CÉCILE VAN OPPEN • GODARD CROON • DIRK BIJL DE VROE

CIRCULAR PROCUREMENT

IN 8 STEPS

"Making the world a better place starts with asking better questions."

For about ten years, the Dutch national government has been practicing and experimenting with the inclusion of circular principles in her business operations. Back in the time, it was simply called ‘resource management’; the term ‘circular’ was not mainstream yet. The rationale for these experiments was that we wanted to contribute to the issue of resource management (scarcity, depleting our world’s finite resources) and at the same time we felt we had the responsibility to take on an exemplary role. What we demand on part of society and stimulate by means of policy and subsidies, should also be done by us: practice what you preach. For a largely administrative organization such as the national government, this means that the products we use should – in one way or another – contribute to our own policy goals: solving the problem of climate change as well as preventing the depletion of our world’s resources. The best way to influence this is via procurement. Everything we use comes to us via procurement: pens, pencils, paper, office furniture, catering, textiles, IT and even our offices.

The years of experimentation may not be over just yet, but we have gained a lot of knowledge over the past years. We are making huge strides in a number of procurement categories such as paper, textiles and office furniture. Learning is a process of collaboration and knowledge sharing – and it is great to see that there are now several countries with a ‘Green Deal Circular Procurement’ in which lessons are actively shared amongst participants. We also need consultants such as Copper8 to actively share their knowledge. This book contains the lessons we have learned until now, carefully put together by Copper8. As circular procurement requires tailored solutions, this book is a guide for both newbies in the field of circular procurement as well as people who already have some experience but are looking to scale these activities. This book is a hands-on guide and offers practical insights in how to pursue circular procurement.

– Joan Prummel *(Rijkswaterstaat, Ministry of Infrastructure and Water Management)*

CIRCULAR PROCUREMENT IN 8 STEPS

Cécile van Oppen

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Preface

Use your purchasing power to change the world!

We don't often reflect on how many resources we use each day. It feels so normal to enjoy good food, to buy products that we consequently throw away, or to travel around the world. What we often forget is that our habits have a downside: we make a massive demand on the Earth's finite resources. As the global population is expected to grow to ten billion in 2050 and global welfare levels are rising, the demand for resources will only increase further.

This means we have a lot to do in the coming years. How do we ensure that more people use up less of our scarce resources? We know that our current habits are unsustainable. We still dispose of our resources on a grand scale. Our oceans have become a plastic soup. It is up to our generation, up to you and me, to reverse this downward spiral. It is time to become circular!

How can you become circular? This is a question I often hear. I think it starts with companies bringing smarter, circular products to the market. And with consumers and procurement officers asking for circular products, which is a vital role. Whether you are buying groceries at a supermarket or doing professional procurement from industry, you always have a choice.

National and local governments have a role to play here: our joint purchasing power is massive. This gives us a unique opportunity to support the development of circular products and services. With circular procurement we can help shape the future of the world, and at the same time set an example for others.

In the Netherlands we are seeing an increasing momentum on the topic of circular procurement. With initiatives like the Sustainable Public Procurement Manifest and the Green Deal Circular Procurement we are encouraging buyers and suppliers alike to engage in the circular economy. Our national government is also taking strides. In the coming ten years we will furnish over 100.000 workstations in a circular way for instance. And that's only the start. Our ultimate goal is fully circular business operations.

Circular procurement may still be a novel concept to many of us. Learning what works best is a process of trial and error. This is all part of navigating a new topic. This book is a useful tool to help ease this process for you. It is filled with illustrative examples, practical tips and inspiring results – because why reinvent the wheel? In return, I hope you will an inspiration to others. Project by project, we can make the world more circular.

May this book bring you inspiration to use your purchasing power for a good cause!

Stientje van Veldhoven

State Secretary Infrastructure and Water Management, The Netherlands

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DEMONSTRATE, IMITATE, INITIATE

Our motto is ‘demonstrate, imitate, initiate’. To achieve the maximum possible impact, we want to share our knowledge and expertise with as many people as possible. If we want to create a movement to establish a circular economy, we need to inspire new ambassadors, and our aim is for this book to do exactly that. We hope everyone who reads this book will be inspired to get on board with circular procurement!

Introduction

What percentage of materials would you guess are still in use six months after their purchase date? 50%? Or maybe 20%? As little as 15%? The answer is even less than that. Just 1% of consumer products in the US remain in use after half a year. This means that 99% of the materials that are sourced, manufactured and transported are thrown away within six months (Leonard, 2011)! It is hard to imagine how such a wasteful way of life can be sustained on this planet in the long term. This issue has been of both personal and professional concern to us for a considerable time. We believe that the solution lies in achieving a circular economy and changing the buying habits of consumers and – more importantly – organizations.

Why do we focus on procurement in this book? We focus on procurement because we believe that making the world a better place starts with asking better questions in formulating our demands. And formulating our demands is precisely what the procurement process is all about. For this reason, procurement can make a substantial contribution by providing solutions to vital and complex issues such as circularity and the transition to a circular economy.

This book is a circular procurement guide for anyone who is responsible for purchasing products for business purposes.[1] We offer you our method for use in your own context. One of the conclusions of this guide is that there is no single magic bullet for achieving circular procurement. However, we can provide you with basic principles, practical examples and the knowledge we have accumulated over the past 10 years. In short, this guide is a summary of everything we know about circular procurement and its purpose is to promote circular products, circular consumption and circular projects.

This book Is about a method, a means to achieve a specific goal, i.e. to realize a circular economy. We will continue to test this method to ensure it leads to this ultimate goal and we encourage everyone reading this book to do the same. Please stay critical - circular procurement is not a dogma - and to fully harness the creativity that can be unleashed as a result of new methods of procurement.

On behalf of Copper8, we would like to wish you an exciting and inspiring journey through the pages of this book, and most importantly by applying it in practice. Together, we can make our way towards a circular economy!

1 In this book we discuss both the procurement of products as well as projects. Within the circular economy, the procurement of products and projects is often linked to a service (e.g. maintenance). Services can also be procured in a circular manner. For the sake of readability, we will refer only to 'products' for the remainder of this book for all types of procurement.

"[Our system is] in crisis. And the reason it is in crisis is that it is a linear system and we live on a finite planet and you cannot run a linear system on a finite planet indefinitely."

ANNIE LEONARD

THE CIRCULAR ECONOMY

What started with environmental conservation later led to the introduction of the concept of 'sustainable development'. The most recent terms are that of 'circularity', 'circular economy' and even 'circular procurement'. Circularity is a concept, a vision of the world, a strategy for organizing the economy and a fundamental principle on which to base procurement activities. So why is it so important, and what exactly does all of this mean? In the next few paragraphs, we will first briefly explain the circular economy concept and then clarify the specific terminology on which this book is based.

BACKGROUND OF THE CIRCULAR ECONOMY

Our current level of global wealth is paired with a massive use of raw materials; as we progress and our population grows, this level of wealth will become unsustainable. This trend will only intensify as more people strive to attain a 'Western' standard of living and accompanying consumption patterns. Perhaps the best indicator of the impact that our growing population and consumption patterns have is *Earth Overshoot Day*. Every year the Global Footprint Network determines on which day on which "humanity's demand for ecological resources and services in a given year exceeds what Earth can regenerate in that year". *Earth Overshoot Day* has since its' inception consistently fallen earlier in the year. In 2019 *Earth Overshoot Day* is expected to fall on July 29.

BOX I THE LIMITS TO GROWTH

In 1972, Donella Meadows et al. published The Limits to Growth study. Commissioned by the Club of Rome, the study projected the future of our global system alongside a number of key indicators - the systemic relationships and developments of world population, industrial output, food, pollution and resource depletion are plotted.

The 1972 report predicted a scenario of *"overshoot and collapse"* in the second half of the 21st century. in this scenario our current production and consumption patterns are extrapolated alongside the growing population amongst others, leading to an unsustainable state for both humanity and the environment. The dotted lines in the figures represent the 1972 predictions.

In 2014, the Melbourne Sustainable Society Institute (MSSI) carried out a new study using the same variables used for The Limits to Growth. As you can see from the actual developments in the diagrams (represented by the solid lines), this study unfortunately confirmed the projections made in 1972. We are currently heading towards the *overshoot and collapse* scenario.

Circularity offers one solution for this scenario; by using and reusing raw materials more effectively rather than simply 'consuming' them. In addition, the circular economy will create an economic system in which there is a renewed demand for skilled labor to repair and remanufacture products, which will make a positive contribution to the average welfare and prosperity levels.

What is slightly more daunting is that we have known about this dynamic for a long time. The essence of the 1972 Club of Rome report 'The Limits to Growth' (Meadows et al., 1972) is that humans are rapidly exhausting the Earth's finite supply of resources. Recently, the Melbourne Sustainable Society Institute (Turner, 2014) re-evaluated the projections made by this report and found that little has changed in the past 45 years. If we do not drastically change production and consumption patterns, the 'overshoot and collapse' scenario is indeed likely, and will make (human) life unsustainable on our planet (see Box I).

Circularity

The challenge presented by circularity is mainly *technical* in nature. To make a circular product we look at the materials required for manufacturing as well as the design and assembly method of the products in question. Circularity means that the resources or materials required to create products can be optimally reused or recycled for the same purpose or alternative applications. In order to maximize the reuse of components and materials, easy disassembly methods are a key driver for circularity.

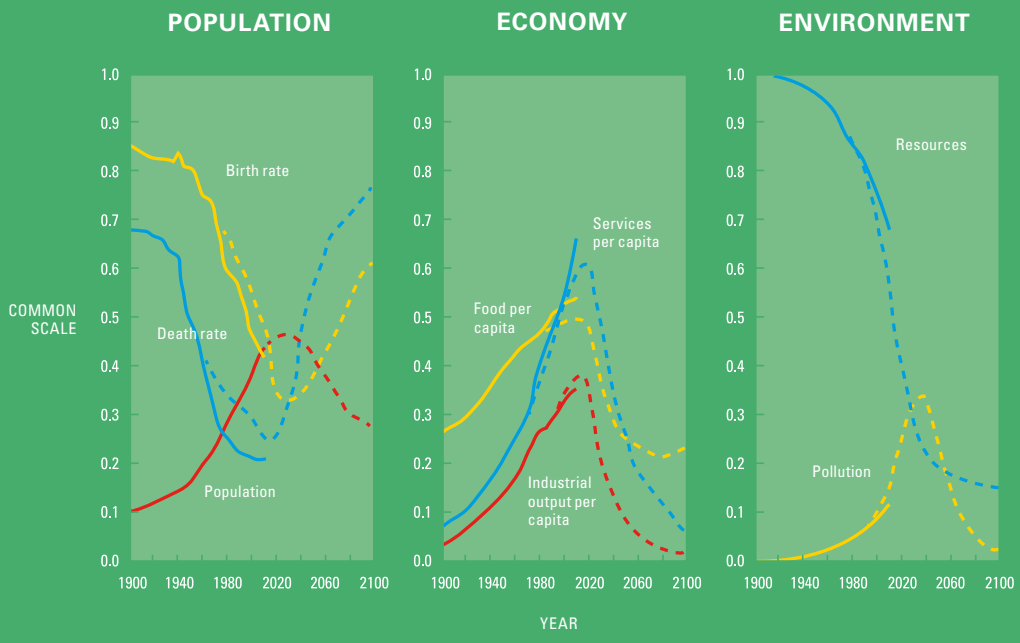


Figure 1. *Revisiting The Limits to Growth by MSSI (2014)*

Circularity is about minimizing waste of resources and maximizing value retention of resources and materials. It is an *ecological principle*. If humans continue to use the Earth's resources at the current rate, we will deplete the planetary resources that we have. In order to facilitate circularity and future reuse potential we need to look at the materials that we use, the design of products, manufacturing processes as well as assembly methods.

However, in a world full of circular products, we still will not have achieved a circular economy. A fundamental restructuring of our consumption patterns and the economy is also needed.

Circular economy

The current economy is still geared towards producing high volumes at low prices. These mass production methods have enabled large parts of our world population to gain access to high-value amenities such as mobile telecommunications and televisions. As there is little attention to sustainable product design and assembly

methods, the user often throws away these products after using them. The down-side of these production and consumption methods is a so-called *take-make-waste* economy (Braungart & McDonough, 2002).

Take-make-waste is a direct consequence of the industrial revolution - labor was expensive and industrialized production methods led to the possibility of mass production at reasonable prices. This 'linear' economic system was amplified during the depression in the 1930s, when industries introduced the notion of *planned obsolescence*. *Planned obsolescence* is a design strategy that intentionally limits the technical lifecycle of products, leading to increasing sales volumes and turnover of individual product manufacturers and consequently boosting the economy (London, 1932). In the short term, this sales strategy is beneficial to manufacturers and retailers of such products, whose sales revenues would drop significantly if their products lasted forever. However, as global population continues to grow and Western linear consumption patterns are adopted at an increasing pace, this system is unsustainable in the long-run.

The circular economy offers an effective solution to this problem. By managing materials responsibly, economic growth[2] is possible without compromising our planetary boundaries (Figure 2). Manufacturing is still possible, but attention is given to using as little virgin resources as possible. Together with clients and consumers, industry ensures long-lasting products, that are able to fulfill their technical lifecycle through repair, reuse and remanufacturing; one the end of the lifecycle has been reached, components and materials can be reused and recycled through value retention models. In addition, during the manufacturing process itself, industry will work in accordance with circular principles, e.g. by reducing manufacturing waste and using renewable sources of energy such as solar power.

Clients and consumers also play their part in this process by providing an explicit demand for circular products, by responsibly using and maintaining the products, and by returning them for reuse or remanufacturing post-use.

Within the circular economy, manufacturers, clients and users all benefit from circular product- and materials use. However, the circular economy is about more than just materials, as it is also about realizing an economic system in which humans do not damage the biosphere in which they live and in which attention is given to a minimum social foundation for all - hence we also look at welfare standards globally and ethical labor practices, to name a few. We take all 17 of the United Nations' Sustainable Development Goals into account in a circular economy. All of these goals are systemically linked, which makes the circular economy an extremely complex issue. Unfortunately, there is no single truth in working towards a circular economy. We constantly need to assess the impact indicators per industry and per product in order to effectively transition to a circular economy.

2 The principle of economic growth is frequently and justifiably subject to debate. Economic growth is not a goal in itself. In his book 'Prosperity without Growth' (2009), Tim Jackson argues effectively that increased welfare should be the primary focus rather than economic growth.

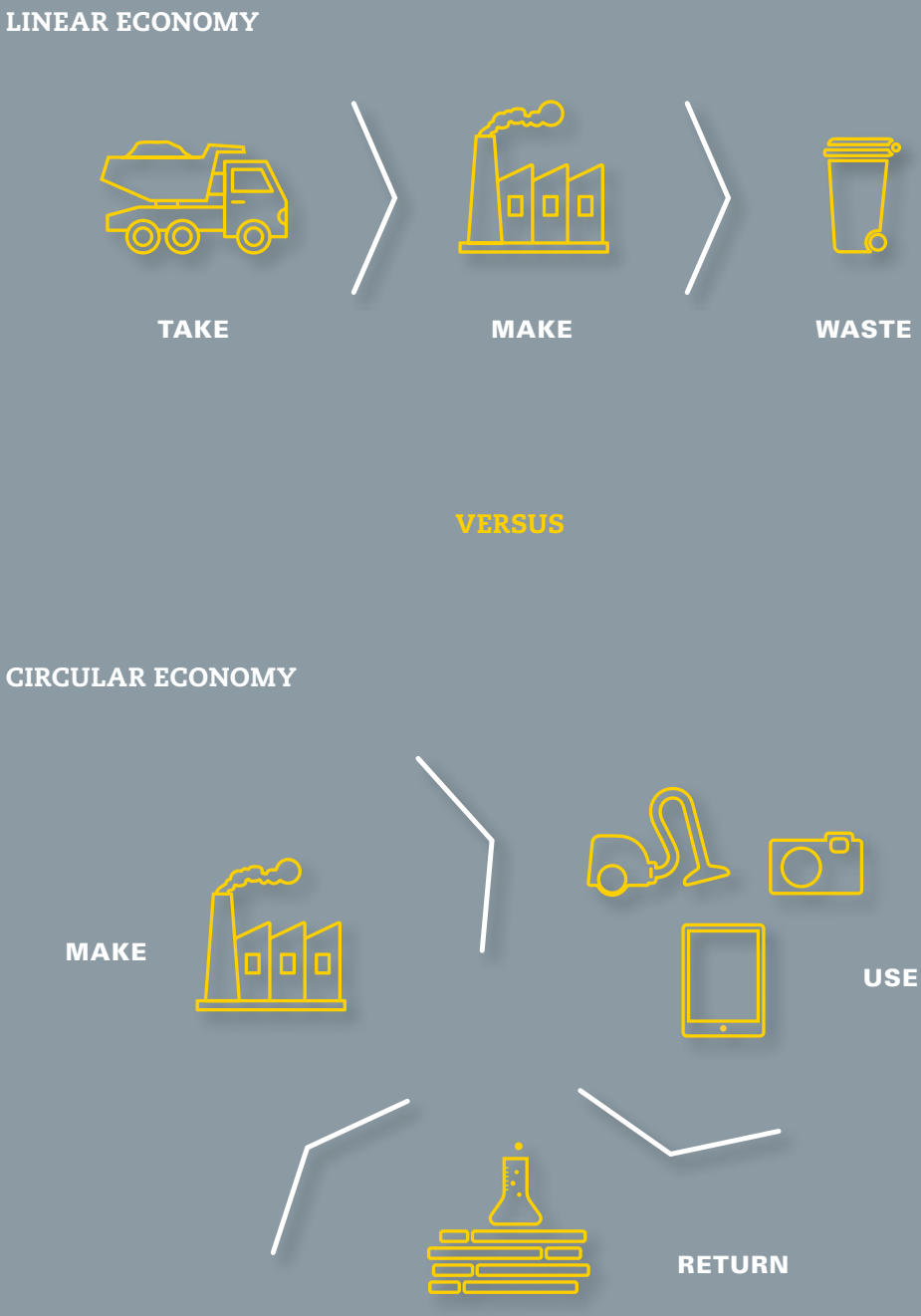


Figure 2. *The linear versus the circular economy, according to Hawken et al. (1999)*

In this book, we will first present a holistic definition of the circular economy:

'The circular economy is an economic system that maximizes the value of materials without interfering with the biosphere or harming the integrity of our society.'

The complexity of the circular economy can be overwhelming and as such lead to delays in terms of decision-making. We have found that creating a focus in terms of circularity can help overcome this stagnation. For this reason, we will also offer a pragmatic working definition that can be used within the *circular procurement* framework and that primarily focuses on resources:

"The circular economy is an economic system that minimizes waste and maximizes value retention of resources. Reusability of products and recyclability of materials is facilitated, encouraging future reuse and preventing value destruction."

THE CIRCULAR ECONOMY IN PRACTICE

Since the 1970s, several academic and industry pioneers have promoted the principles of circularity and the circular economy, including Barry Commoner (1971), Walter Stahel (1981), Hawken et al. (1999), Ray Anderson (2009), Braungart & McDonough (2002) and Gunter Pauli (2010).

A larger breakthrough in circular thinking was realized with the publication of the first of a series of reports by the Ellen MacArthur Foundation (2012). This report presented the economic benefits of transitioning to a circular economy, leading to a wider spread adoption of the concept of the circular economy.

The goal of the circular economy is to establish an economic system that puts the principles of circularity into practice.

SUGGESTED READING

Circular Design:
Cradle to Cradle (Braungart & McDonough, 2002)

Planned Obsolescence:
Material Matters (Rau & Oberhuber, 2016)

Sustainable Economy:
Doughnut Economics (Raworth, 2017)

SUMMARY

Circularity refers to the technical design, assembly and manufacturing of products that enable high-value future reuse. The circular economy is based on an economic system in which circular products are actually used in a circular manner.

"We wasted 200 years staring at the wrong portrait of ourselves: Homo Economicus, that solitary figure poised with money in his hand, calculator in his head, nature at his feet, and in insatiable appetite in his heart."

KATE RAWORTH

THE POWER OF PROCUREMENT

This chapter will outline the importance of procurement as a means of realizing a circular economy, after which it will provide a framework for circular procurement processes.

PROCUREMENT AS A MEANS TO ACHIEVE CIRCULAR ECONOMY

At first glance, procurement does not seem to be a glamorous or exciting topic. Traditionally, procurement is focused on maximizing value for money. What happens when purchasing power is used in order to change the world? That's when procurement becomes a vastly interesting topic! Your demand can help influence pricing, availability of raw materials and can create opportunities to spur technical innovation and sustainability. In this sense, procurement is an immensely powerful tool in our pursuit of a better world.

Our definition of procurement

In this book we refer to procurement in the broadest sense of the word. We do not limit procurement to the moment of purchase itself (the transaction), nor to the moment at which demand is specified. For us, procurement starts when you initially formulate your needs and ends when the product in question is reused as a product or when its' components or materials are given a new application.

In this book, procurement is the process in which:

1. The client formulates a functional demand for the realization of a project, the delivery of a product or a service;
2. The client and supplier collaborate in order to fulfill the demand;
3. The supplier provides the product, project or service for a specified contract term based on agreed upon conditions; and,
4. The product is given a new purpose following its' operational life. For circular procurement processes a new application for the product is determined, potentially with a secondary value chain according to agreements made up front.

Realizing new and improved solutions via procurement

Our premise is that anyone who is responsible for procurement, or parts of the procurement process, can contribute to new solutions. This includes procurement officers, supervisors, internal clients as well as contract managers. Ask the right question and you can set an entire value chain in motion.

Innovative solutions arise as a result of procurement processes that offer enough 'wiggle room', or even specify the desired innovations. Examples of initiatives that did exactly this include the Fair Meter Tender as well as Project DOEN - both projects are described in more detail in the text boxes on the following pages.

Our definition of circular procurement

Circularity is the key concept and a circular economy is the system that puts this concept into practice. Circular procurement is linked to both aspects. The purchased goods must be designed and manufactured according to circular principles. In addition, you must also agree on the 'system' in which the goods are manufactured, delivered, used and reused. It is these latter set of agreements that ensure that the product is not only circular from a technical perspective, but that all value chain partners conduct their activities according to these same circular principles (see Box II) in order to retain maximum value.

Based on the above, we define circular procurement as follows:

Circular procurement is the process in which a product, a service or a project is purchased according to the principles of a circular economy. In this process the technical aspects of the product are as circular as possible, taking maintenance and return policies at the end of the use period into account, as well as including financial incentives to guarantee circular use.

The circular procurement process observes the principles of the circular economy. In theory, within a circular economy, resources are reused indefinitely. The resources *circulate*, hence the term 'circular'. Specific attention is paid to the use of resources in circular procurement processes. In order to encourage circular use it is also important to agree upon conditions of use, as well as the application and remanufacturing of products or components during and after their first technical lifecycle. This has consequences for how the procurement process is organized and the roles of the procurement officer, internal departments, suppliers and the entire value chain.

BOX II CIRCULARITY AND THE CIRCULAR ECONOMY

If you buy a Cradle2Cradle-certified office chair, does that automatically count as circular procurement? In our opinion, no. You have certainly taken an important step: purchasing a product that observes the principles of circularity; but if that same chair ends up in a landfill in five years' time, then it was simply a chair with circular intent.

To make the leap from circularity to a circular economy, it is not enough simply to purchase circular products, you must also use them in a circular manner. In short, you have to make sure that, at the end of its initial service life, the chair is used as a chair by somebody else or is disassembled, allowing the components or materials to be reused in new lifecycles.

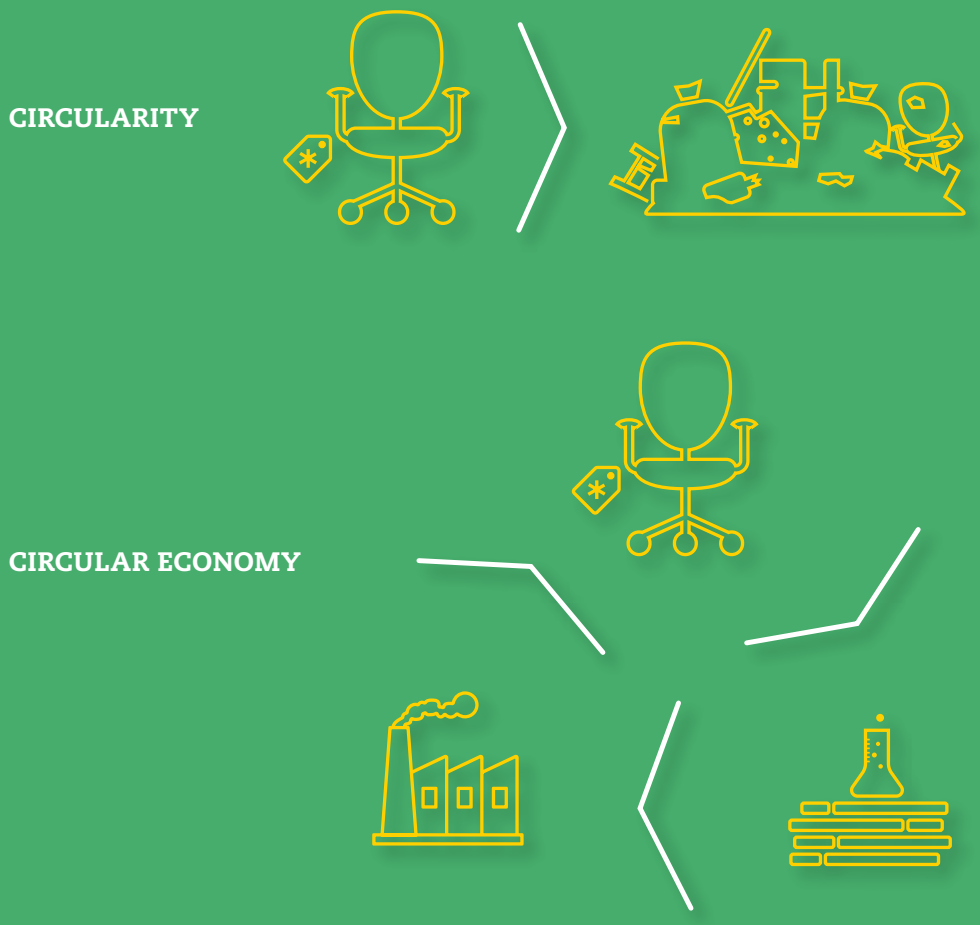
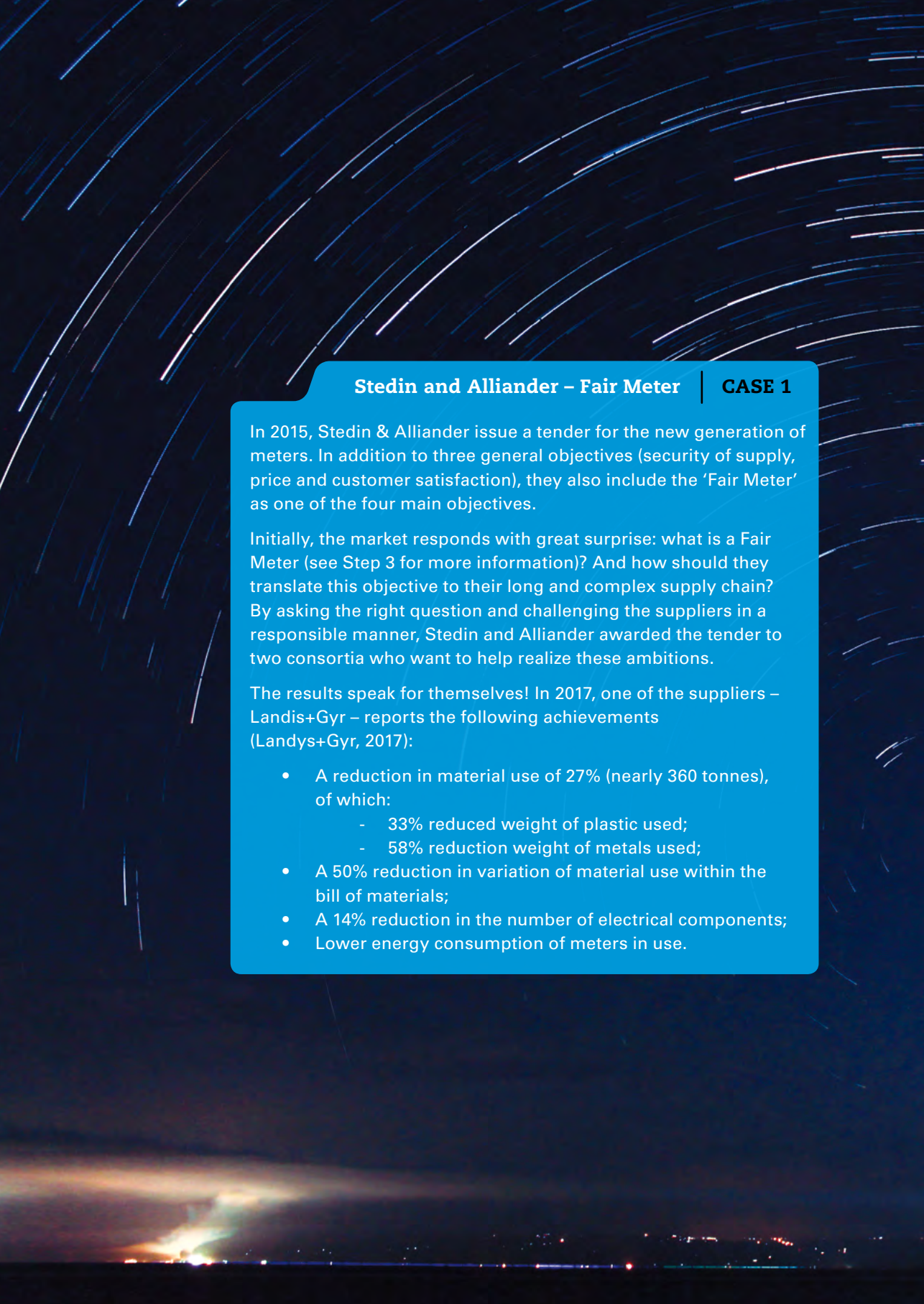


Figure 3. *When does a chair become circular?*



Stedin and Alliander – Fair Meter | CASE 1

In 2015, Stedin & Alliander issue a tender for the new generation of meters. In addition to three general objectives (security of supply, price and customer satisfaction), they also include the 'Fair Meter' as one of the four main objectives.

Initially, the market responds with great surprise: what is a Fair Meter (see Step 3 for more information)? And how should they translate this objective to their long and complex supply chain? By asking the right question and challenging the suppliers in a responsible manner, Stedin and Alliander awarded the tender to two consortia who want to help realize these ambitions.

The results speak for themselves! In 2017, one of the suppliers – Landis+Gyr – reports the following achievements (Landys+Gyr, 2017):

- A reduction in material use of 27% (nearly 360 tonnes), of which:
    - 33% reduced weight of plastic used;
    - 58% reduction weight of metals used;
- A 50% reduction in variation of material use within the bill of materials;
- A 14% reduction in the number of electrical components;
- Lower energy consumption of meters in use.

Project DOEN | CASE 2

In 2015, the Directorate-General for Public Works and Water Management decides to establish better collaboration with the market. The purpose of Project DOEN is to enable experiments with a new tendering method that allows the project team to focus on the intent of the project and reduce the burden of potentially limiting rules and regulations.

The case study illustrated here is the renovation of Nijkerkerbrug (Nijkerk Bridge). For this assignment, circularity was not an explicit requirement, although the Directorate-General did encourage the market to think outside the box and devise innovative solutions. Instead of formulating technical requirements, the project was tendered by means of an open, functional question.

The results were surprising for the DG. They had counted on a scenario in which the old bridge would be demolished and a new bridge would be constructed, involving all of the associated inconveniences, additional costs and material waste. Following a co-creative design process with the selected contractor, a different solution arises. A thorough renovation of the bridge to optimally extend its' operational life. Without the collaborative design process, it is possible the contractor would not have risked proposing this solution.

CIRCULAR PROCUREMENT: TECHNICAL, ORGANIZATIONAL AND FINANCIAL ASPECTS

In order to reduce resource use via the procurement process, you must first focus on the technical circularity of the product in question. The circularity of products consequently also depends on how they are used, in order to facilitate high-value reuse. As the economy is currently still organized according to linear principles (take-make-waste), the business and revenue models of many organizations are equally linear.

In order to reward organizations for circularity, a shift in business models and revenue models is required. In transitioning to a circular economy, a shift is needed on three aspects. These three aspects are summarized in the TPF model (Figure 4):

- The technical aspects (T): the measure in which the product is designed and manufactured according to the principles of circularity (Box III).
- Process-oriented and organizational aspects (P): the degree to which the most important value chain partners are involved in the projects and the extent to which the process is organized to facilitate circularity and circular use throughout the entire process (Box IV).
- Financial and economic aspects (F): the way in which suppliers and partners strive to financially incentivize circularity.

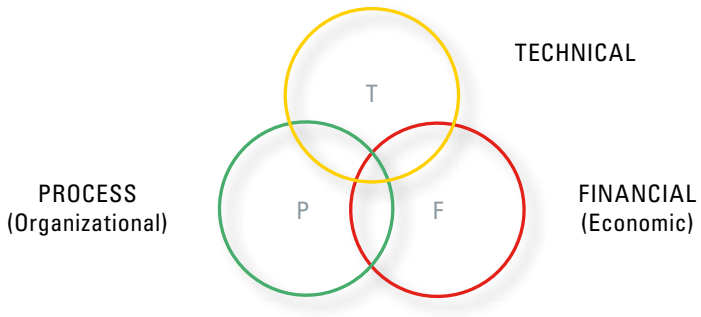


Figure 4. *The TPF model – the three pillars of the circular economy (Van Oppen & Eising, 2011)*

Technical aspects

There are several ways in which you can minimize the use of materials at the product level (Box III); these are the technical aspects.[3]

3 Be careful not to confuse the 'technical aspects' with the 'technical cycles' or 'technosphere', as described in Cradle2Cradle (Braungart & McDonough, 2002). In Cradle2Cradle, Braungart & McDonough distinguish between the 'technosphere' and the 'biosphere'. The biosphere consists of organic matter that can be composted, while the technosphere consists of inorganic materials (such as metals and plastics). In this book, 'technical aspects' and the 'technical circle' refer to the technical characteristics of a particular product, e.g. the materials used (regardless of whether they are organic or inorganic) as well as product design.

BOX III CIRCULAR PRODUCTS – TECHNICAL CHARACTERISTICS (T)

There is likely no such thing as a completely circular product. When discussing circular products, the following aspects are taken into consideration (simplified):

1. The origin and future of resources and materials:
   - Reuse of existing materials by reusing products, components or materials or by recycling materials that have already been mined;
   - Use of rapidly renewable resources for which the growth rate is shorter than the service life of the product, the cultivation of the resource does not compete with food production and the use of the resource is not harmful to the environment; and,
   - Facilitation of future reusability by using recyclable materials or mono-materials that are healthy and non-toxic.
2. Degree to which a product can be disassembled. The basic principle behind the circular economy is that the resources (regardless of the form: materials, components or products) can be reused indefinitely.
   The degree to which products can be disassembled must therefore be taken into account during the design phase - a process known as 'Design for Disassembly' (Chiodo, 2013).

   Circular products must be easy to disassemble in order to facilitate reuse of the materials or components. The use of 'wet adhesives' such as glue is minimized in order to prevent loss of materials and maintaining pure material flows. The bonds between different materials must be accessible in order to optimize adjustability for new applications. Other design aspects that play a role in the circular economy include the degree to which products can be dismantled, standardization and modularity (see also Durmisevic et al., 2006).

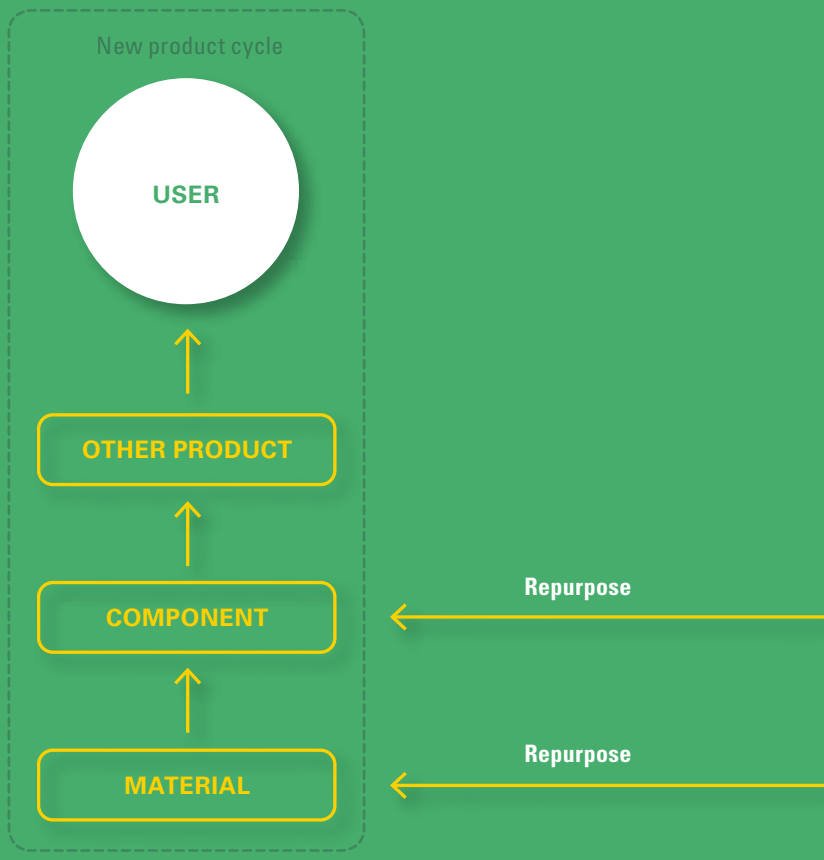
Process-oriented and organizational aspects

As Box III shows, there are many ways in which you can contribute to the circular economy at the product level. A rule of thumb is to enable optimal reuse of the resources in terms of material quality, i.e. to facilitate reuse at a level that requires *as little manufacturing activities, energy consumption and logistical processes possible.* In this regard, it is possible to establish a theoretical hierarchy for optimal reuse of resources (see Box IV).

BOX IV CIRCULAR REUSE – PROCESS-ORIENTED ASPECTS (P)

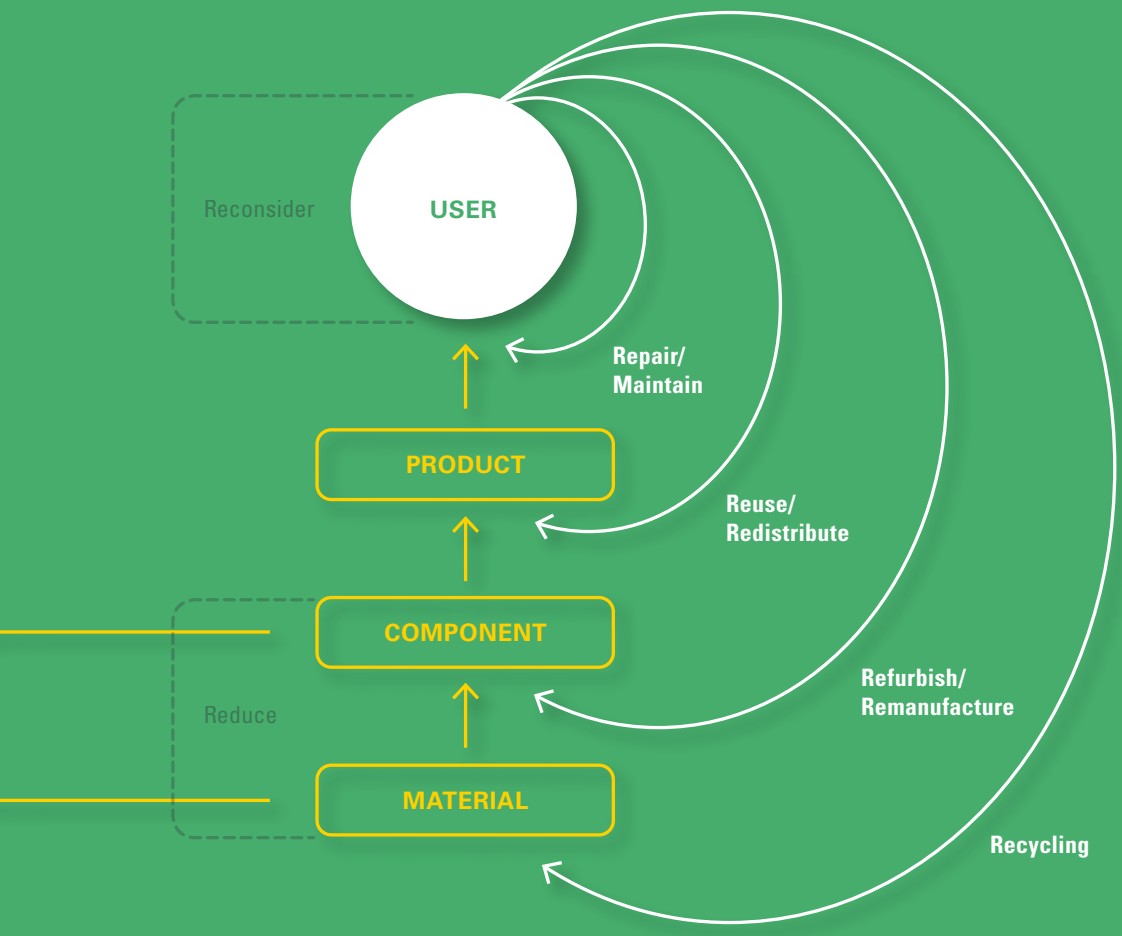
The objective of the circular economy is to achieve value retention through reuse of resources. In theory, the following hierarchy can be defined (following from the Ellen MacArthur Foundation, 2012), within which the order of remanufacture and repurpose can be changed depending on the context of the issue in question:

1. Reuse at the product level by the same user, which is effectively a lifetime optimization strategy, e.g. by repairing or maintaining existing products (repair, maintain);
2. Reuse at the product level by a different user (reuse, redistribute);
3. Reuse at the product level by repairing or revising the product. In this revision you will add new or reused components, although the majority of the components (e.g. 75%) will be retained (refurbish);



Figuur 5. *Different forms of reuse (Copper8, 2016) adapted from the Ellen MacArthur Foundation (2012)*

4. Reuse at the component level by disassembling the product into its constituent components. Less than e.g. 75% of the original components are used in the manufacture of a 'new' product with the same function (remanufacture);
5. Reuse at the product or component level involving a change in purpose, e.g. a table-top that is converted into an acoustic screen (repurpose);
6. Reuse at the material level, whereby the materials are reused, which can be seen as a waste recovery strategy (recycling).



Even if products are designed and manufactured according to the principles of circularity, you still have to ensure they are used in a circular manner as well. Remember the Cradle2Cradle-certified chair that we mentioned in Box II - in theory, this chair is circular, but it will not contribute to the circular economy if it ends up on a landfill, as its' raw materials will not be reused and may even be incinerated.

So, how do you translate this into the procurement process? Circular procurement is not just about purchasing circular products. It is also about ensuring circular use. Circular procurement offers the opportunity to satisfy existing demand in an *alternative manner*. This affects the procurement process in five important and interconnected ways:

1. *Whether to purchase:* The most circular product is the product you don't buy at all. Reducing demand, use, and the accompanying manufacturing volumes are an essential factor in realizing a sustainable society.
2. *What to purchase:* decisions about procurement do not by definition result in the purchase of new products. Imagine an organization that needs 100 chairs. In a traditional procurement process, the organization would simply place an order for 100 chairs. In a circular procurement process, the organization would examine whether a purchase order has to be placed at all. Could existing chairs be reused and/or refurbished in order to provide the necessary functionality?
3. *Who you purchase from (1):* the decisions you make regarding procurement may mean you have to look for a different type of supplier. For example, if an organization chooses to maintain and refurbish existing furniture instead of purchasing new furniture, then the call for tenders should be formulated to attract suppliers with expertise and experience in furniture maintenance.
4. *Who you purchase from (2):* another relevant factor – albeit more complex – is collaboration between value chain partners. For example, an organization may choose to combine the purchase of new furniture with maintenance and refurbishment of existing furniture. In such cases, a single party may be unable or less able to satisfy both needs, and a combination of two parties – one to supply the furniture and one to maintain it – may provide the most circular solution. After all, you cannot create a circular economy on your own.
5. *How you purchase:* this follows on from the aspect of *what to purchase*. The circular procurement process is not a single transaction ending at the point of delivery of the order. Instead, the awarding of the tender marks the beginning of a relationship between the client and the supplier. When both sides assume shared responsibility for the products in some way, shape or form, it creates long-term relationships between them.

BOX V REGULAR PROCUREMENT PROCESSES VERSUS TENDERS

It is important to distinguish between procurement processes in which the client awards the contract without a prescribed procedure or evaluation method and procurement processes in which the client must comply with national or European legislation. Commercial organizations are – almost without exception – exempt from the public tendering obligation, while public and semi-public organizations are tendering authorities and are therefore obliged to comply with European tendering regulations for purchases above a set amount. Commercial organizations are free to issue a call for tenders in line with European regulation, however if they do so they must comply fully.

Some organizations often wrongly consider tendering processes to be an obstacle to innovative and circular procurement processes. National and European tender regulations offer plenty of opportunities to develop circular products and services together with suppliers, although commercial organizations have slightly more freedom in this regard. Furthermore, the principles of tendering (Step 5) can also help commercial organizations to achieve greater circularity.

PUBLIC PROCUREMENT ACT 2016

All EU Member States are obliged to implement the European tendering rules within their national legislation. Accordingly, the Public Procurement Act 2016 – a revision of the Public Procurement Act 2012 – came into force on July 1, 2016. The Public Procurement Act contains rules governing public tenders with purchasing amounts both above and below the European threshold amount. A number of provisions in the Public Procurement Act 2012 were expanded into a General Administrative Order (Public Procurement Decree).

Legislation is constantly changing. You can find an up-to-date summary of all legislation governing European public procurement via the website of the European Commission[4].

4 (https://ec.europa.eu/growth/single-market/public-procurement_en)

Financial and economic aspects

In addition to the technical aspects and the process-oriented aspects, there are also two supplier- and client-led financial and economic aspects that should be taken into account:

1. Financially incentivizing circular use. Suppliers and clients alike can promise you the world, but a financial incentive is the best way to ensure the promised level of circularity and/or circular use. One example of a financial incentive is for the supplier to offer to buy back the product after its' use period. An incentive along these lines encourages clients to ensure the product is returned to the supplier following its service life so that the supplier can reuse the product, its components or its materials. We will discuss this point further in Step 7.
2. Promote awareness of the impact that circularity can have on the supplier's existing business- or revenue model. To minimize consumption of resources, you must be able to ask your supplier to advise you to purchase *fewer* products whenever appropriate. However, as suppliers' business models are often focused on selling as much as possible (volume), this creates a risk for suppliers. If they sell fewer products to the clients, they will earn less money. However, by taking this risk into account during the transition to a new business model, you can ensure optimal demand for both you and your supplier.

SUMMARY

Procurement is an important tool in the transition to a circular economy. By asking the right question, you can set the market in motion and encourage the development of more circular products. Circular procurement is more than just purchasing circular products, circular use must also be taken into account.

"If you look at the waste, it's really a very bad business proposition, because why should anybody make anything that has no value or has a cost? (...) waste is basically stupid."

BILL MCDONOUGH

HOW CIRCULAR PROCUREMENT CAN MAKE A DIFFERENCE

This chapter specifies the differences between linear and circular procurement, as well as explaining how aspects of circular procurement differ from socially responsible procurement, sustainable procurement and biobased procurement.

DIFFERENCES BETWEEN LINEAR AND CIRCULAR PROCUREMENT

Circular procurement requires a shift in mindset at every level of the TPF model: technical, process-oriented and financial. This requires both the buyer and supplier to adopt a completely different approach. The most important shifts related to circular procurement[5] are as follows:

- from procurement officer to procurement;
- from transactional to relational;
- from short-term business cases to long-term value creation;
- from technical specifications to functional demand.

5 Some of the shifts do not relate solely to circular procurement but also to professional procurement. Nevertheless, we mention these four shifts as they are essential for successful circular procurement processes.

Shift from procurement officer to procurement

The first shift we will discuss is that of procurement no longer being the sole responsibility of the procurement officer, but it being a process that relates to, and may even have to be owned by, several different departments. Procurement relates not only to the transactional moment. In order for the procurement process to contribute to the circular economy we look at both the technical aspects of the product but perhaps even more important is the use phase. This means that the purchasing organization also has to arrange for the product to be used in a circular manner, e.g. by making an inventory of actual demand for (new) products in advance and carefully monitoring the products and their use.

Successful circular procurement requires collaboration between different departments and roles. Naturally, the specific composition of the procurement team is dependent on the project at hand. The following departments and roles should be considered:

- the internal client who specifies the demand;
- the procurement officer responsible for managing the procurement process;
- the financial department that advises on the budget;
- the legal advisor who will advise on the procurement process and contracts;
- the sustainability team that will provide input regarding circularity;
- the logistics team that ensures reuse.

A further description of the internal collaboration between the different disciplines is provided in Step 2.

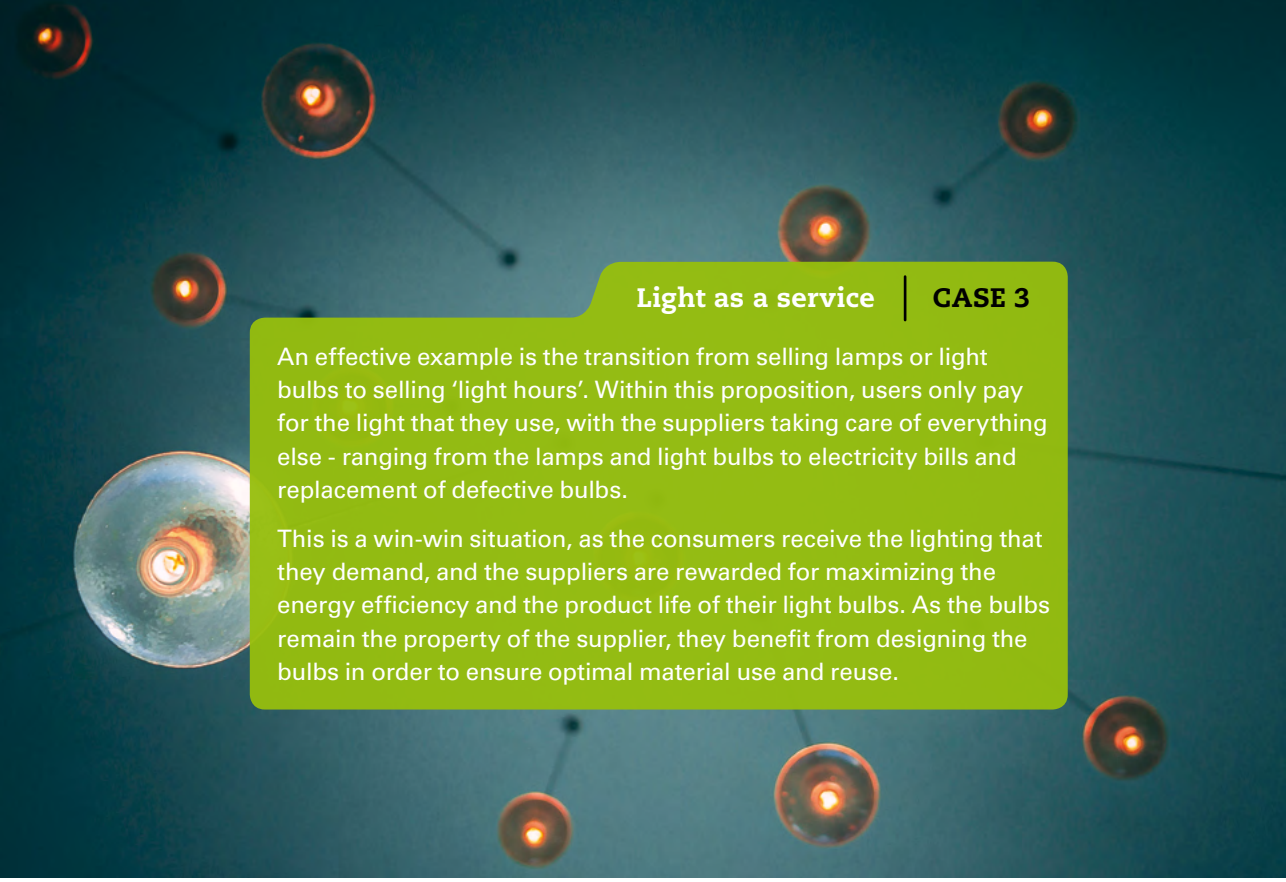
Shift from transactional to relational

Traditional procurement processes will involve only the moment of transaction. In circular procurement, we prefer to see a long-term relationship between the buyer and the supplier. This long-term relationship is important as it encourages circular use, which is a shared responsibility of the buyer and the supplier. Where the buyer has the obligation of using the products in a responsible manner, the supplier must ensure that the products are manufactured, delivered and potentially maintained responsibly and in such a way that the product life is maximized. Only when both sides - buyer and supplier - act accordingly can value be retained.

Although the transition to a circular economy is in full swing, most products are not yet 100% circular.[6] Buyers and suppliers must work together to ensure that both the products and their use are as circular as possible. The collaborative nature of these efforts requires a long-term relationship.

We believe that the nature of the relationship between buyers and suppliers needs to change. Rather than having a clear hierarchy between the buyer on the one hand, and the supplier on the other hand, we deem it important to have a collaborative relationship in which product use is also included in the scope. Step 5 explains how a certain degree of equality in the procurement process can be created and reinforced.

6 In any event, it is highly unlikely that products can be made 100% circular. Our goal is to get as close as we possibly can to our unlikely ideal scenario of 100% circularity.



Light as a service | CASE 3

An effective example is the transition from selling lamps or light bulbs to selling 'light hours'. Within this proposition, users only pay for the light that they use, with the suppliers taking care of everything else - ranging from the lamps and light bulbs to electricity bills and replacement of defective bulbs.

This is a win-win situation, as the consumers receive the lighting that they demand, and the suppliers are rewarded for maximizing the energy efficiency and the product life of their light bulbs. As the bulbs remain the property of the supplier, they benefit from designing the bulbs in order to ensure optimal material use and reuse.

Transition from business cases to long-term value creation

The budget for circular procurement processes differs from that for traditional linear procurement processes, in that it is based on life cycle costs rather than just the initial capital expenditure. For this reason, you should carefully consider all aspects of the specific procurement process in advance. What is the true price of a circular product compared to a less circular product? Are you purchasing products, services or a combination of both? If you are purchasing services, for what period will the contract apply? What is the available budget for the services? All of these issues can lead to a different business case.

Moreover, the side-effects of the procurement process also need to be considered. What happens when a 'linear' product is purchased and what are the effects that this has on the supply chain? Our collective obsession for price tends to have a negative 'trickle-down' effect on the supply chain, leading to unwanted practices such as child labor, increased mileage of the products and accompanying carbon emissions. Focus on 'low cost' procurement can also lead to less sustainable choices in terms of resources, e.g. cheaper materials that are more difficult to recycle and quick assembly methods that limit the reuse potential.

We have noticed that encouraging long-term relationships between buyers and suppliers is a heavily debated topic. Several issues arise, such as whether the buyer will be stuck with the same supplier for good, or whether the supplier will continue

to innovate and improve during the contract period. For this reason, it is important to establish a solid business case within which you compare the current scenario with the future scenario. In many cases, long-term circularity can save money due to the Total Cost of Ownership (TCO) or the Total Cost of Usership (TCU) being lower than for a traditional transactional model. One way to bridge this gap is to pay for the use of products rather than purchasing the products or calculating the residual value of the product at the end of its service life. In Step 7 we go into greater detail on safeguarding circular ambitions within long-term contract periods and the applicability of circular revenue models.

It could also be beneficial to set up a societal and environmental business case that not only focuses on the financial value, but also on the non-financial value. This could include imposing charges for negative effects, e.g. a carbon price, or charging for materials that we consider 'free', such as water. Alternatively, you can reward positive effects, e.g. when a positive impact is realized on biodiversity. Using this kind of 'true price' calculation will enable social, environmental and other 'external' benefits to be taken into account during the procurement process.

Transition from technical specification to functional specification

Traditional procurement processes are often based on technical specifications. Using technical specifications often leads to suppliers can only differentiate themselves with their proposed approach and/or price. By setting technical specifications, you can also limit the creativity and innovation of suppliers. It is precisely this creativity and innovation that needs to be stimulated in order to keep up to speed with the developments in terms of the circular economy. We have noticed that asking 'open' questions and specifying a functional demand for the object of procurement is a key enabler for circular procurement. Naturally it is still important to set the scope of the project clearly so that the suppliers are aware of the bounds within which they are allowed to innovate. A detailed explanation on how to work with functional specifications can be found in Step 3.

DIFFERENCE BETWEEN SOCIALLY RESPONSIBLE, SUSTAINABLE, BIOBASED AND CIRCULAR PROCUREMENT

In addition to the difference between linear and circular procurement, we also pay attention to the difference between socially responsible procurement, sustainable procurement, biobased procurement and circular procurement. Although these types of procurement have one important aspect in common: accelerating sustainable development through procurement, each type of procurement we will discuss has different focal points.

Socially responsible procurement

Socially responsible procurement (SRP) pays attention to societal and environmental aspects in addition to financial aspects. SRP includes various themes, as follows (PIANOo, 2017):

- international social criteria;
- social return;
- environmentally friendly procurement;
- biobased procurement;
- circular procurement;
- innovation-oriented procurement; and,
- opportunities for SMEs.

SRP is an 'umbrella' for different types of procurement that pay extra attention to the social foundation as well as the environment. This can involve direct local effects, such as social return; but can also be focused on a wider scope as is the case for international social criteria.

Sustainable procurement

Sustainable procurement (SP) was formalized in 2005 in the Netherlands. As government bodies have a substantial purchasing volume, they can significantly influence the development of more sustainable supply by setting environmental and social requirements during the procurement process. The Dutch National government wanted sustainability to be a key criterion for all procurement processes. Municipalities proactively raised their standard to 75%, while the standard for other government bodies was 50%.

At the time, SenterNovem – the predecessor of the Netherlands Enterprise Agency (RVO) – established a set of criteria for sustainable procurement. Most of the criteria were simple standards that the suppliers either did or did not meet. These criteria would therefore be 'ticked off' by suppliers in the tender processes. SenterNovem set a clear and verifiable threshold for sustainable procurement, only rewarding innovation and creativity of suppliers above this threshold limit to a limited extent. SenterNovem particularly focused on the sustainability of the manufacturing process, e.g. ISO certification or socially responsible employment conditions such as those specified by the Fair Labor Association (FLA).

Biobased procurement

Biobased procurement focuses on purchasing products that are based on renewable resources. Biobased procurement promotes the transition from fossil fuels to biomass for non-food applications such as bioplastics, biochemicals and biomass as a source of energy. Biobased procurement also takes into account the origin of products sourced in the biosphere (in accordance with the C2C definition).

Biobased procurement does not always coincide with circular use. For example, the definition of biobased procurement does not specify future reusability.[7] However:

- 'Biobased' does not take the composition of the product as a whole into account. A wooden window frame is classified as biobased even if it has been glued together and painted.
- 'Biobased' does not include a broader framework of sustainable decision-making. Biobased products that could have been used for food, as well as pesticide-rich cotton are also classified as biobased.
- 'Biobased' does not take the biodegradability of products into account. Sugar cane-based bio-PE is a polyethylene like any other and is not biodegradable, even though it is technically recyclable.
- Finally, 'biobased' does not take the renewability of the materials into account. Paper is biobased; however, if a 20-year-old tree is cut down to make the paper and it is recycled three times before being incinerated, you are still using up valuable raw materials and eroding the topsoil.

Biobased procurement can be combined with circular procurement, depending on the context. Many of the aforementioned points for attention apply to circular procurement as well, such as the composition and reusability of products.

The main differences

Although sustainable procurement policy has already been integrated into SRP, it might be useful to specify the differences. The most important differences between sustainable procurement and circular procurement are as follows:

1. SRP and SP take a broader perspective on sustainability compared to circular procurement. Although we do not want to ignore the important question on whether working conditions and emissions are considered an integral part of circular procurement, we primarily focus on the use of resources within this book. This scope is purely functional in order to improve the understanding about circular procurement and the considerations needed. We consider all the 17 SDG's as set by the United Nations to be equally important in achieving a sustainable society and a circular economy.
2. Circular procurement aims to amplify the positive impact of the procurement process. In contrast to the SP criteria, which were established in 2005 and simply required suppliers to tick as many boxes as possible, circular procurement recognizes, values and rewards the individual innovation and creativity of the potential suppliers. This encourages the leading suppliers to further improve on the positive impact they make.
3. Biobased procurement mainly focuses on the biological origins of products and their materials. This can be an aspect of circular procurement. However, to achieve successful biobased or circular procurement, you also have to focus on the composition, the effective use of materials and products and the future reusability of the whole product or its constituent materials.

7 These points for attention were formulated based on a meeting with Hein van Tuijl, director of EPEA Netherlands.

SUMMARY

Circular procurement affects the traditional role of the buyer and the method of procurement. Circular procurement is not just about a transaction, but also about the relationship between the client and the supplier. The focus is on long-term value. Circular procurement is not just about minimizing the negative impact of products (eco-efficiency), but also about boosting their positive impact (eco-effectiveness).

READING GUIDE

In the following chapters, we will explain the eight steps of circular procurement. The eight steps are not linear, but rather an iterative and cyclical process. The first project will give you insights for the second project that you will do, and so on. Slowly but surely you will become more experienced in how you can improve the circularity of your procurement process.

Underlying the eight steps is the 'Golden Circle' (Simon Sinek, 2009). In the Golden Circle, Sinek mentions three layers of thinking (why - how - what). These three layers are equally important in circular procurement processes.

The why: your organization's deeper meaning, convictions or intent. Circular procurement processes are primarily based on your organization's vision: why does your organization want to help realize a circular economy? This is discussed in Step 1.

The how: your organization's working methods. How do you organize internal and external collaboration? How do you structure circular procurement processes? These issues are addressed in Steps 2 through 5.

The what: the products or services that your organization buys. Within a circular procurement process, consideration must be given to the tendering documents and contracts. This is addressed in Steps 6 through 8.

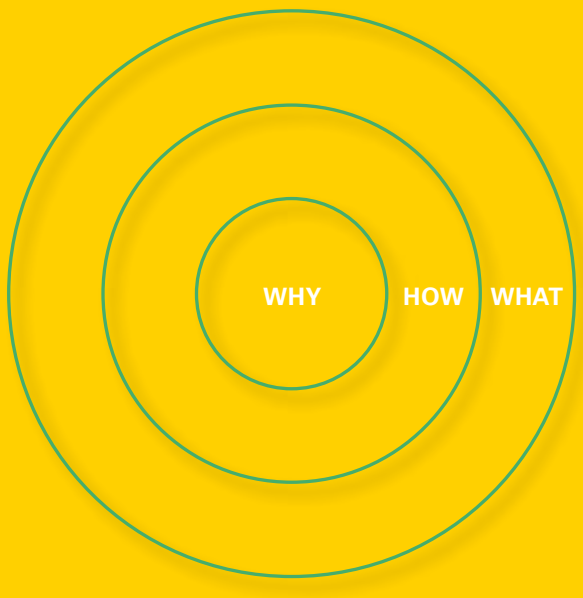


Figure 6. *Golden Circle (Sinek, 2009)*

CIRCULAR PROCUREMENT IN 8 STEPS

This book explains the eight steps necessary to realize a circular procurement process. The following chapters will each describe one of these eight steps.

The steps are as follows:

STEP 1. What is it and why is it important? Why does your organization want to adopt circular procurement? How does your organization define it? This chapter also provides an assessment framework for determining the product groups for circular procurement.

STEP 2. Internal stakeholders. What does circular procurement entail for your organization? What consequences will circular procurement processes have? How do you get internal departments involved in order to realize a successful circular procurement process?

STEP 3. Determining the question. Determine the scope of the assignment and the specifications of the tender. Experience shows that the degree to which functional specifications 'work' varies greatly between different sectors.

STEP 4. Multidisciplinary collaboration. You cannot create a circular economy on your own. Rather than focusing on a bilateral relationship, it is better to get different value chain partners involved in order to actually to close the loop. How do you do that, and when?

STEP 5. Tendering procedure. What procedure should you use in order to facilitate circular offers? How do you strike the right balance between competition and collaboration?

STEP 6. Measuring and assessing circularity. What is the difference between measuring and evaluating? How can you objectively measure circularity?

STEP 7. Securing circularity. How can you guarantee circular ambitions in the long term? This chapter gives insight into the applicability of various revenue models and offers proposals for circular contracts.

STEP 8. Contract management. Continue to monitor the collaboration after the transaction to ensure circular use. This chapter provides advice on the issue of circular contract management.

At the back of the book, a list of sources and other literature has been included for further reference on the topic of the circular economy.

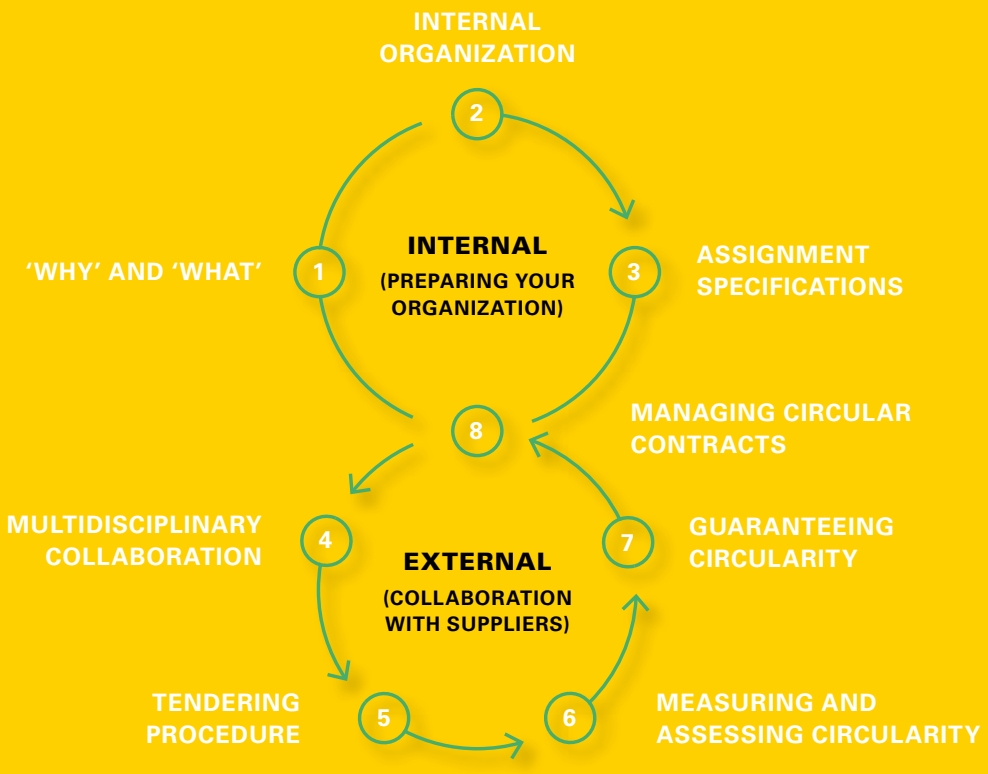


Figure 7. *Circular procurement in 8 steps*

1

"People don't buy what you do, they buy why you do it. What you do simply serves as proof of what you believe."

SIMON SINEK

CIRCULAR PROCUREMENT: WHY AND WHAT?

Step 1 of the circular procurement process establishes your working definition of the circular economy regarding your procurement project. Before you start the circular procurement process, it is important to get a clear picture of what your organization wishes to achieve. This chapter will guide you in determining exactly what circular procurement means to your organization. After defining the rationale of circular procurement for your organization you can formulate a clear working definition. This working definition is a key foundation on which the circular procurement process is based.

This chapter also addresses the selection of the product group, which may lead to slight alterations in your working definition.

1.1 ESTABLISH A WORKING DEFINITION

In many cases, circular procurement will be new to both the buyer and the supplier. The novelty of circularity as well as securing circularity in the use phase changes the nature of the relationship between the buyer and the supplier. Moving towards the circular economy is a journey and you want to be embarking on this journey with someone who has shared beliefs, a supplier who strives to achieve the same circular principles. Only then will you be able to work towards a successful circular project.

The importance of the 'why'

The buyer and supplier will embark on a journey - a point we stress, as the circular economy is a topic that is in transition. This transitional nature is giving birth to a myriad of new developments at an incredible speed. As neither the buyer nor the supplier can predict the future it is important that both sides are capable of adjusting to these developments in order to embrace new innovations, and jointly determine what the right course of action is.

What is your destination? Although the buyer is largely responsible for determining the end goal, you will also want to find a supplier who shares this goal. In order to establish a common goal, it is particularly important to examine exactly *why* your organization wishes to make this journey. After all, an organizations' underlying motives are unlikely to change and this will be a key factor in selecting your future partner.

We briefly introduced Simon Sinek's *Golden Circle* theory in the reading guide, which is a helpful tool for establishing the *why*. As Chapter 2 makes clear, circular procurement requires a change in consumer and user behavior. Ultimately, you will not only want to purchase circular products, but you will also need to ensure that the products are used in a circular way. This behavioral aspect of circular use makes it important to work with people who 'believe what you believe', as Sinek rightly puts it.

BOX 1A GOLDEN CIRCLE

According to Sinek, the *Golden Circle* also reflects the structure of the human brain. The outer layer corresponds to the Neocortex, which is responsible for processing data, language and facts. The inner two layers correspond to the Limbic brain, which is responsible for emotions, feelings and behavior (Sinek, 2009). In his model, Sinek indicates that people believe the rational mind to be the driving force of decision-making, however the subconscious layers of the mind are often the decisive factor in one's choices or judgements. These subconscious layers determine people's intentions - their *why*. Why does your organization do what it does? If you can clearly determine and express your *why*, then you will attract parties with a similar motivation or intention.

Venlo Municipal Office vs. Alliander Duiven | CASE 4

The Municipality of Venlo defines the circular economy as follows:

"The Municipality of Venlo considers a healthy, pleasant and sustainable living environment to be an absolute must. Venlo is a pioneer and uses Cradle-to-Cradle (C2C) as a guideline for its activities in this regard. The municipality considers this to be an extremely inspiring philosophy: to make healthy choices from the start and not to make decisions that are 'less bad'. By doing this, we add value and work towards achieving a healthy society in which prosperity is the central focus and materials are constantly reused and recycled."

Alliander established the following definition of the circular economy with regard to the transformation of their office in Duiven:

"Circularity is based on the notion of self-supporting systems. Within a circular system, the world can no longer be seen as an 'unlimited supply of resources'. Rather, the systems are able to sustain themselves. Waste is processed into raw materials, value chains merge together and collaboration becomes key. Within a circular system, long-term thinking is fundamental - we no longer think in terms of 'end products' but only in terms of 'interim products."

As can be seen by these definitions: they differ in terms of their nuance in terms of circularity. Whereas Venlo chooses to focus on making the right choices now in order to avoid waste in the future, Alliander is seeking to make optimal use of all materials that exist now and to minimize waste in the future. Both projects are circular, albeit in different ways.

An important starting point for the buying organization is to share their *why* and then look for a supplier who supports and even endorses this vision. Selecting your partner via the 'Limbic brain' as Sinek would call it (see Box 1A). Step 6 describes how you can translate this to your selection and award criteria.

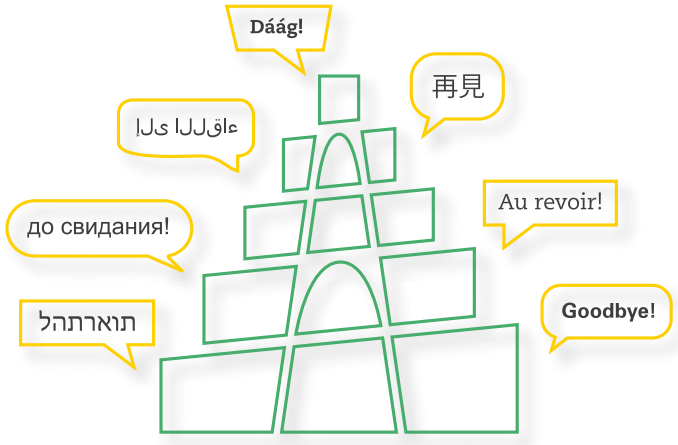


Figure 8.
Tower of Babel

Avoid a Tower of Babel situation

Relatively new and complex issues such as the circular economy can often lead to misunderstanding. In practice, the terminology used can be open to interpretation or may be used in different ways by different people. For example: what does recycling mean? Does it mean that you will break down a window frame into its constituent raw materials after its functional lifecycle or does it mean that it is used again as a window frame (i.e. product level) in a different building? Is it even possible to reuse raw materials or should they then be called materials?

What exactly do business models such as *pay-per-use* entail? For quite some years 'Product as a Service' type of business models have been positioned as a key factor in realizing a circular company. However, can *pay-per-use* even be considered a business model? Or is it merely a revenue model? And is a product inherently circular when it is delivered through a *pay-per-use* model?

Research shows that at least 114 definitions of the term 'circular economy' are already in use (Kirchherr et al., 2017) and this number is expected to increase. This may result in ambiguity and, in a worst-case scenario, may even hinder the transition to a circular economy.

Furthermore, the circular economy is also extremely context dependent. Focal circularity points for a large city will differ from those of a rural town, and vice versa. To facilitate the transition, it is particularly important that all project stakeholders decide on the key focal points. For example, Alliander Duiven and the Venlo Municipal Office projects apply different circular economy principles, yet both contribute to the circular economy.

Relocation of the Netherlands Nutrition Centre | CASE 5

In 2017, the Netherlands Nutrition Centre (NNC) is looking to relocate. Due to the societal nature of the organization, it wanted to contribute to the circular transition, although in a way that was fitting to the organization itself:

"The NNC is the independent central body for providing information regarding food and nutrition in the Netherlands. The Netherlands Nutrition Centre's mission is to provide consumers the information they need and to encourage them to adopt healthier, safer and more sustainable food choices. NNC does this in a variety of ways, including bringing the newest scientific findings to the community."

The centre translated this mission into the following description of its ambitions, which it also communicates to the market:

"Our ambition between now and 2025 is to ensure that individuals are motivated to work and collaborate effectively and that they have access to appropriate and appealing facilities. We aim to inspire our colleagues to use their expertise for the purpose of NNC's primary process. The goal of NNC's everyday activities is to encourage people to make healthy, safe and sustainable choices. It is crucial that our identity is optimally translated to the design of our new office, strengthening our mission. The working environment must ensure that healthy, safe and sustainable habits are made self-evident, accessible and understandable; for all colleagues in the context of a learning organization."

This description ultimately resulted in circular accommodation that incorporated the topics of health and nutrition. Green walls – with living plants – were installed to improve the interior climate, lamps are made of mushrooms (mycelium) and the lockers are made from old KLM catering trolleys.

A working definition

Once you have clearly established *why* you want to pursue circular procurement, you will want to determine how your organization interprets the term. What is your organization's working definition of the word 'circular', which you hope to see reflected in the offers you will receive? And which aspects do you consider most important? Do you want to see existing materials used optimally or would you prefer to use *virgin* materials that will not become waste in the future? Questions like these establish exactly what is most relevant to your circular project. By formulating a working definition, you also ensure that potential suppliers better understand your objectives and are able to provide a more effective and customized offer for the assignment. The working definition also serves as a basis for determining your award criteria.

The next question is how you establish a working definition of the circular economy. Many organizations do not have a definition of the term 'circular', although they often do have policy statements regarding sustainability. We recommend examining which aspects of the sustainability policy can qualify as circular objectives, just like the Netherlands Nutrition Centre did.

Make sure to position your working definition internally. You may want to consider holding an internal working session in order to formulate a working definition. Once you have established a working definition, you can always adjust and optimize it following the first or second project.

BOX 1B DEFINING THE CIRCULAR ECONOMY

As the case studies mentioned earlier in this chapter also make clear, different focal points in your definition regarding circularity can result different outcomes. There are many ways in which you can contribute to the circular economy, such as:

Circularity 'from the present into the future': this philosophy entails that products should be designed and manufactured in such a way that they will not become waste in the future. This involves using healthy materials that will remain recyclable in the future and are assembled in a way that ensure they can be disassembled with reasonable ease.

Circularity 'from the past to the present': this approach seeks to make optimal use of all products and materials that are already in circulation as well. Focusing 100% on 'present to future' circularity would mean that nearly all physical objects currently around you would become waste following their functional lifecycle. This scenario is not sustainable or feasible for our planet, so it is vital that attention is also paid to extending the functional lifecycle of existing products and reusing materials that are already in circulation.

Naturally, a combination of both philosophies is entirely possible. In both cases, it is vital that (1) no end-of-life products are made (ensure future reusability) and (2) that human health be taken into account, e.g. no harmful or toxic substances are used.

1.2 SELECTION OF PRODUCT GROUP

Once you have formulated your working definition, you must select a product group. You may have to readjust your working definition slightly to suit the selected product group and the scope of the project.

If it is your first circular procurement process, you might want some guidance in selecting a product group. Our advice is to select a product that is relatively easily to procure in a circular manner. The remainder of this chapter will focus on this selection process and the various considerations that can be made when selecting a suitable circular procurement pilot. We will discuss both the internal considerations as well as the external or product group-related considerations.

Internal considerations

In case you can still influence the selection of a first product group for your circular procurement process, it is advisable to start by answering a number of questions. What is your organization's objective regarding circular procurement? Do you have any experience with circular procurement or is this your first circular procurement project?

To many organizations, circular procurement is a new concept. It is therefore advisable to select a product group that makes a visible impact but has a relatively low (perceived) risk profile. This can be done by examining the expected spend of your upcoming tenders; these costs tend to be correlated to the risk profile. Consequently, you will want to assess the degree to which these tenders can contribute to the circular economy, i.e. the impact. These two variables can then be plotted in a graph (see Figure 9).

- To determine the spend, determine the expected purchasing costs or annual costs[8].
- To determine impact, award an indicative score (e.g. from 1 to 5) for the three or four focal points included in your working definition of the circular economy[9].

By plotting these scores on a graph, you will have a clear overview into which product groups will have sufficient visible impact and lower risk profiles. When doing so, you will notice that many tenders within the domain of facility management will be in the bottom-right hand corner of the graph. These product groups are particularly suitable for circular procurement pilots as the risks, actual or perceived, tend to be somewhat lower.

8 We recommend using a logarithmic scale for the y-axis.
9 Naturally, you can also use the product groups' LCAs to establish the impact but remember that the LCAs may not reflect all of the topics within your definition. Moreover, LCAs may not be available for all of the product groups. We therefore recommend using indicative scores.

Figure 9. *Impact versus spend (Copper8, 2015)*

Other internal considerations that play a role include:

- The timing of the tender: if it is your first project, ensure sufficient preparation time. Do not try to rush circular pilot projects.
- The enthusiasm of the project manager: when selecting the first project, take the organization's positive energy into account. The project manager or portfolio holder must also believe in the importance of the circular procurement pilot.

External considerations

Why is circular procurement of office furniture relatively easy compared to the procurement of computers? Every product and every sector have certain characteristics that determine the ease with which the products can be made and used in a circular way. In order to learn which sectors are most suitable for

circular procurement, it is advisable to look at the aspects of complexity as well as the functional lifecycle. Naturally, the entire TPF model must be taken into consideration for this assessment:

- Technical: in technical terms, the products are made in a way which complies with the principles of the circular economy.
- Process-oriented: the client and contractor have made process-oriented agreements regarding circular use.
- Financial: financial incentives have been established to encourage circular use of the products or materials in the long term.

A **complex product** is often a reflection of a complex value chain. For example, a disposable coffee cup is quite a simple product that does not consist of many materials and the manufacturing process is not likely to involve many value chain partners. Mobile phones[10], on the other hand consist of 34 different components and 62 different metals sourced in 8 different countries (Desjardins, 2016; South China Morning Post, 2016). In short, the more complex the product, the more complex the value chain.

10 Figures based on the iPhone 6s.

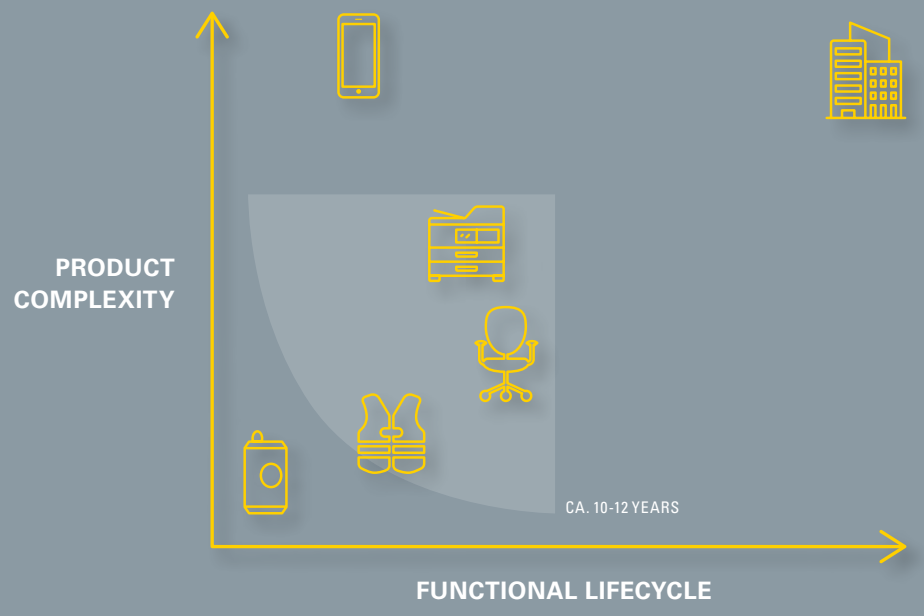


Figure 10. *Complexity versus functional lifecycle (Copper8, 2014)*

It is challenging to implement circular ambitions in their entirety when you have long and fragmented value chains, at least in the short-term. It is therefore difficult – although certainly not impossible – to make complex value chains fully circular.

The second variable involved in external considerations is **the functional lifecycle**. The longer a product remains usable, the more difficult it is to establish agreements concerning circular use. Although organizations make contractual agreements, individuals are the ones who have to ensure they are complied with. Take for example an organization that makes a 25-year contract. It Is extremely unlikely that the individuals who are involved in making the contract will be responsible for managing it for the full 25 years. In such situations, the management of circular contracts becomes an administrative task that can be far removed from the original intentions.

For this reason, workable contract periods should be used when agreeing circular contracts. The longer the contract period, the greater the risks and uncertainties. In our experience, effective agreements regarding circular use can be made for products with a maximum functional lifecycle or contract period of 10-12 years.

The relative ease at which these products can be procured in a circular manner does not mean that circular procurement is impossible for products with a longer functional lifecycle such as buildings or roads. It does mean, however, that it is more difficult to guarantee circular use by means of process-oriented or financial agreements.

One must also consider the product groups at the other end of the functional lifecycle axis, such as disposable coffee cups. For products like these with such short functional lifecycles, *recycling* is the only realistic option. For the sake of clarity we propose to classify these product groups exactly as such, rather than inflating the term ‘circular’ due to the current fashion.

1

SUMMARY

During Step 1, you thoroughly examine why you want to adopt circular procurement within your organization. It is vital to gain a clear picture of what circularity means to your organization, as this is the only way to ensure that you will find suitable suppliers who share your goals.

The second half of this chapter explains which internal considerations can be made in order to decide upon your first circular procurement pilot. Projects that have visible impact on circularity and a lower risk profile are particularly suitable for circular procurement pilots within your organization. Finally, we explain how less complex product groups with shorter functional lifecycles are the most compatible with circular procurement.

STEP 1: CIRCULAR PROCUREMENT – WHY AND WHAT?

1. *Why* does your organization want to adopt circular procurement?
2. *What* does your organization mean by the term 'circular economy'? Establish a working definition.
3. Find a product group with high visibility and a low risk profile.
4. Select a less complex product group with a functional lifecycle of no more than 10-12 years.

2

"An organization should be a reflection of nature: a network of connections that mutually reinforce one another."

GEANNE VAN ARKEL

INTERNAL ORGANIZATION AND ALIGNMENT

Step 1 establishes *why* your organization wants to adopt circular procurement. Step 2 starts to establish *how* to do so. This chapter describes the internal change process from two different perspectives. First, it gives a brief summary of the possible consequences of circular procurement; after that, it summarizes the internal departments or disciplines necessary to be successful in your circular procurement process.

2.1 INTERNAL CONSEQUENCES

Circular procurement is about more than just buying things. To achieve optimally circular results, you must first examine whether you actually need to buy new products, and if so, how you can minimize the quantity. After all, the most circular option is to not buy anything at all! If you do have to purchase products, the aim is to ensure that the functional lifecycle of the products and components can be maximized.

What are the potential consequences of circular procurement? Naturally, the consequences depend entirely on the project at hand. The primary purpose of the summary below is to show that broader internal orientation is required in order to achieve optimally circular results.

Determining the functional demand

Our motto is 'Making the world a better place starts with asking better questions.' The relevant question here – i.e. what products do you absolutely need to purchase – is an important factor in circular procurement. What do you already possess? And what do you truly need?

The size of your organization, the product group and your organization's working definition are a few factors that can help determine your organization's needs. Make an inventory of which products you already have, especially when efficient and effective reuse of existing products is your primary goal. This will give you a clear picture of what you need and enable potential suppliers to make accurate estimates regarding the products for which functional life extension is possible and whether or not high-quality reuse of the components or materials can be achieved.

Financial implications

Make sure you take the financial implications of circular procurement into account. Try to make a business case that takes the long-term cost savings (TCO/TCU) into account, as well as any financial benefits resulting from circular procurement. Naturally, the financial consequences of circular procurement processes depend on the selected product group, the existing inventory and the organization's working definition:

- Changing capital expenditures: investments may increase as a result of circular procurement. For example, this may be the case if you decide to purchase new circular products. However, they can also decrease, e.g. by extending the functional lifecycle of existing products and thus minimizing

the procurement of new products. The nature of the investments may also change, e.g. a shift from material costs to labor.

- Changing recurring costs: circular procurement can result in lower costs in the long term, such as lower maintenance costs or higher maintenance costs that result in lower procurement needs. In all cases, circular procurement requires a long-term perspective that must also be incorporated into the business case.
- Using different funds within the organization: the long-term perspective requires financial reserves to be established in the future, e.g. operational expenditures. This can be challenging for government bodies due to the dynamic nature of politics. In our experience, funds are often provided by different departments, which means that the investments are paid by a different department than the maintenance or operational costs.
- Different revenue models can also result in future benefits, e.g. by taking residual value into account within buyback agreements.

In short, include all possible scenarios in the business case.

Use phase and maintenance

Products are only circular if they are used in a circular way. This means that you will also want to take the product's use phase into account when preparing your procurement pilot. In addition to proper use, good maintenance can also help retain product value.

If you plan to outsource maintenance of your products, you will want to include this as one of the disciplines within the invitation to tender. Whether or not to do this is an important factor in the circular procurement process. Good maintenance helps to extend the functional lifecycle of products and therefore makes an important contribution to the circular economy.

Circular use of products can be influenced by both the buyer as well as the supplier. Buying organizations should therefore gain insight into the most relevant internal processes, e.g. keeping track of the inventory, maintenance activities and, if applicable, waste processing. This provides potential suppliers with valuable information they will need in order to make an optimally circular offer.

Value chain management

As a result of circular procurement you will see a shift from the *transactional* nature of procurement to longer term *relationships*. If you want to contribute to the circular economy, you must look beyond the products offered by the supplier at the start of the contract. It is important to also look at how to deal with the products during their functional lifecycle and thereafter. Having a single point of contact (e.g. *a supply chain manager*) during both phases can help with aligning the procurement phase with the use phase. The supply chain manager takes care of all aspects of the contract that involve the buyer's organization, including proper use of the products.

Directorate-General for Public Works and Water Management | CASE 6

In 2016, the Directorate-General for Public Works and Water Management examines the possibilities for circular procurement of office furniture for the government. Although the study, by Turntoo, does not include an inventory all of the furniture within the 100,000+ workstations, it does establish that extending the functional lifecycle of the existing furniture would be the most effective way to contribute to the circular economy.

The 2016 study, entitled The Path Towards a Circular Category of Office Furniture done with Turntoo, establishes the following priorities:

1. Satisfy existing needs for as long as possible using existing furniture.
2. To satisfy new needs, make use of material that is already in circulation either within or outside the organization.
3. Assess all new products in line with strict circularity requirements with regard to the product, the process and financial aspects.
4. Ensure optimal use of products, components and materials during subsequent cycles in order to close the loop whilst taking multiple environmental effects into account.

Following from the prioritization above the state can realize substantial savings. The study estimates annual savings of €1.3 to €4 million as a result of this maintenance strategy.

Aside from the priorities and cost savings, the study also identifies the consequences that this strategy can have for internal stakeholders. For example, other so-called 'categories', e.g. logistics and storage, within the central government can influence the use and functional lifecycle of the furniture. Furthermore, it found that budgets and other responsibilities regarding the procurement of furniture (procurement department) on the one hand and maintenance of furniture (facility management) on the other hand, lie with different departments.

In summary, the study provides valuable insights into the internal consequences that circular procurement can have.

Planning

Finally, make sure you give yourself sufficient time to prepare for the publication of a circular tender as well as the execution of the ensuing project. The potential suppliers will have to undergo different processes than for traditional linear procurement, especially with regard to high-quality reuse of existing products and materials.

The aforementioned points are just a few of the possible consequences that circular procurement can have. Carefully examining the consequences gives you insight into use patterns within your organization that you can then transparently communicate to the potential suppliers.

2.2 GET INTERNAL STAKEHOLDERS INVOLVED

Collaboration within your own organization during the procurement process is probably an even more vital factor than insight into the consequences of circular procurement. It is essential to get the relevant internal stakeholders 'on board'.

The importance of internal collaboration

Circular procurement processes are not merely the responsibility of the procurement officer, although they play an important role as a catalyst and central go-to-person. This role is crucial, as different departments within an organization may have different interests based on their own role and task. The procurement officer harmonizes these interests in order to ensure a successful circular procurement process.

Carefully examine which departments and roles you will need in order to ensure circular procurement as well as circular use of the products. Listing the various interests that the different departments have helps to formulate questions that are relevant to your procurement process and provide insight into all of the interests, e.g.:

- Does the department or role have an internal or external focus?
  For example, facility management departments have an internal focus, whereas strategy departments have an external focus.
- Does the department have a short-term or long-term perspective?
  For example, financial departments concentrate more on the short term, whereas strategy departments focus on matters that are much further into the organization's future.
- Does the department have a strategic or an operational role?
  For example, purchasing departments have a more operational role, whereas sustainability departments or CSR departments are more involved with the overarching strategy.
- How does the department deal with risks? Is it risk-averse or slightly more risk-seeking such as an innovation department?
- Does the department have specific targets that align or conflict with circular procurement?

The answers to these questions will create an overview that will help get the relevant departments and roles aligned with the circular procurement process. Wherever possible, define a common interest that takes into account all the different perspectives within the procurement process.

Required departments and disciplines

Which departments and disciplines are needed for the circular procurement process? Naturally, the answer to this question depends on the product group in question as well as your your vision of circularity. Alongside the executives, important departments and roles include the internal client, CSR/sustainability, finance, legal affairs, communication, procurement and supply chain management.

Executive level
Get a director involved to function as an ambassador for the procurement process. The director can help to get the project on the agenda at the strategic level and can provide the necessary 'space' and authorization to experiment. In the event of setbacks, such as missed deadlines, the director can help to defend the project internally.

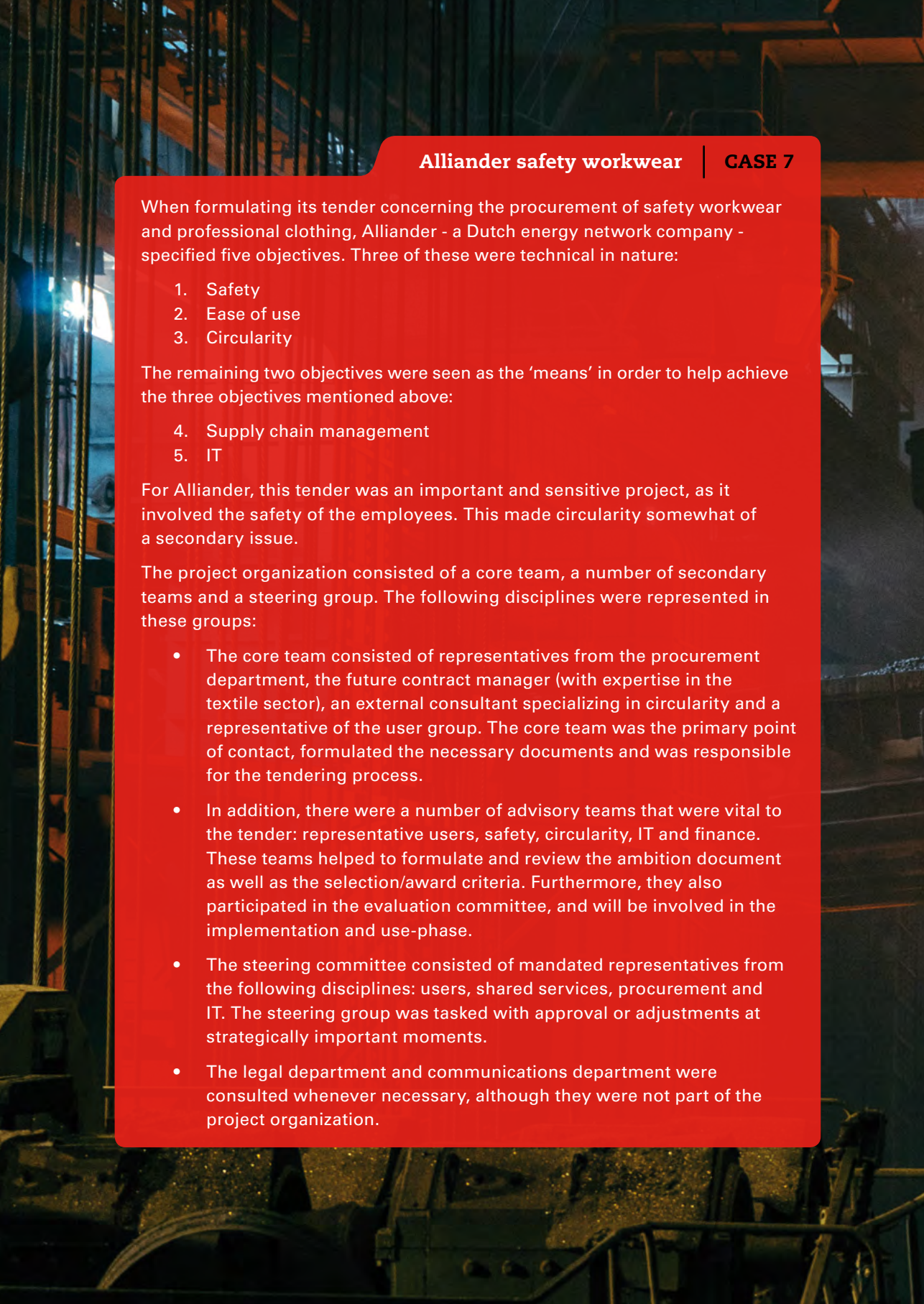
Internal client
Which department has specified the functional demand or procurement proposal? Discuss the functional demand with the internal client and explore ways to make the procurement process optimally circular. You should also include the contract manager in this process!

CSR
A sustainability advisor can help to maintain and boost your ambitions with regard to circularity. The sustainability advisor can also help you to optimally determine your circularity strategy, as they are often aware of the latest market developments.

Finance
Develop a good business case for the procurement process. The business case can help align the internal organization. Get a financial expert involved at an early stage, who can then help to identify alternative, non-financial types of value for a long-term business case.

Legal affairs
Circular contracts can be somewhat different to traditional contracts, so it is advisable to get a legal advisor involved at an early stage as well. Clarify all of the intended results of the procurement process to the legal advisor so they can assess the tender- and the contract documents accordingly.

Communication
Effective internal communication regarding circular procurement processes helps to boost support within the organization. Furthermore, a communication professional can help to organize external activities, such as a market consultation or other communication that will help attract the attention of potential suppliers and prepare them for the subsequent procurement process.



Alliander safety workwear | CASE 7

When formulating its tender concerning the procurement of safety workwear and professional clothing, Alliander - a Dutch energy network company - specified five objectives. Three of these were technical in nature:

1. Safety
2. Ease of use
3. Circularity

The remaining two objectives were seen as the 'means' in order to help achieve the three objectives mentioned above:

4. Supply chain management
5. IT

For Alliander, this tender was an important and sensitive project, as it involved the safety of the employees. This made circularity somewhat of a secondary issue.

The project organization consisted of a core team, a number of secondary teams and a steering group. The following disciplines were represented in these groups:

- The core team consisted of representatives from the procurement department, the future contract manager (with expertise in the textile sector), an external consultant specializing in circularity and a representative of the user group. The core team was the primary point of contact, formulated the necessary documents and was responsible for the tendering process.
- In addition, there were a number of advisory teams that were vital to the tender: representative users, safety, circularity, IT and finance. These teams helped to formulate and review the ambition document as well as the selection/award criteria. Furthermore, they also participated in the evaluation committee, and will be involved in the implementation and use-phase.
- The steering committee consisted of mandated representatives from the following disciplines: users, shared services, procurement and IT. The steering group was tasked with approval or adjustments at strategically important moments.
- The legal department and communications department were consulted whenever necessary, although they were not part of the project organization.


2

Procurement and supply chain management
If you are not the procurement officer, get a procurement officer involved who is keen to adopt the principles of circular procurement. Furthermore, appoint a supply chain manager at an early stage to ensure circular use of the product group during the contract period.

We consider these disciplines to be required for a successful circular procurement process. Depending on the product groups, you can also involve other departments, e.g. a logistics manager or a supply chain manager responsible for 'waste' management.

Getting internal stakeholders involved

How do you manage all these different disciplines? You can use the matrix created by Johnson et al. (2008) to determine the following for each department:

1. The degree of **power** that the department has over the circular procurement process;
2. The degree of **interest** that the department has in the circular procurement process.

Completing this matrix gives you a useful overview of the desired level of involvement for each department. Stakeholders with a lot of power and interest should be part of the core team, stakeholders with a lot of power but without significant interest can be asked to take part in the steering committee and individuals with a lot of interest but less power should be part of an evaluation committee or in a user test. Note this overview is subject to change depending on the selected product group.

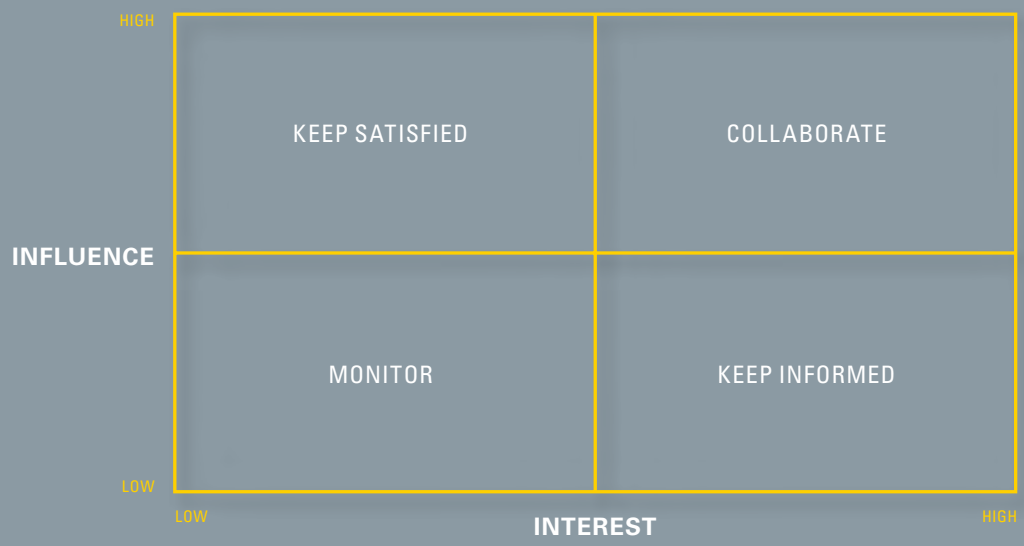


Figure 11. *Getting internal stakeholders involved (Johnson et al., 2008)*

2

SUMMARY

Step 2 discusses internal stakeholders. By showing what the consequences of a circular procurement process will be, it becomes clear that circular procurement transcends a single transactional moment. Collaboration between internal departments is an instrumental factor in the success of circular procurement processes. Attention is needed in aligning interests, involving and informing internal stakeholders.

STEP 2: INTERNAL ORGANIZATION AND ALIGNMENT

1. Be aware of the internal consequences of circular procurement.
2. Get all of the necessary disciplines and departments within your organization involved as early and as regularly as possible to maximize the success of your circular procurement process.

3

"Making the world a better place starts with asking better questions."

CÉCILE VAN OPPEN

FORMULATING YOUR QUESTION

In addition to careful preparation, circular procurement also requires meticulous and structured execution. This all starts with Step 3, where we start to formulate your question. Step 3 helps you and potential suppliers to get a clear picture of your functional demand and how this can best be fulfilled. You have already set a working definition of the circular economy and selected a product group, but how do you translate this into the right question?

3.1 AGAIN: MAKING THE WORLD A BETTER PLACE STARTS WITH ASKING BETTER QUESTIONS

When buyers ask the right question, it allows suppliers to distinguish themselves from the competition by making a creative, high-quality and circular proposal. But how do you get the procurement process started? How can you contribute to a better result as a buyer when you are only giving the rough outline of a potential solution? Ultimately, it is all about specifying the right question.

Determining demand

To start formulating the question, the first step is to make a clear inventory of the demand. What does your organization truly need? The easiest way of contributing to the circular economy is buy not buying anything at all - hence it might be interesting to reverse the question: where can you avoid procurement? Within circularity theory, this is referred to as *reconsider* or *refuse* (Box IV).

Imagine fifty new jobs are created at your organization. Does this automatically mean you have to order fifty new chairs? Could you satisfy the need for chairs using existing stock? Or maybe your organization is thinking about reducing the number of seated workstations and increasing the number of standing desks? If buying chairs is unavoidable, you could choose to buy them second-hand (we often refer to them as chairs with experience, as the perception is more positive). A used chair is often as good as new, can save the organization money and it extends the service life of existing products.

In order to prevent unwanted situations, be aware of the current interests of the suppliers. Make sure to secure the chosen circular direction on the buyer and supplier side. Typically, suppliers do not provide product maintenance services, their current business models being primarily based on selling new products. This transition on part of supplier's business models is not easy and one cannot expect suppliers to realize this within a single project or within one year. Similarly, choosing high-value reuse at the start of a project also requires following up on this as a buying organization during the remainder of the contract. This means shifting from buying new products to asking for repair and maintenance services, which may require a shift business activities for your supplier. Whichever circular direction you choose to pursue, make sure to examine the possible consequences of your decision.

Alliander Duiven | CASE 8

What was the actual need on part of Alliander for their office in Duiven? The original project brief was to construct a new office on a vacant plot on the existing site and to ensure that the office achieved a high BREEAM certificate. When determining the functional demand however, Alliander did not strictly need a new office. The actual demand on part of Alliander was to realize additional workstations. As a result of the functional specification and clear scope, the suppliers were able to use creative solutions to fulfil the ambitions. One of these ambitions is circularity. By optimally using existing buildings and building elements, Alliander is largely able to avoid the procurement of new materials and use the existing buildings on site as a basis for its new accommodation.


3

Scope of the project

After having formulated the demand, you will have to determine the scope of the project. What will be covered by the contract and what will not? How long do you want your collaboration with the supplier to last?

In Step 1, you established a working definition for the circular economy, but how compatible is this definition with the selected product group? The combination of your working definition and your product group may require you to broaden or narrow down the scope of your project in order to achieve optimally circular results.

Say, your organization wishes to tender office furniture, where do you start? Your organization will most likely already have furniture, and your working definition might specify that you want to make 'optimal and high-quality use of existing products, components and materials'. In this case, you will need to broaden the scope of the supply of new furniture to include the service 'maintenance and life-extension' of existing furniture.

If you choose to purchase a service instead of a product, you will likely be embarking on a long-term collaboration with the supplier. A long-term collaboration requires the supplier to be engaged with your organization for an extended period, which gives you greater certainty that the supplier will achieve the circular performance as offered.

In many sectors it is possible to extend the maximum contract period (e.g. framework contracts) provided that you motivate this on basis of payback periods for needed investments, amongst others.

Contract periods of two to four years are often too short for suppliers to generate sufficient returns to balance the investment required to transform their business according to circular principles. Depending on the sector and the investments needed, it is more likely that a contract period of eight to ten years will offer sufficient time for the suppliers for this transition. Specify the desired contract period and discuss this with the suppliers during the tender preparations, e.g. through market consultation. Contract periods, legal opportunities and the consequences of extended contract periods will be addressed further in Step 7.

Functional specifications

Make sure to create functional specifications for your project, as opposed to technical specifications. Functional specifications offer suppliers greater freedom to develop innovative solutions. Within the circular economy is this especially relevant, as new innovations are being developed at an incredibly fast pace.

Technical specifications will result in limiting the circular innovations to those available at the time of writing the specifications - the orange line in Figure 12. When you use functional specifications, you give suppliers the freedom to include any available circular innovations in their offer or even to create an innovative solution themselves based on your project - the yellow lines in Figure 12.

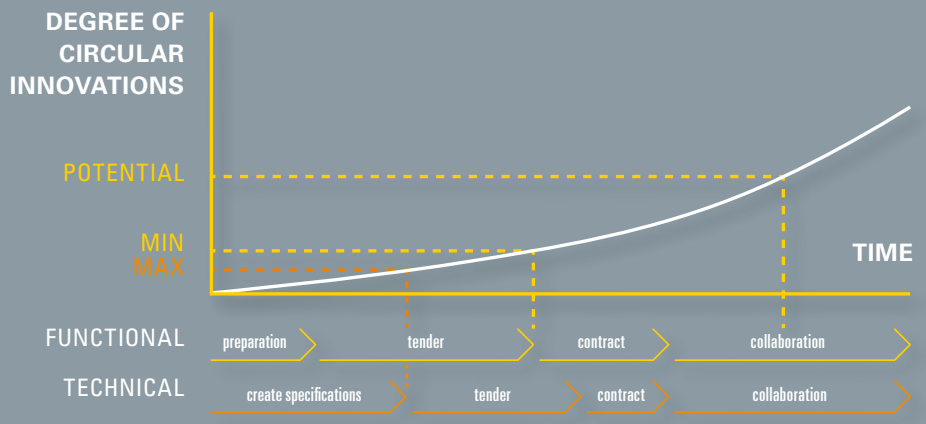


Figure 12. *Functional versus technical specifications*

Furthermore, it is possible that your circular tender will encourage suppliers to consider the concept of circularity for the first time. Even if you wanted to, it will be difficult to develop an appropriate and comprehensive set of technical specifications suppliers can respond to.

Functional specifications allow suppliers to decide the technical solutions that best satisfy the requirements. This means that you are not asking for a product, but for the functionality that a product can offer. Technical aspects become subordinate.

In the current phase of the transition to a circular economy, there are several sectors where the concept of circularity is entirely novel. The less 'mature' a sector is regarding circularity, the more help suppliers will need in defining the concept of circularity. In our experience, a higher degree of technical specifications can actually be helpful for these sectors. To help you strike the right balance between technical and functional specifications, we provide the following matrix (Figure 13).

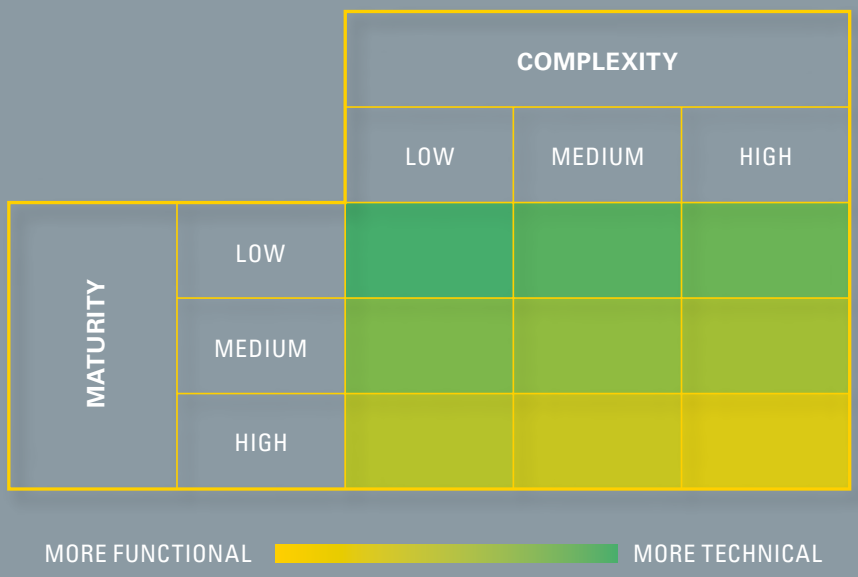


Figure 13. *Technical specifications versus functional specifications*

This matrix is based on two external variables: the complexity of the product and the maturity of the sector regarding circularity.

- **The complexity** of the product. The complexity of a product often reflects the complexity of the value chain. The more complex a product is, the greater the difference in knowledge between the buyer and the supplier. For complex products, the supplier is the expert. The more functional the specification, the greater freedom the supplier has to innovate. A simple product such as a disposable coffee cup involves fewer aspects to which innovative methods can be applied.
- **The maturity** of the sector with regarding circularity. The more mature the sector, the more functional your specifications can be. Mature sectors have more knowledge to work with functional requirements can use them to create an optimally circular offer. Sectors that have less experience with circularity often require more guidance.

Stedin/Alliander – Fair Meter | CASE 9

The smart meter belongs in the top right-hand corner of Figure 13 (high complexity, low maturity). The buyer wants to offer sufficient space for the potential suppliers to use available innovative technologies. At the same time a certain degree of guidance is also needed in order to achieve the desired level of circularity. As such, the *Fair Performance Ladder* was developed, which specifies a number of important sustainability topics that must be included in the offers of the suppliers. These topics are divided according to the production process and the product itself:

Production process-related topics:

- Energy and emissions
- Resources and raw materials
- Fair materials
- Labor
- Transparency

Product-related themes:

- Energy consumption
- Resources and raw materials
- Software and data

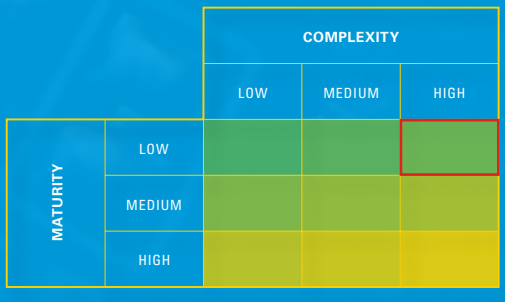


Figure 14. *More technical specifications of the 'Fair Meter'*

Ambition document

Using your working definition from Step 1, you can clearly communicate your ambitions to the potential suppliers. Where do you want to be in five, or ten, years' time? What is your ambition? What is your ideal situation? Provide the answers to these questions in a compelling ambition document to be provided to the potential suppliers. This will allow the suppliers to get excited about your vision.

In your ambition document, you should provide a brief description of the ideal situation for every objective. You can indicate minimum requirements or specify the long-term goal that you want to work towards within the scope of the contract. In addition to sharing your ambitions, you can also include your organization's functional demand, the scope of the project and the (functional) specification in the ambition document, in order to inform suppliers on the upcoming tender. The ambition document can be used as a basis for discussion during a market consultation or sent together with the announcement of the tender. You can also include it as an appendix with the tender or use it as a reference when assessing the offers made by the suppliers.

3

SUMMARY

Step 3 is about formulating your functional question. Start by making an inventory of your exact needs, as not buying is the most circular decision of all. Subsequently, try to avoid being too technical in your specifications; rather formulate your specification and requirements in a way that offer sufficient freedom for suppliers to devise innovative solutions.

STEP 3: FORMULATING YOUR QUESTION

1. Create a comprehensive inventory of your needs and minimize necessary procurement.
2. Make sure to include services within the scope of your project and adjust the contract length accordingly.
3. Formulate the specifications as functionally as possible.
4. Summarize everything in an ambition document that clearly communicates your vision.

"I would like to see the development of an 'ecology of organizations' with respect to sustainability. This implies that organizations mature towards collaborating in networks, and by doing so achieve sustainability and at the same time create mutually beneficial relationships."

JAN JONKER

4

COLLABORATION

Collaboration is essential in creating successful circular projects, both between buyers and a suppliers, but also between value chain partners. We discussed the importance of internal collaboration in Step 2. This chapter describes why collaboration with suppliers contributes to the circular economy and how you can organize these collaborations.

4.1 THE IMPORTANCE OF COLLABORATION

There is a broad consensus that collaboration is vital to the circular economy (EMF, 2012). But why is this and what does this mean for circular procurement?

Our current economy is fairly linear. Consumers are focused on price and consequently this focus trickles down throughout the entire value chain. This means the entire value chain starts focusing on costs rather than quality. In order to create a circular product, it is important for the entire value chain to start thinking about (circular) quality, although this can affect prices. Often, the long-term costs of a circular product (TCO/TCU) are lower than those of non-circular products. This chapter examines the P of the TPF model (process and organization) in greater detail.

As Box 4A shows, there are often conflicting interests within the value chain. To be successful in circular procurement, it is important to align these interests as much as possible. This starts by gaining insight in the value chain, understanding the interests of the different players and consequently establishing a common interest that is ideally mutually beneficial.

4.2 COLLABORATION BETWEEN BUYERS AND SUPPLIERS

Circular procurement requires a different type of relationship to be developed between buyers and suppliers. Seeing as the circular economy is all about (long-term) relationships, this fundamental principle should also be included when looking at circular procurement. Any conflicting interests between buyers and suppliers must be identified in order to work towards a situation that is mutually beneficial whilst contributing to the circular economy at the same time.

The previous chapters describe a number of important steps you can take as a buyer, but how do you get potential suppliers involved? In our experience, one of the greatest pitfalls with respect to (circular) procurement is acting based on (inaccurate) assumptions about the potential suppliers. Assumptions often arise historically regarding the technical possibilities of potential suppliers or about prevailing business models. The best way to avoid these kinds of misunderstandings is to engage in a dialogue with the potential suppliers. Market consultations can be conducted in a number of ways:

- a request for Information (RFI), in which suppliers are consulted in writing;
- one-on-one meetings with potential suppliers; and /or,
- a plenary market consultation attended by several suppliers and/or representatives from different parts of the value chain.

BOX 4A PRISONER'S DILEMMA

The traditional *prisoner's dilemma* discusses a fictitious scenario in which two friends have committed a crime together. The police places them in separate interrogation rooms and offers them a number of options:

- If they both admit to committing the crime or betray each other, they will both go to jail for eight years.
- If they both stay silent, they will both go to jail for six months.
- If one of the two betrays the other and the other one stays silent, then the former will go free and the latter will get twenty years in prison.

Although the mutually beneficial scenario for them is for both to stay silent (the bottom right-hand corner), they will often choose betrayal. As the two have conflicting interests, they make a decision based on fear and uncertainty of the other's actions. However, when both friends choose betrayal, it will result in the least desirable scenario (top left-hand corner).

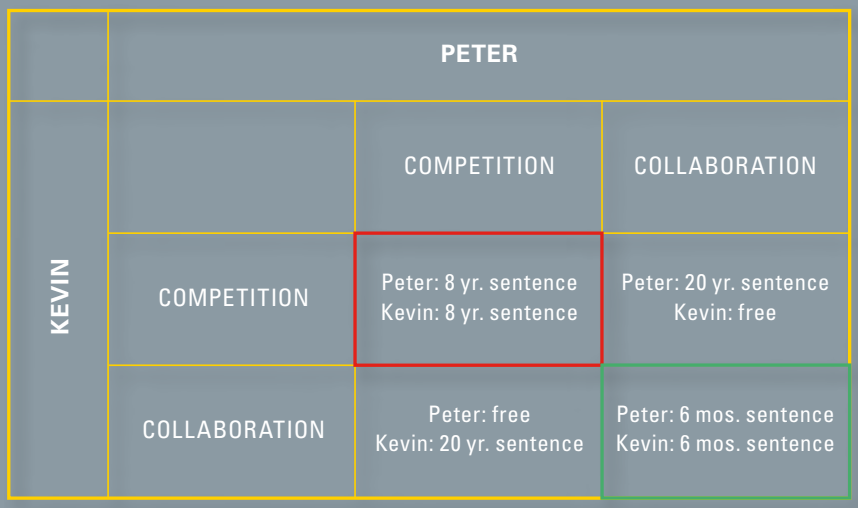


Figure 15. *Prisoner's dilemma*

The same dynamic applies to circular procurement. Whereas buyers want to buy circular products, they also want to manage their budget. Suppliers, on the other hand, are interested in building their portfolio regarding circularity and thus want to preserve the circular ambitions but not at all costs. As a result of these conflicting interests, we often see circular ambitions diluted within the tender. The challenge is to create a mutually beneficial scenario (bottom right-hand corner), and to work towards this scenario at all times during the tender, the realization and the contract period. This book describes a number of methods for achieving such mutually beneficial scenarios, such as conducting an open dialogue with the suppliers (addressed later in this chapter), using functional specifications (Step 3) and seeking financial win-win situations (Step 7).

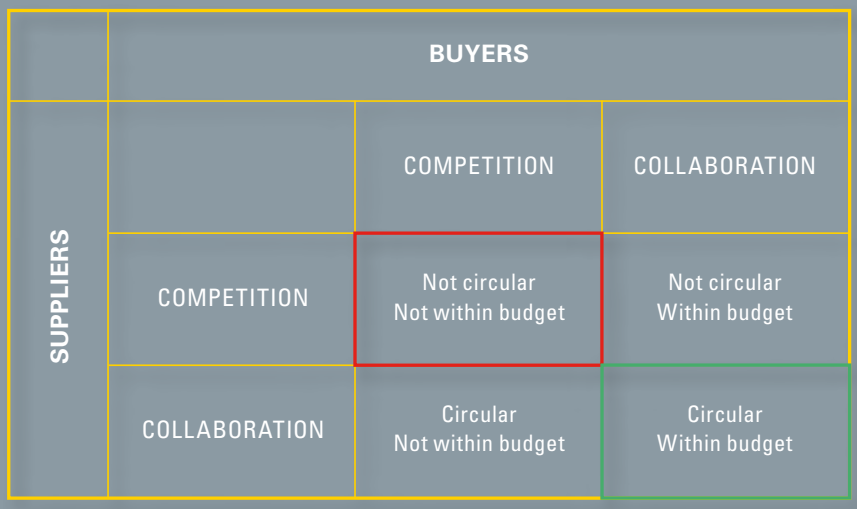


Figure 16. *Prisoner's dilemma for circular procurement*

Stedin/Alliander – Fair Meter | CASE 10

In order to get a clearer picture of the possibilities that the suppliers can offer, Stedin and Alliander decide to conduct a market consultation prior to publishing the tender for the SMR5 meters. During this market consultation, they challenge the market parties to define and elaborate the concept 'Fair' and apply it to the meter. Potential suppliers were asked to consider what a fair and sustainable meter means to them. In addition, the suppliers were asked to indicate the solutions that they were able to offer at the time, giving insight into the maturity of the sector, as well as the expectations they have regarding developments in the near future.

Issues ranged from eliminating the use of conflict minerals to value chain transparency for the purposes of abolishing child labor. In addition, the energy consumption of the meter itself, the carbon footprint of the production process and the circularity of the meter were frequently mentioned topics.

The insights provided by the suppliers in the market consultation were translated to the *Fair Performance Ladder*, which specifies eight aspects of fairness. The buyers use this ladder during the tender as a framework for Fair performance. Suppliers consequently use this framework in order to specify their performance level upon delivery and the improvements they intend to make during the contract period.

The market consultation helped provide understanding on part of the suppliers regarding the topic 'Fairness', making it easier to include this topic in the tender. Although the goal of the consultation was to get a comprehensive picture of the status quo within the sector, this proved to be slightly ambitious. The suppliers did not feel entirely comfortable sharing this information in a plenary setting, as it would give their competitors information that might disadvantage them during the tender. An RFI would therefore have been a suitable additional means of receiving the desired information without compromising the supplier's competitive (dis)advantages.

Naturally, there are advantages and disadvantages in each of the aforementioned market consultation methods. RFIs offer limited space for in-depth questions, but as a result of the open publication of these RFIs, previously unidentified parties can also respond. In a plenary-setting, suppliers are likely to reveal less about their technical capabilities, although opportunities to form collaborations between value chain partners can be stimulated. Therefore, make sure you carefully consider the goals of your market consultation in advance and select an appropriate format based on these goals.

A market consultation will ideally give you an overview of all technological and organizational possibilities that the suppliers have to offer. Based on this overview you can adjust your own principles and the tender specifications where necessary. Remember to ask open questions in order to gain insight into the most relevant developments. As discussed earlier in this chapter, one of the main pitfalls in circular procurement is having and holding onto assumptions. Buyers may not know what technological possibilities are, what legal requirements are, which aspects of technical requirements might conflict with circularity, or how the supplier's cost structure will change as a result of life-extension and/or circular procurement. In turn, suppliers might be unaware of the organizational challenges involved in circular procurement and the financial constraints within which the procurement officer has to operate. You can also use the market consultation to evaluate the intended tendering procedure and to strengthen internal support.

4.3 COLLABORATION BETWEEN VALUE CHAIN PARTNERS

In addition to the collaboration between clients and contractors, the collaboration between value chain partners is also an important factor in realizing circular tenders. Who do you get involved in your tender and how?

In order to gain insight in the value chain, it is wise to start with a systemic analysis. What does the value chain currently look like? Which value chain partners can influence the circularity of the product and the circular use? What are the geographical locations of these different value chain partners? What are the prevailing business models of each of the value chain partners? Do these (traditional) business models tend to inhibit collaboration? What is the role of the buyer in this system? What role can the buyer take and which question should be asked in order to arrive at a smoothly functioning (circular) value chain?

By performing a systemic analysis, you will discover which disciplines are most relevant in making the product as circular as possible. Where possible, test this analysis in a (plenary) market consultation (Figure 18). Remember to include the following disciplines:

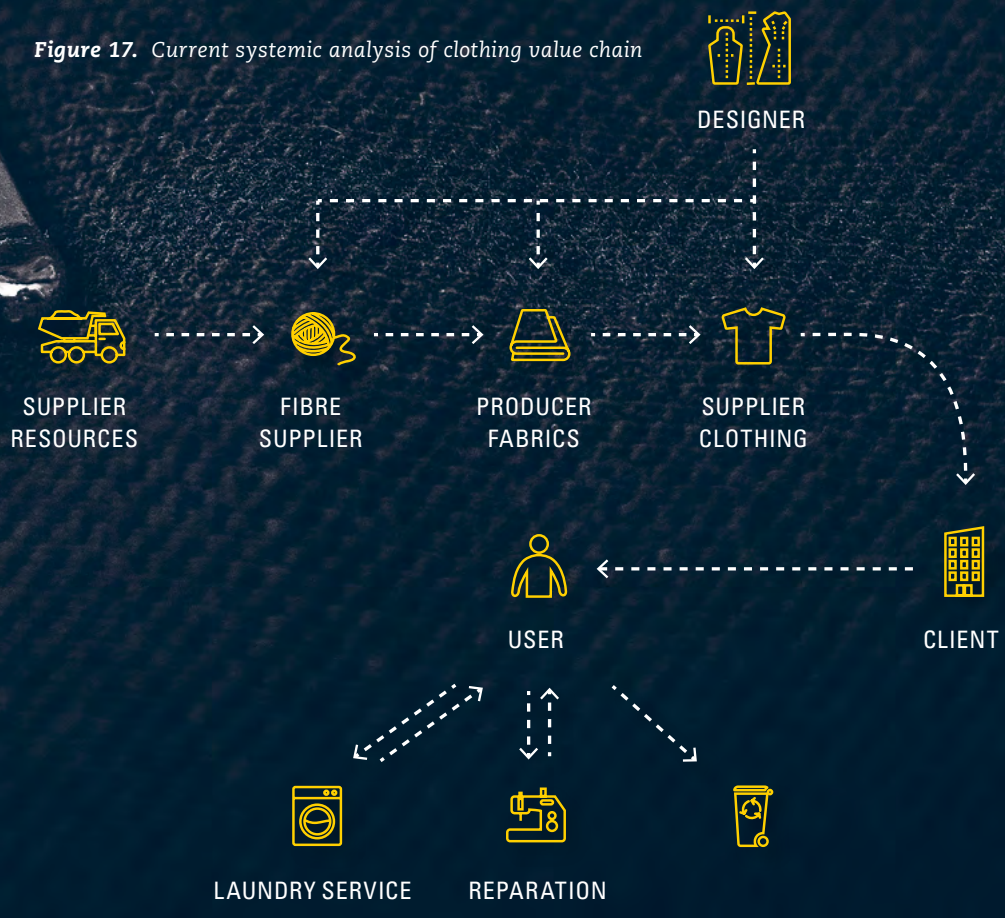
- For less complex products with a shorter functional lifecycle, such as clothing, you should seek value chain partners that can help 'close the loop' e.g. through maintenance or recycling.

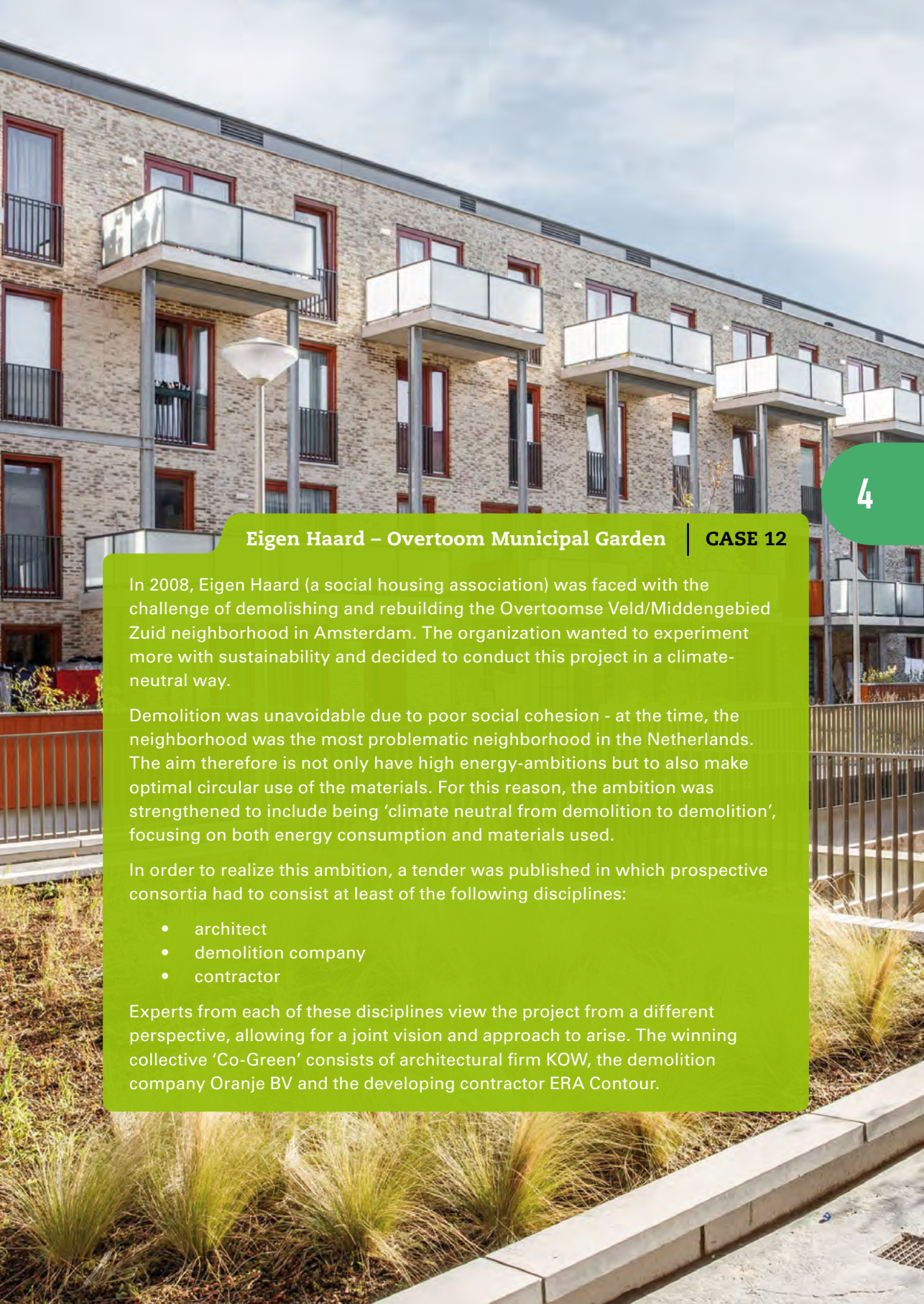
Alliander protective clothing | CASE 11

In 2017-2018, Alliander issues a tender for their workwear, including company uniforms, protective clothing and personal protective equipment. A systemic analysis shows that the value chain is still structured in a linear way. There is little collaboration between the different value chain partners as there is no common, and even conflicting interests.

For this reason, Alliander chooses to focus on active participation of different disciplines within the tender: the designer, the manufacturer, the supplier, the provider of the maintenance services (reparation and washing) and the party responsible for high-quality reuse (defibrating and recycling). Within the tender, the technical requirements required suppliers to present their technical competence by means of two reference projects for each of the aforementioned disciplines. By doing so, Alliander was able to ensure that the collaborations jointly possessed the necessary knowledge and skills to ensure not only optimally circular products, but also optimally circular use of these products.

Figure 17. *Current systemic analysis of clothing value chain*





4

Eigen Haard – Overtoom Municipal Garden | CASE 12

In 2008, Eigen Haard (a social housing association) was faced with the challenge of demolishing and rebuilding the Overtoomse Veld/Middengebied Zuid neighborhood in Amsterdam. The organization wanted to experiment more with sustainability and decided to conduct this project in a climate-neutral way.

Demolition was unavoidable due to poor social cohesion - at the time, the neighborhood was the most problematic neighborhood in the Netherlands. The aim therefore is not only have high energy-ambitions but to also make optimal circular use of the materials. For this reason, the ambition was strengthened to include being 'climate neutral from demolition to demolition', focusing on both energy consumption and materials used.

In order to realize this ambition, a tender was published in which prospective consortia had to consist at least of the following disciplines:

- architect
- demolition company
- contractor

Experts from each of these disciplines view the project from a different perspective, allowing for a joint vision and approach to arise. The winning collective 'Co-Green' consists of architectural firm KOW, the demolition company Oranje BV and the developing contractor ERA Contour.

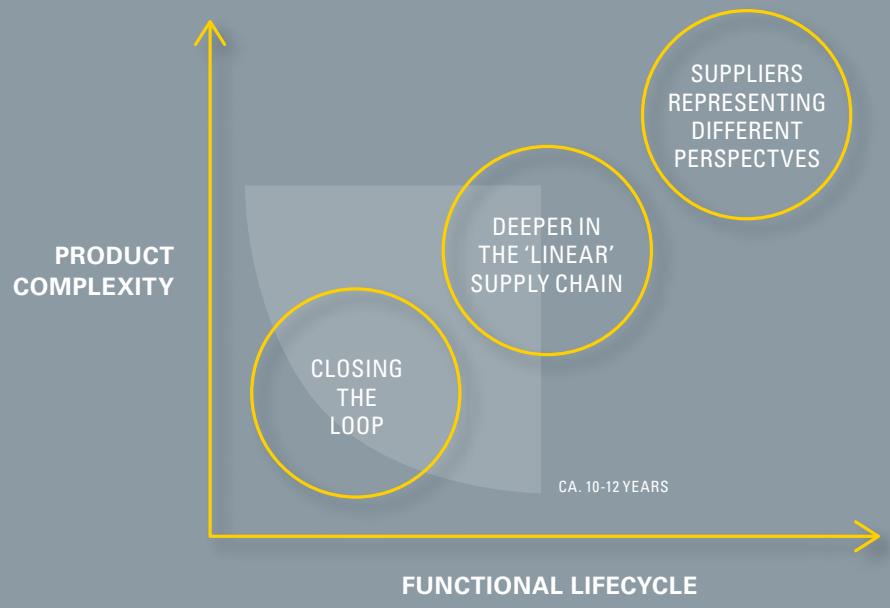


Figure 18. *Which disciplines should you involve?*

- For complex products with a relatively longer functional lifecycle, such as IT products, include secondary suppliers from within the value chain (e.g. component manufacturers) in order to allow the circular ambitions to trickle down into the value chain.
- For highly complex products with a long functional lifecycle, such as buildings, you will want to involve suppliers representing different perspectives, e.g. an architect, an installation engineer and a contractor, as the interface between these disciplines are the richest sources of potential for innovation.

A systemic analysis will also give you better insight into the role that you can play as a buying organization in order to make the value chain as circular as possible. For example, the user(s) in your organization are a vital factor to circularity. Make sure to create awareness amongst internal stakeholders on the importance of circular use and create the necessary support if you haven't done so already.

If you decide to conduct a plenary market consultation prior to publishing the tender, make sure you invite representatives from all of the disciplines that you have identified to attend this market consultation. By connecting these different disciplines, you can facilitate the creation of collaboration within the value chain. Another way to do so is by specifying the different disciplines, e.g. via the technical competence requirements. For some sectors you will find that collaboration has already been created between different disciplines, but for others collaboration is not self-evident. If you think collaboration between different disciplines can add to your circular ambitions, make sure to allow enough time for the different parties to get acquainted with one another and provide a joint offer as a result.

4

SUMMARY

Collaboration is a vital tool in achieving the circular economy and realizing circular projects, although it is far from self-evident. As a buyer you will often have to initiate this kind of collaboration, both between your organization and individual suppliers, but also between partners in the value chain. Don't shy away from playing the role of 'collaboration director' during the tender.

STEP 4: COLLABORATION

1. Create a systemic overview of the supply chain, from which you can clearly derive which disciplines are needed to make your product circular.
2. Do not make assumptions about the market - discuss matters openly with suppliers by organizing a market consultation.
3. Initiate and cultivate collaboration between value chain partners by bringing them together.

5

"Two monologues do not equal a dialogue."

JEFF DALY

TENDERING PROCEDURE

In the previous steps, you formulated your question, and now you know which disciplines you wish to involve in your procurement process. The next step is Step 5, in which you select your tendering procedure. Make sure you take the legal principles into account in case you are required to tender publicly, but also make sure that the procedure sufficiently reflects your ambitions. This chapter offers guidance in the many considerations you will come across.

5.1 OBLIGED TO TENDER, OR NOT?

Is your organization subject to a public procurement obligation? Government bodies[11] and bodies largely operating on public funds and serving a public purpose[12] are subject to public procurement regulations for purchases above a certain amount. Organizations are subject to public law if '...they were founded for the specific objective of fulfilling needs in the public interest that are neither industrial nor commercial in nature' (European Commission, 2019).

Commercial organizations have a greater degree of freedom when it comes to procurement, as they are not subject to European or national public procurement procedures. The original purpose of tendering regulation is to stimulate the 'free market' in a fair and honest way. Even as a commercial organization you may wish to consider designing your procurement process in accordance with the principles of public procurement. Note that in the Netherlands as soon as your procurement process begins to resemble a public tender, even commercial organizations have to comply with the Public Procurement Act[13]. If you are not subject to tendering laws as a commercial organization, but you do want to make use of tendering principles in order to achieve a 'free market', clearly emphasize in your documents that you are not obliged to comply with the Public Procurement Act and consistently use terms such as 'request' rather than 'tender'.

5.2 THE SIX PRINCIPLES OF CIRCULAR PROCUREMENT

If you are subject to the public procurement obligation, then you must comply with the four principles of public procurement. These are general principles that are established by law (European Commission, 2019). For the sake of clarity, they are listed here as points 1 through 4. We have also added another two principles (5 and 6) that are specific to circular procurement:

1. Non-discrimination: you are not permitted to discriminate based on nationality. A result of non-discrimination is the agreement of mutual recognition through which countries accept each other's certification that all requirements have been met for ability, performance and safety amongst others.

11 Central government, provincial government, municipalities and water boards.
12 Examples of organizations under public law include implementing authorities governed by government ministries, network managers, universities and university hospitals.
13 The Public Procurement Act is the EU law that sets out minimum harmonized public procurement rules that all public authorities and certain public utility operators must abide by when procuring products, services or commissioning projects over certain threshold amounts. The Public Procurement Act creates a level playing field for all business across Europe, whereby the movement of goods and services across countries is made possible.

2. Equal treatment: every supplier that participates in the tendering process must receive the same information. You must also evaluate each supplier in the same objective manner.
3. Transparency: you must clearly communicate to all suppliers what is expected of them. All decisions made by the client must be clearly substantiated.
4. Proportionality: the procedure itself and the subject matter, including the requirements and the criteria, must be proportional to the nature and scale of the assignment.
5. Collaboration: within the legal frameworks, encourage collaboration between the buyer and the supplier and use the tendering process to bridge the traditional gap between buyer and supplier.
6. Innovation: facilitate innovation and circular development within the tendering process.

5.3 COLLABORATION BEGINS DURING THE TENDER

Collaboration between the buyer and supplier, and collaboration and between value chain partners, starts with a market consultation and is strengthened during the tendering procedure. Below, we will further elaborate on the last two principles that are specific to circular procurement.

Facilitating collaboration

Two types of collaboration are possible within the tendering process: collaboration between the buyer and supplier and collaboration between different value chain partners.

Collaboration between the buyer and supplier is best facilitated through a conversation within the tendering process. You should therefore seek genuine contact with the potential suppliers, rather than conducting a procedure entirely on paper or on screen. You can do so by means of a plenary market consultation or by including a formal dialogue during the tendering process. As dialogue can often result higher investments in time on part of the suppliers, make sure to weigh up the need for dialogue against the proportionality.

Collaboration between value chain partners usually does not happen spontaneously, you will need to facilitate it. There are two important ways in which you can do this:

- Divide the procedure into a selection phase and an award phase, e.g. a restricted procedure, a competitive dialogue or an innovation partnership. During the selection phase, you can select the parties or consortia that fit your organization and/or ambitions. You can also facilitate the collaboration between supply chain partners by including technical competence requirements linked to reference projects (see the Case 13 of the Alliander Duiven project).

BOX 5A PROPORTIONALITY

The European Commission (2019) provides guidelines for organizations that are obliged to tender by EU law. The information on thresholds[14] help determine whether they can issue the call for tenders under limited tendering, as a National tender or via a European tender.

The most vital aspect is that the chosen procedure must be proportional to the scale of the contract being put to tender. Suppliers should not have to incur unnecessarily high procedural costs during the tender that are impossible to recover by winning the contract.

In addition, the procedure must be in proportion to the market-size. If there are only a limited number of potential suppliers, then it is advisable to select an open tendering procedure, as a restricted tender with a selection phase would result in unnecessarily high transaction costs.

The aspect of proportionality also applies to the selection of a tendering procedure and for commercial organizations who wish to initiate a circular procurement process.

- Enable dialogue. A dialogue phase facilitates discussion amongst the value chain partners, allowing the traditional, competitive relationships to transition to collaborative relationships. As such, the different disciplines actually form a team.

Innovation

Select a procedure that, in addition to promoting collaboration, also enables the parties to propose creative ideas and concepts. Has a circular tender already been published within this sector? If either the proposed process is innovative (e.g. closed-loop value chain collaboration) or the product is innovative (e.g. a product that has not been made circular before to your knowledge), it is advisable to leave enough room to stimulate innovation in the tender.

Once again, the two ways that you can use for this are as follows:

- Divide the procedure into a selection phase and an award phase. Start by selecting suitable suppliers. Once selected, you can then present the innovative project brief to the qualified suppliers.
- Facilitate dialogue. It is during this dialogue that suppliers will gain a better understanding of the ambitions on part of the buyer. As such, demand and supply will start to merge. Moreover, face-to-face interactions strengthen relationships and boost mutual trust.

14 https://ec.europa.eu/growth/single-market/public-procurement/rules-implementation/thresholds_en

Alliander Duiven | CASE 13

The tender for Alliander's transformation project in Duiven was a technically a 'Negotiation procedure with prior notification', in line with the legal opportunities available at the time (2011). Within the current Public Procurement Act, the procedure can be compared to a competitive dialogue.

During the selection phase, Alliander challenged the suppliers to seek collaboration amongst different value chain partners. Alliander encourages suppliers to apply as a consortium by demanding technical competence based on reference projects. For this project this meant an architect, an interior designer, a technical engineer, a contractor and maintenance of the buildings.

As the standard construction team set-up does not often result in new relationships between the various disciplines. In order to divert from these traditional relationships in the construction industry and to create better mutual understanding on the project, Alliander organized a 'dialogue' following the selection phase. In a plenary setting the focus of the conversation was the procedural aspects that were in everyone's interest. In the individual dialogues, the teams have the opportunity to test their ideas. It is primarily in this dialogue phase that a greater understanding grows between the buyer and the suppliers, but surprisingly also between the different value chain partners in the teams. The true team-formation takes place in the dialogue!

UMCU – Furniture | CASE 14

When the University Medical Center in Utrecht (UMCU) issues a tender for furniture in 2016, it is not the first organization to do so within this product group (furniture). However, one of the circular principles for the tender is unique at that time. In addition to wanting to buy new circular office furniture, life extension of the existing furniture (along with material health and design for disassembly) are also important to UMCU. The framework agreement is extended to a maximum of 10 years, also unusual within this sector. UMCU therefore engages in a dialogue with potential suppliers to investigate (1) how they should design the tender in order to realize life-extension, and (2) to discuss with potential suppliers how she should perhaps change internal processes in order to arrive at the desired situation.

For these reasons a competitive dialogue is chosen as the tendering procedure. Because of the proportionality principle, UMCU kept the dialogue short and less time-Intensive, thereby limiting the amount of time that suppliers had to invest.

5.4 SELECTION OF A TENDERING PROCEDURE

The selection of a procedure depends, among other factors, on the value of the contract, the number of potential suppliers in the market and whether or not you wish to explicitly encourage collaboration between value chain partners. The table below (Figure 20) provides a summary of the most frequently conducted European tendering procedures and assesses them along the considerations you might want to make.

The competitive dialogue appears to be quite beneficial, as this procedure facilitates personal connection between the supplier and buyer, thereby bringing together supply and demand. Naturally, it is important to take the procedural costs of the potential suppliers into consideration, following the proportionality principle. The competitive dialogue is often (wrongly) perceived to be a highly intensive process. Naturally, you can take as much time as you need to conduct the dialogue, although we have completed this procedure in a mere six months. This less time-intensive form of dialogue, which we call *Copper8tive Dialogue*, strikes a balance between competition and collaboration and ensures the suppliers procedural costs stay limited.

Type of procedure	Proportionality		Collaboration		Innovative character	Likelihood of outcome
	Number of suppliers	Transaction costs	Between buyer and supplier	Between value chain partners		
Open procedure	Low	Low	--	--	Low	+
Restricted procedure	High	Medium	-	-	Low	+
Competative dialogue	High	High	+	+	High	+
Negotiated procedure	High	High	+/-	+/-	High	+
Innovation partnership	Not applicable (non-existent)	High	+	+	High	-

Figure 19. *Decision framework for tendering procedures*

SUMMARY

Your tendering procedure must reflect what you would like to achieve with the project. If collaboration is key, then make sure this is actively communicated by means of the tendering procedure that you choose. The European Commission's tendering principles offer a clear framework for both commercial organizations and tendering authorities. In addition to the EC's four principles, we argue that the principles of collaboration and innovation are essential to circular procurement. Give suppliers sufficient 'space' to engage in dialogue with you as a buyer but also with other value chain partners.

STEP 5: TENDERING PROCEDURE

1. Are you obliged to tender according to (inter)national law or not? And which set of rules should you abide by? Clarify the scope of your tender at an early stage, so that it is clear to all what the legal limitations are of your procedure.
2. Establish a clear picture of what you wish to achieve via your tendering procedure and select the procedure most suited to this ambition.

"Not everything that can be counted counts. Not everything that counts can be counted."

WILLIAM BRUCE CAMERON

6

MEASURING AND ASSESSING CIRCULARITY

Now that the project specifications are clear, the necessary value chain partners have been identified and the tendering procedure has been selected, you can continue with Step 6: deciding on the selection and award criteria. After focusing on the *how*, you will now start to shift focus towards the *what*. Based on your selection or award framework, you will select the appropriate potential suppliers and award the contract to the supplier that submits the most circular tender.

This chapter addresses the difference between requirements and criteria and how they are used during the selection and award phase. What questions do you want to ask during the selection and award phase; and, more importantly, how will you evaluate their proposals? How much weight will you allocate to price, and how will you assess price in a circular manner?

6.1 CREATING A SELECTION AND AWARD FRAMEWORK

What are the characteristics of 'the best supplier' and what factors determine what the best offer is? These two questions are key in the development of your selection and award framework. Your framework will have to comply with a number of guiding principles if your organization is subject to a public procurement obligation. Regardless of your type of organization, your selection and award framework must adequately reflect your project and the desired means of execution.

Basic principles

In order to design a good selection and design framework, it is important to first make a clear distinction between requirements and criteria. Subsequently, you need to know which questions you are permitted to ask during both the selection phase and the award phase.

Difference between requirements and criteria

The average procurement officer will be familiar with the difference between requirements and criteria. Nevertheless, we often see that the potential is under-utilized, especially with regard to selection criteria.

The client sets requirements in order to establish a minimum benchmark. In the evaluation, a simple 'yes' or 'no' – possibly accompanied by corroborating evidence – will indicate whether the suppliers meet these requirements. All suppliers that want to be eligible for the project will have to comply with the requirements. Different types of requirements exist, such as, varying from technical standards of competence, financial requirements and even corporate responsibility requirements. In all cases, make sure these minimum requirements are realistic, as you otherwise risk excluding innovative suppliers unnecessarily.

Where the requirements set the bar for participation, suppliers can distinguish themselves on the criteria. Suppliers will provide answers to the criteria, which can then be evaluated or measured according to a defined method. It is then up to the suppliers to make sure that their answers are awarded the highest scores. As a buyer you will have to make sure that the formulation of your criteria and the corresponding evaluation methods provide enough space for the suppliers to actually present a distinctive selection document and/or offer.

Difference between the selection and award phases

If you have decided to conduct a procedure with a preselection, then you must distinguish between the selection phase and the award phase. In the selection phase, you are only permitted to ask questions relating to the supplier. In the award phase, you are only permitted to ask questions regarding the offer. Therefore, in the selection phase, the suppliers will try to qualify as an organization, whereas in the award phase they have the opportunity to win the tender based on the offer provided.

A circular selection framework

For a tender involving a preselection, the selection framework is primarily based on the question: 'what makes a particular supplier or consortium the best supplier?' You can then subdivide the answers to this question into requirements and criteria.

Selection requirements

Selection requirements provide a degree of certainty that a particular supplier would be able to supply the requested products and/or services. The following are key points for attention when determining your selection requirements:

1. Proportionality. The Public Procurement Act 2012 stipulates that '...it is only permitted to set suitability requirements that can guarantee that the supplier in question possesses the legal capabilities, financial resources, technical competence and professional competence required to carry out the assignment" (PIANOo, 2018).
2. Do not exclude innovative suppliers. Although the principle of proportionality was created to prevent exclusion of SMEs. SMEs are regularly excluded in practice as a result of the selection criteria being too limiting. Requirements such as minimum turnover or other financial requirements can lead to SMEs not being able to participate in the tender. Make sure to take this into consideration before raising the 'bar'. In terms of circularity, we have often seen that including past experience with respect to circular projects as a requirement can unwillingly exclude interesting suppliers. As circularity is still a relatively new concept, setting high requirements can potentially exclude innovative suppliers. Prior to including 'past experience' or reference projects as part of your requirements, make sure to analyze if enough suppliers actually have circular reference projects to include.

3. Consortia. Value chain collaboration and the creation of consortia can be encouraged by effectively formulating technical standards of competence. You can require suppliers to prove their technical competence by providing supporting evidence of e.g. two reference projects (not necessarily circular!). By doing so for different areas of expertise, you can ensure that different suppliers that possess different areas of technical competence will have to collaborate in order to qualify for the tender, without explicitly asking for the creation of consortia. If you choose to facilitate collaboration in this manner, make sure that you do not require all the consortium members to comply with all the requirements, as this can result in the exclusion of interesting stakeholders. For example, if you include a turnover requirement as part of a construction project in order to ensure the suppliers are financially viable, then you do not want to exclude a potentially suitable architecture firm because it does not meet this same turnover requirement.

Prior to the selection phase it is therefore important to determine the requirements that you want to set, and to analyze what the potential effects are if you indeed set these requirements. How many and which suppliers can meet the financial requirements? And if you want to facilitate value chain collaboration (consortia) by means of your tender, are there enough suppliers in the market to allow for different consortia to be created? Naturally, all these questions can also be asked in the market consultation.

Selection criteria

Your selection criteria will eventually lead to a pre-selection of suppliers that are best qualified for the project at hand. Circularity will be one of the factors that must be included in your selection framework. Do not forget to include the other project objectives in the framework; although they can be (equally) important, we will not discuss these on the next page.

BOX 6A MEASURES FOR ACHIEVING A CIRCULAR ECONOMY

In the selection phase, you want to find suppliers that not only have a vision but can also put it to practice. Make sure to take the following factors into account:

- If circularity is a relatively new concept within the sector in question, you should stress the measures that the suppliers wish to implement in the future and have them substantiate these within a concrete action plan.
- If circularity is already a familiar concept within the sector, you can also ask about the measures that the suppliers have already implemented. You should also ask them to substantiate these examples by means of 'Verifiable Performance Information' (Van de Rijt et al., 2011), i.e. cases with measurable results.

Two aspects of circularity are important in this phase:

- The supplier's vision of the circular economy, where they have the opportunity to elaborate on why circularity is important in general terms, and specifically within their sector; and,
- How the supplier in question has implemented actual measures to make their own (business) operations more circular.

In the reading guide on page 41, we briefly explained the Golden Circle, the importance of examining the *why* (i.e. the suppliers' visions) and the significance of basing your selection on it. If you want your suppliers to have a corresponding vision to the circular economy, you will want to create the opportunity to evaluate their vision based on your working definition. The main challenge here is how to objectively assess such qualitative selection criteria. We will go into more detail on how to do so later in this chapter.

The manner in which the suppliers implement actual measures to improve the circularity of their (business) operations adds substance to these visions. What objectives have they already achieved? What objectives do they aim to achieve in the future? Can they substantiate their goals by providing a clear action plan? All of these factors give you greater certainty that the suppliers in question not only have a vision but are also willing and able to make it a reality.

In addition to the vision on circularity and actual measures to a circular business, we also consider the suppliers' visions of collaboration to be an important factor. Especially if you are looking to encourage collaboration between value chain partners, it is interesting to ask why collaboration is important to them, and how the supplier can provide supporting evidence to substantiate their claim.

Once you have formulated the selection criteria, you should assign weights to the different criteria in accordance with their respective importance. If you have prioritized your project objectives, it is likely that the weights assigned to your criteria should reflect these priorities. Make sure to test the proposed weights with your core team.

A circular award framework

The guiding questions in designing your award framework are "which requirements and criteria will lead to the best offer?" and "what is the relative importance of each of the aspects?"

Award requirements

Award requirements set a minimum benchmark with regard to the quality and performance of the offer. What should be included as a minimum in the offer and/or, are there specific aspects that should be excluded explicitly? The following requirements could be included:

- a minimum guarantee period;
- continuous monitoring of product circularity during the contract period;
- transparent communication proving that the product does not contain e.g. hazardous substances; and,
- confirmation of the suppliers' transparency regarding the materials used to create the product (Bill of Materials).

Requirements in the award phase are often sector-specific and it is therefore difficult to provide a comprehensive overview on how to formulate them here. Moreover, developments related to circularity are so fast paced that it is equally challenging to formulate adequate award criteria for this reason as well.

When determining the award requirements, you must carefully consider what is possible and realistic within the market to ensure that your requirements are not unnecessarily exclusive. You may want to consider testing your award criteria in a market consultation.

BOX 6B HOW DO YOU AWARD TENDERS WITHIN A RAPIDLY DEVELOPING TOPIC?

There is a lot of momentum around the topic of circularity. For this reason, we recommend to not specify a fixed level of circularity for your project, especially when you are considering collaborating with the supplier for a longer time.

How do you make sure that you will award the tender to a supplier who not only meets your circularity criteria now, but continues to do so in the future? You will want to seek a balance between what the supplier can offer now - the circularity of the offer - and the planned development path of the supplier for the future.

You will want to assign weights according to the product group's characteristics, for example:

- if you cannot monitor the circularity of the product yet, e.g. for the construction of a building or road, you will want to assign more weight to the development path; or,
- if you can monitor the circularity of the product, e.g. with the supply of circular furniture from an existing product range, you will want to assign more weight to the circularity of the offer.

Award criteria

Many buyers find it difficult to formulate appropriate award criteria for circularity. What makes one offer more circular than the other? It helps to look back at the working definition that you formulated in Step 2. This working definition can provide guidance in both the question that you want to ask as well as the evaluation framework for the offers.

As we mentioned with the development of your selection framework, make sure to keep all the project objectives in mind when developing your award criteria. Be clear as to the priorities of circularity and where possible provide a clear hierarchy in terms of the different project objectives. You may also want to consider asking the suppliers how they think they will cope with circularity and the other project objectives, and what type of trade-offs they will make.

Your award framework for the circular aspects could include the following elements:

- the circularity of the offer;
- the planned development path for the offer: the proposed improvement points that the supplier is willing to commit to in terms of circularity, and the approach that is needed to reach these goals; and/or,
- the organizational and financial agreements that guarantee the circularity of the tender.

Different product groups require different award frameworks. For the procurement of existing and products with a relatively short functional lifecycle such as furniture, clothing or IT products, you will want to know the current level of product circularity, how the supplier plans to develop in order to further improve the circularity of the products during the contract period and how the supplier plans to guarantee circular use. For one-off products with a fairly long technical lifecycle, such as buildings, bridges or roads, more weight should be given to the circular objectives that the supplier is willing to commit to, and the means by which these objectives can be realized. Again, circular procurement requires customization.

Price Aspect

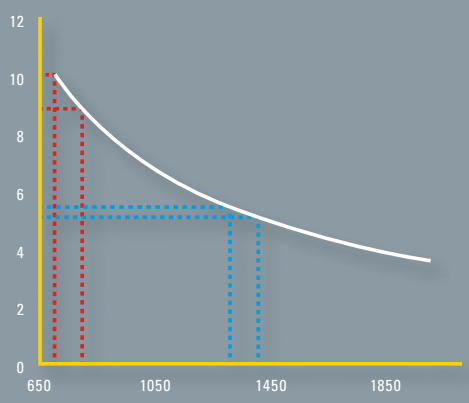
Within circular tenders your criteria will focus largely on the circularity of the offers and perhaps on other project objectives. It is important, however, that the means by which you evaluate the price offers also reflects your circular ambitions. In some cases, the investment costs might be higher than usual, especially if the circular product in question is being bought to replace a non-circular product. However, the long-term costs (TCO/TCU) may well be lower. For this reason, make sure that you develop a business case before your tender and to test this business case with potential suppliers (e.g. via a market consultation) in order to establish request a price that fits your circular ambitions.

BOX 6C EVALUATING PRICE

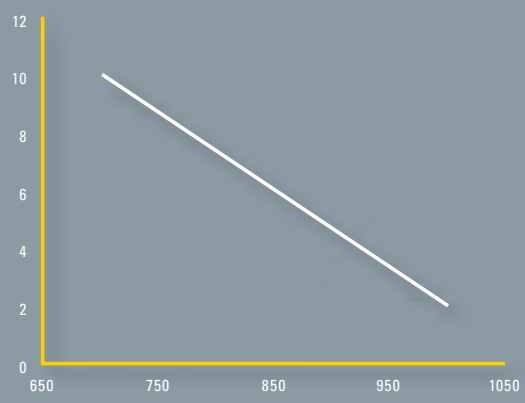
The following formula is frequently used to convert the tender price into points:

$$Score\ (a) = max\ score * \left(\frac{best\ price}{price\ a} \right)$$

This formula results in a curve (Figure 21). This means that a supplier that offers a price that is, for example,€100 higher than the best (lowest) price is proportionally more disadvantaged (red dotted line, difference = 1.25 points) than two suppliers that also differ €100 in their price offer, but are considerably higher than the best price (blue dotted line, difference = 0.38 points).



Figuur 20. *Relative price assessment*



Figuur 21. *Linear price assessment*

We therefore advise setting an upper limit and possibly also a lower limit and then using linear price assessment between the upper limit and the lower limit. If you choose to only set an upper limit, the supplier with the lowest price will receive a score of 10, a price offer equal to the upper limit will receive a score of 2, and the remainder of the price offers will receive a score according to a linear calculation method between these two limits. We advise using a 2 for the highest score rather than 0 to ensure that the range allocated to price (2-10) resembles that of the range allocated to the qualitative factors (also 2-10).

Suppliers are often keen to provide circular products but the way in which is included in tenders makes it difficult for the suppliers to compete with less circular alternatives. Opting for the strategy of 'extending product life', for example, will likely lead to lower purchasing price, but will likely also lead to higher costs of labor for the maintenance and refurbishment of the products. Make sure you understand this dynamic, and the effect that these choices may have on the suppliers business models. If you choose to focus on circularity from 'the past to the present', make sure to not only ask for a price for products, but also the accompanying services. In general, it is wise to base your price on transparent life cycle costs.

With all this in mind, how do you assess the offers from a financial perspective? A frequently used formula in tenders is as follows: score (a) = maximum score*(best price/price a). The difficulty here is that this price assessment method is non-linear and ultimately leads to a greater disadvantage for the supplier with the second lowest price. The evaluation of price is therefore the one aspect that we are in favor of linear thinking. The biggest challenge with regard to this issue lies in establishing a realistic upper limit, and possibly also a lower limit (see Box 6C).

Best price-quality ratio

Once you have established the award criteria and the price assessment method, you will allocate weights to the various aspects (see Box 6A and 6B). Make sure that the weights given reflect your priorities for this tender. In order to check this, you might want to make a sensitivity analysis, e.g. by entering the award framework and the weights into a spreadsheet and then entering fictional scores to evaluate the dynamics between the various award criteria. In this way, you can see how a 'low-budget' supplier with a substantially lower price and mediocre quality will perform in the tender compared to a supplier that scores relatively higher on the qualitative criteria but might not compete as well on the price aspect.

An analysis of completed circular procurement processes shows that the average weight allocated to price is no more than 30% (Phi Factory, 2017). Increasing the percentage allocated to price can lead to an imbalance between the desired quality (also regarding circularity) and cost. In order to make sure that you don't overspend on circularity, you can always include an upper limit in your tender. As such you will create a guarantee that all of the offers are within your budget.

6.2 MEASURING AND ASSESSING CIRCULARITY

The second part of Chapter 6 will elaborate on how to measure and assess circularity. We will first explain the difference between measuring and assessing, and continue by giving examples of criteria that you might want to respectively measure and assess. Once these theoretical issues have been described, we will deal with the assessment of the selection and award criteria specified in the first part of this chapter.

Measuring versus assessing

When you measure something, you will provide a quantitative and objective judgement based on a clear and generally accepted measurement method.

When you assess something, you are issuing an opinion that is a qualitative and often subjective judgement. You are not basing your judgement on a generally accepted measurement method.

Measuring and assessing circularity

In recent years, countless instruments and formulae have been developed to measure the circularity of products and buildings[15]. We are not convinced that the circularity of a product or a building can solely be measured. Remember the C2C-chair that we discussed in Chapter 2 (Box II) - you can measure the circularity of the chair now, but you will also want to know if the chair is used in a circular way.

The circularity of this chair can therefore be determined based on two aspects:

1. What is the chair's *current* material circularity? In other words, what proportion of the chair is reused (at the product, component or material level)?
2. What is the chair's *potential* material circularity? In other words, how much of the chair can be reused in the future and what is the likelihood of this actually happening?

The first aspect can be measured, but the second aspect must be both measured and assessed. The degree to which the materials can be theoretically reused (recycled) can be measured, although the likelihood of this happening in practice is also dependent on how the chair was designed and assembled and the agreements that can be made regarding reuse. The latter two variables will likely undergo an

15 For example, the Material Circularity Indicator devised by the Ellen MacArthur Foundation (2015) for products.

MEASURING	ASSESSING
'Determining how big, how long or how wide something is.'	'Having an opinion about something.'
Quantitative	Qualitative
Clear yardstick	Judgement-based, no clear yardstick
Objective	Partly subjective

Figuur 22. *Difference between measuring and assessing.*

assessment rather than being measured. For the aspect of potential circularity, you should also make a qualitative assessment of whether circular use is guaranteed using the TPF model.

In a nutshell, the circularity of an offer requires more than just measuring circularity, you will also want to take qualitative aspects into account. Depending on the product group and your working definition of the circular economy, you can experiment with assigning weights to the different aspects.

Assessment of circular selection criteria

If you are planning to conduct a preselection, the questions that you ask will probably have to be assessed[16]. Although the answers to these questions are often qualitative in nature, you can still objectively assess them. However, when doing so, bear these two points in mind:

- Together with your tender team, determine what aspects you will use to in order to evaluate the answers provided by the suppliers. What makes a particular company the best supplier? Make sure to establish a clear connection with your working definition on the circular economy and share those aspects that you find important in your tender documents. Whenever you share information make sure to do so at a fairly abstract (functional) level in order to allow for distinctive answers to be equally valued. Avoid tick-boxing, don't give away your desired answers entirely.
- Make sure you create a multidisciplinary evaluation team that can read and assess the suppliers' answers from a variety of perspectives. Train the evaluation team to ensure they have a clear and unambiguous notion on how to assess the answers. Allow every team member to assign individual scores per question and have them substantiate their judgement. Subsequently, you will want to organize a consensus discussion during which the individual assessors discuss their individual findings and determine the eventual score per question per supplier. The team discussion allows for the different perspectives to be discussed, allowing 'plural subjectivity' to arise, which results in a more objective end judgement.

Measuring and assessing circular award criteria

It is likely that you will have to both measure and assess the circular award criteria, although this dependent on the product group that you are buying. Before you start your procurement process, it is helpful to learn about the ways in which suppliers are already measuring their circular performance. In some sectors measuring circularity might be completely new, whereas in others standard ways of measuring circularity might already be in development. This is another topic that you might

16 It is possible that future market developments could allow aspects such as the degree of circular business operations to be objectively measured and included as selection criteria. In such a case, the selection criteria can be measured, although a tool of this kind is not available at the time of writing.

UMCU – Office furniture | CASE 15

In 2015, University Medical Center Utrecht (UMCU) issued a circular tender for its office furniture. Procedurally, they opt for a less-intensive competitive dialogue. Four selection criteria were included in the selection phase:

1. The supplier's vision on the circular economy, including their own role in the transition to a circular economy.
2. The supplier's vision of healthcare in relation to the project.
3. The relevant stakeholders and how the supplier wishes to involve them;
4. Results and actual plans with regard to the circular economy - the measures implemented and results achieved in the past five years with regard to the circular economy and the measures and objectives for the next ten years.

Below, you can find the assessment aspects for the first and fourth questions:

SELECTION CRITERIA	ASSESSMENT ASPECTS
1. Vision of the circular economy	The degree of compatibility of the stated vision with the UMCU's definition
	The degree to which the vision is integrated
	The role that the supplier sees for itself
	The originality of the vision
4. Results and concrete plans in relation to the circular economy	The degree to which the description of the results, objectives and measures is formulated in a SMART manner
	The degree to which the results, objectives and measures match the supplier's own vision (question 1)
	The degree to which an integral approach is given regarding the achieved results and desired objectives

Figuur 24. *Assessment aspects regarding UMCU's circular tender process for furniture*

want to discuss in your market consultation. If there are generally accepted circular measurement methods make sure to align with these, providing they also measure what your circular goals are. Try to avoid choosing a measurement method that only one or a few suppliers adhere to, as you will give them a competitive advantage.

Should the topic of circularity be reasonably novel in a sector, you may want to pay more attention to a supplier's future circular targets, in addition to an action plan on how they intend to realize these ambitions.

In any event make sure that your measurement and assessment methods sufficiently reflect your own working definition. If you choose to focus on high-value reuse of existing products (circular from the past to the present), it does not make sense to measure circular performance by means of the amount of C2C-certified products offered. Conversely, if you adhere to the C2C-philosophy, do not choose a measurement method that awards points to high-value reuse of existing products and materials.

Measuring circularity

When you measure realized circularity, you will examine the product or the offer based on a number of circularity criteria. When measuring circularity you can only use quantifiable indicators that can be validated based on available and robust data. Possible criteria can include the percentage of recycled content that the product consists of. Following this line of reasoning, you can only measure the level of circularity of a product that it has at the time of measurement. It is not possible to determine the level of circularity in the future, during the use phase or after the first functional lifecycle.

A product can technically conform with circular principles, by consisting of a high percentage of recycled material. Ideally, the product or its' components will then also be reusable after the first functional lifecycle. These two elements jointly determine how circular a product is in technical terms. The realized circularity is measurable, but the potential circularity is more difficult to measure. We think it important to assess both aspects within procurement processes, whereby the potential circularity is often based on assumptions regarding future circularity.

When measuring circularity, it is important that the circularity indicator is both informative and also understandable. The informative character rests on establishing how circular the product in question is, whereby the results can potentially become overly detailed making it difficult to draw a simple conclusion. This is why we also find it important to stress the ease of comprehension of the circularity indicator. In general, the following factors affect the balance between accuracy and comprehensibility:

- What is the reason that you want to measure circularity? You can use the measurement in order gain insight in the level of circularity of a product but can also help you monitor and manage performance after awarding the contract. If your wish is to measure for management purposes, you don't

BOX 6D CUSTOMIZING YOUR ASSESSMENT METHODS

Which building is the most circular? This is a question that is almost impossible to answer.

Every building is circular in their own way, and it is difficult to compare them as equals. Measuring and assessing circularity therefore requires customization. This is especially the case when you are buying complex and innovative products or services. In such cases baseline measurements do not exist, nor have similar products been bought in a circular way. At the same time there is a growing demand for objectively determining the circularity of products and/or offers.

Below you will find three examples of construction projects that each adhered to different circularity principles:

BRUMMEN CITY HALL

- Support structure, façade and floors are made with prefabricated wood;
- Use of concrete was minimized;
- At the end of its functional lifecycle, the building can be disassembled;
- The building is a 'materials bank'.

VENLO MUNICIPAL OFFICE

- Maximum use of Cradle2Cradle products;
- Design for disassembly;
- Materials passport;
- Thermal energy storage;
- Photovoltaic energy (1000m^2 of solar panels and solar boiler);
- Energy monitoring;
- Green roofs and façades;
- Water reuse.

ALLIANDER DUIVEN

- Reuse of old materials: toilets, ceiling tiles, concrete recycling, façade;
- Recyclability of new materials;
- Reuse of buildings;
- Reduction of materials use;
- Cost savings (€1.5m).

necessarily have to include the measurement in the award criteria. Instead, you can opt to include a requirement that the supplier will monitor their circularity performance continuously throughout the contract period.

- At what level of detail do you want to measure circularity? Measuring at the material level will become a complex exercise quite rapidly. It requires suppliers to determine the materials used for each and every component in a product, and consequently to determine the origins of this material - is it a virgin material, a biobased material or is it partially recycled material? Make sure to think about the level of information that is most valuable to you and don't get caught up in extremely detailed information that requires a lot of work for the suppliers and does not actually add value for you.
- How many factors do you want to measure? In some cases, you may want to include energy consumption, value chain emissions and social aspects in your supply chain. Here it is important to recognize that every topic that you include in your measurements will require an increasing amount of data, as well as the degree of difficulty in gathering the data. At the same time, it can be quite interesting for products with a fairly short functional lifecycle to gain more insight in the sustainability of the manufacturing, repair and recycling mechanisms and to monitor these. Carefully discuss the factors that are necessary and most relevant within the scope of your project. In doing so you will save time for both your own organization as well as the suppliers.
- How many products do you want to measure circularity performance in the tender? Is it necessary to gain insight in the circularity of all the offered products or can a representative selection suffice? Given that measuring circularity is still relatively new in many sectors, it is important that the effort you require from market parties be proportional.

BOX 6E INSTRUMENTS FOR MEASURING CIRCULARITY

There is an increasing number of tools and instruments that attempt to measure circularity. It is important to stress that the 'why' influences affects how the tool is applied. Some tools are made from the manufacturer's perspective, the goal is to manage the development process and gain a clear idea of the circularity of the product. Other tools are better equipped for buyers as they require suppliers and manufacturers to provide information about their product leading to a circularity score. Here again, it is important to stress that there is not one perfect solution for every procurement project. We have listed a number of available tools on the Dutch market in appendix 2, which can help evaluate the sustainability and circularity performance of products.

Alliander wanted to select a consortium of suppliers who could collectively design, manufacture, deliver, maintain, repair and recycle the clothing. Although circularity is quite common in the textiles sector, it is much more difficult to realize these ambitions when considering high-tech clothes with protective qualities. The set ambitions would require suppliers to make significant investments in new technologies. At the same time it is only fair if the winner of the tender has the opportunity to generate sufficient revenues to balance the investments. As such, in event of good performance on part of the suppliers, the initial intention is to award a framework contract for a period of 15 years. At the same time, Alliander also wants the consortium to deliver a high level of circularity now, as well as to further develop within the contract period.

In addition to asking for the current circularity of four different products, an additional award criterion was introduced regarding the future circularity of those same products. This criterion was allocated a weight of 7.5%* in the award framework and consisted of two elements:

i. The expected circularity of the four products in year 2 and year 6 of the contract. This factor is measured with a specially developed assessment module on the platform 'Circular IQ'. For this assessment module, the suppliers would provide information about the desired level of circularity in terms of the origin (e.g. percentage of recycled content, organic materials), toxicity (e.g. Oeko-Tex or Bluesign certification) and recyclability. This information would result in a score between 0 and 10 for each item of clothing. The buyer consequently calculates a weighted average leading to a final score for this topic (0-10).

ii. An action plan through which the suppliers substantiate the expected circularity of the given products. By means of this qualitative explanation, suppliers plausibly demonstrate that they are able to make their ambitions a reality. These answers would be given a score (0, 2, 4, 6, 8, 10) to be determined by the assessment committee in consensus.

The two scores would then be multiplied and made to correspond to allocated weight of 7.5%. The calculation below is an example of how this assessment can be conducted. This example shows that high expected circularity of products only results in a high final score if the action plans provide sufficient confidence and are thus scored high.

Supplier	Score (i) C scores	Score (ii) Action plan	Multiplication	Points (max 7.5%)
A	7,1	8	56,8	4,26
B	6,8	8	54,4	4,08
C	8,3	6	49,8	3,735

Figuur 25. *Assessment method for future circularity of Alliander protective clothing*

* This percentage may seem quite low, but it was merely one of the award criteria used to assess the circularity of the tenders. Furthermore, circularity was only one of the objectives within the scope of this tender.

Assessing circularity

Assessing circularity is relevant for both products with a short functional lifecycle as well as products with a long functional lifecycle. Whereas products with a short functional lifecycle might be replaced several times during the contract period (e.g. clothing), products with a long functional lifecycle might only be delivered once (e.g. a building or a road). In both cases it is relevant to determine the future circularity of a product, which is dependent on two factors:

1. Design and assembly. These are qualitative factors, although they can easily be converted into a numerical score. A good example of such a qualitative factor is the modularity, the degree to which it can be disassembled and the accessibility of the connections. When you decide to include these in your award framework, make sure to provide clear and unambiguous definitions of these terms. This will enable both suppliers to be consistent in their offer, as well as making it easier for you as a buyer to determine when a product complies with your wishes.
2. The way in which the product is used and reused. This is more difficult to express in terms of a quantitative figure. The manner in which the value chain partners collaborate, the contract agreements and financial agreements are all means by which circular use can be secured. When a supplier offers smart frameworks that guarantee circular use, it will be more likely that they will fulfil the circularity potential of the products in question. However, you may also want to know what the supplier will do in order to achieve a higher level of circularity of a relatively short-cyclical product throughout the contract period. You may want to consider requesting an action plan that explains the efforts that the supplier will take to achieve higher circularity performance. A good action plan will substantiate the claims regarding the expected future circularity of the products.

A method that we have successfully used is to multiply the scores for future circularity performance of products (the first aspect in the list above) with the scores for the action plan (the second aspect from the list above). By doing so, you ensure that suppliers that make the highest claims regarding circularity performance will also have to plausibly demonstrate how they will fulfil these promises in order to receive a high score (see the case description for Alliander protective clothing).

SUMMARY

Formulating a circular selection and award framework may well be the most challenging step. In the selection phase, the questions must concern the supplier and during the award phase, the questions must concern the offer. This step also addresses the assessment of qualitative questions and gives insight into the measurement and assessment of circularity. In any event, make sure you choose a functional format. Ensure that the suppliers' efforts in measuring circularity performance are proportional. In addition, make sure that the insight that you demand on part of the suppliers sufficiently represents the circularity performance of a product, and that a broader audience is able to comprehend what is actually being measured.

STEP 6: MEASURING AND ASSESSING CIRCULARITY

1. Answer the question 'what factors determine the best supplier?'
2. Answer the question 'what factors determine the best offer?'
3. Determine how you will measure and assess the circularity of the tender.
4. Determine how you will incorporate the price aspect into the assessment and what weight will be assigned to it.

7

"The longer the contract, the greater the mistrust."

MARCEL DE NES KOEDAM

SECURING CIRCULARITY

How can you secure circularity in the long term? Step 7 answers this question from two perspectives: circular revenue models and circular contracts.

7.1 CIRCULAR REVENUE MODELS

Paying for light instead of lamps (Signify), selling vertical movements (Mitsubishi lifts) and leasing jeans (Mud Jeans) – there are countless examples of alternative revenue models that suppliers can offer in order to contribute to the circular economy.

In this step, we will differentiate between circular revenue models and circular business models. After that, this chapter discusses the general role of circular revenue models within the circular economy. We will conclude the topic of circular revenue models by examining the different revenue models that can be used to secure circularity as well as giving advice on when to use them[17], especially in relation to procurement.

A circular economy

Creating a circular economy is more than just a technical challenge. In addition to designing and manufacturing products differently, you will also need to change your relationship with the product in question. We will discuss this transition in more detail below.

In a linear economy, the manufacturer's responsibility ends at the point of sale. In some cases, manufacturers extend their responsibility by means of a guarantee. Users then consume these goods and will use them until they are either technically or economically depreciated. As a consequence, the economic value of the product at the end of its functional lifecycle is €0 (zero). There is therefore no economic incentive to realize high-quality reuse of the products or its' constituent components. Users will often dispose of the products and will opt for reuse only when it is economically viable. In rare cases, reuse at the material level (recycling) can be economically attractive. The responsibility is placed with the value chain partner (the user) that has little knowledge or opportunities to realize this reuse - yet it is the user who is responsible for the product at the end of its functional lifecycle. In most cases, the user will choose the common path of throwing the product away.

One way to encourage a circular economy is to extend the responsibility of the manufacturer. This will give manufacturers shared responsibility for retaining the value of the products and effectively make them the stewards of the products. By retaining ownership of the products (Stahel, 1981), the manufacturers have an economic interest in maximizing the value of the products. Furthermore, manufacturers have the most knowledge about the product, and as such also

17 This publication briefly assesses the theme of 'Circular Revenue Models'. In addition, Copper8 is currently writing a publication about circular revenue models (expected publication date: 2019).

the most opportunities to facilitate high-quality reuse. Ownership is therefore a means for the manufacturer to optimally use their knowledge about disassembly, repair, machines and tools, materials, purchasing as well as sales channels with the higher purpose of circularity. By using the same infrastructure that was used for manufacturing the product in the first place, it is easier for the manufacturer to create a viable business case. Furthermore, a manufacturer can scale these types of activities in a way that an individual consumer cannot, leading to lower costs. Products are still used but are no longer consumed by end users.

Manufacturers in the circular economy have an intrinsic interest in producing high-quality products. In order to embed their new responsibility organizations' business models will change, as may their revenue models.

The difference between circular business models and circular revenue models

This guide distinguishes between circular business models and circular revenue models.

A **business model** describes how an organization creates, delivers and retains value. In their Business Model Canvas (Figure 26), Osterwalder et al. (2005) clearly describe the elements that jointly form an organization's business model. This includes a combination of the activities that the organization conducts, cost structure, customer groups and the sales channels.

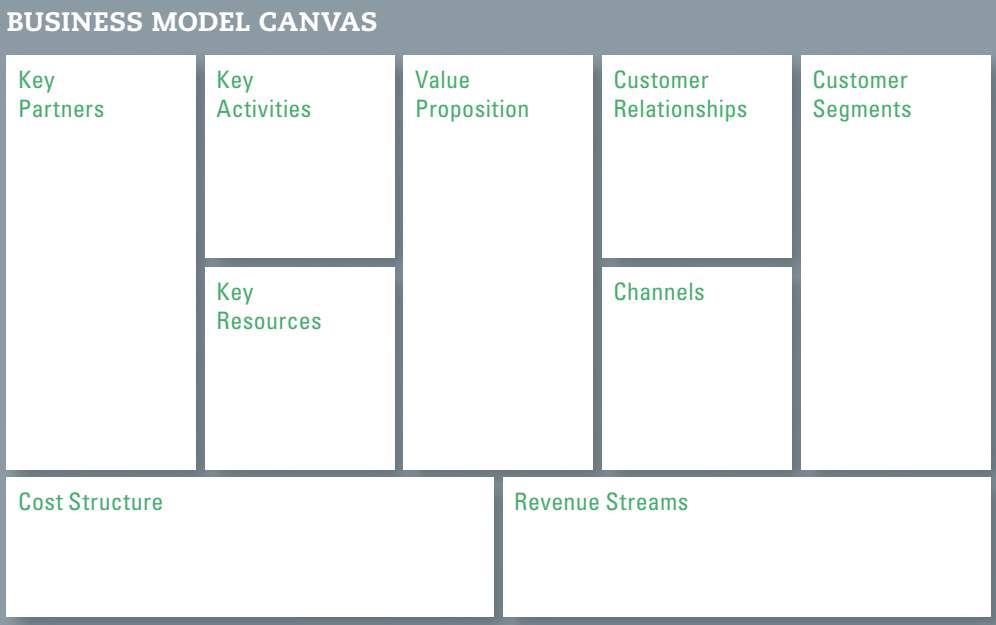
Based on this definition, a circular business model is an explanation of how an organization creates, delivers and maintains value within a circular economy. A circular business model requires a transition within each of the elements of the Business Model Canvas. For example, the company will have to use different raw materials, seek new partnerships within the value chain and possibly change its transactional relationship with customers to a more collaborative relationship.

An organization's **revenue model** is the way in which it earns money, such as the sales of products, subscriptions or licences. Within the Business Model Canvas, this represents primarily the *Revenue Streams* element. Naturally, a change in the revenue model will have consequences for the other elements of the Business Model Canvas as well.

A circular revenue model solely describes how the organization has designed their revenue model in order to contribute to the circular economy. Paying for light as a service rather than the lamp as a product (pay-per-use) is an example of a circular revenue model.

How revenue models secure circular use

The procurement of circular products is an important step in the transition to a circular economy, although the importance of the next step – encouraging circular use – should not be underestimated either. This requires a different relationship between the manufacturer and their product, as well as a different relationship



Figuur 26. *Business Model Canvas (Osterwalder et al., 2005)*

between the user and that same product. We consider the circular revenue model to be a tool for securing circular use. In practice we also see many of the revenue models below are used without changing the design of the product. A revenue model is a means, not an end: don't forget to keep your circular ambitions in mind.

In theory, most circular revenue models result in extended producer responsibility.

Step 5 describes the Prisoner's Dilemma, which reflects the often-conflicting interests of buyers and suppliers. An ideal circular revenue model will encourage the collaborative scenario (win-win) as described in Figure 16.

7.2 DIFFERENT TYPES OF CIRCULAR REVENUE MODELS

This chapter gives a brief summary of frequently used circular revenue models that are also applicable to procurement. For each revenue model, a description is given of how it works, its advantages and disadvantages as well as its applicability to different product groups.

There is a significant difference between products with a high residual value and products with a low residual value. A product made primarily of metal, such as an elevator, generally has a higher residual value, due in part to the high value of metals. Conversely, food packaging often consists of various kinds of plastics (often composites) and therefore has a lower residual value.

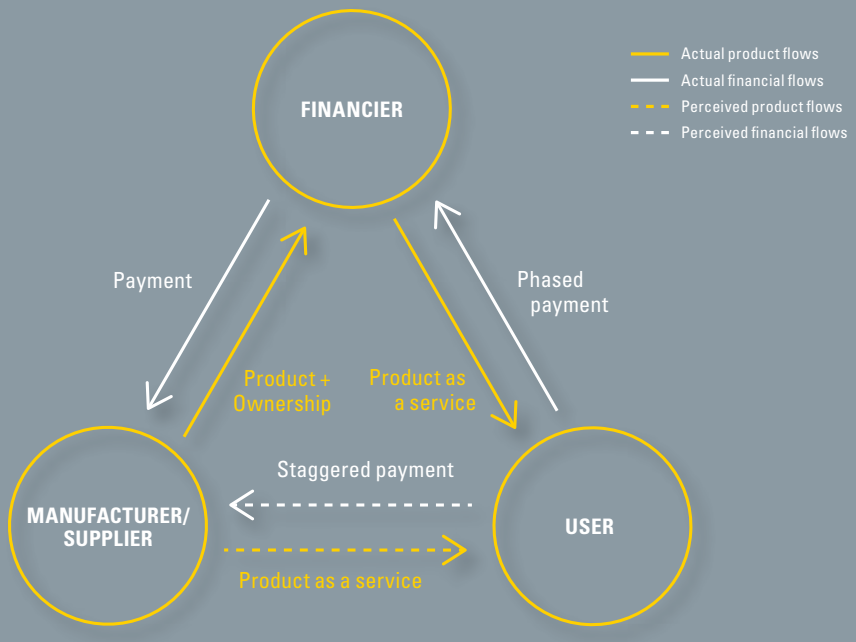
This chapter discusses the following revenue models:

- Lease;
- Rental;
- Pay-per-use;
- Residual value; buy-back schemes;
- Product-service combination.

A sixth model – the dynamic distribution model (Box 7A) – is not really a revenue model per sé, although it is suitable for use as a financial incentive within circular contracts.

Lease

The lease model is often wrongly praised as the ideal model to accelerate the circular economy. Essentially, a lease construction is a financial product that connects the manufacturer and the user by means of a financier. It is therefore important to distinguish between three parties: the manufacturer/supplier, the investor and the user. Within most leasing agreements, the manufacturer/supplier transfers ownership of the products to the investor. The financier then engages in a relationship with the user within which the investor can either retain or reserve ownership. As a result, there is no direct relationship between the manufacturer/supplier and the user unless otherwise specified (see Figure 27).



Figuur 27. *How the lease model works*

This three-way relationship affects how circularity can be secured both from an economic perspective and from an ownership perspective.

The financier buys the product from the manufacturer/supplier. By making money available, the financier is looking to generate returns and will never actually see or touch the product, as the user will have the physical access to the product. The financier will, however, have the legal ownership of the product, whereby the ownership of the product primarily serves as a collateral to cover any unexpected risks. The financier's objective is to generate returns that will at minimum guarantee the purchasing price of the product, as well as an additional margin to cover costs, interest and risk. This total price (purchasing price + costs + interest + risk margin – residual value) will then be converted into a recurring price: the lease price. This has two crucial consequences:

1. The manufacturer/supplier does not have extended producer responsibility, as ownership has been transferred to the investor.
2. Unfortunately, the residual value is often €0 (zero). In such cases, users will end up paying more than they would have if they had purchased the product themselves, and in such a scenario, there is no incentive to use the product in a circular way.

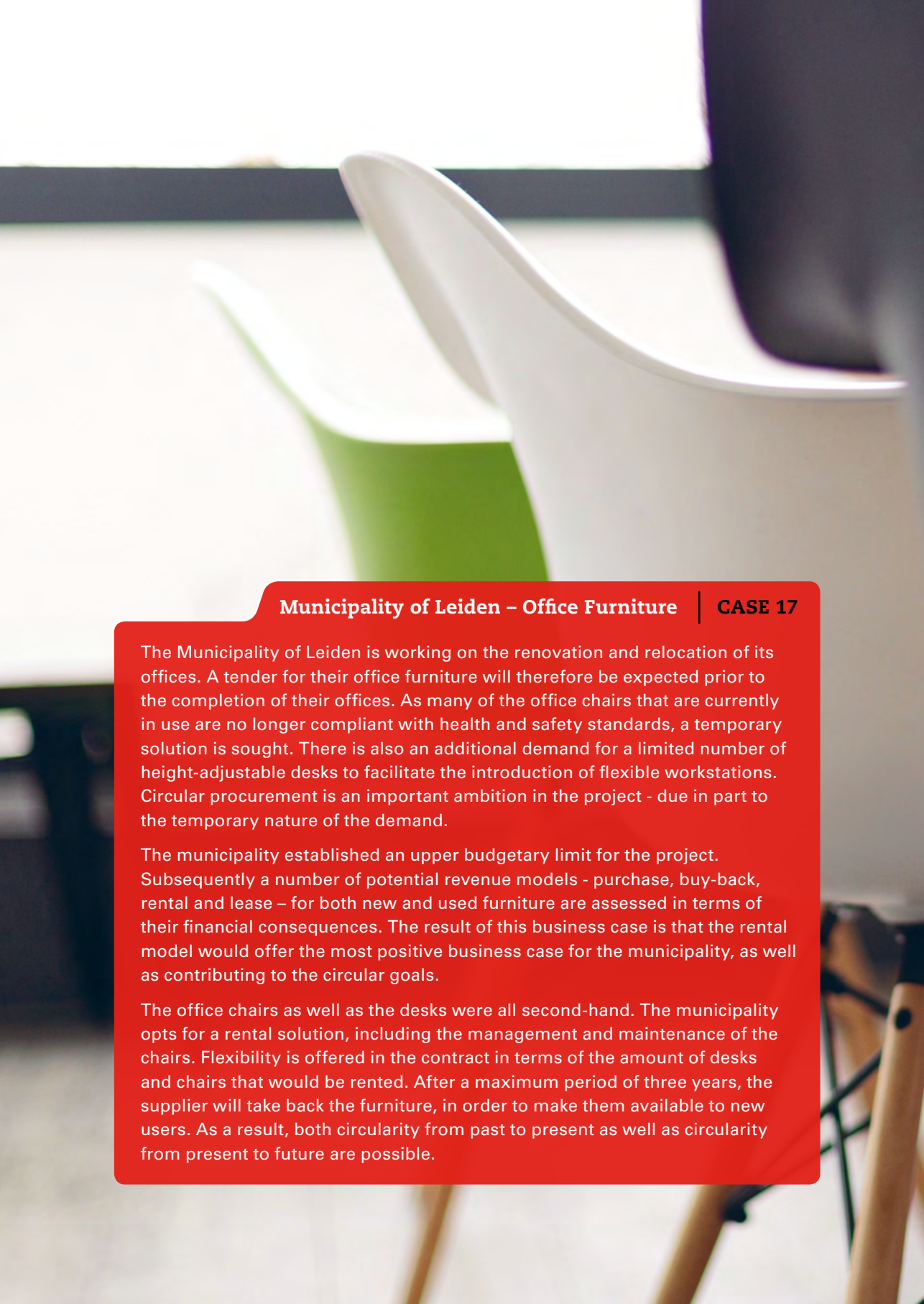
Despite these disadvantages, the lease model is a suitable model for securing circular use in a number of cases. Particularly when there is demonstrable residual value (>€0) the lease model could be an attractive circular revenue model. This is demonstrated by the successful car leasing market. However, one point for attention is that the lease agreements must guarantee that the manufacturer or supplier takes back the product at the end of the contract, which is not the case in standard leasing agreements.

Rental

In a rental model the manufacturer/supplier rents the product to an end-user. This book focuses on long-term rental contracts and therefore does not address short-term rental. The rental model involves a direct relationship between the manufacturer/supplier and the user.

In a rental model the manufacturer/supplier takes on the role of investor themselves. This also means that the manufacturer/supplier must be capable of providing the investment for the product to ensure that the installed payments do not put the balance under too much pressure. This initial investment is the most challenging aspect in applying the rental model, as not every organization has the resources to finance one or more rental contracts.

As a result, this revenue model is particularly suitable for satisfying temporary needs for products with relatively low purchasing values (see the case description for the Municipality of Leiden on the next page).



Municipality of Leiden – Office Furniture | CASE 17

The Municipality of Leiden is working on the renovation and relocation of its offices. A tender for their office furniture will therefore be expected prior to the completion of their offices. As many of the office chairs that are currently in use are no longer compliant with health and safety standards, a temporary solution is sought. There is also an additional demand for a limited number of height-adjustable desks to facilitate the introduction of flexible workstations. Circular procurement is an important ambition in the project - due in part to the temporary nature of the demand.

The municipality established an upper budgetary limit for the project. Subsequently a number of potential revenue models - purchase, buy-back, rental and lease – for both new and used furniture are assessed in terms of their financial consequences. The result of this business case is that the rental model would offer the most positive business case for the municipality, as well as contributing to the circular goals.

The office chairs as well as the desks were all second-hand. The municipality opts for a rental solution, including the management and maintenance of the chairs. Flexibility is offered in the contract in terms of the amount of desks and chairs that would be rented. After a maximum period of three years, the supplier will take back the furniture, in order to make them available to new users. As a result, both circularity from past to present as well as circularity from present to future are possible.

Pay-per-use

The pay-per-use model is a variation of the lease or rental model. Within a pay-per-use model, the price is determined by the degree of use or consumption. This means that there must be an easily defined use or consumption aspect that is also measurable, e.g. in Kwh, kilometers or number of motions. The pay-per-use model is often used during tendering processes for multifunctional devices (printers/copiers/scanners), involving a price per page printed. In this case, circularity may not actually be encouraged, as the supplier benefits from selling as many printed pages as possible.

The pay-per-use model is particularly suitable for circular purposes in situations with more than one user. In such cases in which assets are effectively shared, a win-win situation for both the manufacturer/supplier and the users is more easily attainable.

A good example of how pay-per-use can boost circularity by making efficient use of assets is the forklift truck supplier, UniCarriers. Unicarriers operates a revenue model based on selling horizontal (distance) and vertical (height) movements. This enables UniCarriers to make its fleet available to users much more effectively, as users who need forklift trucks for seasonal work do not need as many during the off-season. The customers therefore pay less, as they do not purchase the forklift truck but rather pay for the number of fork movements required. UniCarriers, on the other hand, can create a higher turnover with the same assets. As such a win-win situation is created! One disadvantage is that these forklift trucks are not actually designed in a circular way. The only way to justify circularity is that less assets are needed to fulfil the same functionality. Ideally though, the trucks would be designed and assembled according to the principles of the circular economy!

Residual value: buy-back-schemes

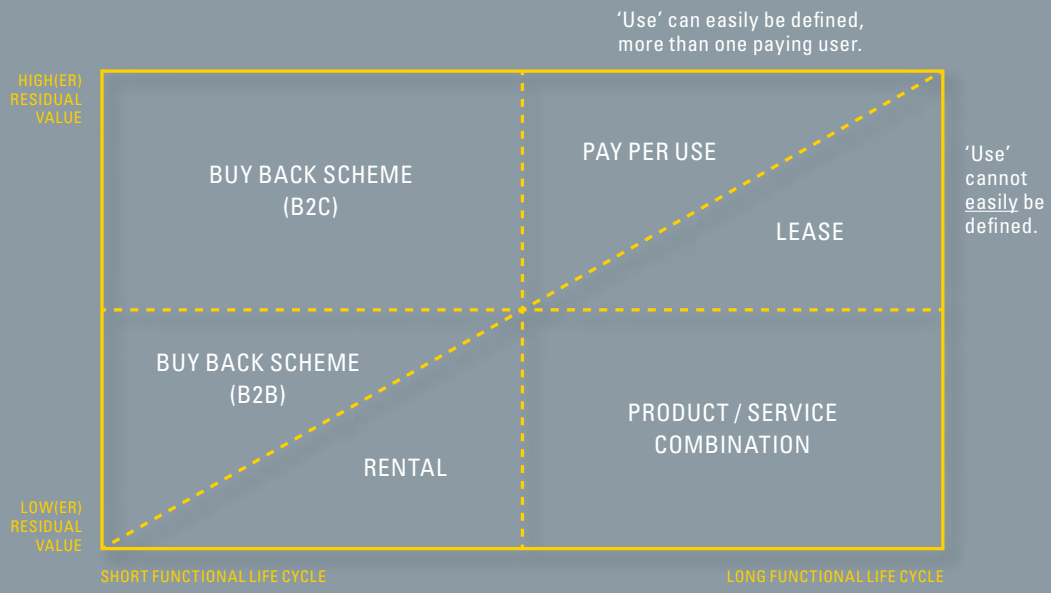
The residual value model is an agreement between the manufacturer/supplier and the user, whereby the manufacturer/supplier of the products buys the products back at the end of their functional lifecycle for a predetermined price. This model assumes that manufacturers recognize value in the used product, its components or its materials. As such the manufacturer/supplier wishes to take back the products at the end of its functional lifecycle in order to facilitate high-value reuse by a second user.

A well-known example of this model is the residual (deposit) value scheme for plastic drink bottles. The main disadvantageous argument used concerning bottle deposits is that there is no certainty that the PET bottles will actually be returned, although deposit return schemes (DRS) in Germany and Denmark manage to achieve high percentages of returns. This disadvantage also affects other *Business to Consumer* (B2C) residual value models. Within a *Business-to-Business* (B2B) environment, international accounting rules, International Financial Reporting Standards (IFRS), specify that manufacturers/suppliers are not permitted to have a *significant economic*

Alliander Furniture | CASE 18

In 2014, Alliander issues a tender for the procurement of office furniture with the ambition of establishing a financial incentive to encourage circular use. Alliander opts to use a residual value model that initially specifies an ambitious guaranteed minimum residual value of 20% at the end of a five-year contract period. By means of transparent accounting, supplier Gispen will pay an actual residual value for the products. Both Alliander and Gispen strive to maximize this actual residual value. Alliander does this by paying due care and attention to the furniture while using it and Gispen has the responsibility of carrying out corrective and preventative maintenance. In addition, both the buyer and the supplier stimulate further market demand for circular furniture, otherwise the residual value will remain low.

However, the guaranteed minimum value of 20% proved too high. Gispen had to account for it as a future liability once the contract came into force. Gispen then internally adjusted the guaranteed return value to 10% with the ambition to achieve 20% in order to prevent accounting penalties whilst still enabling them so strive towards the same degree of circularity.



Figuur 28. *Applicability of circular revenue models (Copper8, 2016) based on residual value and functional lifecycle*

incentive to take back the products at the end of their functional lifecycle. Originally implemented to prevent creative accounting, this rule unfortunately poses an obstacle to the circular economy that cannot be circumvented at this point in time.

The residual value model is suitable for situations in which the residual value is relatively low. Accounting standards set an upper limit of 10%.

The most frequently voiced concern about this model among procuring organizations is that they are afraid the suppliers will account for this residual value in the (higher) purchasing price of their offer. Although this fear is justifiable, it does create an opportunity for suppliers who do see the value in buying back their products, as they can distinguish themselves within the price component of their offer.

Product-service combination

The product-service combination is a model which enables you to issue a tender for both a product and services relating to the product. This model is frequently used in civil and hydraulic engineering projects as well as for public-private partnerships in the built environment. Within these construction-related projects, the design design, execution and maintenance are often integrated in one single tender.

The product-service combination is also applicable to other sectors, e.g. by issuing a combined tender for both procurement of products and the maintenance of these products.

Within this model, the supplier benefits from providing a high-quality circular product, as it minimizes the amount of maintenance necessary. Savings can therefore be realized by the supplier in the use period.

Applicability of revenue models

Based on our experience with various revenue models, we have developed a matrix (see Figure 28) that can serve as a guide in choosing which revenue model to use.

Dynamic distribution model
Finally, we have the dynamic distribution model, which is not a revenue model as such, but in some cases is suitable as a tool for securing circular performance within a contract.

The dynamic distribution model is based on the situation where the buyer and the supplier jointly allocate a pot of money. The collective goal is to maximize the size of the pot. The pot is then paid out proportionally to the ambitions that are actually realized. The model is displayed in Box 7A.

BOX 7A DYNAMIC DISTRIBUTION MODEL

The basic principle behind the dynamic distribution model is that all savings realized as a result of effective collaboration are made available to the suppliers in order for them to recoup their R&D investments.

For example, imagine you issue a tender for a new model of smart meters and include a requirement that they must be 20% more energy efficient than the previous model. This situation results in significantly lower costs for the grid operator, who in the Netherlands pays for the energy consumption of these meters. You could then decide to keep the funds saved in a separate 'pot of money' for a number of years and to make 50% of this pot available to the suppliers. This model effectively works as a 'carrot' for the suppliers to achieve the level of performance they offer in the tender.

The suppliers can subsequently formulate KPIs in their offer, which they can relate to the bonus kept in this 'pot of money'. As such, a win-win situation is created that rewards both the buyer as well as the supplier for achieving the performance criteria:

- The buyer gets a more circular product and realizes significant cost savings;
- The supplier is able to recoup their investments.

7.3 CIRCULAR CONTRACTS

The longer the contract, the greater the mistrust. What are the key success factors of a circular contract? How do you secure the long-term circularity of the offer within a contract?

Trust as a cornerstone

A contract cements the relationship that you have initiated via the tender. It is important to build on the spirit of collaboration that was initiated in the tender within the contract. Naturally, you have to ensure everything is arranged properly for you, but it would be a shame to fall back into the old habits of mistrust.

The less trust there is between buyer and supplier, the greater the need for extra clauses stipulating the agreements. Getting a legal advisor involved at an early stage in the tender can help with formulating a successful contract. You may want to consider contracting one independent lawyer to supervise the development of the contract, thereby representing the interests of both parties.

Long-term contracts

You can demonstrate your trust by lengthening the term of the contract. This clearly shows your intentions to embark on a long-standing collaboration with the supplier. Furthermore, in certain product groups, it enables the supplier to invest in technologies that are needed for the circular economy that involve longer payback periods. Long-term contracts therefore can benefit both parties.

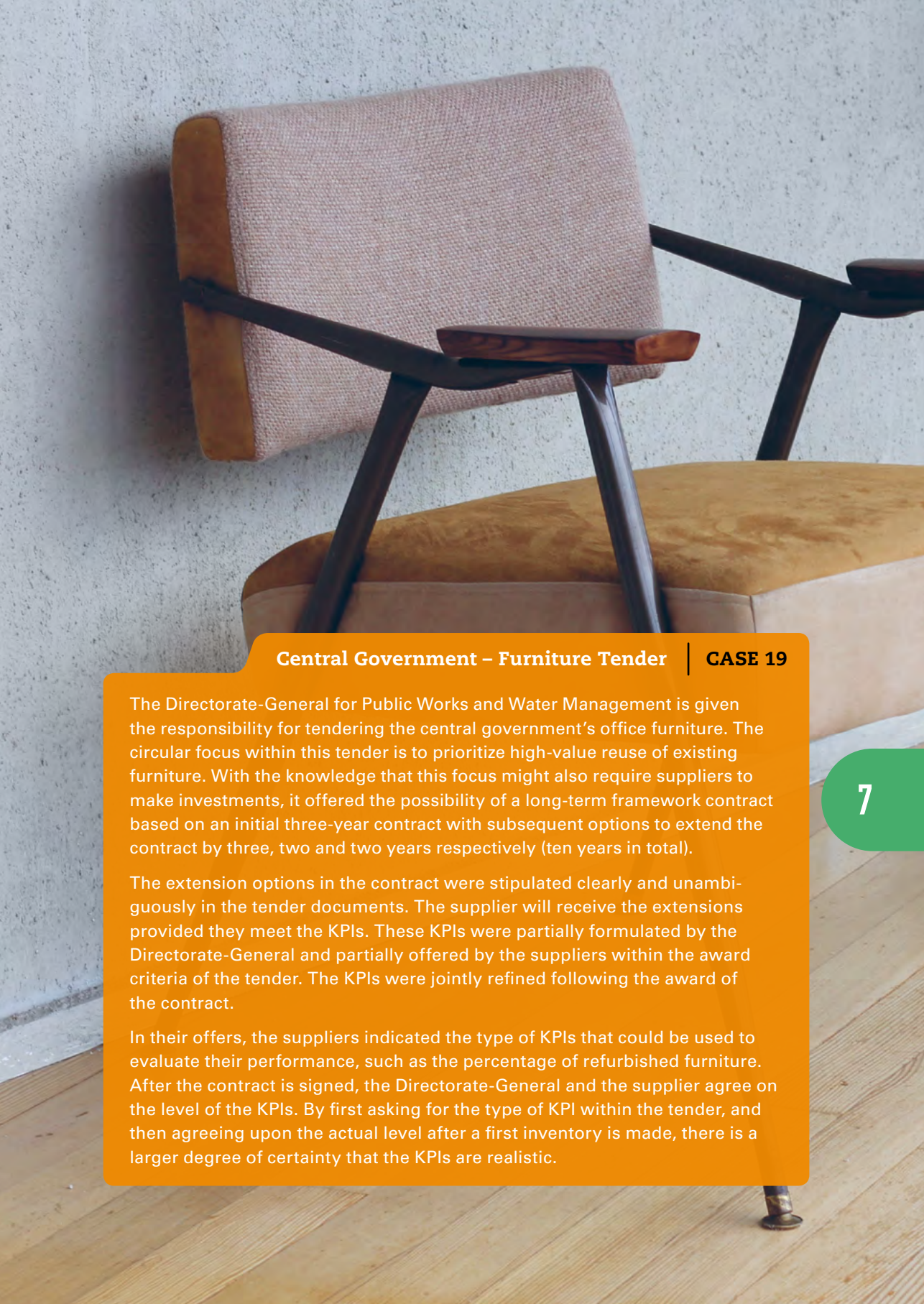
There is no legal maximum for how long a contract can be, although the law does specify the principle that the length of a contract '...cannot restrict competition within the market any more than is necessary' (PIANOo, 2018). In short, a balance must be found between the supplier's financial interests and competition within the market. If you are using a product-service combination that also includes a maintenance contract, the law specifies as a guideline that the contract period is often equal to the products' depreciable life (PIANOo, 2018).[18]

A maximum statutory contract period of four years applies for framework agreements, although a longer contract period is permitted if you can substantiate your reasons for it. For example, if you ask a supplier to make significant investments in order to make their production process circular, this can provide sufficient grounds to extend the length of the framework agreement.

A frequently voiced concern regarding long-term contracts is how to guarantee the contractor's performance. Can the contract be annulled if the supplier fails to perform adequately? There are two ways to resolve this issue:

1. State the intention of a long-term contract but offer it in the form of a series of short-term contracts with an extension opportunity at the end of each contract. For example, a contract period of ten years can consist of a five-year contract that subsequently offers a three-year extension followed by a two-year extension.

18 Depreciable life is a factor that is often discussed within the context of the circular economy, as the functional life is often longer than the predetermined depreciable life (economic life). In addition, depreciation of products often assumes that the products will depreciate to zero and hence that they will have no economic value at the end of their functional life.



Central Government – Furniture Tender | CASE 19

The Directorate-General for Public Works and Water Management is given the responsibility for tendering the central government's office furniture. The circular focus within this tender is to prioritize high-value reuse of existing furniture. With the knowledge that this focus might also require suppliers to make investments, it offered the possibility of a long-term framework contract based on an initial three-year contract with subsequent options to extend the contract by three, two and two years respectively (ten years in total).

The extension options in the contract were stipulated clearly and unambiguously in the tender documents. The supplier will receive the extensions provided they meet the KPIs. These KPIs were partially formulated by the Directorate-General and partially offered by the suppliers within the award criteria of the tender. The KPIs were jointly refined following the award of the contract.

In their offers, the suppliers indicated the type of KPIs that could be used to evaluate their performance, such as the percentage of refurbished furniture. After the contract is signed, the Directorate-General and the supplier agree on the level of the KPIs. By first asking for the type of KPI within the tender, and then agreeing upon the actual level after a first inventory is made, there is a larger degree of certainty that the KPIs are realistic.

2. Clearly state your intention of a long-term contract, but also indicate that the contract can be cancelled if the client fails to deliver the agreed performance.

In both cases, it is vital that you clearly specify what 'meeting' or 'failing to meet' the performance criteria means. We recommend developing KPIs that will allow you to monitor the supplier's performance. For some product groups it may be difficult to ask for KPI's within the tender, for example, if you do not yet have a clear inventory of what products you have that might be reused.

Contracting for an uncertain future

How do you formulate a long-term contract if the future is uncertain? Uncertainty about the future is always a factor, regardless of whether the contract is circular or non-circular and regardless of the contract period. It is therefore sensible to incorporate sufficient flexibility into the contract instead of fixed certainties.

As a buyer, you are inclined to worry about suppliers failing to deliver the agreed performance levels. Uncertainty could just as easily mean that the supplier will exceed your expectations. What happens if future developments create new opportunities? It is vital that you do not exclude new possibilities such as these by insisting on an ironclad contract.

One way to do this is by establishing performance agreements and maybe even performance-dependent bonuses, as is the case with the dynamic distribution model. One important aspect in this regard is that the contract describes the basic agreements for the relationship, both parties' responsibilities, the process and performance monitoring. The contract can then refer to an appendix that further elaborates on the performance criteria. This structure of documentation allows the performance criteria to be adjusted if circumstances necessitate it, both in a positive as well as a negative sense.

A second important appendix describes the risks and control measures. Within the linear economy, you usually allocate the risks to one single party in order to keep your own sphere of influence as small as possible. Within the circular economy, buyers and suppliers will have to collaborate in order to examine the extent to which both parties can influence – and therefore also manage – these risks. Within this sphere of influence, you can then determine which party is best equipped to manage the respective risks.

Within circular procurement, we stress the importance of the relationship between the buyer and the supplier. As such, it is important to emphasize the intent of both parties in the contract, as well as clearly stating the collective goal. Furthermore, it is important to determine and state how often you will monitor the relationship and the performance. However, as with all business relationships, it is realistic to also pay attention to the possibility of an exit scenario. What happens when the supplier fails to meet the performance criteria? What if the relationship withers? Plan clear 'exit' clauses in the contract for both sides, focusing on the process itself rather than the allocation of risks.

SUMMARY

During Step 7, we examine how circular performance and circular use can be secured. Circular revenue models can be a useful tool in ensuring circular use of products by providing a financial incentive to achieve the desired circular performance level. The required performance can also be stipulated in the contract in the form of KPIs.

7

STEP 7: SECURING CIRCULARITY

1. Determine which circular revenue model can help to guarantee circular use.
2. Develop the contract so that it is based on collaboration and continuous development.

"If you want to go fast, go alone. If you want to go far, go together."

OLD AFRICAN PROVERB

8

MANAGING CIRCULAR CONTRACTS

Step 8 does not conclude the procurement process. Rather, we see this step as an ongoing process in circular contract management.

8.1 RECOMMENDATIONS FOR CIRCULAR CONTRACT MANAGEMENT

We are still in the early stages of the transition to a circular economy and circular procurement, so there is still a strong focus on experimentation. Purchasing involves issues such as:

- How can you specify your assignment to achieve optimal results?
- What aspects should you prioritize?
- Which disciplines are required in order to optimally satisfy your needs?
- How functional should your specifications be?
- Which procedure will allow you to get the best results?
- What are the minimum requirements you wish to stipulate?
- How can you guarantee the products are returned?
- How long should the contract be?

All of these questions were addressed in detail in the previous chapters. Within many product categories, considerable exploration and experimentation will be required before circular procurement becomes mainstream. However, by this time, will circular procurement projects be effective and circular in practice?

Once you have found the right partner and the right offer, how do you ensure you achieve the desired results during the execution of the contract? A commonly voiced concern on part of buyers is that both the buyer and the supplier will revert to old habits after a successful procurement process. How do you handle these situations, in order to ensure that all the efforts are not wasted?

As only a limited number of circular contracts are currently in force, our experience is still fairly modest. We are happy to share all of the insight we have gained so far, which to a large extent was gathered via conversations with clients who have operated circular contracts for a number of years.

However, we also realize that different companies organize their contract management in different ways. Some contract managers may only get involved in the process at a later stage, whereas within other organizations the contract manager is one of the instigators of the circular project. As this book is primarily written for procurement officers, we will formulate the recommendations from their perspective.

Context and meaning of agreements

To effectively monitor agreements during the execution of the contract, it is vital to have clear knowledge of the background and the reasoning behind these agreements. For this reason, the contract manager should preferably be aware of the context involved in all of the agreements. The contract manager will most likely be relatively unfamiliar with agreements relating to circularity, so ensure that (a) he/she is fully up to speed with the relevant issues, (b) all parties explicitly state their intentions and (c) everybody in the team understands each other.

Relevant skills

Ensure you appoint a contract manager with the necessary skills. It is also useful if this manager shares the organization's long-term vision and is intrinsically motivated to achieve a successful circular contract. Collaboration is a key aspect of many circular contracts, so it is not advisable to negotiate forcefully. For this reason, it is best to seek a person with strong interpersonal skills.

Remain involved

Procurement officers or other instigators of circular processes should remain involved during the contract management phase. Internal clients or project managers who were not involved in the tendering process may have a greater tendency to revert into old habits. For example, they may be tempted to drive down costs or put pressure on people without keeping the original ambitions in mind. You can also choose to allocate the roles of procurement officer and contract manager to one single person, although you should ensure that this person has enough time available to perform both roles.

Keep a close eye on KPIs

To ensure effective contract management, conduct evaluations together with the supplier to keep a close eye on the KPIs and maintain regular communication regarding this issue. Discussing KPIs only once or twice a year may increase the likelihood of the supplier failing to meet their performance criteria. Ask for regular reports based on the project's key focus areas and ambitions. For example, if refurbishment is an important factor during the contract period, then you must regularly collect data regarding this issue and have the supplier proactively communicate such data.

Collaborate

It is difficult for buyers to oversee all of the consequences of a new circular project, so it is advisable to fine-tune the KPIs in conjunction with the winning supplier. What key success factors do you wish to base the KPIs on? Once you have determined and agreed on these KPIs and their threshold values, it is possible that they

end up not being feasible. Make sure that you have alternative approaches in mind, rather than handing out penalties straight away. For example, you could agree with the contractor that, in the event they fail to meet the KPIs, they will do more to boost awareness of the circular economy, e.g. by visiting schools teaching about this topic.

Reciprocity

We are always happy to see suppliers commit to circular performance criteria. In practice, the buyer is equally responsible for the success of a circular project. For this reason, it is only fair to formulate KPIs for your own organization to achieve within the contract as well.

Be flexible

After the contract comes into force, it is possible that other issues may come to light that could not be taken into account during the formulation of the agreements. Within long-term contracts specifically, one can anticipate unexpected circumstances to arise. Make sure to evaluate the agreements on a regular basis and amend them according to the latest insights. Make sure that no one is obliged to comply with unrealistic agreements, or agreements that have not proven their relevance yet.

Internal communication

You may have formulated effective KPIs with the supplier, however the performance criteria are equally dependent on the awareness and behavior within your own organization. Make sure to communicate the possibilities of the contract within your own organization. If delivering refurbished items is an important part of your contract, make sure to keep users informed. Ideally, you can ask potential suppliers on how they will keep the end users informed within the tender phase. The winning supplier can then adopt a proactive role in this regard during the contract phase.

Sufficient capacity

During the contract period, circular contract management not only depends on the supplier's desired behavior, but also on the internal cooperation, e.g. with the technicians. Get colleagues involved in the tender phase who have knowledge of the products or process. Make sure to include these colleagues in the discussions regarding the functional demand as well as the requirements. You should also involve them during the formulation of the contract and when making any adjustments during the contract period. Make sure they have sufficient time to do this alongside their other duties.

Regular consultation

Be aware that innovative projects require extra time and effort on part of the buyer and the supplier. This additional time is needed prior to and during the contract period. Make sure you regularly consult with one another to ensure you understand each other properly and can implement relevant new developments into the contract. You should also regularly involve and inspire colleagues whose duties will be affected by the contract, to ensure they also see its relevance. Ensure there is sufficient budget to do this.

Interpersonal relationships

During the process of formulating, elaborating and monitoring agreements, the relationship between client and contractor can come under pressure, which, if you are not careful, can result in a downward spiral. Once the parties abandon their collective goals and revert to pursuing their own interests, things can go downhill fast. The only way to prevent this is to show understanding for each other's responses, critically analyze your own attitude and give each other some slack. It is natural to get a bit defensive when you are out of your comfort zone and to momentarily forget other people's interests, so try to resolve any uncomfortable situations that may occur. With a bit of luck, the winning supplier will also proactively respond to such situations in a similar fashion, but do not wait for them to respond, take the initiative straight away. If the supplier is indeed proactive and takes initiative in both parties' interests, then it would be sensible to reward this in some way.

Project organization and management

Some suppliers adhere to a standard project strategy and are less adept at dealing with the finer details of e.g. the maintenance phase. In some sectors, suppliers possess only one of these two skill sets, because the other is not part of their core business. During the tender, you should therefore examine whether the supplier pays enough attention to who will manage the project and how. You may also be able to organize this within the contract.

8.2 PROFESSIONAL CONTRACT MANAGEMENT

In general, circular contract management simply requires professional contract management skills. The principles of how to efficiently organize your contract management essentially remains the same. Circular contract management largely involves longer contract periods, as a result of which there is a greater focus on flexibility in order to implement new insights and developments. This requires a significant amount of extra work for the internal organization and for the contract manager in particular. In addition, topics in their early developmental stages – such as circularity – involve a great degree of uncertainty. Whether or not circular contracts are successful depends largely on healthy business relationships that make room for further development of shared ambitions.

SUMMARY

During circular procurement processes, remember to ensure solid and effective contract management. The tender is just the start of a business relationship between the client and the contractor, and the true collaboration will only take shape during the execution of the contract. Maintain this relationship and ensure that you periodically evaluate the collaboration in order to optimize it.

8

STEP 8: MANAGING CIRCULAR CONTRACTS

1. Make sure to maintain contact with each other throughout the contract period.
2. During the contract period, monitor not only the supplier's level of circularity, but also the quality of the collaboration. Where can improvements be made?

TIME TO TAKE ACTION!

In this book, we have summarized all of the lessons we have learned over the course of over ten years of circular procurement. It all started with Eigen Haard's demolition and construction project in the Overtoomse Veld district, Amsterdam, where we asked the daring question, 'Why demolish anything at all?' In response to the disappointing answer we received to this question, we decided to incorporate at least 95% of the demolition 'waste' into the new buildings. The method we developed then and there was as simple yet successful: cultivate collaboration! Collaboration is vital not only between buyers and suppliers, but also between value chain partners that are involved in effectively 'closing the loop'. A second key success factor was to give suppliers enough freedom to apply their knowledge and expertise.

The next project that we focused on was the Alliander Duiven project, which to this day remains one of the icons of circularity within the Netherlands and abroad. For this project, we used the same strategy and conducted it within European tendering legislation. It was a nerve-wracking step, but you sometimes have to venture out of your comfort zone to learn new things and especially to innovate. Since then – and since 2013 via Copper8 – we have overseen countless circular procurement processes, from smart energy meters to office furniture, from smaller municipal bodies such as Baarn to projects for our central government and from a restricted invitation to tender worth €200,000 to a European tendering process worth €600 million.

We know from experience that the method is widely applicable, although the specific context determines the considerations that you will make.

We have since trained dozens of organizations in these principles, both Dutch as well as foreign, with the ultimate goal of spreading knowledge.

Over the past ten years, we have made many mistakes, which have taught us valuable lessons. All of these success factors and lessons learned have been condensed into the pages in front of you. Reading this book can provide you with useful information, ideas and inspiration, but it will only truly come to life once you put it to practice. Mathieu Weggeman (2000) summarized this in the following formula:

K = I * ESA

which means

Knowledge = Information * (Experience, Skills and Attitude)

We urge you to roll up your sleeves and apply the information in this book to your procurement processes. Doing so will help you gain a great deal of experience, acquire new skills and develop the right attitude with regard to circular procurement. As a result, more information will become available and true knowledge will be at our disposal.

Our organization's goal is to become obsolete. We can only do so by actively sharing every ounce of knowledge we have. We do so by means of the national Circular Procurement Academy but also by means the book you are reading at this very moment. Our appeal to you is to get out there, become an expert and continue to spread the word. Together, we can bring about a circular economy using the power of procurement!

DEFINITIONS

Biobased procurement: procurement that encourages the market to offer products made from renewable and organic materials rather than fossil-based materials.

Business model: the way a business organizes its activities, serves its customers and creates, adds and maintains value. This term is therefore much broader than the term 'revenue model', although the two are often used interchangeably.

Circular economy (holistic definition): an economic system that maximizes the value of materials without interfering with the biosphere or harming the integrity of our society.

Circular economy (specialized definition for this book): the circular economy is an economic system that minimizes waste and maximizes value retention of resources. Reusability of products and recyclability of materials is facilitated, encouraging future reuse and preventing value destruction.

Circular procurement: procurement of a product, service or project via a process that focuses on circular technical aspects, takes into account both the maintenance of the product during its service life and the return of the product for reuse at the end of its service life and establishes financial incentives to guarantee that circularity agreements are complied with.

Circular procurement process: the entire process from the formulation of the ambitions and needs to the contract management phase and the return of the products to the supplier.

Circularity: circularity focuses on the technical aspects of a product, specifically the materials used and the design, manufacturing and assembly processes.

Component: a smaller, independent part of a larger entity (i.e. the product).

Contract management: the method used to clearly and transparently record agreements with suppliers and actively monitor compliance with these agreements.

Environmentally friendly procurement: Environmentally friendly procurement is about preventing or minimizing negative impact on the environment or maximizing positive impact on the environment, e.g. by creating natural value. This issue involves a variety of themes, such as energy and climate; materials/raw materials, water and soil; living environment; nature, biodiversity and space; and health and welfare.

Innovation-oriented procurement: a procurement process during which the procuring organization encourages suppliers to innovate and devise new solutions to more effectively carry out its public task. These innovative solutions often focus on cheaper, more sustainable, faster, more reliable or safer ways to carry out specific tasks.

International social criteria: these focus on promoting international labor standards, including combating forced labor, slavery, child labour and discrimination.

Linear procurement: procurement via a process that does not focus on circular technical aspects, does not take into account either the maintenance of the product during its service life or the return of the product for reuse at the end of its service life and does not establish financial incentives to guarantee that circularity agreements are complied with.

Material: a natural or artificially manufactured substance intended for processing into usable products. The material's state of matter is not relevant.

Procurement: the entire process in which:

1. the client formulates an order based on the need for a certain product, service or project;
2. the client then purchases this product, service or project in collaboration with the supplier;
3. the supplier provides the product, service or project for the specified contract term based on conditions agreed between the parties involved.

Raw material: an unprocessed and unrefined substance. It is possible to use artificial processes to turn fossil-based raw materials into usable materials, although it is difficult or even impossible to turn these materials back into the original raw materials. Examples of such materials include iron ore (raw material) that is turned into iron (material). It is very difficult to turn this iron back into iron ore and its other constituent elements. Biobased (renewable and organic) materials, such as wood, retain their properties when they are directly used as materials. In addition, artificial processes can separate certain substances from renewable raw materials, such as cellulose or lignin. These are also used to create new materials.

SME-friendly procurement: Improving access to public procurements for small and medium-sized enterprises (SMEs) is a major objective of the Public Procurement Act 2012. This can be done, for example, by reducing the administrative burden or setting proportional suitability requirements.

Social return: this involves agreeing purchasing agreements with contractors concerning the creation of additional jobs, work experience placements or internships for people who are distanced from the labor market.

Sustainability: creation of long-term value in relation to society, environment and the economy.

DEFINITIONS

Total cost of ownership (TCO): a cost method that examines the costs over the entire lifespan (TCO) or use phase (TCU), i.e. the purchasing price including maintenance costs minus any possible return value at the end of a fixed use period. Working with this method helps to clarify which tender is the most economically beneficial in the long term, as opposed to traditional procurement, which generally only considers the initial purchase value.

Revenue model: the manner in which a business earns money. Within circular tenders, revenue models can be designed in a variety of ways: a buy-back agreement (with a predetermined residual value), renting a product, selling both a product and a related service, pay-per-use or a lease construction. Please note, no single revenue model necessarily guarantees that the product will be technically circular or that it will be reused in the future, so this only constitutes one possible aspect of a circular proposition.

MEASUREMENT INSTRUMENTS

In this appendix, we briefly discuss a couple of (Dutch) instruments that can currently be used for circular procurement processes and that specifically measure and analyze circular aspects. Naturally, other instruments exist that can measure circular aspects, but we chose these specific instruments due to their popularity in the field of circular procurement or due to our own positive experiences with them. All three instruments provide verifiable data regarding products and processes that can be validated by independent third parties.

One typical characteristic of the circular economy is that alternative product data are also required in order to evaluate materials and their use. Reliable insight into materials requires collaboration with chain partners. For some suppliers, this is easy, as they already have good collaboration partnerships and/or the necessary data. However, for parties within long, less transparent value chains, it can be difficult to obtain reliable information within the time frame of a tender. We have also seen that buyers and suppliers are not always fully familiar with sustainability data management software.

Circular IQ

What is its purpose?

Circular IQ was developed to support procurement professionals to get a better grip on the circular economy challenges they face in their jobs. Circular IQ provides an online tool and offline support to help buyers embed 'made to measure' Circular Economy criteria in their procurement processes. During the contact-phase the software helps monitor the circular characteristics of products delivered and impact generated. This way, you can demonstrate how individual procurement projects contribute to organizational goals such as decreasing waste, avoiding virgin resources use and increasing recycled content.

What does it measure?

Circular IQ uses indicators from leading sustainability programmes, such as C2C Certified, the GRI and EMF's Material Circularity Indicators. Circular IQ enables you to collect information about the degree to which products can be disassembled, carbon emissions, use of energy and energy sources, safety of materials, use of chemical substances, opportunities for reuse, agreements concerning return of the products after their service life, social aspects, water use and the origin and attributes of materials used (recycled content/rapidly renewable). The data entered into Circular IQ is suited for verification by independent third parties and can be used in annual reports.

What are the benefits of Circular IQ?

Circular IQ is user-friendly and offers attractive and flexible reporting options based on reliable information. This enables buyers to make decisions about suppliers and possible materials based on a broad range of reliable data. It also facilitates dialogue with colleagues, partners and clients via Product Circularity Reports (product passports), which clearly indicate the circularity aspects of individual products. This simplifies the selection process, monitoring of progress and improvement management during the contract period.

How effective is Circular IQ for procurement projects?

The software is used by national, regional and local governments in the Netherlands and Belgium. Furthermore Circular IQ also serves corporate clients that are using the software to evaluate & monitor products and suppliers against their corporate circular economy goals. Customers say the passports help them have a more meaningful and effective dialogue with their suppliers about where to improve circularity characteristics of products. That these dialogues help them build knowledge and allow them to take ownership and control over this complex topic in collaboration with suppliers.

What are the user costs?

Circular IQ charges € 3.000,-- for the first project and € 1.000,-- for every procurement project thereafter. For this fee, you receive unlimited free access to the tool, for you and your suppliers including onboardings and helpdesk support. Support in selecting your Circular Economy goals, for the project and in developing tender criteria. Finally, we deliver a so-called tender-report. This report provides information such as product/supplier-ranking and scoring, product passports for all submitted products as well as a tailored analysis for the individual passports.

The above prices are exclusive of VAT. Customized functionalities can be developed as well.

In what kind of circular procurement processes has the tool already been used?

Since it was set up at the end of 2016, the tool has been used In over 40 projects. The categories for which Circular IQ has been used, range from office furniture, to workwear and from the built environment, to IT hardware and facilities.

PRP®

What is its purpose?

The tool is intended to accelerate the circular transition for both procuring organizations (i.e. the clients) and the supply chain as a whole, before, during and after use.

What does it measure?

The tool is comprised of a variety of modules, which measure four aspects: the circular intentions of the suppliers, the circular potential of the suppliers, the total quantity of products (including all necessary documentation for the purposes of the user phase and contract management) and the expected consumption volume during the use phase. The 'circular potential' examines the eventual recyclable output following all forms of reuse in accordance with all parties' social fairness positions at both the beginning and end of the process.

What are the benefits of PRP?

PRP was specifically designed for circularity and has firm scientific foundations, as it is based on the four CUDOS principles. All of the data entered must be verifiable. The efforts made by suppliers will also benefit the suppliers who are not awarded the contract, as the data give all suppliers clear insight into their own supply chain and processes, providing firm foundations from which they can start the transition and/or improve the performance of the supply chain.

How effective is PRP for procurement projects?

Every procurement process is unique and you must adapt to the ambitions of the procuring organization and the opportunities available within the market. The tool has four levels of depth, each of which features a total of 80 possible criteria that you can select as appropriate. The procuring organization can specify any conceivable combination of depth and criteria to perfectly suit their ambitions and market opportunities, and the tool will then compare the tenders based on the selected depth and criteria. The tender data entered into the tool also provide solid foundations for contract management and the user phase.

To which product categories is this tool particularly suited and why?

The tool is suitable for all categories relating to raw materials. It examines circular potential, a factor that is entirely independent of the product and process. The Matrix® module is also available to measure circular intentions and mindset for any services that are not related to raw materials.

What is the average time investment required to assess a product with this tool?

The amount of time required depends entirely on the selected level of depth. The tool itself is simple and quick, with the level of time investment depending solely on the amount of data and documents that must be collected for the purposes of verification. The greater the depth and the more criteria applied, the more time you will have to invest (and vice versa). Of course, an important factor in this regard is whether the users already have access to information or whether they are embarking on their circular journey for the first time. Depending on the depth and

availability of information, this process can take anywhere between a few hours and several weeks. Therefore, before using the tool, it is important to carefully coordinate the ambitions, desired level of depth, time available during the procurement process and developments in the market.

What are the user costs?

The tool has an annual fee of €3,600 (as of 2019), which allows you to carry out an unlimited number of procurement or analysis processes. In addition to the annual fee €450 is charged per separate project for a maximum of eight simultaneous users (both buyers and suppliers). In situations involving multiple simultaneous procurement processes and users, the tool offers a tailor-made solution. The above prices are excluding VAT.

In what kind of circular procurement projects has the tool already been used?

In the past six years, this tool has been used as part of over 40+ circular procurement processes within the following product categories: construction, installation, hot drinks, IT, the manufacturing industry and consumer products.

EcoChain

What is its purpose?

Ecochain provides companies with real-time insight into their environmental performance. The tool translates data into relevant information for various internal and external stakeholders, enabling organizations to make smarter business decisions towards sustainable and profitable business operations.

What does it measure?

With Ecochain, any company can calculate its environmental impact at the company, process and product level using a scientifically validated method (life cycle analysis – LCA). In this way, Ecochain clearly identifies environmental points of attention.

What are the benefits of EcoChain?

Ecochain pinpoints all environmental points of attention within your organization's business processes, the damage caused by the energy consumed by all processes, the use of materials (type and quantity) in the manufacturing chain and the product's emissions during the use and disposal phases. Ecochain, which is based on a scientifically validated model, enables you to easily and efficiently calculate the environmental impact of a large number of product lines simultaneously. It makes use of LCAs, the international standard for calculating the carbon footprint of products and services.

Ecochain makes highly specialized environmental data easily understandable to

both internal and external stakeholders via dashboards that give easy access to information about procurement, process engineering, marketing and finance. The greatest benefit that Ecochain offers is that it gets suppliers involved and enables them to work together to improve the entire value chain.

How effective is EcoChain for procurement projects?

Ecochain makes it easy for procurement professionals to incorporate the aspect of environmental impact – and therefore circularity – into the procurement processes. This enables supplier selection as well as supplier monitoring based on footprinting or LCA information. Helped by the platforms' workflow, suppliers can determine the environmental impact of their offers, making assessment of the tenderers' impact possible. Similar assessments can be made for ongoing projects to see if progress is made over time. The application provides scientifically validated data based on ISO-certified standards and other quality marks, guaranteeing the reliability of the data and making it easy to interpret.

To which product categories is this tool particularly suited and why?

LCAs can be conducted for all possible products and services, and you can include them as award criteria for product categories in which LCAs are a commonly used instrument. Within such categories, sufficient data (including benchmark data) are usually already available. However, benchmark data are often not available in product categories for which LCAs are not a familiar instrument, in which case you should preferably encourage the market parties to conduct an LCA by including it as a requirement, but not yet rewarding the parties for the results.

What is the average time investment required to assess a product with this tool?

A certain amount of time is required for the implementation and entry of data. This depends on the number of product lines and the specifications in, for example, the bill of materials as well as energy consumption. Once implemented, the tool can almost immediately generate reports of factors such as environmental impact, carbon emissions and water consumption.

What are the user costs?

The implementation of the tool involves one-off (implementation) costs, calculated based on an hourly rate and usually requiring at least a couple of days. In addition, there are monthly user (subscription) costs, which vary based on the number of product lines you wish to monitor.

In what kind of circular procurement projects has the tool already been used?

In recent years, Ecochain has been used as part of approximately 35 procurement projects, mainly to calculate the environmental impact of concrete and asphalt, but also for other products, such as clothing and paper and textile.

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Extra acknowledgements by Godard Croon

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Extra acknowledgements by Cécile van Oppen

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ABOUT THE AUTHORS

Cécile van Oppen

As a committed do-gooder, Cécile spends every single day building the circular economy. The circular economy demands a shift in how parties collaborate and a different economic system. Cécile encourages this transition by changing how procurement is organized, which can result in the transformation of entire value chains. For over a decade, she has devoted her career to setting up pioneering circular projects. Since 2013, she has done this via Copper8, which she founded together with her co-founder Noor Huitema. With 'practice what you preach' as the guiding philosophy, Copper8 incorporates circular thinking into its own business operations, which has led to B-Corp certification as well as the status of Social Enterprise. This is Cécile's second book on the circular economy, following her 2016 book 'Circular Business: Collaborate and Circulate'.

Godard Croon

Godard started his career in law, where he experienced how diverse people's perspectives can be, that the truth is always somewhere in the middle and that the only way to get a satisfying result for both parties is to work on a common goal together. He switched jobs in 2010 to become a sustainability consultant, which in 2012 resulted in his first eye-opening encounter with the circular economy, a theme that can both make an overwhelmingly positive impact and offer attractive opportunities for entrepreneurs. However, these entrepreneurs need clients. For this reason, he decided to focus on the demand side, motivated by the philosophy that asking the right questions will 'automatically' lead to the right answers. First, he did this as a project manager within the Green Deal for Circular Procurement. In 2015, he brought his substantial knowledge and drive to Copper8 in order to help us make the world a better place.

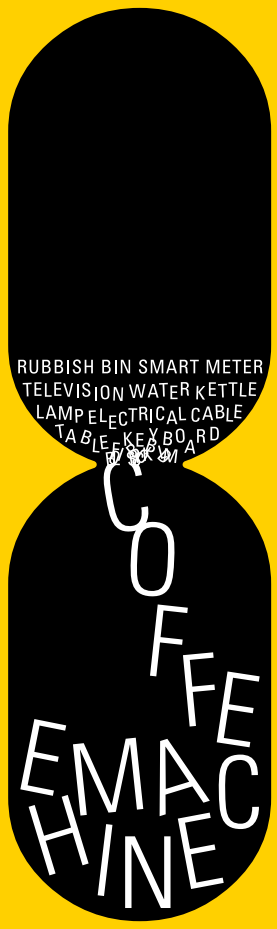
Dirk Bijl de Vroe

What man creates, man can also change. If we want to ensure our world remains habitable in the future, this change will have to be made immediately. Since 2008, Dirk has worked tirelessly on a variety of sustainability issues, all of which are closely related to this challenge. After studying history and international relations, working on innovation and sustainability issues at the consultancy firm Squarewise, setting up his own concept development business and working as a consultant for Copper8 for nearly four years, Dirk is now responsible for optimising the sustainability strategy for the network manager Stedin.

THE STEPS

Circular procurement may still be a novel concept to many of us. Learning what works best is a process of trial and error. This is all part of navigating a new topic. This book is a useful tool to help ease this process for you. It is filled with illustrative examples, practical tips and inspiring results – because why reinvent the wheel? In return, I hope you will an inspiration to others. Project by project, we can make the world more circular.

Stientje van Veldhoven
– State Secretary Infrastructure and Water Management, The Netherlands



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