

Question cards

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Raw material

Which raw materials are used in the resource?

Raw material

How is the raw materials obtained?

Raw material

How are the raw materials processed?

Raw material

Which actors are involved in the processing of the raw materials?

Shipping

Who is the actor or actors who ship the materials?

Shipping

How are the materials shipped?

Shipping

How are the materials packaged when it is shipped?

Shipping

Are all the shipping routes in the value chain determined?

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Production of resource/ packaging

Who are the actors responsible for
the production and packaging of the
resource?

Production of resource/ packaging

What does the resource consist of?
E.g. virgin or recycled material?

Production of resource/ packaging

How is the resource composed?
Is anything other than the primary
material included?

Production of resource/ packaging

If the resource is composed of any
other materials, which actors do this
and how?

Production of resource/ packaging

Are there any labels on the resource?
- what material is it made of?

Production of resource/ packaging

Do the actors operate with
external subcontractors?

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Retail store /Company

Who are the actors who sell
the resource to the retail
store/company?

Retail store /Company

What happens to the resource
in the retail store/company?

Retail store /Company

How is the resource handled/sold to
the consumers? Online or in store?

Retail store /Company

How is the resource waste sorted?

The resource to end user

How does the end user
receive the resource?

The resource to end user

How does the end user
dispose of the waste?

The resource to end user

Which actors handle it?

Technology

Who do you know who could
advise you on new, relevant
technological tools?

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Waste Management

Who are the actors who handle the waste?

Waste Management

How is the resource handled when it is disposed?

Waste Management

If different actors - how is the waste handled by the different ones?
Is there any difference? Do they live up to rules and legislations?

Waste Management

Are there already circular loops for the materials? Which actors are involved?

Technology

What digital tools do you use to deal with waste - if any?

Technology

Have you heard of other technological tools that could be used to create circular loops? E.g., sensors, apps, etc. - is this something you could investigate further?

Technology

Would technological tools be able to improve communication or logistics in the value chain?

Technology

Where in the value chain do you think there would be the most aversion to new technological tools - and can that attitude be changed?

Scenario cards
- *for circular initiatives*

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Design for disassembly

What if the materials or products from your value chain were designed to be disassembled?

Designing for disassembly is about allowing resources or products to be separated once it is discarded or in need of repair. Products are designed intentionally for material recovery, value creation and meaningful reuse.

Design for modularity

What if the materials or products in your new initiative were designed to be modular?

Designing for modularity is when the design of a product contains several separable parts that can be assembled in different ways. It enables the user to modify, replace or exchange separate parts between a product system in different ways over time.

Design for multifunctionality

What if the materials or products from your value chain could fulfill multiple functions?

Designing for multifunctionality is about reducing the overall amount of products produced by considering how the products by its design can fulfill other functions. Multifunctional products can either be used for other purposes internally or completely different purposes.

Manufacturing

What if the materials or products from your value chain were manufactured for a circular purpose?

Manufacturing is about improving the production to make it more circular. It is about how to favor cleaner production, waste, design for reduced energy consumption and prioritizing renewable energy.

Sourcing

What if the materials used in your new initiative are selected based on favoring the environment?

Sourcing is about the selection of materials that is used to produce the product. Aspects to consider are the durability, renewability and recyclability. You can also consider social aspects such as where the material originates from.

Monitoring equipment

What if you in your value chain work on reducing risks of breakdowns in products?

The equipment allows the user and supplier to carry out preventive maintenance and reduce the risk of breakdowns. Monitoring conditions of products can give suppliers useful feedback for redesigning a product - valuable when planning the overall technical services offered to users.

Mono-material

What if your new initiative were produced from only one material?

The principle of mono-material is when a product is composed of a single material or if a product's different parts or components are made of the same materials. Using only one material makes it easier for correct sorting and recycling after use.

Repair

What if your new initiative included repairability?

Product repair involves returning a product to a good working condition by replacing or repairing components that are faulty or close to failure as well as making 'cosmetic changes' to update the appearance of a product, using methods like resurfacing, repainting, etc.

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Reuse

What if your new initiative enabled direct reuse of materials, resources or products and components?

Reuse is the action or practice of using a product, whether for its original purpose or to fulfill a different function, thereby re-functioning the product. It should be distinguished from recycling, which is the breaking down of used items to make raw materials for the manufacture of new products.

Remanufacturing

What if your new initiative included remanufacturing of components or modules?

Remanufacturing is the repair or replacement of worn-out or obsolete components and modules. Remanufacturing is a form of a product recovery process that differs from other recovery processes; a manufactured product should match the same user expectation as new products.

Upgrade

What if your new initiative included working on extending the lifetime of a product or component by upgrading?

Changes, evolution and/or new features are added to extend the lifetime. Upgrades can extend the value by enhancing the function of an existing product sometimes beyond its original design condition. Potentially, it can also reduce value loss from continued use of parts and products.

Refurbish

What if you included repairment of returned products and parts in your initiative?

Refurbishing is about repairing returned products after a certain period of use, so that it satisfies certain mechanical specifications and operating conditions within the limitations of what is considered acceptable. This is done by rebuilding or repairing major components that are close to failure.

Service kits

What if your initiative included using service kits?

A service kit contains tools, equipment and/or spare parts that helps users or companies to maintain and repair products and components. Service kits serve to extend the use phase of products and parts.

Spare parts on demand

What if your initiative includes parts to be replaced when the user needs it?

Spare parts on demand are offered on times where no formal agreement is needed. Sometimes, the supplier can act as a provider of other companies spare parts, centralizing and simplifying the process for users. This type of agreement is the most common within spare parts services.

Spare parts owned by supplier

What if your initiative considered how to enable users to exchange old products to new?

A service where the users can exchange used or worn-out products, for a new or reconditioned part. The new part will have the same quality, warranty and performance as the one installed previously and can be offered at a reduced price. The supplier has the possibility of exchanging spare parts between different users.

Spare part kit

What if your initiative included that you could provide relevant actors in the value chain with spare kits?

Package containing spare parts for a specific repair task. The user can choose between different parts that form a spare kit - either from a supplier or sub-supplier depending on the task to be solved.

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Upcycle

What if a product in the value chain gets a second life by being upcycled?

Upcycling is about reusing or redesigning products. It includes identifying potential second use scenarios or functions that the products/materials could become part of in a new use phase. Upcycling is about transforming bi-products, waste materials and/or unwanted products into new materials, components or products of same or even higher quality or value.

Repurpose

What if materials or products from your value chain could serve a new purpose?

Repurposing is about identifying new possibilities for use of discarded products. Repurposing requires thinking outside the box and possibly looking for potentials for repurposing outside the industry you operate in.

Take-back-systems

What if you found ways of getting back materials or products back to the right actor in your value chain?

A take-back system is when suppliers collect used products/parts/materials from users and make them go back to the same or a new loop of use. Take-back can both be applied at the end of the product lifetime and/or be a service that enables extending the current use cycle of products.

Retrofit products

What if products or materials part of your value chain were updated when new contexts arise?

Retrofit is when you add new technology or features to existing products or systems, due to new technology, market demands or regulations. Users are ensured that when contexts change, action can be taken to adapt to the new context. Retrofit can be a simple adjustment or redesign of new solutions.

Collection

What if collecting and sorting of the products or materials from your value chain were an embedded practice?

Collecting and sorting resources ensures that the resource is managed correctly due to its material composition after its use. It is about transforming waste materials or fully utilized products into new resources, either new materials or products or simply into heat and energy.

Resell

What if you could sell internally out-served materials or products from your value chain to other stakeholders?

Reselling is the opportunity of giving products or materials another life in a context where the value of the product or material is sustained. It can either involve collaborations with partners to establish take-back systems as well as establish second-hand markets.

Recycle

What if your products or materials was produced by recycled materials, or recycled into new products?

Recycling is the process of transforming fully utilized products or materials into new ones. Recycling differs from reusing as it is the breaking down of used products to make raw materials for the manufacture of new products. In this way potentially useful materials will remain active.

Recover

What if your materials or products from your value chain could be recovered after use?

Recovering can be done when a product of material can no longer be reused or recycled, because the material composition is completely exploited. Energy recovery happens by incinerating materials to produce heat and electricity.

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Data sharing

What if you worked on sharing data amongst actors in your value chain?

Data sharing is a value driver in the circular economy. It is e.g. material traceability data to support sourcing and recycling processes, product performance and the extension of a product life. Sharing data helps to improve efficient use of resources. This knowledge creates value for companies in mainly four different dimensions: reduction of costs, improvement of brand image, reduction of risk and increase in revenue.