnerships and
Stakeholders**

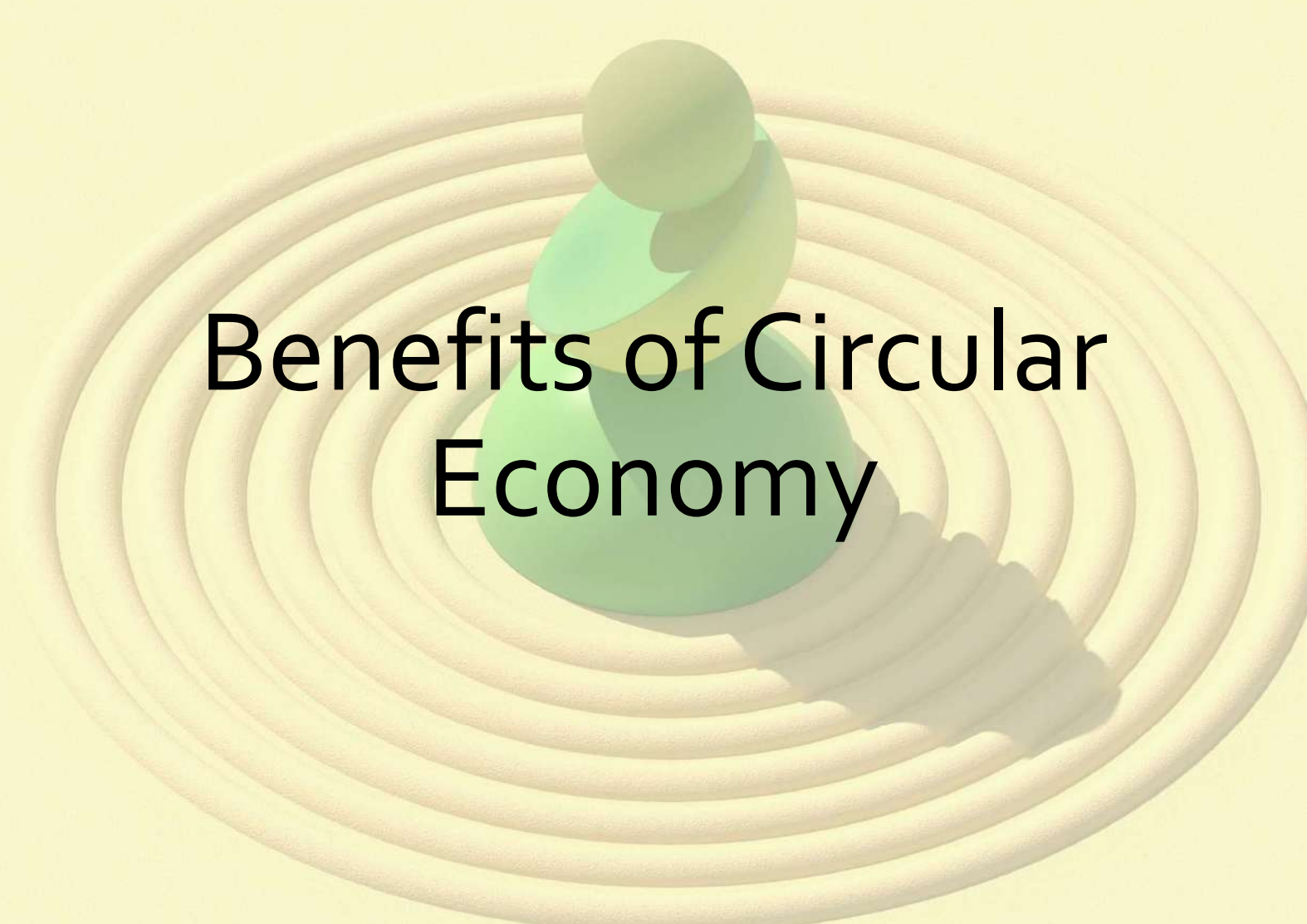
**Certifications
and standards**

**Legislation and
Funding**



and Accelerators (Accelerators)

create the right conditions for
the transition to a circular
economy

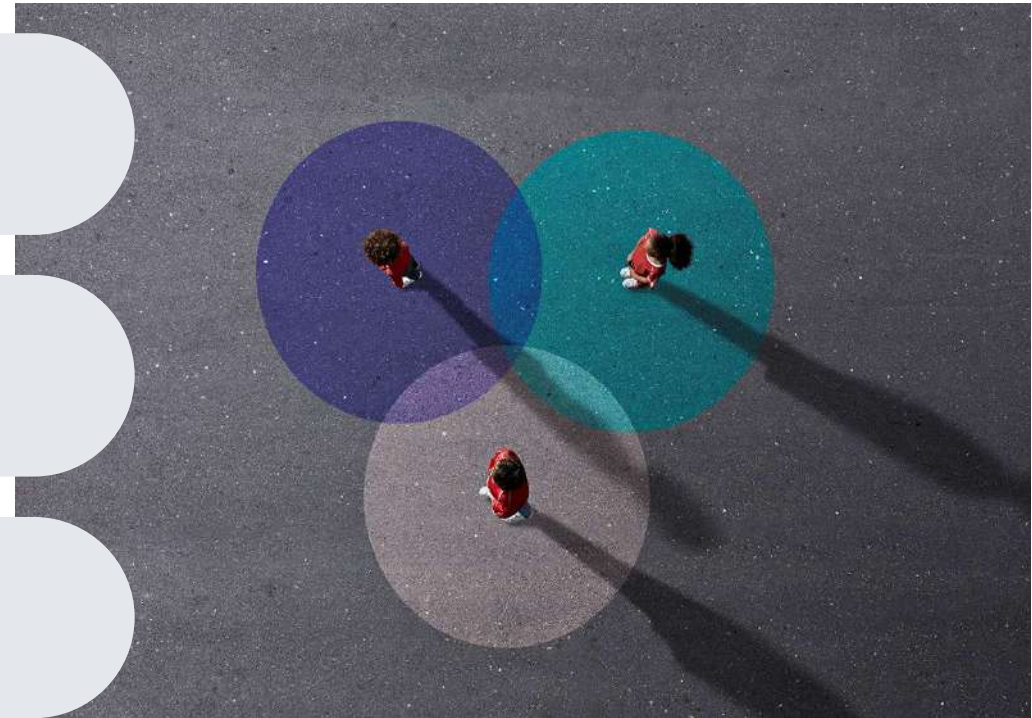
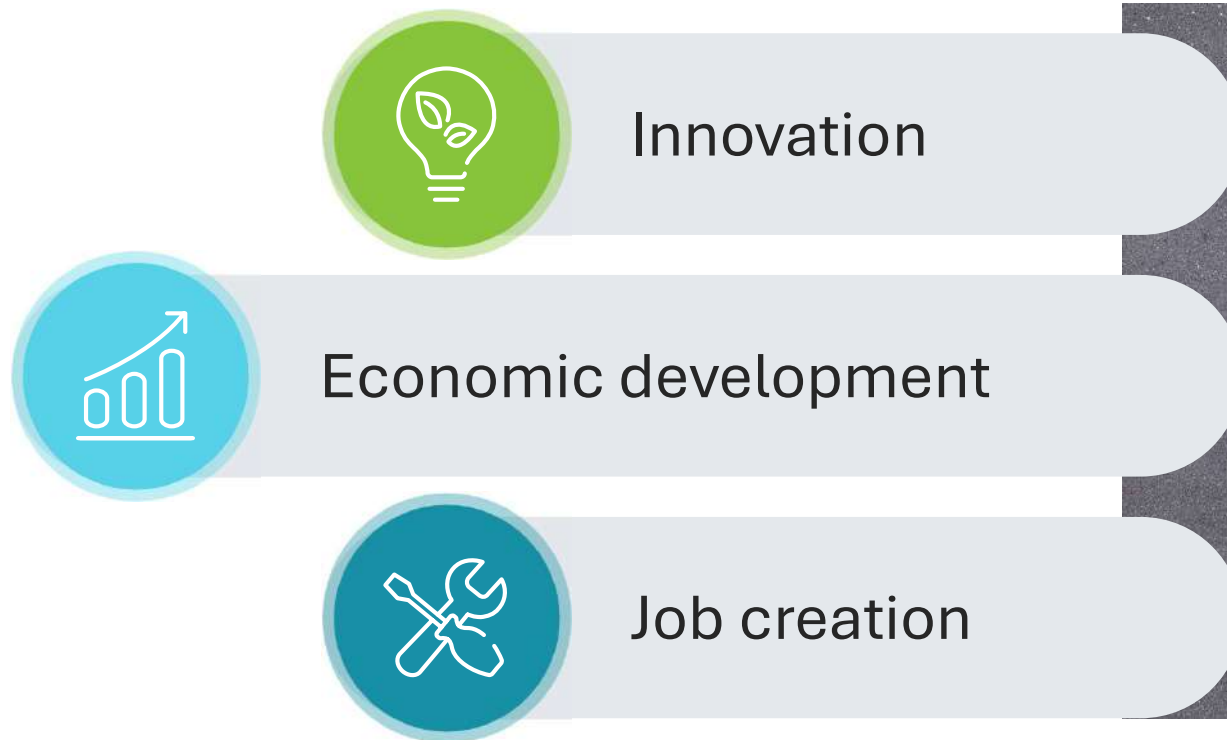
A green 3D figure, resembling a person, stands on a series of concentric white rings that resemble ripples in water. The figure is positioned in the center of the rings. The background is a solid yellow color. The text "Benefits of Circular Economy" is overlaid on the figure and the rings.

Benefits of Circular Economy

Circular Economy Potential

with Innovation, Development, Job Creation

The circular economy's huge potential – an estimated trillion-dollar opportunity



The macroeconomic and environmental benefits of the circular economy:

- Economic development**
 - Increased revenues from emerging circular activities.
 - Lower production costs through resource efficiency.
 - Supply, demand and prices throughout the economy are affected.

- Material cost savings**
 - For complex mid-life products (e.g. mobile phones, washing machines) in the EU, the annual cost saving opportunities amount to \$630 billion.
 - For fast-moving consumer goods (e.g. household cleaning products), there is potential for cost savings of up to \$700 billion worldwide.

- Job creation potential**
 - High quality and labour-intensive recycling activities.
 - Higher skilled jobs in reconstruction.
 - New jobs in industrial sectors, within small and medium-sized enterprises (SMEs), through innovation and the service-based economy.

The macroeconomic and environmental benefits of the circular economy:

Innovation

- Higher rates of technological development
- Improved innovative materials
- Work
- Energy efficiency
- More profit opportunities for businesses

Consumption of primary materials

- Reduction (i.e. Automotive materials, building materials, building materials, development land, synthetic fertilizers, agricultural water use, fuels and non-renewable electricity) by 32% by 2030.

Productivity and soil health

- Higher land productivity, less waste in the food chain and return of nutrients to the soil.
- Returning biological material to the soil will reduce the need for replenishment with additional nutrients and fertilisers (i.e. almost 2.7 times the nutrients contained in the chemical fertilisers currently used).

The benefits of the transition to a circular economy for businesses:

Profit opportunities

Lower costs and new profit streams, for example:

- Mobile phone refurbishment costs could be reduced by 50% per device.
- High-quality washing machines could be leased rather than sold and customers would save about a third per wash and manufacturers would earn about a third more in profits.

Reduced volatility and greater security of supply

- Use less primary and virgin materials and more recycled materials.
- Identified alternative sources of materials.
- Reduced risks and threats to supply chains disrupted by natural disasters or geopolitical imbalances.

The benefits of the transition to a circular economy for businesses:

New demand for business services

Examples:

- Collection and reverse logistics operations that support the return of end-of-life products back into the chain.
- Product distributors and sales platforms that facilitate greater use or higher use of products.
- Remanufacturing of spare parts and components and finding new uses for products that offer specialised knowledge and services

Improved customer interaction and customer loyalty

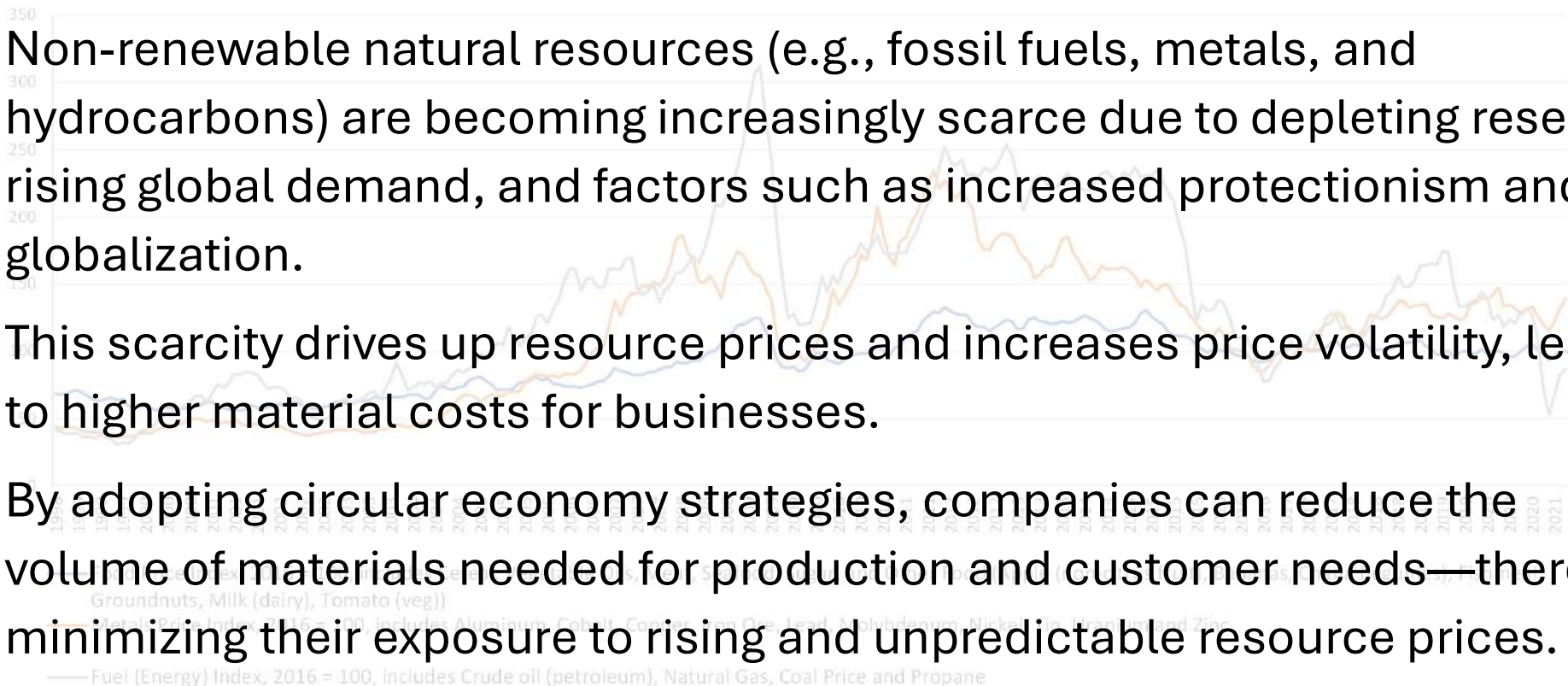
- New ways to creatively attract customers.
- New business models, such as leasing or leasing contracts.
- Building long-term relationships, as the number of touch points increases over the lifetime of a product.
- the unique insights gained into ways of using products that can lead to improved products, better services and greater customer satisfaction.

The advantages of SMEs in the circular economy



Reduced exposure to fluctuations in raw material and resource prices

- Non-renewable natural resources (e.g., fossil fuels, metals, and hydrocarbons) are becoming increasingly scarce due to depleting reserves, rising global demand, and factors such as increased protectionism and globalization.
- This scarcity drives up resource prices and increases price volatility, leading to higher material costs for businesses.
- By adopting circular economy strategies, companies can reduce the volume of materials needed for production and customer needs—thereby minimizing their exposure to rising and unpredictable resource prices.



Competitive advantage for circular businesses

Businesses must rethink how they operate to use existing resources more efficiently and identify new market opportunities by moving beyond traditional business models.

This creates a **competitive advantage** for these innovative and circular businesses.

Benefits of a circular economy



Opening up new markets and opportunities for the development of business ideas

Circular solutions can create business opportunities for new markets by creating circular products and services.



“Circular business models are special in the sense that they look for value creation in places usually of little interest to companies that operate in the traditional linear production paradigm.”

Guldmann, Best Practice Examples
of Circular Business Models

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