

The Road to Circularity

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1

Linear versus
Circular

The linear model became dominant after the first industrial revolution

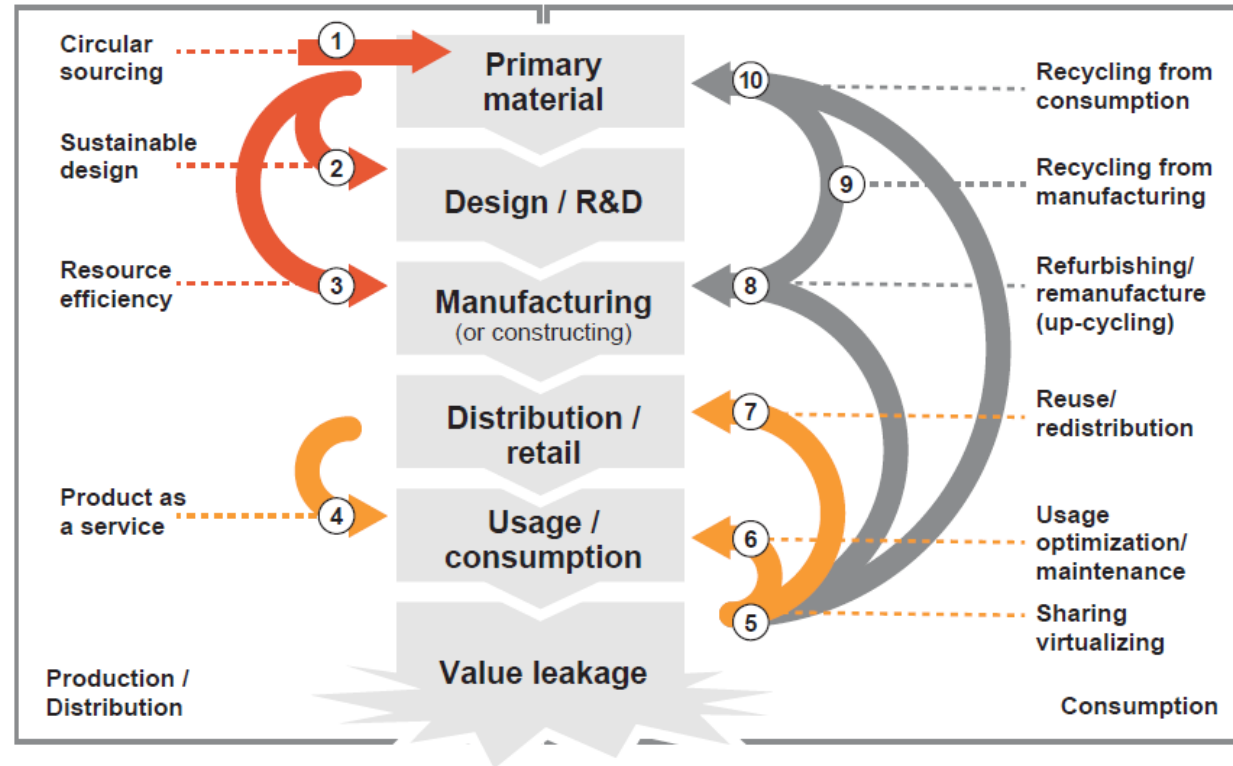


A circular economy decouples economic activity from the usage of finite resources

3 Principles

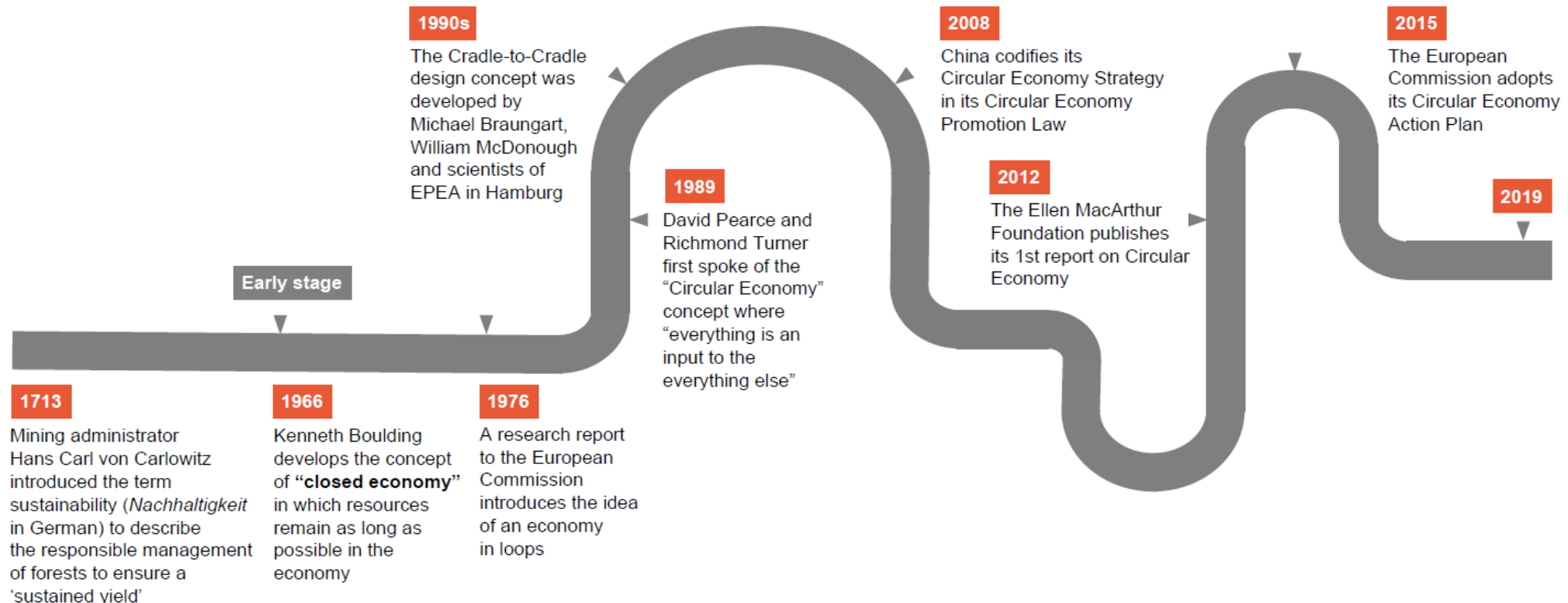


& 10 Corresponding Strategies



Source: PwC

The concept isn't new, but has gained momentum since the late 1960s

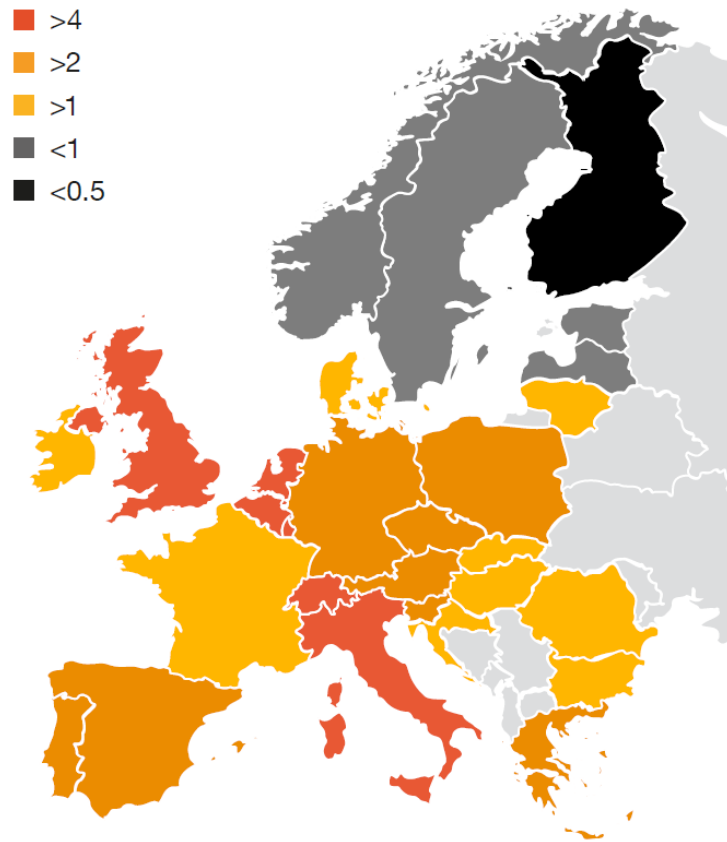


Source: PwC

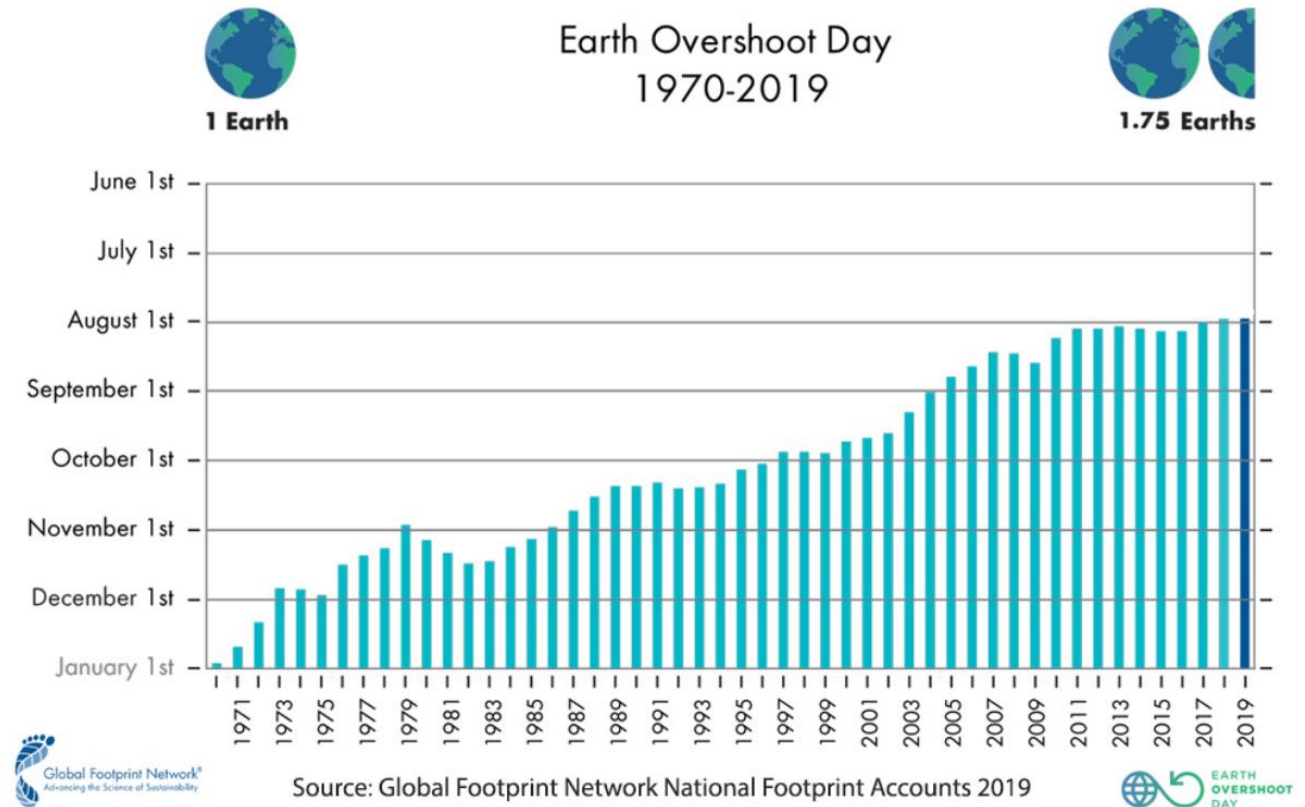
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So what's really at stake?

Basically we are using more resources than we can re-generate; thus putting our future prosperity at risk



Source: PwC



The Earth's ecosystems have started to show signs of serious stress

Biodiversity loss



Land degradation



**Disruption of
freshwater cycle**



Deforestation



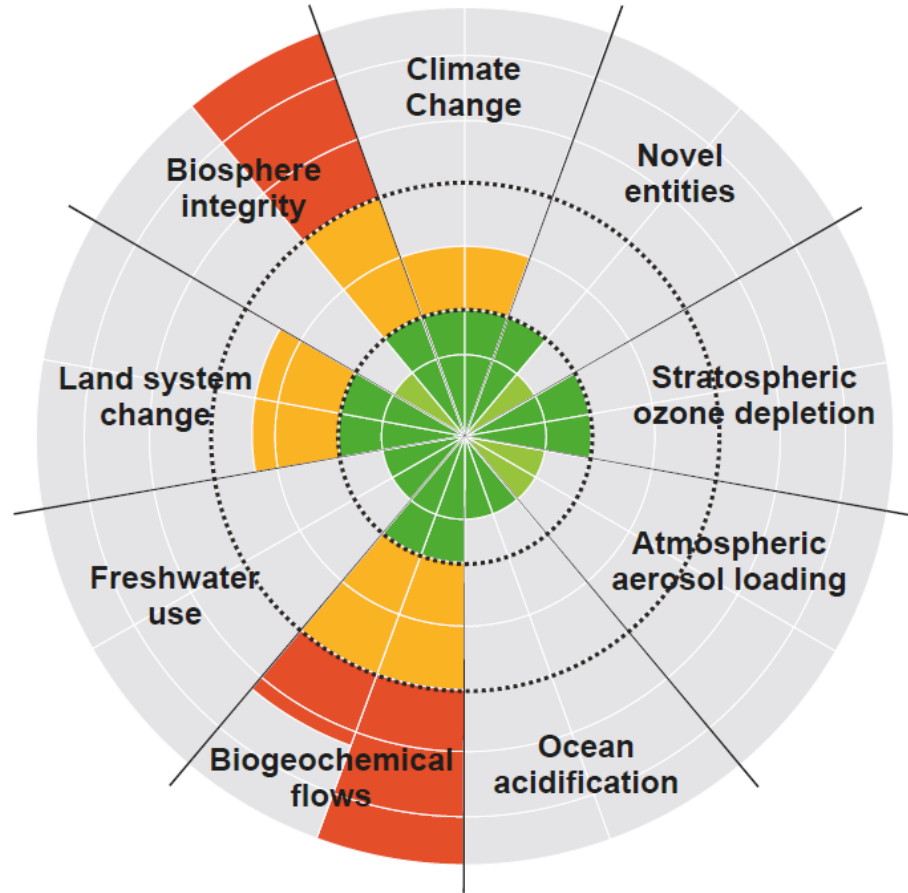
Ocean acidification



Climate change



And we are currently operating outside of the safe operating space for 4 out of 9 planetary boundaries



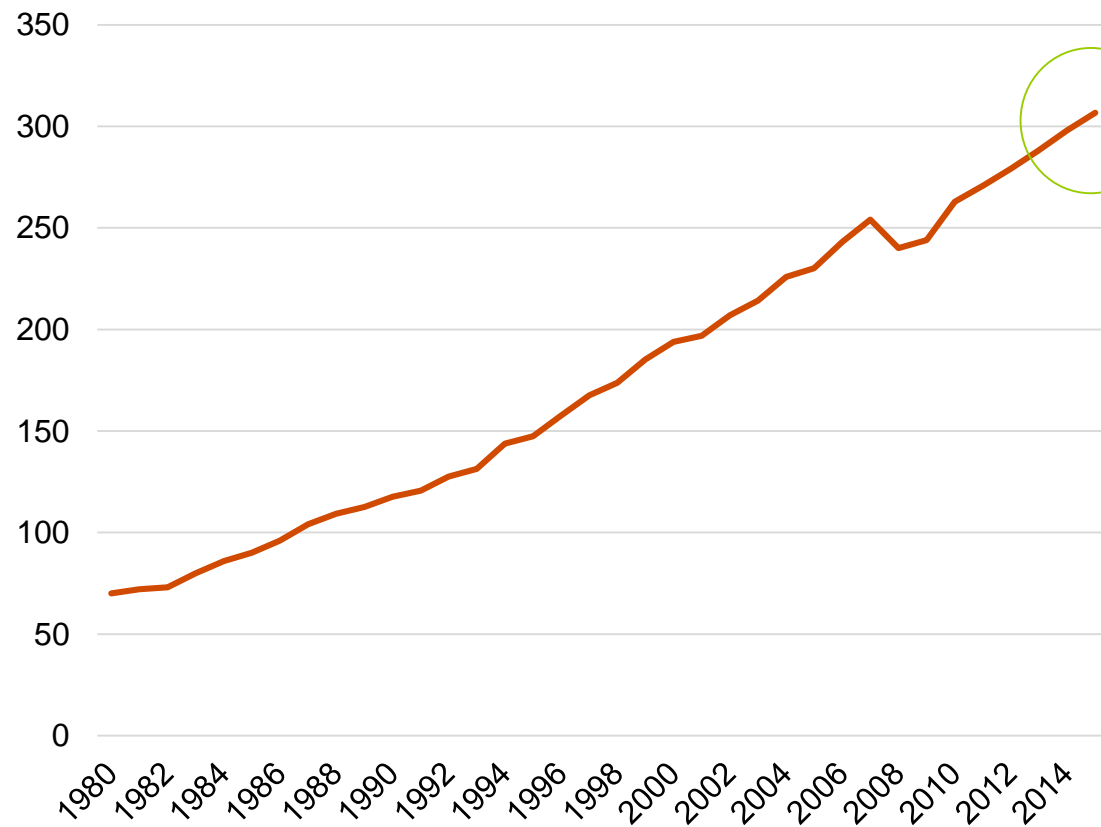
The planetary boundaries define 9 processes that regulate the stability and resilience of the Earth's system

They are quantitative boundaries within which humanity can continue to develop and thrive for generations to come

Crossing these boundaries increases the risk of generating large-scale abrupt or irreversible environmental changes

Some stories we know all too well...

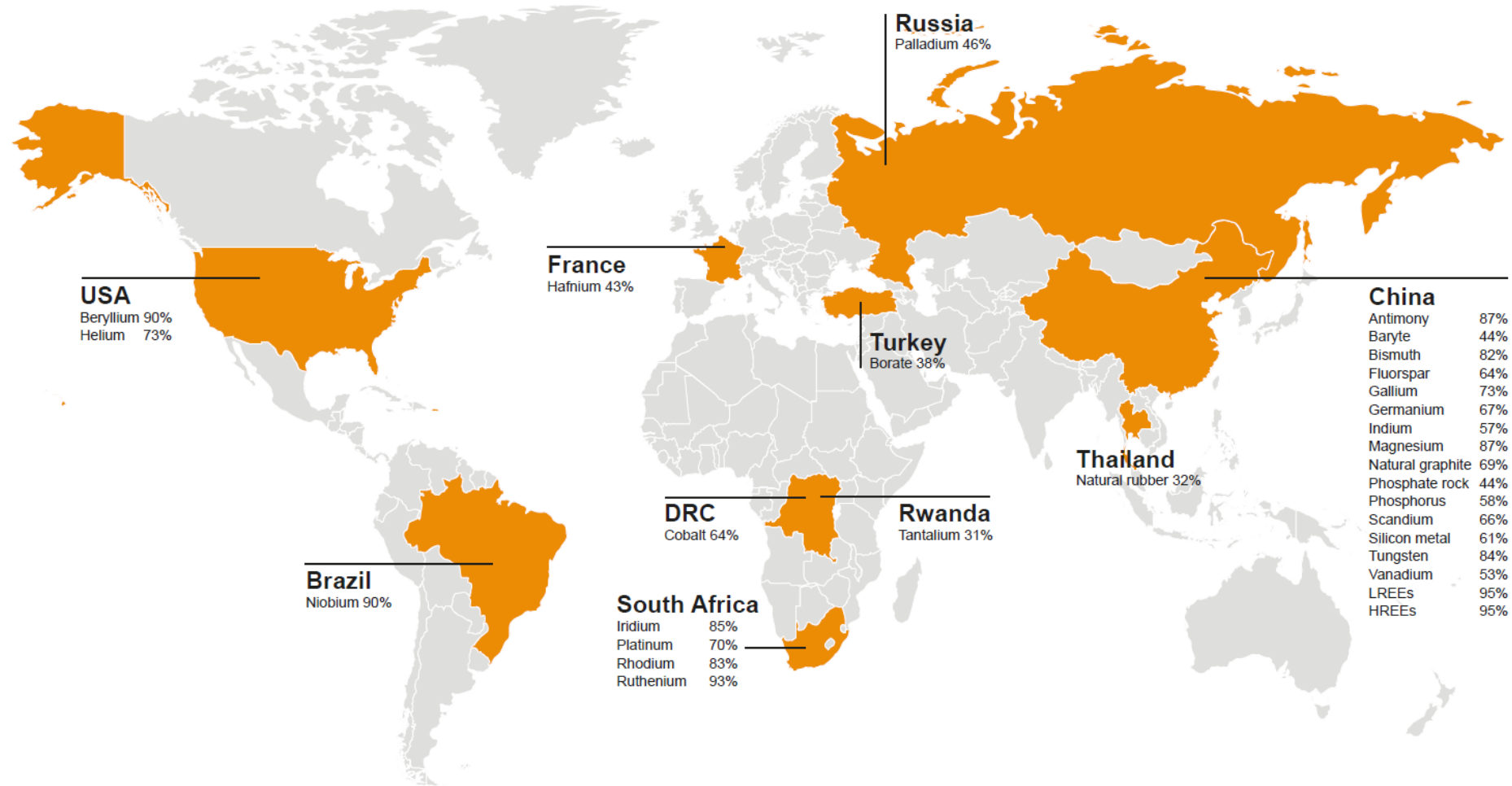
Plastic waste generation (million tonnes per year)



Equivalent to five grocery bags of plastic trash piled up on every foot of coastline on the planet



We all depend on them, but few of us have them: critical raw materials



Source: the European Commission

3

The Economics of Circularity

The Economics of it all – Who pays?

My economic activity affects your economic opportunities

Negative externalities



Your consumption shouldn't restrict my possibility to consume

Public goods



Introducing the Polluter Pays Principle - putting a price on pollution

Market-based environmental regulation

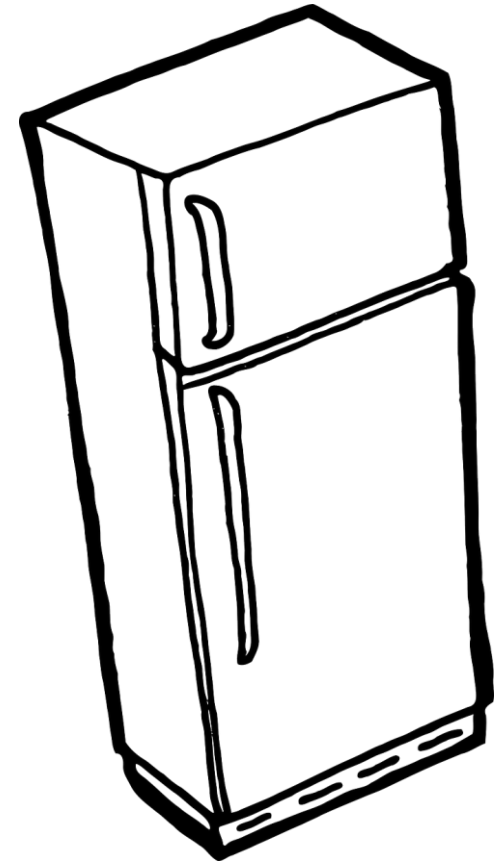
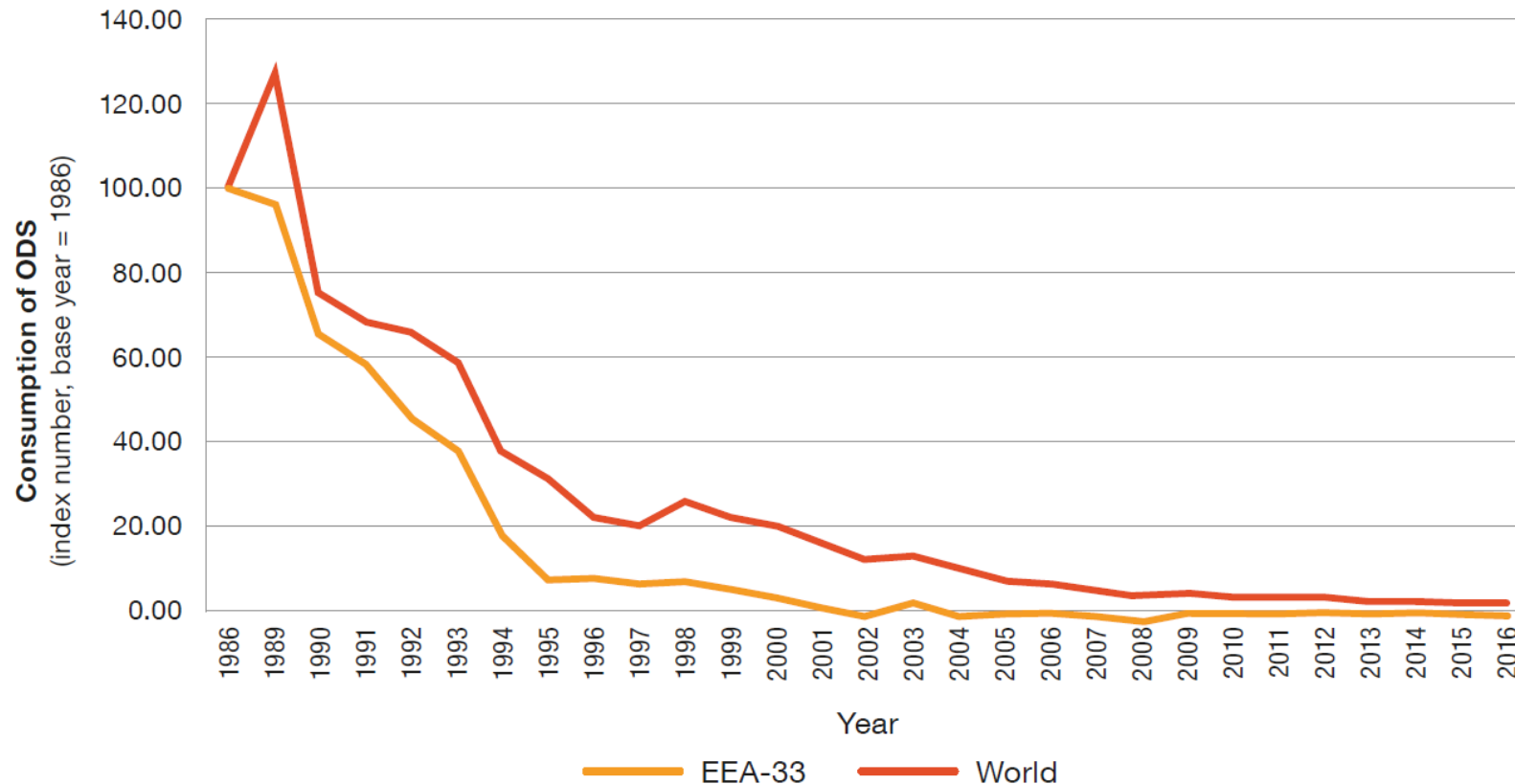
- Cap-and-trade systems, such as the EU Emissions Trading Scheme (EU ETS)
- Tax on pollution, such as the CO₂-emissions tax
- Subsidy policies for activities that produce positive externalities
- Extended Producer Responsibility (EPR) makes producers pay for the waste they produce

4

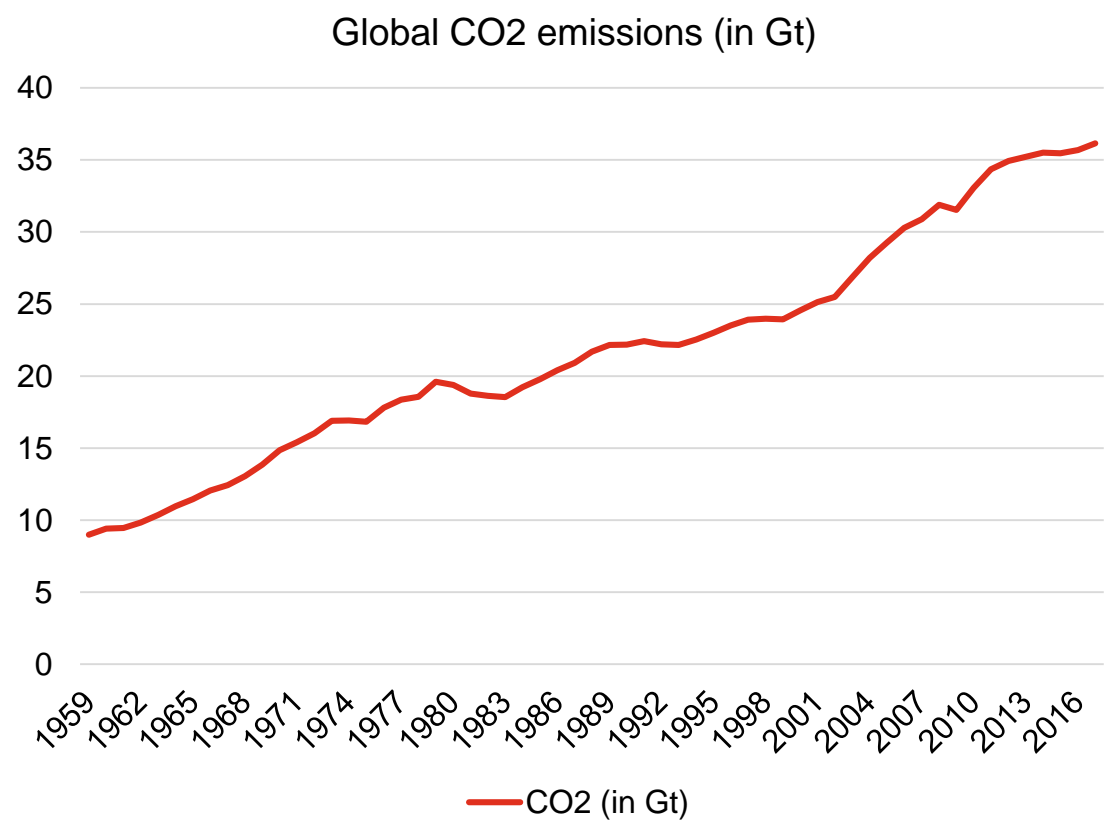
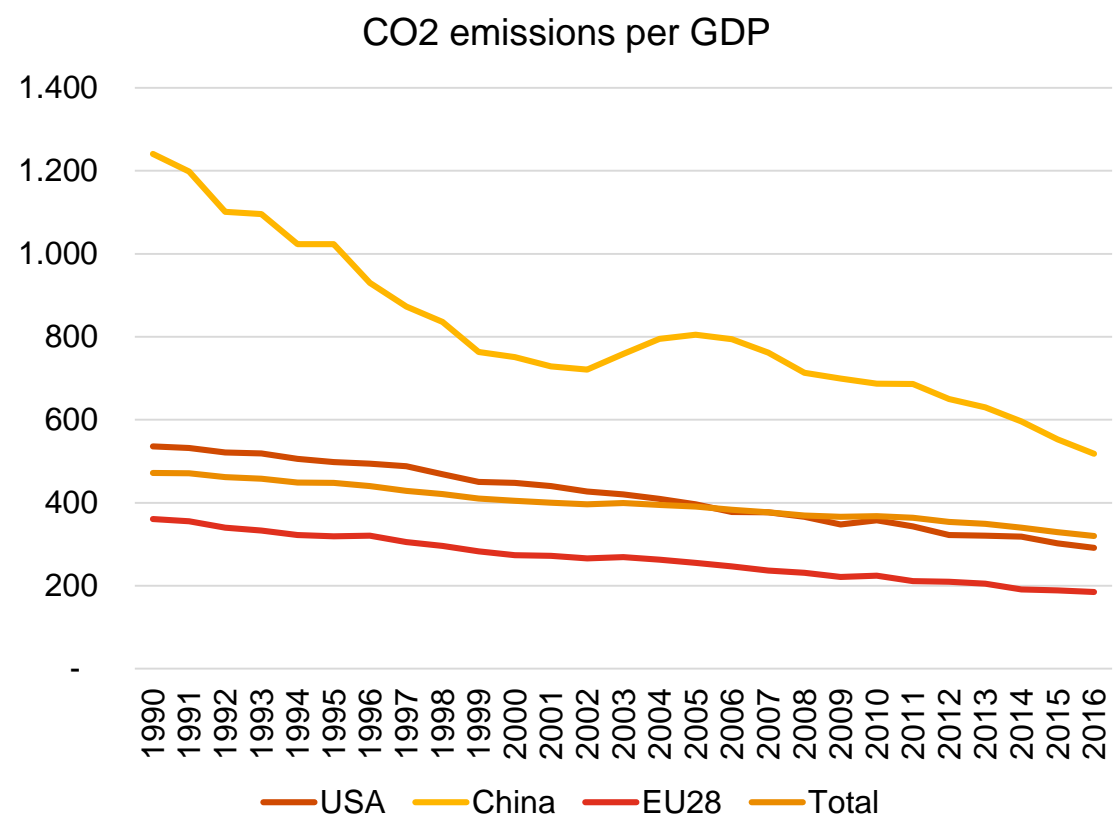
How to fix the
problem:
stepping up and
stepping in

Yes we can – where there are viable alternatives: stopping altogether

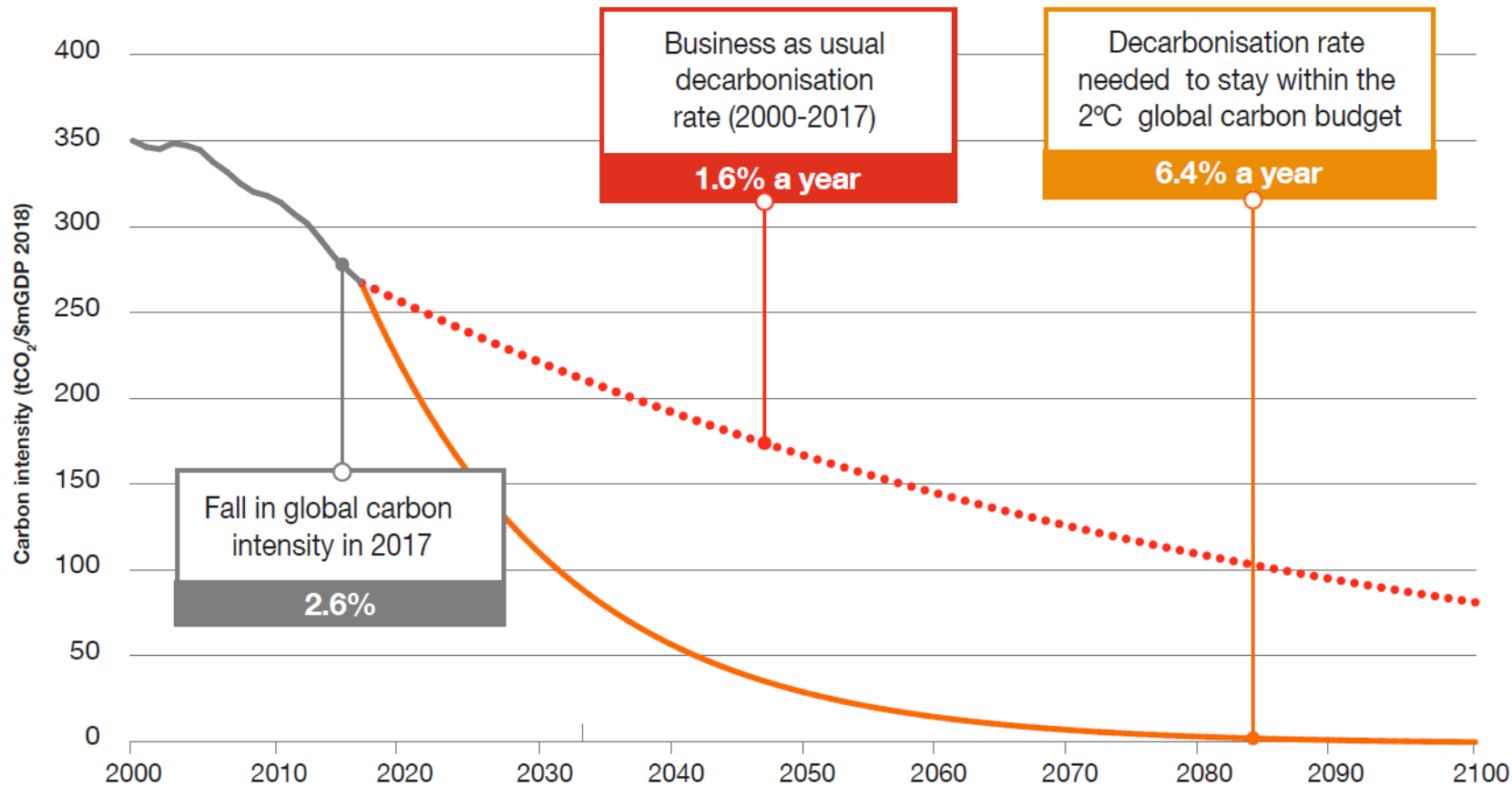
The Montreal Protocol has near eliminated the consumption of ozone depleting substances (ODS) since 1986



We have even been pretty successful at the harder problems too: improving efficiency



And we will need to accelerate out transition if we are to meet our 2°C target



A Circular Economy can be one strategy to mitigate climate change

5

Why? Reasons
organisations go
circular

Circularity can offer significant competitive advantage



Increase resilience to external shocks

Linear model causes

- Environmental degradation
- Resource scarcity

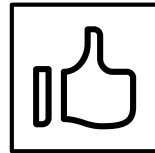


This creates issues around

- Fluctuation in raw material prices
- Supply chain stability



Switching to recycled/bio-based resources can increase resilience



Improve stakeholder engagement

35%

of consumers choose sustainable products to help protect the environment [1]



These brands are some of the fastest growing companies in their respective categories [2][3].

[1] PwC (2019), Global Consumer Insights Survey 2019: It's time for a consumer-centred metric: introducing 'return on experience'.

[2] Tony's Annual Report 2017/2019

[3] De Tijd (2019), Groeimelk



Pre-empt regulatory pressure

New environmental legislation is announced every week



UN level adoption of **SDGs & Climate agreement**



African continent **tops the chart on the # of plastic bans**



China has **stopped importing waste** to facilitate recycling



EU is **moving on plastic, climate change & circularity**

6

What? Circular
principles and
strategies

Circular strategies that organisations are applying already

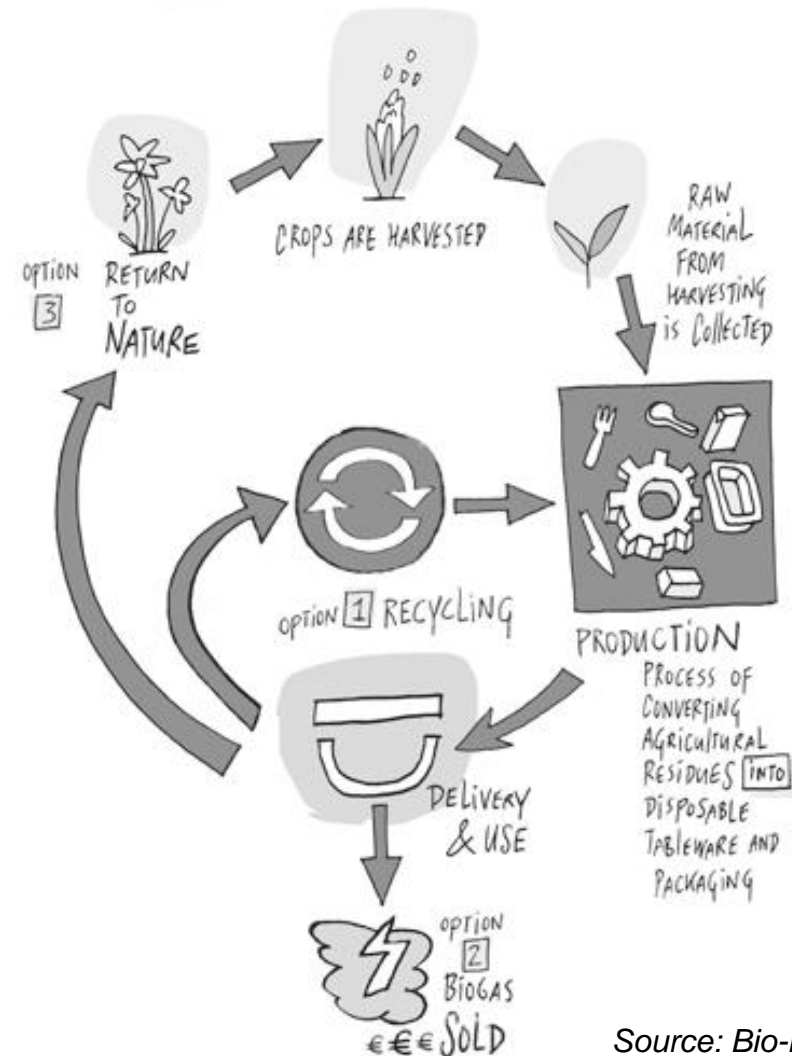
Circular Economy Strategies			Definitions
Prioritise renewable inputs	①	Circular sourcing	<ul style="list-style-type: none"> • Replace finite materials with bio-based or recycled materials
	②	Sustainable design	<ul style="list-style-type: none"> • Design products to be effectively disassembled, reused, repaired and up-cycled
	③	Resource efficiency	<ul style="list-style-type: none"> • Optimise usage of raw materials – minimise waste
Maximise product use	④	Product as a service	<ul style="list-style-type: none"> • Provide a service in areas that were traditionally sold as products
	⑤	Sharing/ virtualising	<ul style="list-style-type: none"> • Share durable assets such as cars, rooms, appliances, and digitise products to increase their lifetime
	⑥	Usage optimisation / maintenance	<ul style="list-style-type: none"> • Increase performance / efficiency of product and prolong life through maintenance
	⑦	Reuse/ redistribution	<ul style="list-style-type: none"> • Purchase and sell second-hand and previously owned products to increase product lifecycle
Recover by-products and waste	⑧	Refurbishing /remanufacture	<ul style="list-style-type: none"> • Remanufacture products or components for a new usage, instead of down-recycling
	⑨	Industrial symbiosis Recycling from manufacturing	<ul style="list-style-type: none"> • The waste or by-products from manufacturing become the inputs for another product
	⑩	Recycling from consumption	<ul style="list-style-type: none"> • Recycle discarded materials after the end of consumption and extract biochemical feedstock

Case study

Circular strategy 1 and 2: prioritise renewable inputs

Bio-lutions

Bio-lutions has developed a patented mechanical process for creating disposable tableware and packaging from agricultural residues. The residues are turned into self-binding fibres that do not require any additives or chemicals.



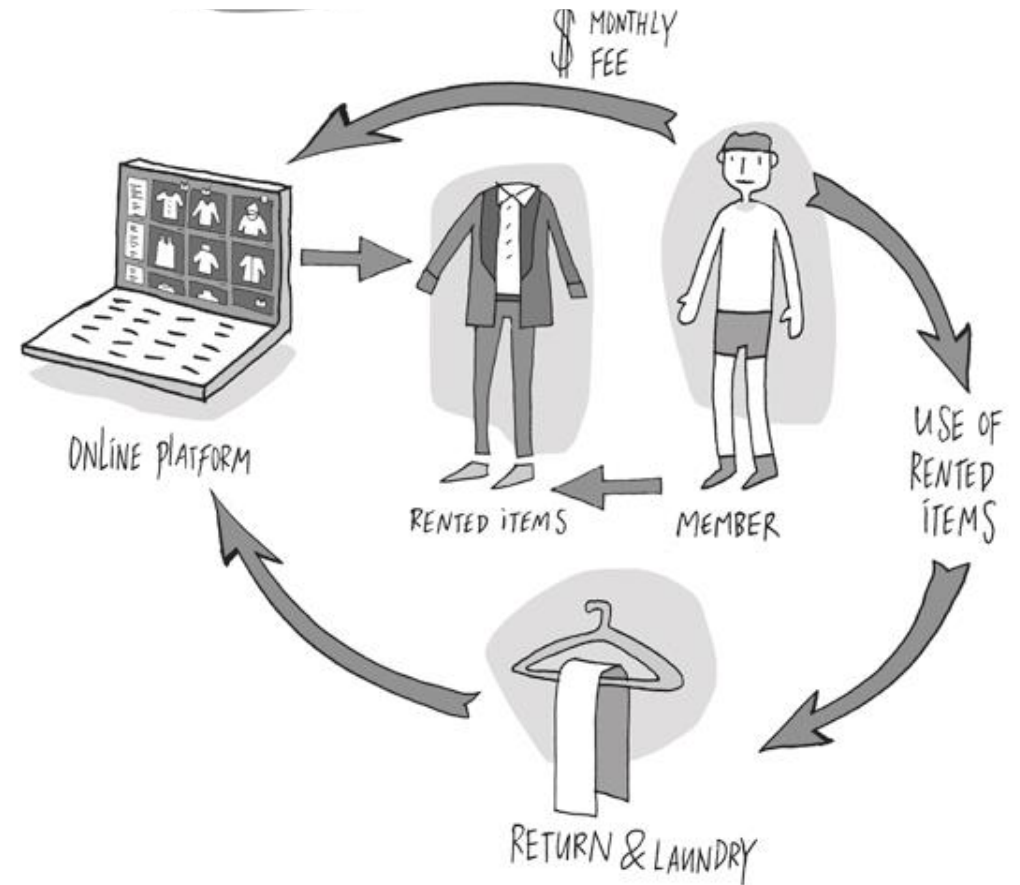
Source: Bio-lutions

Case study

Circular strategy 4 and 6: maximise product use

Y:closet

Y:closet is a Chinese fashion sharing platform that allows users to rent clothes and accessories, including luxury brands, through various subscription plans. Clothes are selected online by the member, shipped and then worn before being returned and washed by Y:closet.



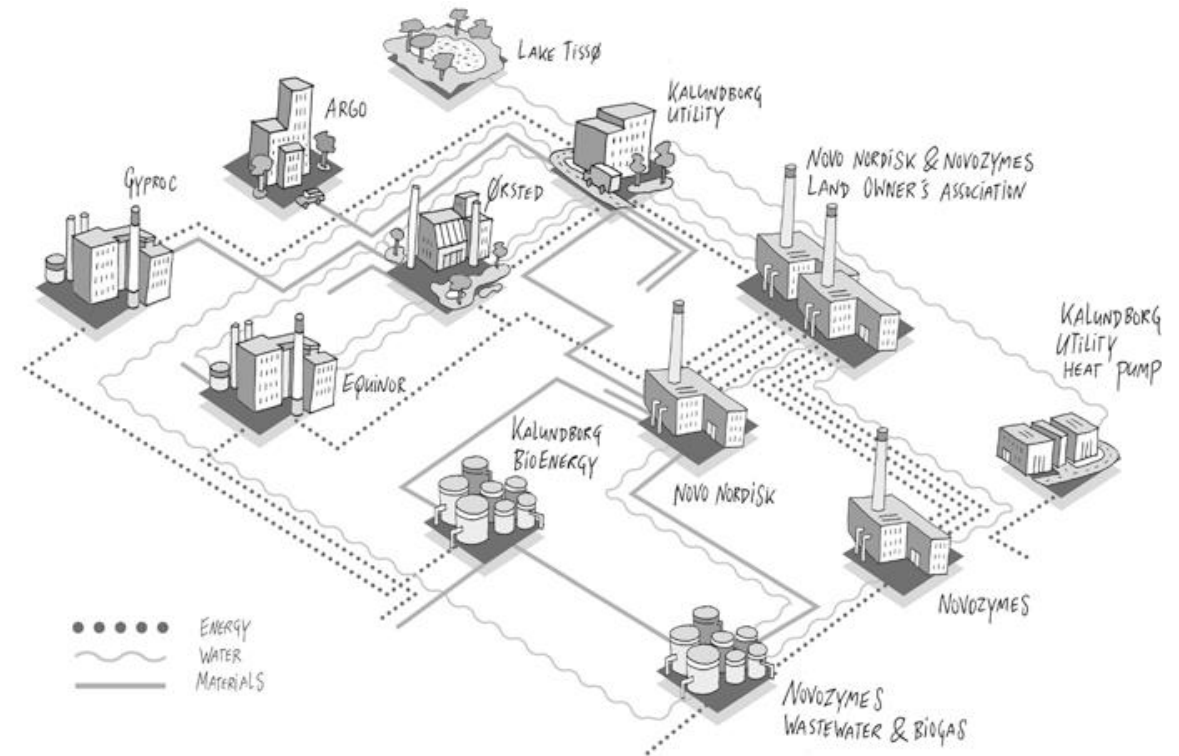
Source: Y:Closet

Case study

Circular strategy 9: recover by-products and waste

Kalundborg Symbiosis

Kalundborg is a city in Denmark hosting the world's first centre for industrial symbiosis. organisations in this cluster swap waste and by-products to cut costs and CO2 emissions.



Source: Kalundborg Symbiosis

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How? – Accepting
challenges, setting
goals and measuring
progress

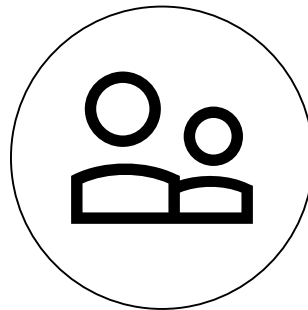
Typical questions around going circular



What **does circular economy look like** for my company?



What is my **current performance** in terms of circular economy?



What are the **benefits / opportunities** to my company of the circular economy?



How do I **measure, track and steer** performance towards circular economy?



How do I **implement circular economy opportunities**

At PwC we use the following steps to support organisations in the development of a circular strategy



Re-imagine

Trends around circularity in your business

- How are enabling technologies, regulations & customer demands around circularity changing?
- What initiatives are competitors launching?
- What does full circularity look like in your business?

Forces shaping your business



Choose

Performance, ambition, strategy & capabilities

- How has your circular performance developed over the past years?
- What is your circular ambition for the future?
- How fit for future is your strategy?
- What are key differentiating capabilities you can leverage to become circular and which capabilities do you need to develop?

Strategic choices & “big bets”

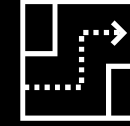


Enable

Initiatives that shape your future

- Which capabilities do you need to focus on to materialize your circular strategy?
- What initiatives/ investments are required to build these capabilities?
- How does the strategy impact your operating model – i.e. how to organize yourself?
- How can people and culture contribute to your strategic direction?

Initiatives & business impact



Plan/Launch

Support structure to allow you to deliver

- What is the financial impact of a renewed strategy?
- What does the execution roadmap look like?
- What are the critical enablers that need to be in place for your strategy to work?
- What is the immediate action plan that your teams can execute on?
- How to create company wide buy in for the renewed strategy?

Roadmap & action plan

Measuring progress at different stages of circular maturity

Moving through the stages of becoming circular			
Focus area	Novice	Intermediate	Circular Champion
Strategy & operations	<ul style="list-style-type: none"> • Circularity is not a part of overall organisation's strategy, but there is a narrative on circularity built around current operations 	<ul style="list-style-type: none"> • Circularity is a part of the organisation's sustainability strategy • Focus on environmental impacts, such as GHG emissions, recycling rates or biodiversity impact. 	<ul style="list-style-type: none"> • Circularity is part of the corporate strategy • Focus on circular value creation, innovation and creating new revenue streams, products and services
Management reporting	<ul style="list-style-type: none"> • Metrics covering resource efficiency and resource savings • E.g. reduction in energy consumption 	<ul style="list-style-type: none"> • Metrics covering sustainability topics, often based on reporting standards such as GRI or CDP • E.g. CO₂ emissions 	<ul style="list-style-type: none"> • Metrics covering circular value • E.g. products made using recycled material

Source: WBCSD



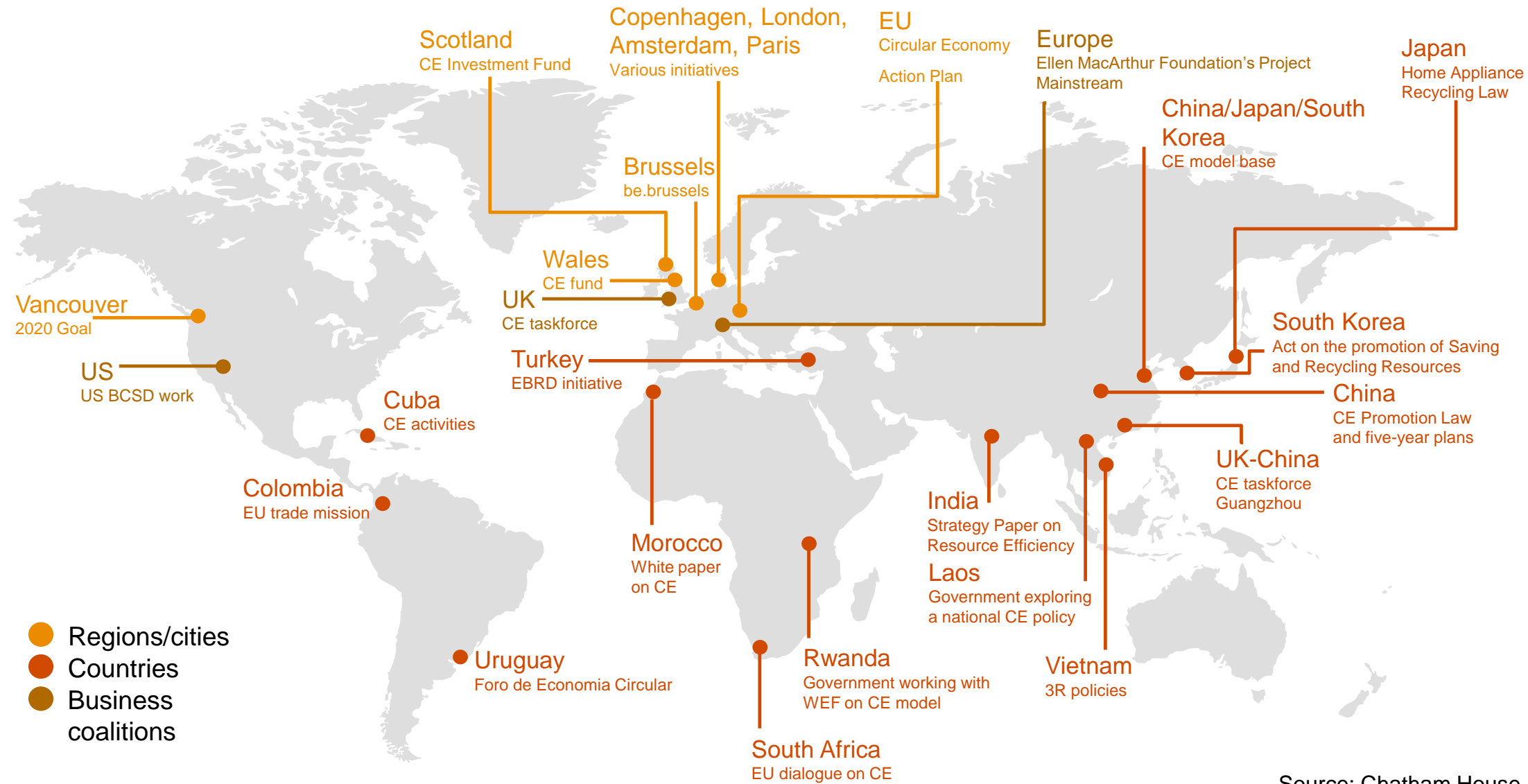
Example of management reporting for circular champions: Plastics dashboard

PwC has developed a solution specifically for plastics, that drives strategy execution and performance management through the use of a Plastics Performance Dashboard.



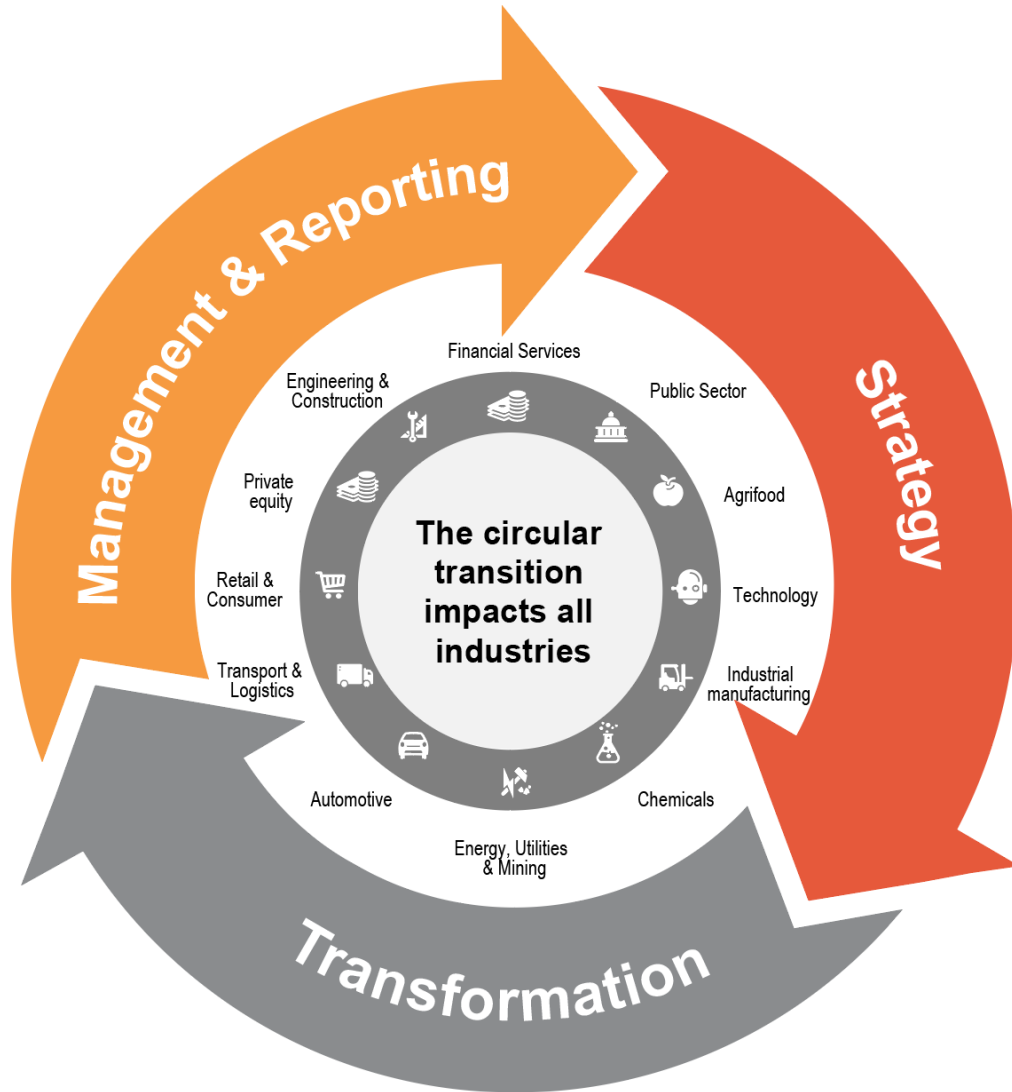
The way forward

Across the globe, circular is becoming ‘the new normal’



Source: Chatham House

PwC can help you on your circular journey



PwC competences that support Circular Strategy

- Circular strategy development
- Circular baseline calculation and benchmarking
- Circular readiness check
- Capability diagnostic
- Circular and capability driven M&A

PwC competences that support Circular Transformation

- Defining product/service offerings
- Setting up circular innovation process
- Organisational design
- Reskilling and incentivising workforce
- Integrating circular in every step of the redesigned value chain
- Managing legal & tax implications

PwC competences that support Circular Management & Reporting

- Driving management insights & decisions
- Setting up a circular dashboard
- Integrating circularity in sustainability reporting
- Delivering trust to stakeholders on circular performance

Thank you

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