

# *Spinning around* Taking control in a circular economy

*PwC's Circular Economy  
Services*



# What is the circular economy and why does it matter?

**“The collision of global megatrends is creating a perfect storm, bringing the circular economy to the surface. Businesses that harness this energy can expect positive changes for their customers, the environment and their bottom line. PwC is committed to a circular future – we’re working with clients and applying this thinking to our own practices in order to make this a reality.”**

**Hans Schoolderman**  
Partner, PwC Netherlands  
Sustainability Leader

**“If one man’s trash is another man’s treasure, leaving a product to end up in landfill is the equivalent of burying treasure and losing the map.”**

**Jan Willem van den Beukel**  
PwC Global Circular  
Economy lead

Products have a life-cycle. The industrial revolution fuelled a straight line life cycle of take-make-waste, but a circular approach extends the product’s life, through reuse, reassembly, refurbishment or recycling. It’s using the technology of today to extract value and drive efficiencies (something that, before the industrial revolution, happened as best practice, waste being seen as profit down the drain). Adopting a more circular approach, means your business drives out the full value from the products it creates to boost your bottom line.

World Resources Institute (WRI) estimate that ‘one half to three quarters of annual resource inputs to industrial economies is returned to the environment as waste within just one year’.<sup>1</sup> This is lost value that could be fed back into the economy instead of sitting in the ground. And it could generate over \$1 trillion of annual material savings globally by 2025.<sup>2</sup>

Leaders in retail, manufacturing, finance and construction already benefit from circular principles: PwC supports them in applying the circular lens to identify circular business cases.



<sup>1</sup> Weight of Nations: Material Outflows from Industrial Economies, WRI

<sup>2</sup> GreenBiz, <https://www.greenbiz.com/article/5-megatrends-will-unleash-value-circular-economy>

# Enablers of the circular economy

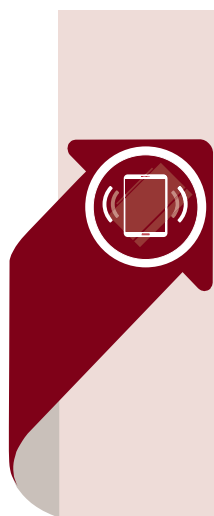
Three megatrends are driving the need for a circular approach to the way business operates.



**Customer behaviour** is changing, showing a clear preference for access over ownership. This is driving the success of sharing business models which require less products. Customer demand for more environmentally friendly and socially responsible products and services is also increasing: all things equal, nearly half of consumers choose the sustainable alternative.<sup>3</sup>

## *What does this mean for business?*

If they don't already, your customers are going to want their products to be provided to them in a different way. Businesses that don't adapt will be faced with disruption from competitors or new entrants that are willing to fill this gap. Consumers are wising up to companies that aren't organised in an environmentally and socially responsible manner (and that includes their supply chain). Those that don't update their waste practices open themselves up to reputational and regulatory risks.



**Technological breakthroughs** are enabling the transition to a circular economy. Tracking mechanisms, communications systems and operating models that weren't previously available or affordable are now becoming mainstream, allowing for greater product monitoring and increased ability to extend the product lifecycle. For example, sensor technology can monitor individual parts of a product to anticipate failure and allow for parts to be replaced at the right time to avoid product downtime or premature disposal. Robotics can make this process more efficient and 3D-printing of spare parts using recycled filament is just another way companies can close the loop.

## *What does this mean for business?*

Technology is opening up opportunities for business to innovate and look into options that weren't previously viable. As these new technologies become more readily available and can be tailored to different environments, businesses that explore technology solutions to increase resource productivity will have the upper hand.



**Resource scarcity** has led to increased resource price volatility and tighter environmental standards. This leads companies to find alternatives e.g. to switch to bio-based raw materials, which can have more stable prices than fossil based raw materials.

## *What does this mean for business?*

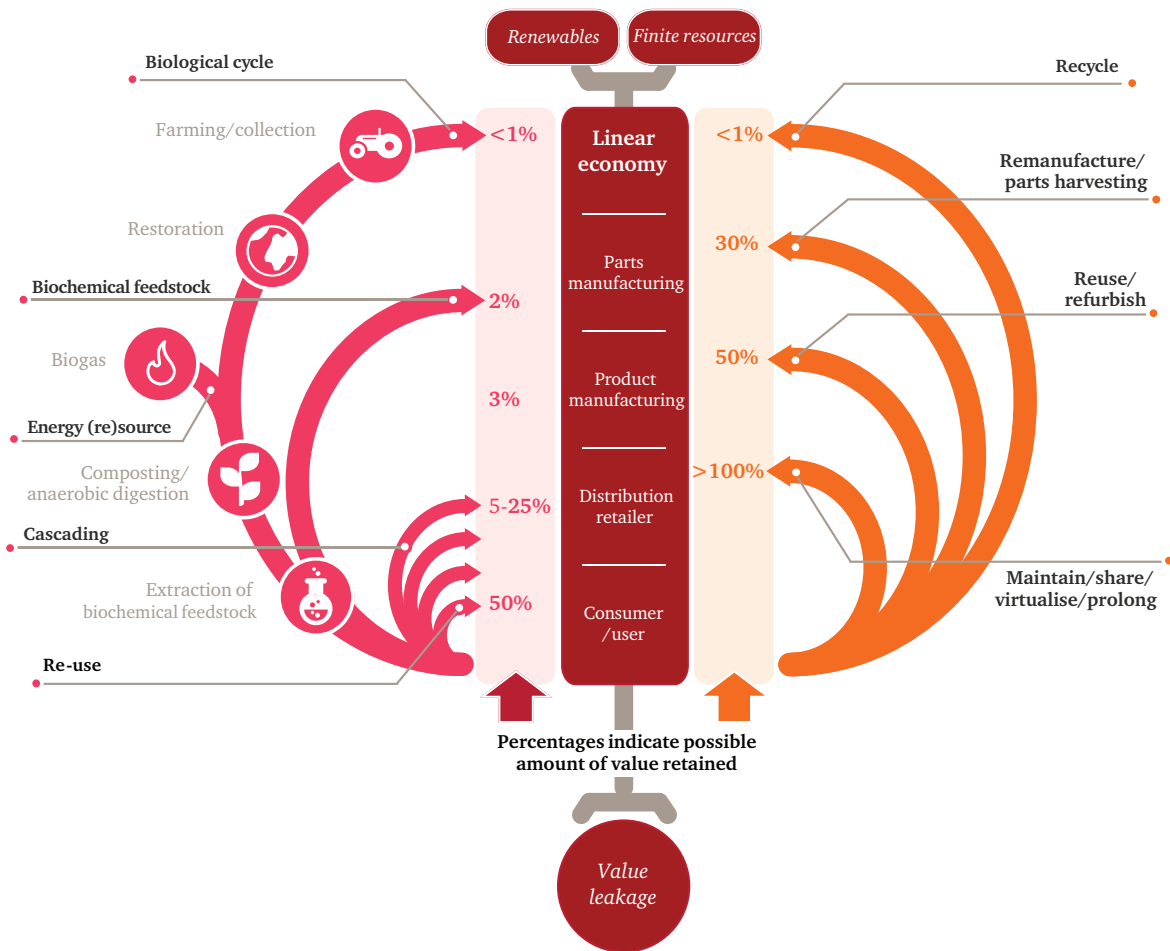
Current (linear) business models are heavily reliant on large quantities of natural resources. But with little or no control over supply and price of these commodities, business has to either accept the risk of these fluctuations or look for ways to reduce or remove it. The circular economy provides another option as it allows companies to essentially 'mine' resources from their current products and repurpose some of the resources that they've already taken out of the ground.

While these trends present real risks to businesses that fail to respond adequately, they also bring big opportunities for forward-looking organisations to innovate through a circular model.

<sup>3</sup> Ipsos, <http://ipsos-na.com/news-polls/pressrelease.aspx?id=5598>

# Closing the smallest loop

Business is set to obtain the greatest value by closing the smallest loop in the circular economy model. It's about so much more than just recycling – in fact, this should be considered as a final step as it recovers the least amount of embedded value from a product.



Adapted from Circular Economy System Diagram, Ellen MacArthur Foundation, <https://www.ellenmacarthurfoundation.org/circular-economy/interactive-diagram>



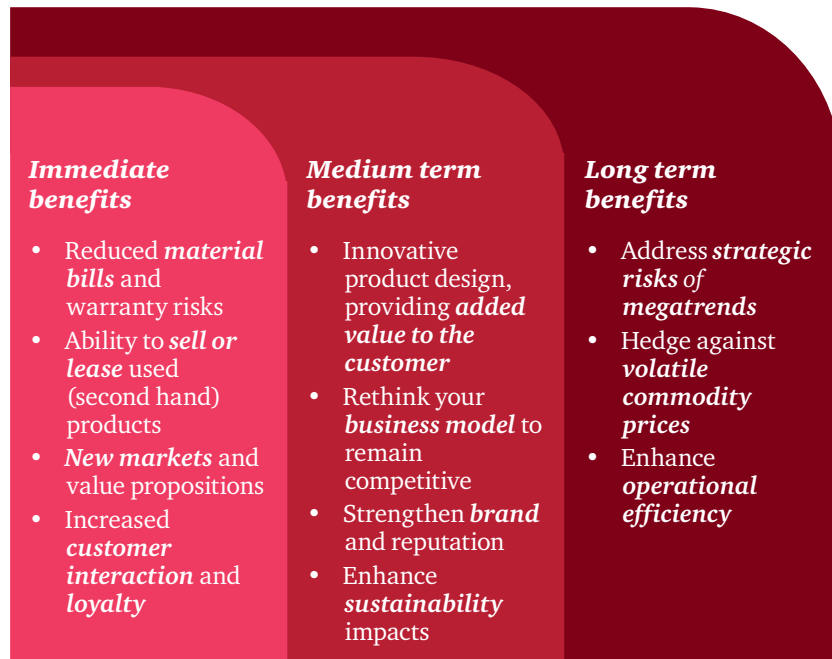
# Making a move

Business drives the circular economy, not only by changing the way it operates, but also how it designs and builds its products and services. It will also be in a unique position to influence supplier and customer behaviour, especially given that the relationships it

has with both of these stakeholders will also change in a circular economy scenario. And with governments from China to Europe already making efforts and regulating to move towards a circular economy, business will have no choice but to adapt to this new context.

## Main benefits of circular business models:

Which of these are key to fit your corporate strategy?



Many businesses are already seeing the rewards of creating and implementing circular solutions. DLL Group have been able to reduce the investment costs for end consumers for refurbished ambulances by up to 20%<sup>4</sup> and Philips

are using sensor technology to deliver timely refurbishment of their MRI systems, helping to provide the high quality systems their customers need, within budget.<sup>5</sup>

Once 'just' a sugar factory, Wissington is now a shining example of valorising energy and material flows.

**“As a business we don't necessarily lead innovation but continually challenge our commercial model, you cannot control where commodity prices are going, so being two or three steps in front enables more choices.”**

**Paul Hitchcock**  
Previous Factory Manager,  
British Sugar Wissington

<sup>4</sup> Ellen MacArthur Foundation, <https://www.ellenmacarthurfoundation.org/case-studies/how-refurbishing-can-work-even-when-safety-and-performance-matter-the-most>

<sup>5</sup> Philips, <http://www.philips.com/a-w/about/sustainability/sustainable-planet/circular-economy/refurbished-medical-products.html>

<sup>6</sup> Ellen MacArthur Foundation, <https://www.ellenmacarthurfoundation.org/case-studies/increasing-diversity-building-resilience>

# Rising to the challenge

The circular economy is here to stay – it's time for business to move away from a system that's inherently built for throughput. Some may perceive it as a short term trend, but whichever way you look at it, there are serious macro issues and key business risks that the circular economy helps us to address. And while some quick wins may be possible, the circular economy represents a long term commitment by business to adapt.

The opportunities are there for business to extract significant value from resources that are currently being lost. Strategy design, transforming supply chains, adapting business practices, exploring innovations in product design and revolutionising waste management are just some of the ways that we're working with business to take advantage of circular thinking.

## Thinking circular

### How circular is your business?

Can you identify areas where you're already participating in the circular economy?

Do you have a system for **reverse logistics** where products are taken back into the business?

Have you designed your products so that there's still value in taking them back?

Are they designed for easy disassembly?

What happens to your products once your customers have finished with them?

Is there a way to collect them at **end of life** or to intervene before they reach this stage?

How intensively are your products being used?

Is there **spare capacity** in the products that you've sold or leased which you could help unlock?

What about the utilisation of the assets you use yourself?

Are there some quick wins that could help your business make a start on becoming circular?

How can you **pilot the idea** in your business?

When you look across your operations and supply chain, where are the opportunities to reuse, refurbish, recycle, repurpose etc. to **rethink your model** in a circular way?

Are your **customers** expecting you to offer your products in a different way?

Are your competitors already meeting this expectation?

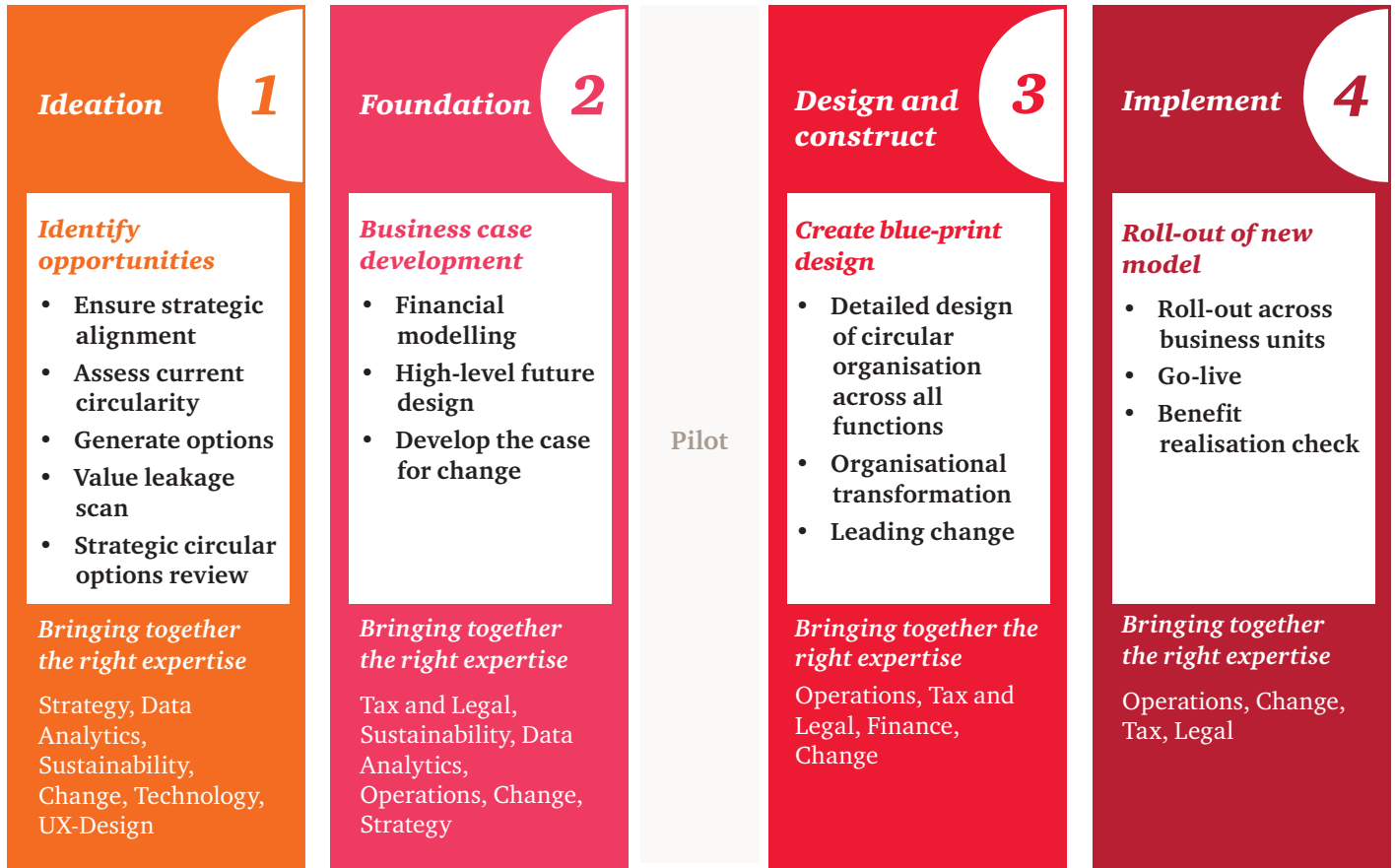
Where are you sourcing your materials?

Are there **cost savings** available from switching to renewables, re-used or refurbished sources?



# Transforming your business

## Circular Business Model Transformation methodology



We've created the Circular Business Model Transformation (CBMT) methodology to support companies through the process of creating and implementing circular solutions.

We start by assessing your current operations and identifying current value-leakage within the business. For any transformation project, strategy is key, so it's important to look at the business case and embed circularity into the business model. From there, we

work with you on the detailed design and change management required across all functions of the business.

CBMT is a robust methodology, with a holistic approach to the circular economy: PwC has the ability to bring together multifunctional teams – including operations, strategy, sustainability, finance, tax and change – with specific expertise to deliver a full scale circular transformation project.

# Circular economy principles in action



## Case study: Consumer recycling for a global consumer products manufacturer

PwC engaged with a major global FMCG company to help them understand the potential to increase post consumer recycling of their aluminium aerosol products.

They were concerned about the low levels of recycling in key European markets. Increasing consumer awareness, greater scrutiny by retailers and strengthening legislation on packaging and recycling, posed a threat to the position of their most profitable products. To help them respond to this threat, we drew on our global network to deliver a high level review of country regulation and systems for aluminium aerosol recycling. The project team then carried out a review of the recycled aluminium markets, the value chain and barriers to recycling in three key countries.

As a result the client is now able to deliver a strategy to tackle these barriers and increase recycling of its aluminium aerosol products.

## Case study: Assessing the impact of a service offering transformation

Making the decision to change over to a circular model is not always a simple one. When Vanderlande was asked by one of its biggest customers to adapt their offering to a product-as-a-service model, they wanted to fully understand what this would mean for their business. This was a great opportunity for them to pilot a new business model with an eager customer, but also represented a big change for their operations.

We worked with them to assess the impact of a new service offering, setting up a team of experts from supply chain, finance, tax, sales and sustainability, reflecting the parts of Vanderlande that would be affected by the change. Together, we explored the options available to support their decision making, using an impact heat map of the organisation to help determine where and how they would be most impacted.

Vanderlande gained a deep understanding of the issues they would need to deal with to transform their business.





# Walking the talk

## Our own circular journey

At PwC UK, we've made our own commitment to convert to a circular business model. We're reducing our environmental impact and dependence on raw materials, with a three-stage, progressive 'Going Circular' programme. By applying the same approach we recommend to clients, we've not only eliminated all landfill and maximised our reuse and recycling, but also been able to explore innovative, circular procurement options which help us achieve our sustainability goals while still growing.

**“Applying circular economy thinking is a win-win. It's not only good for our people, society and the environment, it makes commercial sense too.”**

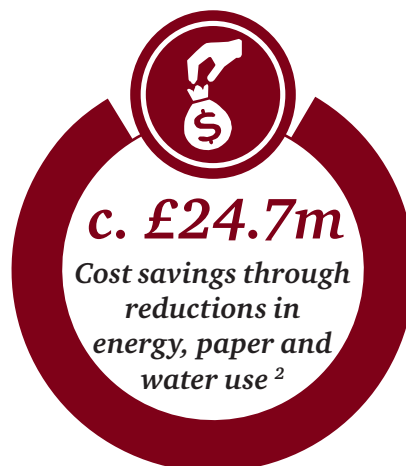
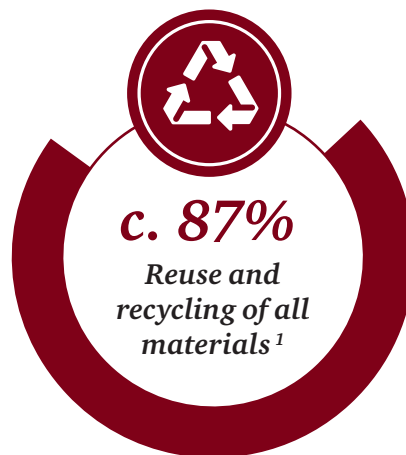
**Bridget Jackson**  
Director of Corporate Responsibility, PwC UK

Find out more about our circular journey  
[www.pwc.co.uk/goingcircular](http://www.pwc.co.uk/goingcircular)

<sup>1</sup> PwC UK, Corporate Sustainability Lessons Learned Third Edition, [www.pwc.co.uk/corporate-sustainability/going-circular/pwc-going-circular-third-edition.pdf](http://www.pwc.co.uk/corporate-sustainability/going-circular/pwc-going-circular-third-edition.pdf)

<sup>2</sup> Gross cost savings over a 10 year period from 2007-2017

## Making a difference to the environment and our bottom line





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