WHITE PAPER

THE CIRCULAR ECONOMY, CREATING NEW VALUE

Section one sets out the compelling reasons for making the transition to a circular economy and outlines the benefits for organisations that manage their business activities with circularity in mind.

Section two expounds the basic principles of the circular economy.

The last two sections describe a framework and kind of support and guidance needed to enable your organisation to make further specific progress.

What's in this white paper for you?

The circular economy is much discussed and many events, workshops and master classes are devoted to it, yet we constantly receive feedback suggesting that many people still find it too theoretical a concept that is all too rarely translated into specific practical measures. One of the most frequently cited reasons is that not everyone in the organisation is on the same track. In addition, the clamour surrounding the following questions is steadily mounting: "*What benefits can the circular economy actually bring our company, and preferably in the near future? What do we stand to gain and what are the risks involved?*".

The purpose of this white paper is to help provide some answers to these questions. Of course, the situation in every company is different, so there is no 'one-size-fits all' approach. In recent years, we have helped dozens of businesses take small steps or large strides towards implementing the circular economy. We bring together the experience and insights we have accumulated in these real-life cases and link them to the standard for the circular economy published earlier this year (BS 8001: 2017). This standard was developed with broad support from stakeholders and leading companies in the domain and thus serves as a good basis on which to add our key insights.

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This document focuses on converting the principles behind the theoretical circular economy into practice in a corporate context. Concrete cases and examples can be found in the boxed text throughout the white paper. Although our target group is manufacturing companies, other product and service providers from the technology industry may also find this document of interest.

In short, all businesses that start to embrace circular entrepreneurship can find useful starting points, tips and inspiration in it.

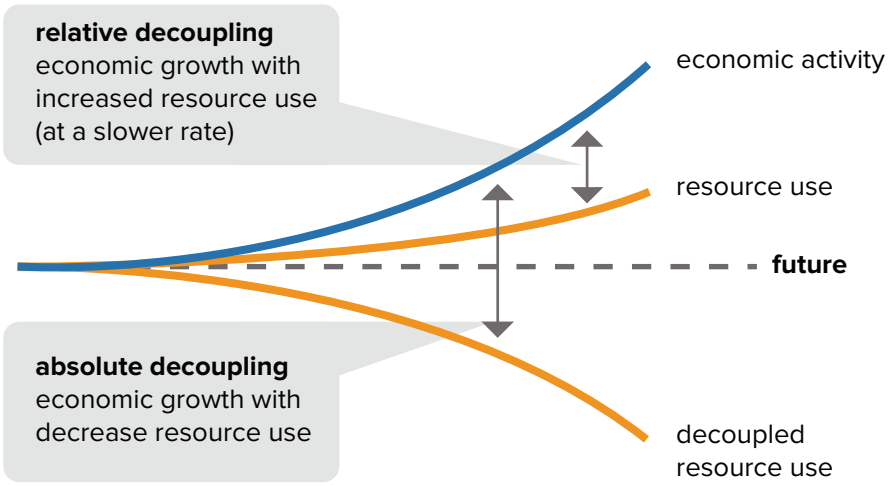
Business cases and practical examples:

SUMMARY

THE CIRCULAR ECONOMY IS WORTH CONSIDERING

Why the need for a new approach?

The present-day economic model is coming under increasing pressure, for one very simple reason. We live on a finite planet and strive to achieve a growing economy. Emerging countries are seeing rapid growth in their middle classes, and this is steadily pushing up demand for raw materials. At the same time, the world's population is continuing to grow, increasing the need to ensure our prosperity in some other way. Over the past 40 years, the extraction of raw materials around the world has quadrupled. The fact that these natural resources are unevenly spread across the planet poses an additional threat to security of supply.

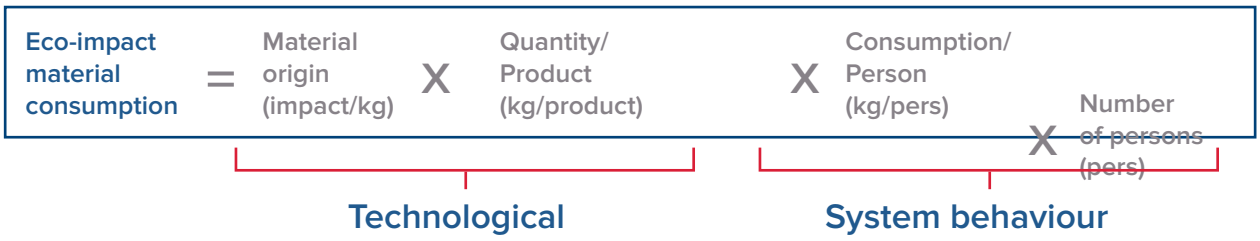


So the key question is this: «How can we, as a company, generate continuous profits without exhausting the finite supply of available raw materials?». The only way to do this is to uncouple economic growth from our consumption of natural resources.

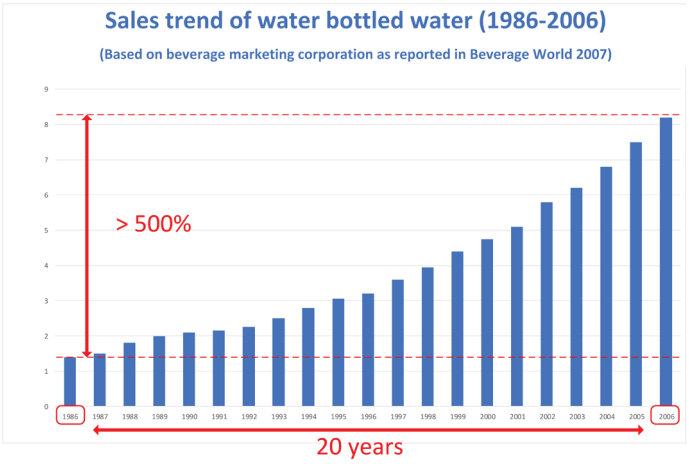
Consequently, without increasing their amount of used materials, businesses need to find products and activities that generate revenue.This is a tricky challenge, though one that ought to be manageable, given the right triggers.

Where are the keys to a breakthrough?

The future availability of resources depends on our patterns and volumes of use today. Our present patterns of use need to change radically if we want to bring current consumption back within the limits of what our planet can endure. To this end we have already devised numerous technological solutions. But can technology prompt a turnaround all by itself?

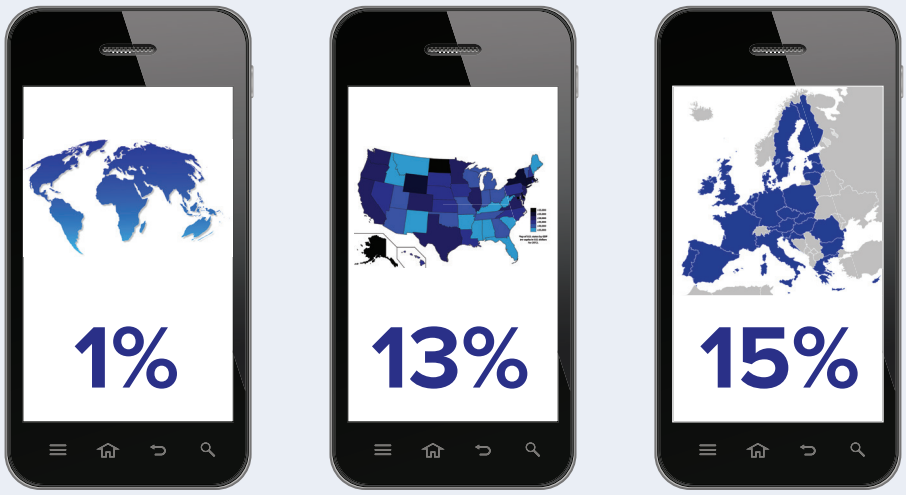


bottle weight reduced by 50% over 40 years



consumption up by 500% over 40 years

Eco-impact is determined by both technological and non-technological factors. The non-technological factors have to do with consumer behaviour, demographic developments, ease of use and the lack of short-term feedback on the environmental cost of patterns of consumption, and usually their impact is far greater than that of technological improvements. So relying exclusively on technological improvements and neglecting behavioural changes will not alleviate the pressure on materials and their availability. The figure above shows us that the impact of technological advances is surely necessary and positive, but in the long run it will be insufficient, as it is many times smaller than that of demographic factors and system behaviour.



Collection rate for smartphones

And when we bring products' end-of-life phase, collection and recycling rates and recycling efficiency into the equation alongside consumption, the need to take action becomes even more pressing. As things stand, very large quantities of valuable raw materials are being lost.

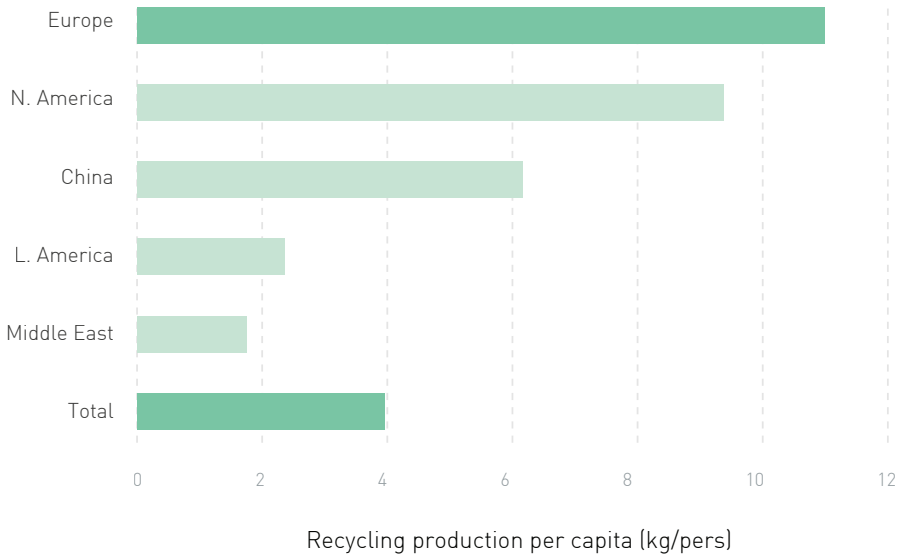
The Aluminium Effect

In Europe aluminium enjoys high recycling rates:

Packaging

Construction and automotive

Europe is number 1 in recycling



Source: European Aluminium statistics 2013 data

Recycling rate of 60% for aluminium packaging waste means that after use, 600 kg out of every tonne of this waste is available for reuse. After two cycles of use, 360 kg are left over, and after just five cycles a mere 78 kg remain in circulation.

"How can a manufacturing company earn money if such a behavioural change takes place?"

This highlights the need to change the system and alter people's behaviour. Considering this fact from an economic viewpoint, especially from the perspective of the manufacturing industry, we arrive at the following question: "*How can a manufacturing company earn money if such a behavioural change takes place?*"

In other words, we need to seek solutions for generating more value using the same amount of natural resources and materials.

"Which technologies support behavioural change?"

This is precisely where the circular economy can make a major contribution to the change transition that needs to take place. The circular economy combines many long-standing concepts of open- and closed-loop recycling, from repairing or reusing to remanufacturing to product service systems. In addition, the question as to which technologies we can develop or use to support the necessary transformation are becoming increasingly prominent. So we can ask the following question: "*Which technologies support behavioural change?*".

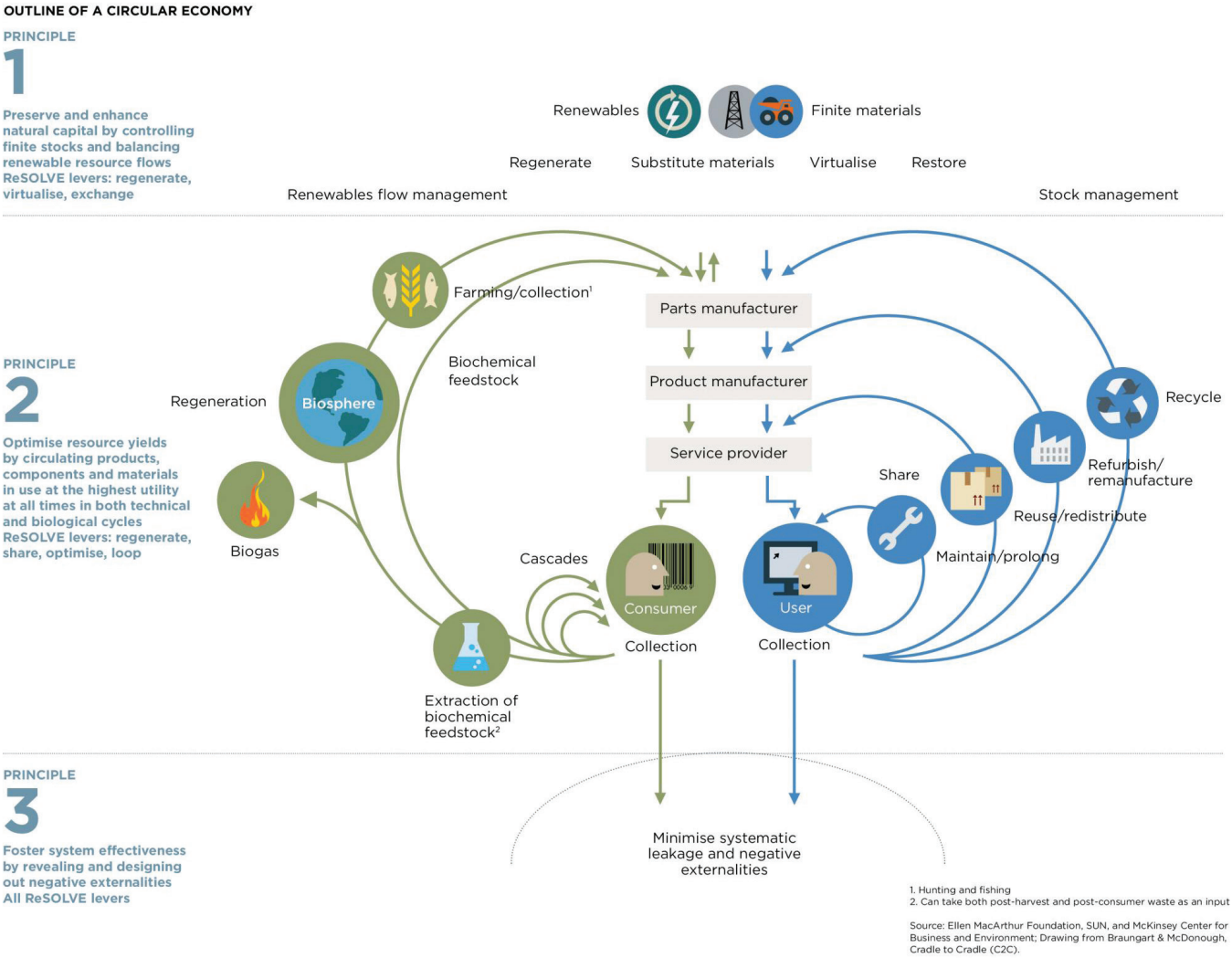
Technological platforms enable the efficient organisation of repair-related and remanufacturing activities.

BSH - comprising the Bosch, Siemens, Neff, Gaggenau and Constructa brands - deploys such an IT platform, called Tradeplace, to share data with privileged partners. This way, depending on their needs and level of authorisation, certified professionals - technicians, responsible for repair and maintenance - can consult wiring diagrams, blueprints and instructions for carrying out repairs.

This simple concept illustrates how data management can be organised efficiently. It also provides support for the flexible growth of service activities.

The circular economy as our new umbrella?

A circular economy aims to keep materials in continuous use. In this connection, we can distinguish between two types of cycle. In the natural cycle, biological nutrients, such as crops, are used until they biodegrade into compost or manure, either spontaneously or through human intervention, and thus return to nature. In the technical cycle, which has to do with metal alloys and polymers, for example, materials are either manufactured in such a way that they can easily be reused using the least possible amount of energy or they are produced from renewable resources. In addition, materials' functionality is maintained at as high a level as possible for as long as possible. The system is thus 'regenerative', both environmentally and economically.



From a corporate perspective, the circular economy refers to a systemic approach that impacts on product design, production processes, products and services themselves as well as on business models, with resources being managed more efficiently. This results in a more circular material flow, with products being used for as long as possible, thereby ultimately reducing waste.

The BS 8001: 2017 standard mentions the relationship between the circular economy and other trends and approaches that pursue the same sustainable objectives. In this connection, the blue economy, the performance economy, biomimicry, natural capitalism, industrial symbiosis, a cradle-to-cradle approach and regenerative design are highlighted as valuable lines of thought to tie in with the circular economy. The strategies of a company that is focused on the efficient use of raw materials, zero waste, the bioeconomy or lean thinking can also constitute stepping stones within this process.

The interplay between several best practices and management principles already adhered to by a wide range of companies can serve as a starting point. It is very valuable to explicitly highlight such interdependence, as this can help businesses that have already opted for change and are working towards a more sustainable and resilient business model to see where their approach needs to be fine-tuned or adjusted. We recommend focusing any action taken and defining additional goals to further transform existing practice without losing the benefits of existing best practices. Businesses are encouraged to build on processes that have proved their usefulness and thus become part of the circular economy. So there is no ‘good’ or ‘bad’ way to embrace the values of the circular economy and take the first steps.

Finally, it is important to develop clear, common language to use within your company and with stakeholders to describe shared goals. Using the same language (i.e. terminology) is also essential if you are intent on further aligning roles and responsibilities within the cooperating organisations. This is undoubtedly one of the great achievements of the BS 8001 standard.

Indirect benefits

The **indirect benefits** are known and recognised as being important. Nobody will object to creating a better world, but these benefits' short-term lack of leverage at the micro level means that business practices only change very slowly.

Forward-looking businesses have a vision and goal, namely to improve the world in which they operate. There are also indirect image-related benefits, since such companies become more attractive as employers and trading partners. In a world of growing cooperation and in the continuing quest for motivated employees, for many organisations this is already one reason to practise circular entrepreneurship.

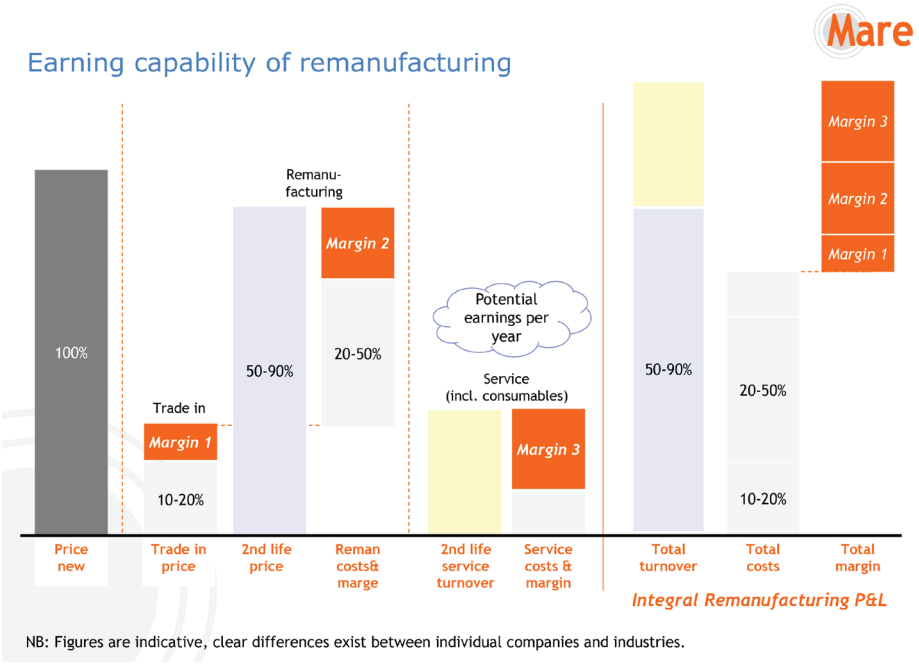
One example is the modular flooring company Interface, which is now striving to take measures to reduce its waste and CO_2 emissions.

Source: Greenbiz - Interface 1994 , 2020 and beyond 2020-goals

Direct benefits

The **direct benefits** tend to receive more attention and are spotlighted as driving forces for change or incentives to take action. The BS 8001 standard lists four major potential benefits at this level:

First and foremost, there is an opportunity to lower the net costs of producing, procuring and using products and services. One example is that disassembling and repurposing by remanufacturing can create value at a lower cost than manufacturing a new product from scratch. There is also a second-hand market for all products with a certain value. Manufacturers who exploit this generate extra revenue and gain additional information about product use, wear and tear, and so on, which they can usefully input into their own product design.



Source: Remanufacturing Roadmap Zuid Nederland – Mare Advies

Based on our experience in the manufacturing industry, we should add that the additional value of by-products and bypass flows of existing production processes is rarely the main driver for pushing up value. However, this can be a good starting point for exploring the potential of the circular economy, especially if you can play a role in the value chain of a waste stream.

For 30 years already, **Verimpex** has produced and sold doormats designed for intensive use, made of discarded aircraft tyres. They come at the very end of the airline tyre value chain. After being used on aircraft (with their tread renewed up to seven times), tyres can be given a different tread for reuse for a less critical application, such as for vehicles used on building sites. But before their final disposal, Verimpex can still put these used tyres to good use in its TireGuard® floor mats. The high-tech textile woven into the tyres, to give them tremendous strength, is particularly valuable for this application.

Of course, new sources and ideas for innovation and design can also generate fresh returns, a few examples being creating new types of services, exploiting sidestreams or by-products and finding new markets for used products.

The associated risks, such as cannibalisation of the market, also give rise to a nuanced picture. On the other hand, this is another trigger for action under the motto ‘Disrupt and cannibalise your business, before someone else does’.

Pioneers like **Barco** emphasise the driving force that the circular economy can be with respect to product and service innovation. "*The circular economy is the ultimate stimulus for innovation, ensuring totally out-of-the-box thinking. One of its great added values is that our customers end up fully assured about the service provided or the purpose served by a product.*

Retrofit: to install **new** or modified **parts** of equipment in something previously manufactured or constructed

It forces manufacturers to take more responsibility, which necessitates investment, and may have implications for a solution's cost model. On the other hand, however, in the long term these investments strengthen the ties with the customer and boost our competitive position in the marketplace", says Eco Officer Jan Daem.

The figure, based on the BS 8001, shows how the focus shifts from selling a product to a service: the smaller the circle, the greater the value. This evolution demands a change in attitude towards the customer, which means another business model is required. A new kind of relation, closer to the customer needs to be built up, to be able to offer him a better service.

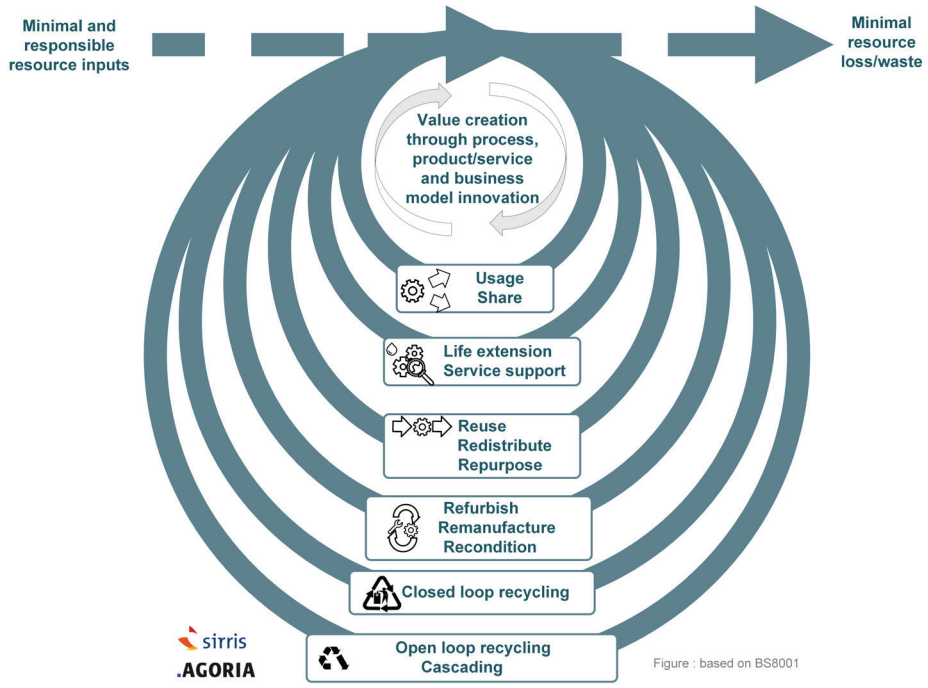


Figure : based on BS8001

Hence, the **improved customer relations** are inherent in the principles of the circular economy (the shift from selling a product to fulfilling a function) and bring additional services within reach. The closer you are to customers, the more opportunities will arise for reverse logistics, data acquisition, brand awareness and so on. One by one, useful (if new), innovative services are explored. As Barco attests in an interview with Agoria, it is clear that these improved customer relations create added value for both the customer and the manufacturing company, for example through energy efficiency and performance upgrades on installed products.

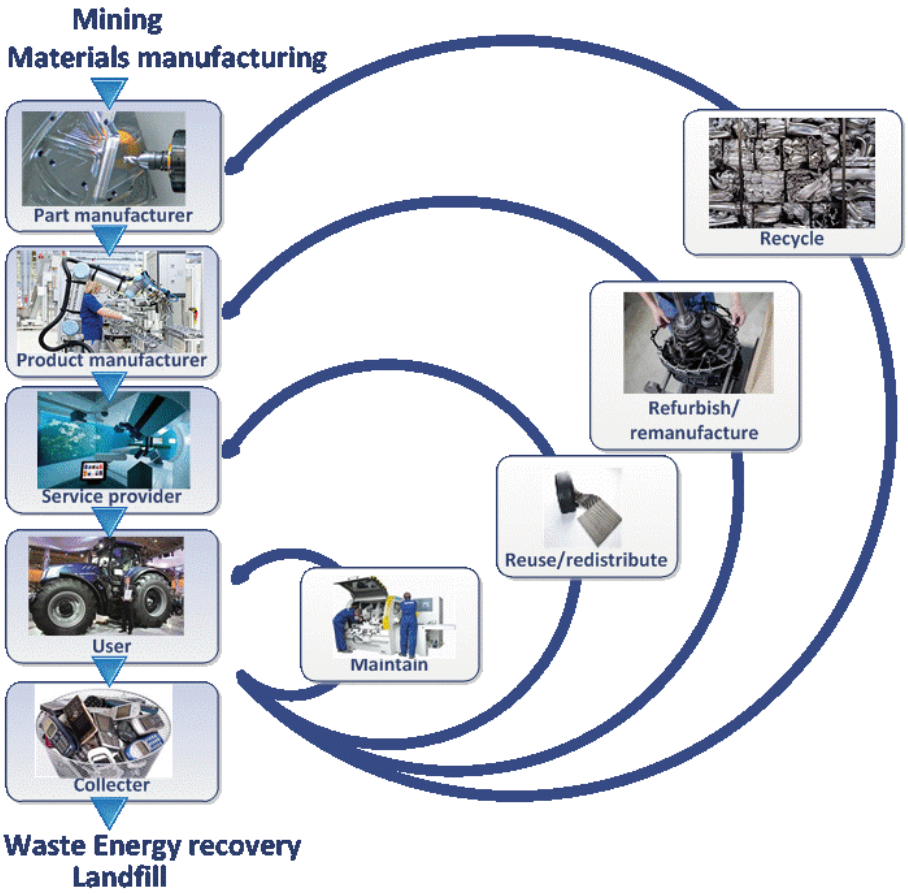
Finally, organisations can also benefit from **improved resilience**. Whenever critical materials or other basic commodities with volatile prices can be replaced by regenerated products, biogas-based materials, etc., this can enhance a company's resilience. In practice, this is often only a long-term effect, so does not constitute a main driving force in the first stages of the transition process.

The strength of the innermost circle

The circular economy can directly and indirectly generate value.

This makes it the reverse of the linear economy, which strives to adopt a 'take, make and throw away' approach to closed cycles, in a bid to extract value. It can be achieved by exploring the following facets:

- **eliminating waste**, among other things by redesigning components or products with a view to repurposing them and recycling the highest-quality materials when products are scrapped;
- focusing on **durable products** by developing products to be repaired, maintained and reused, since offering new or additional products or services can tap into new sources of revenue;
- **product service design and new business models** as mutually enhancing strategies within a transition to a circular economy. By selling a product as a service, more value is extracted from the same quantity of material. This gain in material productivity can greatly reduce environmental impact. The required collection of data (on product usage, user profiles, condition monitoring, etc.) is a lever for additional services and closer customer relations.

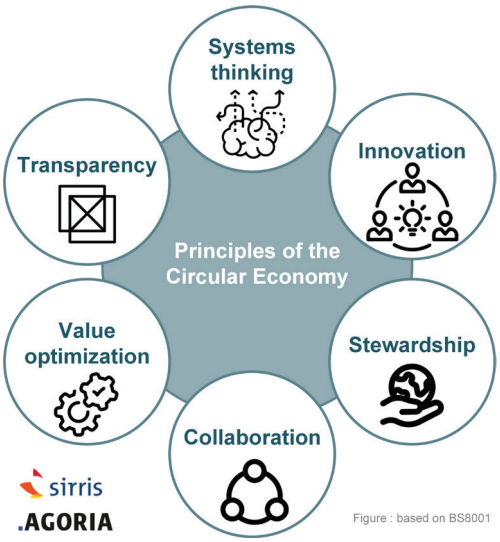


So the value is close to the user. The aim is to achieve optimal functionality using the fewest possible raw materials. Business models are the best tool for prompting behavioural changes in consumers. This makes it essential to invest in a renewed relationship with product users, to enable a new or additional business model to unlock this value. The right triggers will enable your business to generate stable revenue with these adapted business models.

The lever for this change therefore lies in corporate strategy. Exploring new business models and/or designing products with a view to sharing or even repairing them are decisions that ultimately have to fit within your business strategy.

HOW DOES THE CIRCULAR ECONOMY DELIVERS VALUE?

Gaining insight into the basic principles of the circular economy is fundamental to making progress. This way you can ask the right questions and gain a comprehensive overview.



The main principles set out in BS 8001: 2017 are shown in the adjacent image. The purpose of this section is to serve as a brief introduction to these principles and their mutual interaction. You probably recognise best business practices from other lines of thinking and management systems that focus on quality, environmental impact and similar factors. We describe the principles as published in the first standard on the circular economy and cite examples and practices derived from our experience in industry.

Systems thinking

Principle: *"Organisations take a holistic approach to understand how individual decisions and activities interact within the wider system."*

Businesses are active within a network. This is a familiar concept from the viewpoint of the supply chain. Yet other influences also impact on a company's ecological and economic performance. Particular attention should be paid in this context to potential interdependencies. In addition to key actors and other stakeholders, the business landscape is also influenced by external factors (policy constraints, technological changes, consumer behaviour, etc.). Less

obvious is the impact of levers and (positive and negative) feedback, (formal and informal) interpersonal relations and systemic interventions (innovations in products and services, access to new data, etc.). Systems do not always behave as expected, and actions taken can have all kinds of consequences. Systems thinking can help organisations manage and change complexity as well as gain insight into potential consequences of long-term decisions and activities.

SEB conducted an experiment with a pay-per-use model for a range of household appliances, under the name Eurêcook. The project was not only innovative in terms of its business model, but also produced more systemically expected and unexpected effects, such as impact on product design, re-packaging activities, logistics, and so on.

SEB also focuses on the repairability of its appliances and is committed to ensuring the availability of components for a post-sale period of 10 years. Its products are designed from the outset to be easy to dismantle and reassemble.

Principle: *"Organisations continually innovate to create business value through the sustainable management of natural resources and auxiliary substances by designing processes, products and/or services and business models."*

Innovation

Innovation can be the fruit of research and development, but can also stem from intelligent design or progressive partnerships. Innovation is fundamentally important for making the transition to a more circular approach. Circularity demands a totally fresh outlook regarding consumption and production, meaning that current business practices have to be constantly questioned. Technological innovation is therefore only part of the innovation activities that need to be addressed.

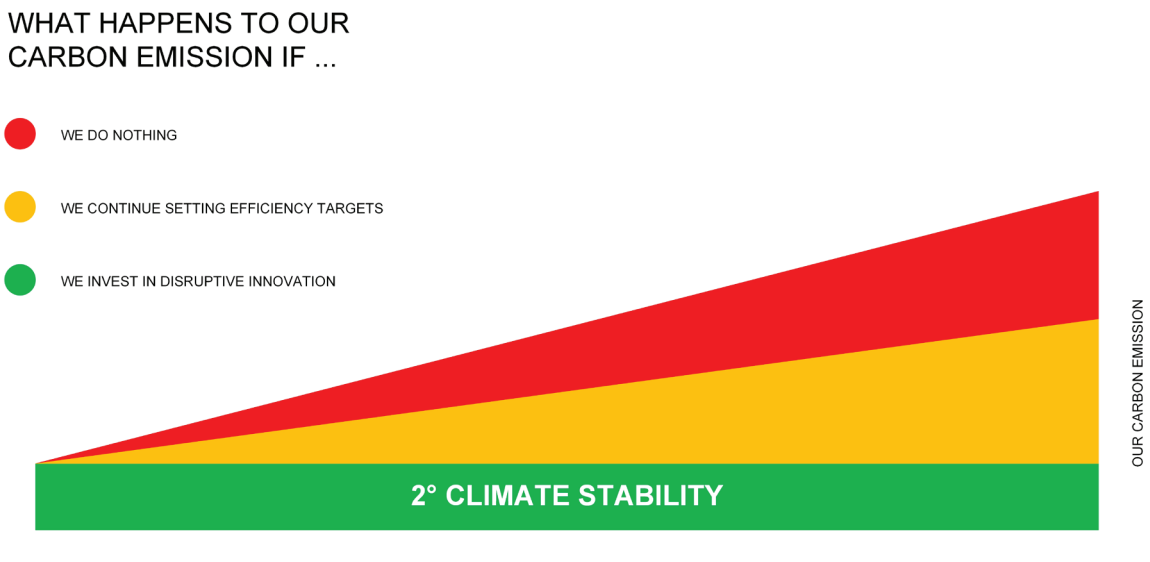


Figure based on Nike's Innovation imperative

Stewardship

Principle: *"Organisations manage the direct and indirect impacts of their decisions and activities across their system."*

In this context, 'stewardship' represents an organisation's responsibility for all facets of its decisions and activities. Management should take account of the impact of product design, the consequences for the supply chain and customer satisfaction right up to the end of the product's life cycle. It must take into consideration both current and future economic, environmental and social problems. Stewardship has to do with the company's accountability for its impact within its broader system.

Nike's vision - 'Double our business with half the environmental impact' - requires focus on innovations, with products designed for recycling (such as reversible woven tops 'mounted' on recyclable bio-based soles, which can be separated when the product is disposed of. In addition, Nike uses disruptive innovation to lower the impact across the supply chain (distribution centres, more transportation by ship, etc.)

(Source: Nike)

Collaboration

Principle: *"Organisations collaborate internally and externally through formal and/or informal arrangements to create mutual business value."*

Owing to the necessary changes entailing more circular methods, it seems unlikely that companies can achieve this without collaborating. Progressive partnerships between companies (such as cross-sectoral cooperation), governments, universities, civil society and consumers are essential. The development of both a common approach with mutually agreed objectives and mutual trust are the building blocks of successful collaboration. The need for clear communication and a shared vision and objective applies to both internal and external collaboration.

Even small-scale experiments require collaboration with several stakeholders. Small steps had to be taken in our **Baby Bottle Reborn project**, a collaboration between Materni, UZ Leuven, Go4Circle, Fost Plus, Indaver, Van Ganzewinkel, Ovam and Sirris. In the meantime, the project aimed at recycling baby feeding bottles from healthcare institutions has continued and further thought is being given to expanding collection and recycling activities.

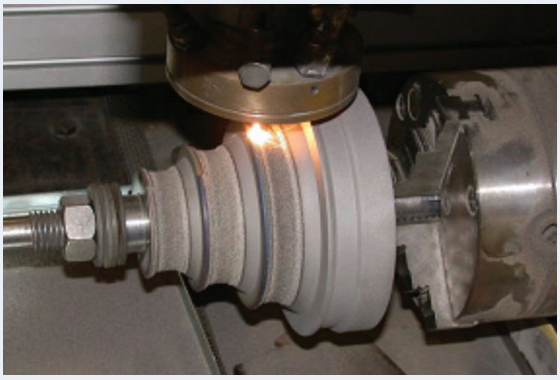
Value optimisation

Principle: *"Organisations keep all products, components and materials at their highest value and utility at all times."*

Value can be optimised by scaling down costs (e.g. via access to cheaper materials, by using less materials or by reducing waste-related costs), finding new revenue streams (such as supplying additional products or services) or by lowering quantitative value (such as better customer relations or greater resilience). The BS 8001 standard describes three approaches:

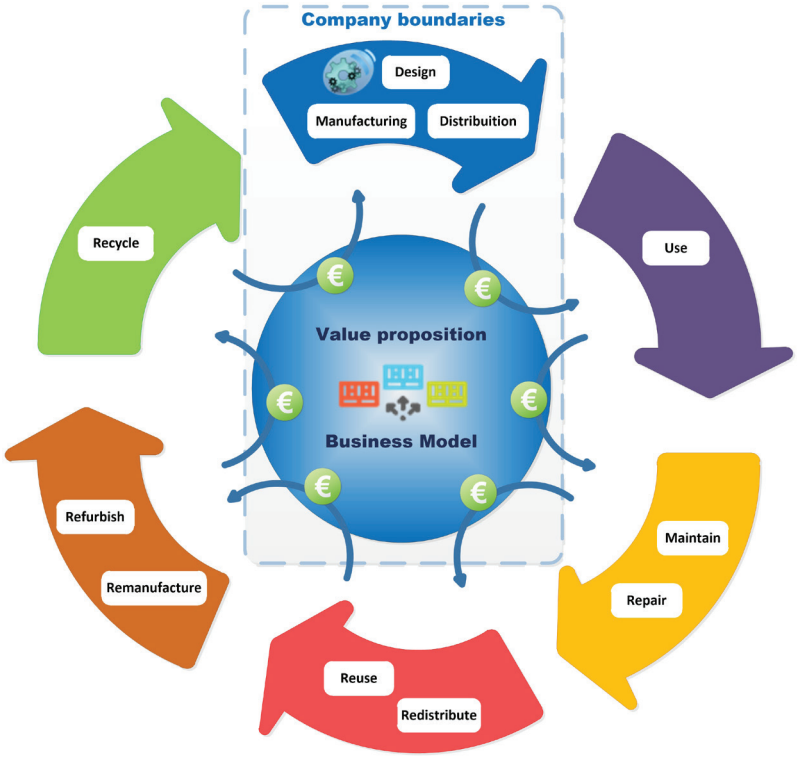
- **Waste and bypass flows can generate value.** The standard focuses on the 'materials' aspect, but we see that bypass flows (such as energy, heat, etc.) can also be exploited. Attention needs to be paid to lowering the impact by adjusting production processes, introducing new processes at the end of products' life cycles and using harmless substances
- Value can stem from resources or from **using products for longer or in multiple usage cycles**. This, too, requires collaborative efforts.
- **Profitability in terms of space or equipment** can also be a lever for new value streams.

In addition to these three approaches, continuously curbing the demand for energy and ensuring more energy-efficient processes and products can also maximise value creation.



Laser Cladding Venture is a company that, among other things, substantially upgrades wear parts by applying abrasion-resistant coatings to them. This way, its business helps to extend the lifespan of the products supplied by their customers.

In the meantime, the company is also looking for high-quality applications and thus a way to put its specific waste powders to good use.

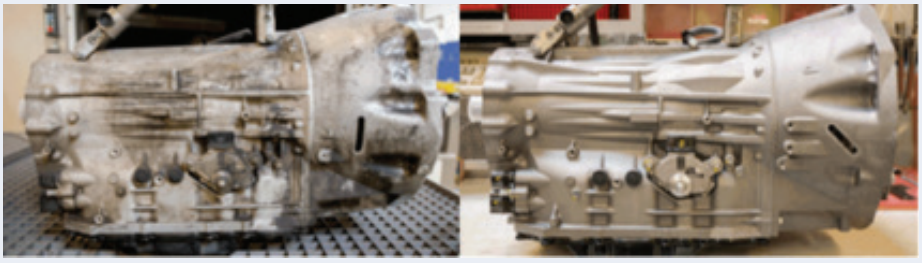


Companies that are leading the way here are pushing back the boundaries of their current business activities to see where in products' life cycle they can generate added value. After all, it is internal habits and strategic choices, not extraneous constraints, that prevent companies from taking the step from selling products to providing services (e.g. offering after-sales service, repairs, appliance upgrades, etc.). Of course, cooperation, innovation and the other principles also enter into the reckoning as factors enabling companies to tap into these new sources of revenue associated with extending the life of their products.

Transparency

Principle: *"Organisations are open about decisions and activities that affect their ability to transition to a more sustainable and circular mode of operation and are willing to communicate these in a clear, accurate, timely, honest and complete manner."*

Ideally, organisations should be transparent, making information available either proactively or on request. However, this does not mean that intellectual property cannot remain protected. But it does entail reassessing exchanges of information in line with building up mutual trust within internal and external partnerships.



AW EUROPE is active in the large-scale remanufacturing of automatic transmissions for most makes of car. The company's system is constantly being re-viewed and further developed. AW Europe is not only a subsidiary of a Japanese manufacturer of transmissions, but also maintains relations with European car brands, (independent) car repair facilities, logistics partners, sales channels, etc. It also needs to cooperate to optimise incoming and outgoing logistics flows. At the same time, the data and knowledge from inspections, repairs and error analysis need to be put to maximum use and harnessed to improve product design. For the future, it would be positive for AW Europe to obtain data on product usage as determined by sensors in the transmissions, with a view to making further improvements in their design and maintenance. To this end, car manufacturers and AW Europe need to explore new system boundaries.

These examples illustrate the mounting complexity in relationships required by such business activities, compared to classic manufacturing and sales. They also illustrate that the principles set out above must be viewed as interrelated.

Focus on the principle that delivers the quickest results

It is virtually impossible to innovate and exert an impact over a product's entire life cycle without collaborating or thinking about the system in which that product will ultimately end its useful life. One could argue that the principles of the circular economy constitute such an interconnected system. And the complex manner in which they influence each other should not hinder the drive to take concrete action. **After all, the good news is that by focusing on one principle within your organisation, other principles will inevitably be covered too.** Often, new insights and levers are found in intermediate domains, and gradually the pieces of the puzzle fall into place as they are explored.

One thing is certain: no company can build its own 'circular economy' by itself. A system network by definition entails collaboration, since under the principle of stewardship the responsibility continues to lie with your company. Accordingly, the impact of your company's achievements is partly due to the activities of other actors in the network. Furthermore, the environmental impact exceeds the limits of your company.

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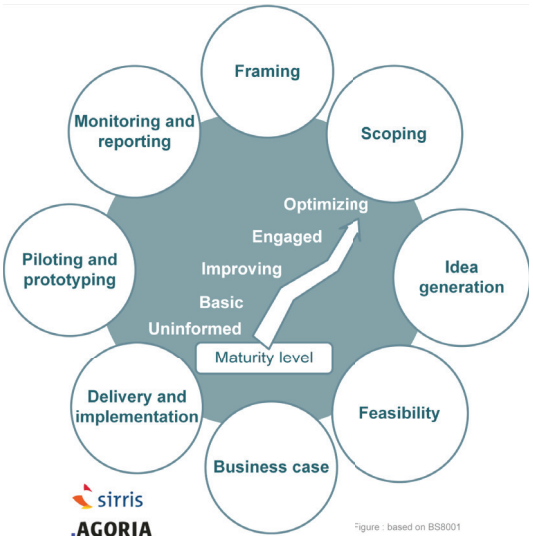
SO HOW DO YOU SET ABOUT MAKING THE TRANSITION?

The main questions to ask here are: How can your organisation move forward? Which steps can you take? Which relevant decisions do you need to take? How can you get everyone pulling together to make sure that you have sufficient support?



This section is intended to serve as a guide and framework. As with the previous sections, our point of departure is the BS 8001 standard, to which we add our own experience in the field.

Flexible framework

The standard recommends starting by setting the respective organisation's level of maturity. You may soon notice that there are different, clashing levels of maturity across the various departments and categories of products and services, and certainly across people and professional roles. The standard suggests some leading questions to help you get to grips with this murky aspect of the process.

The **eight core questions** asked in the standard can be summarised as follows:

1. Do you know how the circular economy might prove **relevant for your business in the long run**?
2. Do you have a **strategic plan** that is tailored to the activities of the circular economy?
3. Do you have **ideas** for circular economy activities and have you set **priorities** for implementing them?
4. Have you drawn up **feasible test and development plans**?
5. Do you have the specific **means** to perform those tests?
6. Do you carry out **experiments and run pilot projects** to validate your ideas and approaches?
7. Have you already successfully circular **products or services** into your business activities?
8. Do you have the **necessary monitoring** procedures and mechanisms to continuously underpin your progress?

The answers to these questions should lead to the most appropriate starting point in the framework, which consists of eight phases: framing, scoping, idea generation, feasibility, business case, delivery and implementation, piloting and prototyping, monitoring and reporting (see also the image above).

"To what extent is the top management's approval required in order to move on?"

A series of activities for each of these phases is described, and 'gate reviews' are provided to check whether a phase has been properly completed. In virtually all the phases, the following important question should be asked: "*To what extent is the top management's approval required in order to move on?*" This approach may give the impression that a sequential path has to be followed throughout the different phases, but that is not always the case. In reality, the approach taken is iterative. And yet the core phases afford insights into the various aspects that need to be addressed sooner or later.

Our experience with various companies suggests that you can start with whatever you deem to be the biggest lever for your business. While the impact is greatest with strategic motivation and strategic choice, it may be extremely useful to start in other areas of action where you have greater authority and freedom. For example, setting up a measurement of the current (environmental) impact, designing a highly efficient product or conducting a small-scale pilot test of a complementary business model with a specific customer can all help you gain wider support.

The approach based on the BS 8001 standard is very similar to the approach taken by Sirris in the context of European projects (e.g. the cycLED project), Here, a diagram comprising five key questions was proposed.

Explore motivation and drivers: What potential value are you striving to generate? What do you and your company consider to be important?

Explore the strategy: How do you intend to approach these values? From which product life cycle can you cash in on this value?

Explore the business model: Which additional or complementary business model can you set up to generate this value?

Explore product/service design: Which adjustments to your product/service can help to unlock new revenue?

Explore validation: Which small-scale experiments and measurements can you carry out to indicate where you currently stand?

In past projects, lighting company **ETAP** Verlichting took a number of eco-innovative steps, and has since made further progress, based on its experience with high-quality products or gained by offering extremely long warranty periods. As a result, the company's product design is now allowing it to market highly reliable and maintenance-friendly products. Based on these experiences, ETAP is now launching a project-based product and service combination for its lighting applications for office environments.

Actively involved stakeholders are key to making progress. Their participation and insights can be considered essential prerequisites for moving forward and taking action at a next stage. Here's an example: launching activities to generate ideas for new products and/or services will only be successful if internal stakeholders, like R&D, sales and marketing departments, among others, are aware of how the company can benefit from the circular economy.

The BS 8001 standard suggests starting out (scoping) with the current vision and exploring how the circular economy could sustain or undermine the company's value proposition in the long run. We know from experience that there is the threat of a trap here if companies devote too much energy and attention to the risks associated with the circular economy. Although these risks need to be dealt with, Sirris urges companies to start out from the future they want to experience, which often imbues discussions with positive energy. At a later stage, when small-scale pilot tests are set up, any assumptions and risks can be addressed, step by step.

We explicitly endorse the importance that the BS standard attributes to developing a learning culture and to the fact that both the results achieved and the process followed need to be focused. Surely, for a project to succeed, the business processes also need to be reviewed and the management systems have to evolve along with them (regardless of whether or not they are ISO-certified).

Guidelines for problems and considerations

In addition to the framework for implementing the principles of the circular economy, the BS 8001 standard also provides some guidelines and considerations. Its impact can be on five levels: economic, technical, policy-related/regulatory, behavioural and organisational. There are numerous acknowledged problems, and many companies will easily recognise them, e.g. difficulties related to accounting, legislation, information management, procurement, etc.

Problems and considerations	Economic	Technical	Policy-related and regulatory	Behavioural	Organisational
Accounting and finances	■		■		■
Anti-trust legislation and competition law	■		■	■	■
Chemicals	■	■	■	■	
Energy and fuel	■	■	■	■	
Information management	■	■	■	■	■
Liability and insurance	■		■		■
Logistics and reverse logistics	■	■	■		■
Marketing	■	■	■	■	■
Material markets	■	■	■	■	■
Material selection	■	■	■		■
Monitoring and measurement	■	■	■		■
Management of procurement and contracts	■	■	■	■	■
Product design and development	■	■	■	■	■
Regulations on waste materials	■	■	■	■	■

(Source table: Sirris, based on BS BS8001)

The table above indicates which business dimensions can affect the various corporate activities related to the circular economy. The filled-in 'domains of interaction' represent both risks and opportunities. Emphasis should be placed on the fact that each company should analyse for itself the impact that decision-making or interactions between activities have on its business and value proposition. So this table can be adjusted, based on the experience and knowledge you gain as you progress through the phases of the grid.

Practical experience shows that solutions to many of the obstacles linked to 'new' business models have already been found. Moreover, often these solutions will have been applied previously, so you won't necessarily have to do any pioneering. However, you may have to go looking in other sectors for solutions, which might have been conceived with different goals or contexts in mind. In any case, this information can form the basis for building and validating a solution for your own business.

Flemish government table renovated with black laminate finishing layer and provided with socket boxes

Is the use of reprocessed goods associated with a tax disadvantage? **NNOF** set up a business model based on reusing office furniture, in which the customer's old furniture is viewed as material for new office interiors. An EY study demonstrates that classic accounting rules apply here without any adverse consequences. Furthermore, there is even a chance of faster tax deductions.

Summary

One thing is clear: for various reasons we need to alter how we deal with raw materials. One important insight is that **real change that impacts on our consumption of natural resources and materials must go hand in hand with behavioural change.** Business models are a great way of also using such behavioural changes to make money, using less material but offering the same or even improved functionality. **But taking smaller steps in product design, waste prevention, additional services and so on is another possible way of achieving this.**

Gaining an overview of the entire product life cycle and the actors who play a role in it makes it easier to find necessary partners. Developing a common language is essential, as it serves as a bridge connecting needs and opportunities, both internally, i.e. within your company, and externally, i.e. with potential partners. The circular economy can thus be an engine for innovation, at both the technological and non-technological levels.

The good news is that **you can start wherever you want**, as long as you do not lose sight of a few objectives based on the principle of lasting responsibility for products (stewardship), such as extending their useful life and using closed cycles for materials.

BS 8001 is a valuable standard that companies can support in their path to a circular economy, regardless of their maturity level, but it should be used as a guide, not as a fixed roadmap. Also it is not intended to be used for certification purposes.

The value of the standard is at the same time its weakness. Its definitions, principles, framework and guidelines are gradually becoming applicable to a broad spectrum of organisations in all sectors. So interpreting them and adapting them to specific companies and markets certainly requires a certain amount of effort.

Starting with small, but concrete, steps in your business will make its staff feel more involved and thus broaden support for the circular economy approach. In addition, it will help your organisation establish an active learning culture regarding both the course and results of such a transition process.

THE SERVICES WE OFFER

Introduction

In essence, sustainability comes down to the incorporation of continuity and a long-term outlook into all dimensions of business management (people – planet – profit). The core mission of Sirris and Agoria is to support and collectively represent companies in their sectors. It goes without saying, then, that the services both organisations offer companies should cover sustainability in general and the circular economy in particular. Both collective and company-specific actions should be included.

Collective actions

Sirris and Agoria regularly organise collective events and workshops on the various facets of the circular economy. The intention of these gatherings is to inspire as wide a public as possible and contribute towards the common language and support needed to shape the circular economy. To complement these meetings, publications are distributed via Sirris' newsletters and blogs and Agoria's channels of communication. The aim of these publications is to further underpin the concept of the circular economy by presenting personal testimonies or aspects that extend the breadth or depth of people's knowledge about it.

More info? More information is available in our blogs about circular economy.

Sirris blog

Agoria blog

Co-creativity through the learning network Circular Economy Connect

The leaders are already busily occupied with the circular economy, but are still coming up against barriers. Small-scale experiments can help to find out what does and does not work without running any major risks. As this white paper suggests, there are no ready-made answers for implementing the principles of the circular economy in a real business context. At Sirris and Agoria, we believe that companies can above all learn from each other's positive and less positive experiences, which is what prompted us in 2016 to launch our learning network **Circular Economy Connect**.

This learning network brings together a **fixed group of like-minded companies** four times a year. Interaction between companies allows cross-pollination and helps to unearth specific solutions for shared problems. Best practices are discussed and visits are paid to **interesting companies**. Carefully selected **(international) content experts** bring additional knowledge and inspiration to the network. We invite **policymakers** so that we can talk to them about remaining obstacles in laws and regulations. And under the guidance of an **experienced coach**, participants are encouraged to translate the knowledge they have gained into tangible, **next steps** which they may or should take to do business in a more circular manner. Work on these 'next steps' is also done between the meetings, of course.

Each cycle, the participants get together to agree on which specific topics to cover. During the 2017-2018 cycle, the items on the agenda will include:

- the recycling and remanufacturing of waste products;
- circular product design;
- financing and accounting for circular business models, based on selling a service rather than a product;
- (big) data management and digital technologies to support circular solutions.

Compressor remanufacturing

« Customers, companies and the environment all benefit from circular models. But although the principles behind the circular economy are easy to understand, its implementation gives rise to certain challenges. The learning network is an excellent way of exchanging insights and experiences and rooting out potential solutions in a productive, constructive and pleasant atmosphere. Personal testimonies and case studies are very inspirational and reveal interesting patterns about companies and sectors." - Stijn Broucke, Atlas Copco

BARCO

« The learning network effectively takes us out of our comfort zone and triggers new discussions and insights within our company. I was really surprised by the level of detail and practical developments that took shape during the sessions. The personal testimonies and company visits showed us how the theory was being put into practice. This learning initiative has made it clear that the 'circular economy' is more than a buzzword: it's a reality that leads to new business models. And it's a must for any innovative company!" - Jan Daem, Barco

The individual level

Apart from revelling in collective inspiration and learning from and with one another, companies want to take concrete action regarding the circular economy. Sometimes, a company-specific approach (or proceeding in a closed consortium) is the appropriate way of taking account of a business's unique context, whilst also ensuring confidentiality.

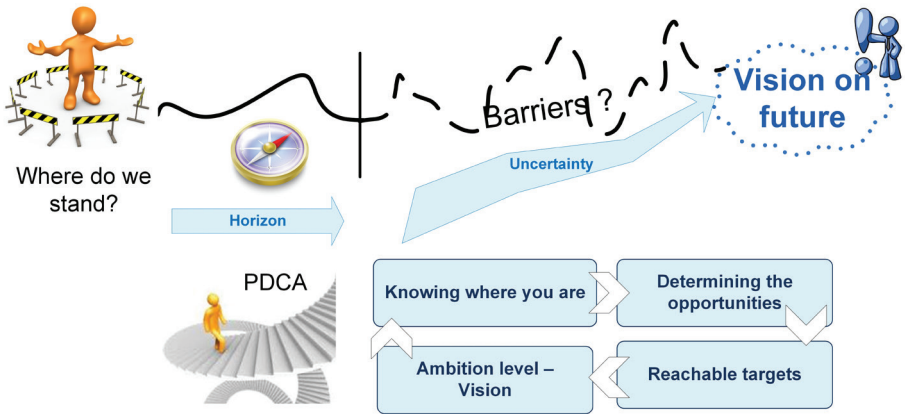
Individual guidance from Sirris and Agoria focuses on searching for answers within the specific business context to questions such as these:

- What exactly does the circular economy entail for my product, value chain, applications, etc.?
- Will I stand to benefit? What would it mean to take it into account?
- Is my business model suited to the circular economy? Where are the possible business cases for my company?
- How can my company evolve and become a part of the circular economy?
- What opportunities does the (prospective) policy offer me?
- Does the prospective policy pose a threat to my business?
- Where can I find solutions? Where can I find the right partners?
- How can I earn money from durable products?
- How can I reuse raw materials?
- How can I upgrade old products?
- Should I adapt my product design? If so, in what way?
- How can data innovation and the Internet or Things leverage my product or service?
- Which concrete steps need to be taken to set the ball rolling?
- How can I control the risks involved (e.g. when switching to new business models)? How can I set up experiments?

If need be, we secure help from partner organisations. The guiding principle behind the active support we provide is to determine and implement concrete actions that actually save your company money or generate revenue. In other words, the circular economy is also, well, an economy, and as such must help to attain economic goals while using less material and impacting less on the environment.

Our approach

Sirris and Agoria guide and support companies on their way to the circular economy. Our initiative identifies small and larger structural steps towards the desired future, whereby we monitor and intensify the involvement of employees and other stakeholders. Our business-oriented approach consists of exploratory talks, sensitisation, advice and guidance, whereby we assess which opportunities are available and which specific solutions suit your business. The approach can take various forms, ranging from an interactive workshop or inspiration session with a discussion forum to mapping out existing initiatives and best practices. We then build on these best practices and identified topics that the company views as priorities or which command the broadest support.



Specifically, in this process we merge your business's knowledge and network with those of Sirris and Agoria with a view to:

- fleshing out your business case;
- providing the required technological support;
- detecting new partners and setting up cooperation;
- ascertaining the impact of regulation;
- detecting and implementing breakthrough innovation;
- clarifying logistical aspects;
- setting up experiments;
- striking a balance between individual and collective actions.

This approach allows companies to gradually discover which added value can be generated and leads to actions specifically tailored to monetising this added value. The content and pace of the headway made are adapted to the company's organisation.

WORLDLINE, which manufactures payment terminals:

Through inspiration sessions, interviews, workshops and support designed to promote innovation, WorldLine has incorporated eco-innovations into its business processes. Results were achieved quickly by visualising economic and environmental impact at a very early stage.

"*By questioning our habits and assumptions and exploring alternatives, like a multidisciplinary team, we've already identified some significant opportunities to make savings. We've also managed to reduce the carbon footprint of our activities. What we need to do is identify more measures to take and include them in detailed business cases.*" - René Slinckx, Terminal Manufacturing and Repair Manager.

This white paper is being published as part of the project entitled Eco-Compliance as a Competitive Weapon, run by Sirris and Agoria with the support of Flanders Innovation & Entrepreneurship (VLAIO).

Do you have any questions or do you want additional information about the new BS 8001:2017 standard? Please contact (one of) the authors!

AGENTSCHAP INNOVEREN & ONDERNEMEN
Vlaanderen is ondernemen

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