



Chwyldro Cylchol
Circular Revolution



riversimple



Exploring Circular Innovation pathways in your business

If you would like help working through this exercise or discuss the results in more detail, we can help you at Circular Revolution, so please get in touch with either:

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Exercise 1. Where are you now?

Exercise 1a – Define your current business model

What is the value that your business offers to people, the environment, and economy?

Who is your target customer and your main stakeholders?

How does your business provide this value?

Exercise 1.b How well do we manage circular innovation?

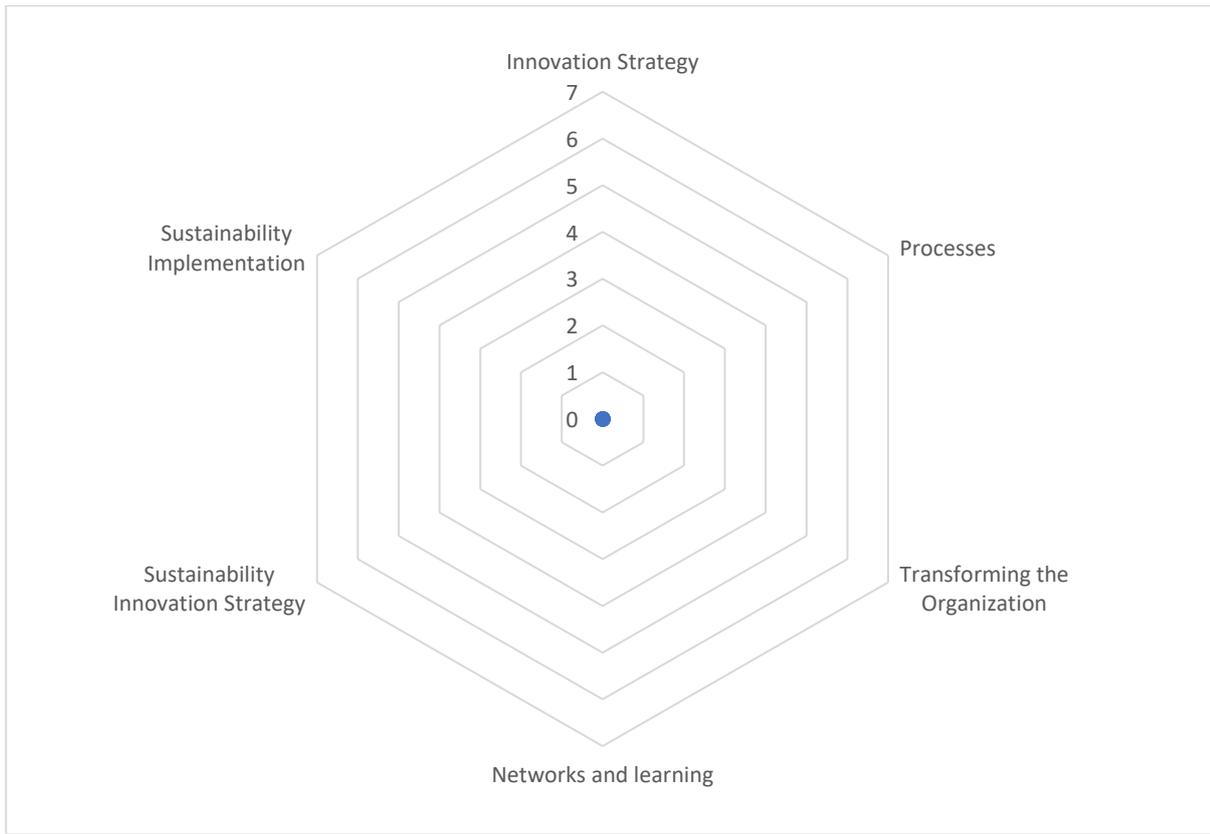
This simple self-assessment tool focuses attention on some of the important areas of circular innovation. Below you will find statements which describe 'the way we do things around here' - the pattern of behaviour which describes how the organization handles the question of innovation.

For each statement simply put a score between 1 (= not true at all) to 7 (= very true).

Questions	Score (1-7)
1. We have explored the innovation space and have something which is distinctively new to offer	
2. We have a clear roadmap in place to help us manage our new product/service development effectively from idea to launch	
3. The way we are structured helps us to be flexible and innovative	
4. We work hard to develop effective working relationships with key partners	
5. Sustainability and Circular Economy principles are a priority and have been integrated into the firm's overall strategy	
6. We use recycled, renewable, or recyclable resources within our products or services	
7. We have a clear value proposition which is unique, protectable and sustainable in the long term	
8. We have a clear business plan to ensure the new venture develops on time and budget	
9. Our structure helps us to take decisions rapidly	
10. We engage our key stakeholders (i.e. suppliers, customers or local networks) on sustainability and circular economy to drive the net-zero agenda	
11. We have ambitious, measurable sustainability and/or Circular Economy targets	
12. We use renewable energy sources as part of our inputs	
13. We look ahead and try to spot opportunities in emerging technologies and markets ahead of the mainstream	
14. We have a clear understanding of our target market segment(s) and their needs	
15. We have a supportive climate for new ideas - people don't have to leave the organization to make them happen	
16. We work closely with our customers and users in exploring and developing new concepts	
17. We have assessed risks associated with climate change and sustainable development and know how this might impact our business in the future	
18. We value resources, so design our processes to include reuse, repair, refurbish, and repurpose activities	
19. Our top team have a shared vision of how the company will develop through innovation	
20. We have effective mechanisms for managing process change from idea through to successful implementation	
21. Communication is effective and works top down, bottom up and across the organization	
22. We collaborate with other organizations to help develop new products, services or processes	
23. We have a role/team inside the company that is dedicated to implementing sustainability and circular economy initiatives	

Your circular innovation profile!

Now plot a profile of the six categories in the graph below:



Exercise 1c. Questions for reflection on your results

- Which questions and categories have you scored the lowest and why have you scored it this way?
- What is stopping your from scoring higher on these questions or categories?
- Which questions have you scored the highest and why?

Exercise 2 – Circular innovation pathways

Exercise 2a. Explore the pathways

Read through the circular innovation pathways (found at the back of this document) and answer the following questions:

- Have you or your company tried any of these approaches before?
- What challenges or successes did you face adopting these ideas?

Exercise 2b. Determine which pathways are most crucial to you

Reflect on the results of your circular innovation fitness test and the circular innovation pathways and tick in the table below which of these pathways is looking most promising for your business and consider why. It can be more than one!

	Mark (x)	Why? Any specific ideas in mind?
Circular business models		
Circular Design		
Accreditation		
Network Innovation		
Circular Procurement		

Pathway 1. Circular Business Models

Circular businesses champion a **broader understanding of value** by integrating economic, environmental and social aspects into the purpose of their organisation. They **rethink the conventional** producer-consumer relationships, value creation activities and structure of value chains **to cycle, extend and intensify the use of existing or renewable resources**. The provision of product utility through software and **service solutions can further dematerialise operations** and enable the creation of new revenue streams.

A circular business model articulates the logic of how an organisation creates, delivers and captures value for its broader range of stakeholders while **minimising environmental and social costs**. It provides a **simplified but holistic representation** of the architecture of the business and the way it interacts with the wider ecosystem. Understanding your business model not only provides a **focusing device to determine potential innovation pathways**, but enables a shared story that makes sense of why your strategic vision represents a better way than existing alternatives.

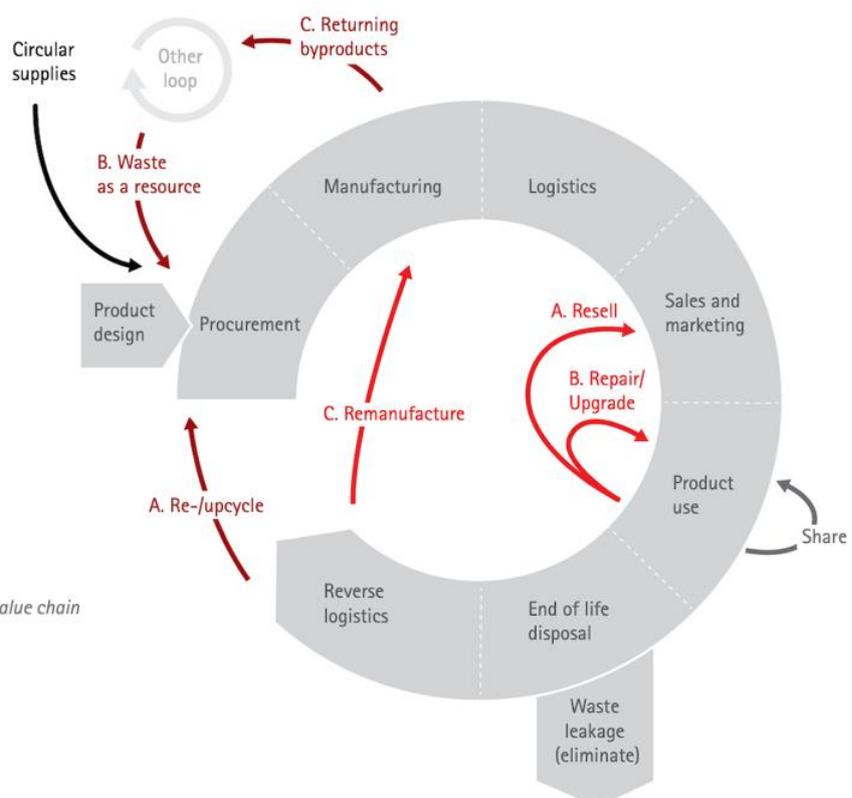
Key Components

Value Proposition
What products/services do you offer? How does your offering enhance economic/social/environmental value? For whom?
Value Creation and Delivery
What are the key resources, activities and partners needed to make the business model work? How do you reach, communicate and interact with customers/stakeholders? What type of relationships does this foster?
Value Capture
What is the revenue model – how do customers pay for the offering? How is the business structured to capture value for itself and wider stakeholders? How is this measured?

Types of Circular Business Models

- **Circular Supplies:** Provide renewable energy, bio based- or fully recyclable input material to replace single-lifecycle inputs
- **Resource Recovery:** Recover useful resources/energy out of disposed products or by-products
- **Product Life Extension:** Extend working lifecycle of products and components by repairing, upgrading and reselling
- **Sharing Platforms:** Enable increased utilization rate of products by making possible shared use/access/ownership
- **Product as a Service*:** Offer product access and retain ownership to internalise benefits of circular resource productivity

* Can be applied to product flows in any part of the value chain



Examples of SMEs Implementing Circular Business Models



Over 44% bread is thrown away in the UK. Operating a *Resource Recovery* business model Toast Ales uses surplus bread from bakeries to replace 1/3 of its barley input – reducing barley demand, associated resource use and emissions; decreasing their material costs; and enabling product differentiation in a crowded market. Spent grain and hops are fed to animals or composted, further closing nutrient loops. A certified B-Corp, social enterprise and carbon neutral business, positive impact is at the core of the business. They donate 100% of distributable profits to charities, champion regenerative farming and even offer open-source recipes to encourage others to tackle food waste.



HOMIE offer a *Product as a Service* model for home appliances, allowing customers to pay-per-use (wash cycle) rather than for product (washing machine) ownership. Affordable and flexible access to higher quality white goods without the capital cost enables access to new customer segments. Tracking usage patterns and incentivising (through reduced cost) low temperature cycles results in fewer washes and an average 25% reduction in water and energy use. The business is responsible for maintenance, repair, and possible replacement (within 24hrs) to enable *Product Life Extension*. Retained ownership of the appliance allows the company to close resource loops by reusing or recycling components and materials.

Starter Questions

- Which of the typical circular business models best aligns with your strategic vision to recover or create new value?
- Who are the stakeholders which benefit from this value, and how is it measured?
- Do you have the skills, resources and capabilities to enable the value proposition? If not, who might you need to partner with?

Pathway 2. Circular Design

Circular design is an approach to design that looks to improve the environmental profile of products and services. Similar to other design for environment approaches like **Eco Design** and **Sustainable design**, **Circular design** promotes the use of **design for x strategies** such as repairability, disassembly, refurbish, remanufacture and recycling. As a result, **lifecycle thinking** is embedded into the product at the design stage so that solutions for the 'end-of-life' or end-of-first use' of the product are ensured. But what sets Circular Design apart from other approaches is the active consideration of the **business model** alongside the strategies and highlights the importance of designing these two things in parallel. Ultimately so that **value of the product**, its materials and components are retained for a long as possible.

Key Components

- Conscious Material Selection
- Designing for Physical Durability and Emotional Durability
- Design for Standardization Compatibility
- Design for Ease of Maintenance and Repair
- Design for Upgradability and Adaptability
- Design for Dis-and Reassembly
- Design for Recycling

Examples of SMEs doing Circular Design

<https://bambooclothing.co.uk/>



BAM are a sustainable fashion brand and have used Circular Design strategies to improve the environmental footprint of their products. Their 73 zero insulated jackets are 100% recyclable and made from 99% recycled materials, have looked to eliminated harmful chemicals within production and have end of life take-back system in place for their products.

<https://shop.fairphone.com/en/?ref=header>



Fairphone are an electronics manufacturer who have developed an entirely modular, repairable, easy to disassemble mobile phone. They've also worked to only source their materials from conflict free zones and actively work on conserving precious materials needed for electronics. They also take back their phones and have systems in place to recycle and repurpose them.

Starter Questions

- How has your company looked at some of these strategies already?
- What are some of the challenges or successes you've faced trying to implement Circular Design?
- Which of these strategies would be easiest for you be able to adopt?

Pathway 3. Accreditation

Sustainability standards and certifications are voluntary guidelines used by producers, manufacturers, traders, retailers, and service providers to demonstrate their commitment to good environmental, social and ethical practices. These schemes are managed by third party organisations and **provide frameworks** for measuring, reporting, setting goals and tracking progress to increase sustainability performance. There are many certification schemes available globally such as ISO14001, Cradle to Cradle (C2C), BSI CE 80001 or B-Corp and can be applied to either specific products and services produced (C2C), operations (ISO14001) or the company as whole (B-Corp). Each of these frameworks address different factors of sustainability and circularity so deciding which is most relevant and transformative to your organisation requires careful consideration. Below is table outline the key aspects:

BSI 8001 Circular Economy	Circular Business Model Design Materials selection Organisational Circularity Principles Potential circular design strategies	Focuses on business transformation that goes hand in hand with circular product design, so includes factors such as business modelling, organisational change as well as materials and design strategies.
Cradle to cradle	Material Health Product Circularity Clean Air & Climate Protection Water & Soil Stewardship Social Fairness	Has a strong resource focus with many products certified tending to be innovative from a material and chemistry perspective. Product circularity embeds lifecycle thinking ensuring products are designed for their next use and are actively cycled in their intended cycling pathway.
B-Corp Certification	Governance Workers Community Environment Customers	Focuses on promoting an ‘inclusive economy metric’ so that value is created for non-shareholding stakeholders, such as employees, the local community, and the environment.
ISO 14001	Use of Natural Resources Discharges to Air, Land, and Water Incidents and Potential Incidents Proactive Measures	This standard focuses on requirements for an environmental management system. It helps organizations improve their environmental performance through more efficient use of resources and reduction of waste.

Examples

C2C

<http://www.c2c-centre.com/product/home-office-supply/dopper-insulated-and-steel>

<http://www.c2c-centre.com/product/auto-tires/conact%C2%AE>

Starter questions:

- Has your organisation explored any of these frameworks?
- Which of these accreditations are looking the most relevant or interesting to you and why?

BSI 8001 Circular Economy	Circular Business Model Design Materials selection Organisational Circularity Principles Potential circular design strategies and checklist
Cradle to cradle	<p>Material Health - Chemicals and materials are selected to prioritize the protect human health and the environment, and positive impact on the quality of materials for future use and cycling.</p> <p>Product Circularity - Products are intentionally designed for their next use and are actively cycled in their intended cycling pathway(s).</p> <p>Clean Air & Climate Protection - Product manufacturing results in a positive impact on air quality, the renewable energy supply, and the balance of climate changing greenhouse gases.</p> <p>Water & Soil Stewardship - Water and soil are treated as precious and shared resources, so watersheds and soil ecosystems are protected, and clean water and healthy soils are available to people and all other organisms.</p> <p>Social Fairness - Companies are committed to upholding human rights and applying fair and equitable business practices.</p>
B-Corp Certification	<p>Governance evaluates a company's overall mission, engagement around its social and environmental impact.</p> <p>Workers evaluates a company's contributions to its employees' financial security, health & safety, wellness, career development, and engagement & satisfaction.</p> <p>Community evaluates a company's engagement with and impact on the communities in which it operates, hires from, and sources from.</p> <p>Environment evaluates a company's overall environmental management practices as well as its impact on the air, climate, water, land, and biodiversity.</p> <p>Customers evaluates a company's stewardship of its customers through the quality of its products and services, ethical marketing, data privacy and security.</p>

Pathway 4. Network Innovation

Pathway 5. Circular Procurement

Circular procurement is the use of **purchasing power** to achieve maximum positive ecological, social, and economic impact throughout the life span of products and services. It is a process where companies look to buy change and implement **environmental solutions through their supplier and product choices**. Instead of always throwing away and replacing, dynamic and adaptable products and solutions are considered. Maximum retention of the value of the products, components and materials to be purchased is central to this. The term 'Circular Procurement' is an extension of existing sustainable procurement practices, but goes beyond 'traditional' sustainable procurement by actively contributing to closing energy and material loops within supply chains, while minimising any negative environmental impact or waste creation across their whole life cycle. Moreover, circular procurement is not limited to buyers, consider how you as a seller can increased the circularity of the products or services and work with your clients to produce more environmentally mindful offerings.

Key components

Circular procurement in 6 simple steps:

1. Define your circular ambitions
2. Determine your functional needs
3. Formulate your questions and communicate with the market
4. Choose your supplier/s and award the contract
5. Implement circular usage policies
6. Evaluate success

Contemplate the 4's when considering CE ambitions and functional needs:

Reduce	Rethink demand specification: what is needed? Could a product be replaced with a service, could ownership of this product be shared?
Re-Use	If a product is needed, its use phase and end-of-life must be considered (e.g. take-back schemes).
Recycle	If product cannot be re-used, ensuring that it is made of recyclable materials, and even better, made from recycled materials.
Recover	Can specify design for recovery in tenders, and procure the recovered products.

Further reading:

- <https://www.zerowastescotland.org.uk/circular-economy/circular-procurement>
- <https://emf.gitbook.io/circular-procurement/-MB3yM1RMC1i8iNc-VYj/>
- <https://www.copper8.com/wp-content/uploads/2018/10/Circular-Procurement-in-8-steps-Ebook.pdf>

Examples

Seller offering CE products:

Greenstream Flooring are a Welsh based CIC that are capturing unwanted flooring tiles from organisations diverting them from landfill and then grading them by hand. These reused carpet tiles are an affordable and environmentally option demonstrating the benefits that reuse offer.

<https://www.findcarpettiles.co.uk/collections/reused-carpet-tiles?view=no-usf>

Buyers being circular:

Public Health Wales - Reuse and remanufacture of office furnishings

When Public Health Wales (PHW) moved offices in 2016, it wanted the successful bidder to use as much of its existing office equipment, furniture and flooring as possible, as well as supplying remanufactured goods from other sources. The winning consortium of social enterprises supplied over 2,500 items, with only 6% from new stock. The circular approach diverted 41 tonnes of waste from landfill with a CO2 saving of 134 tonnes. This was the Procura+ Award winning tender in 2017 for Tender Procedure of the Year.

https://procuraplus.org/fileadmin/user_upload/Procura__case_studies/Procuraplus_case_study_Public_Health_Wales.pdf

Starter questions:

- Where in your system do you think you might have buying power?
- Which of your suppliers or customers do you think you might be able to explore circular procurement with?