

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every sale, purchase, and payment must be properly documented to ensure the integrity of the financial statements. This includes keeping receipts, invoices, and bank statements in a secure and organized manner.

Next, the document outlines the process of reconciling the books. This involves comparing the company's internal records with the bank's records to identify any discrepancies. Regular reconciliation helps in detecting errors early and ensures that the company's financial position is accurately reflected in its books.

The document also covers the preparation of financial statements. It details the steps involved in calculating the net income, preparing the balance sheet, and the cash flow statement. Each statement provides a different perspective on the company's financial health and performance over a specific period.

Finally, the document discusses the importance of reviewing and auditing the financial records. Regular audits help in identifying any irregularities or fraud and ensure that the financial statements are true and fair. It also highlights the role of external auditors in providing an independent opinion on the company's financial statements.

Preface

The consumption of natural resources has increased tremendously over the last decades in a unsustainable pace. Currently, we are globally using more ecological resources and services than nature can regenerate. This due to: the consumption of stocks of virgin non-renewable natural resources, overfishing, overharvesting forests, and the emission of more greenhouse gas emissions than ecosystems can absorb. In perspective, according to the Global Footprint Network we would require 1,7 earths to meet our current global consumption of natural resources (Global Footprint Network, 2018). As a result, we are facing unprecedented environmental challenges, including: material resource scarcity, ecosystem decline, water scarcity and global warming. These developments are expected to continue and to speed up due to increasing global wealth and - population growth.

In order to protect the competitiveness of the European Union against scarcity of material resources and to help combat environmental challenges caused by overconsumption of natural resources, the European Commission has adopted an ambitious action plan. This action plan includes measures which will help to stimulate the transition towards a circular economy and bring with environmental - and economic benefits. The concept of the circular economy allows us to transition towards a system in which we will be able to reduce the extraction of natural resources. This by 'closing the loop' of product lifecycles through greater refurbishing, reusing and recycling of goods and materials.

However, to enable a fast transition towards a circular economy more action is required from economic actors and local-, regional- and national authorities, especially to support SMEs. Currently, SMEs represent 99% of all businesses in the EU, account for 85% of new jobs created over the last years and provided two-thirds of the total private sector employment in the EU (Eurostat, 2018). At the same time, these enterprises are more restricted in their organizational, technological and financial capacities, and have more limited access to skilled personnel and financing. As a result, they face more difficulties in adopting circular economy strategies and practices.

In order to boost the transition towards a circular economy, the Commission has adopted this pilot project in which it provides: advice to regional authorities, training to SME support organizations and scale-up support to a selection of highly promising circular solutions. In this report a selection of recommendations is provided to the Regional authority of Centro on how the transition towards a circular economy could be boosted in the region.

We hope that these recommendations are valuable to the Regional authority of Centro and other regions across Europe.

Peter Czaga

Policy officer

European Commission – DG Environment

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Executive summary

This report was commissioned by the European Commission – DG Environment to examine how regional authorities can direct and support SMEs in their transition towards a circular economy. Experts of KPMG, MVO Nederland (CSR Netherlands) and Circle Economy have been appointed to provide support on this subject to various actors, amongst others the Centro Region.

Thanks to national-, regional-, and other stakeholder efforts to promote and facilitate the circular economy, the fraction of SMEs adopting circular strategies and practices in the Centro Region is growing. Nevertheless, this growth can be stimulated by removing the challenges which obstruct the transition of SMEs. By reviewing policy documentations, conducting regional visits and analyzing economic – and environmental data, several challenges in the Centro Region have been identified. These include:

- Relatively low level awareness and limited access to knowledge;
- Limited focus of support activities;
- Little demand for circular products in the marketplace;
- and a Limited willingness and financial support for investing in circular practices.

To overcome these challenges and enable a smooth and fast transition towards a circular economy in the region – we recommend the following to the Regional authority of Centro to:

- Set-up a regional support program for SMEs on circular economy
- Focus of support activities in order to make a sizeable impact
- Boost demand for circular products and services through public procurement
- and Stimulate investment / provide financial support to SMEs to help them implement circular economy strategies and practices





Part I:

The transition towards a circular economy



Circular economy - what's in it for SMEs?

During the last century global wealth has grown tremendously, leading to an enormous increase in the consumption of natural resources. At the current rate of consumption, we would require 1.7 earths to be able to sustainably consume at this rate (Global Footprint Network, 2018). Since we only have one planet – global stocks of non-renewable natural resources are rapidly being depleted and our ecosystem is in alarming decline. This trend of resource scarcity and expanding demand is expected to worsen due to the growing global population, increasing global wealth, climate change, ecosystem decline and other global trends. Inevitably, businesses – both corporates and SMEs – are faced with significant risks.

The concept of the circular economy allows us to transition towards a system in which we will be able to reduce the extraction of natural resources. This by 'closing the loop' of product lifecycles through greater refurbishing, reusing and recycling of goods and materials. This concept is being applied more and more often by businesses, especially by corporates, and to a lesser extent by SMEs.

Resource scarcity poses a significant risk to businesses

As the world population grew and global wealth increased over the last century, the consumption of resources enlarged. Within 40 years, the global population doubled: from 3 billion in 1959 to 7 billion in 2011 (United Nations, 2017). Over the same period, the global wealth increased over tenfold (World Bank, 2018). This resulted in an increase in global resource use per capita from 6.4 tonnes in 1970 to 7.9 tonnes in 2000 and 10.1 tonnes in 2010 (Schandl et al., 2016).

The trend of increased consumption of natural resources is expected to continue due to further population growth and rise in global wealth. This is especially the case in emerging economies. At the moment, the global population growth is estimated at a rate of 1.09% per year, an increase of an average of 83 million people per year. Over the coming years, this rate will slowly decrease due to lower fertility rates, resulting in the latest forecasts of a global population of 10 billion in 2055 and 11 billion in 2088 (United Nations, 2017). Combined with an expected expansion of the global middle class – being a quarter of the global population by 2022 (Shorrocks, Davies & Lluberas, 2017) – current material consumption is expected to double from 2015 to 2050 (Bringezu et al., 2017).

The forementioned gives rise to unprecedented, interrelated and complex environmental challenges as climate change, ecosystem decline, water

scarcity, deforestation and material scarcity, which is having significant impacts. One of these impacts is the reduction in the supply of available natural resources, thereby increasing its scarcity. Subsequently, resource prices rise and become increasingly volatile, a development already being observed over the last decade (see: figure 1). Given the expected increased scarcity in the nearby future, the general expectancy is that prices of natural resources will continue to rise and become even more volatile. This poses a significant risk for businesses in terms of:

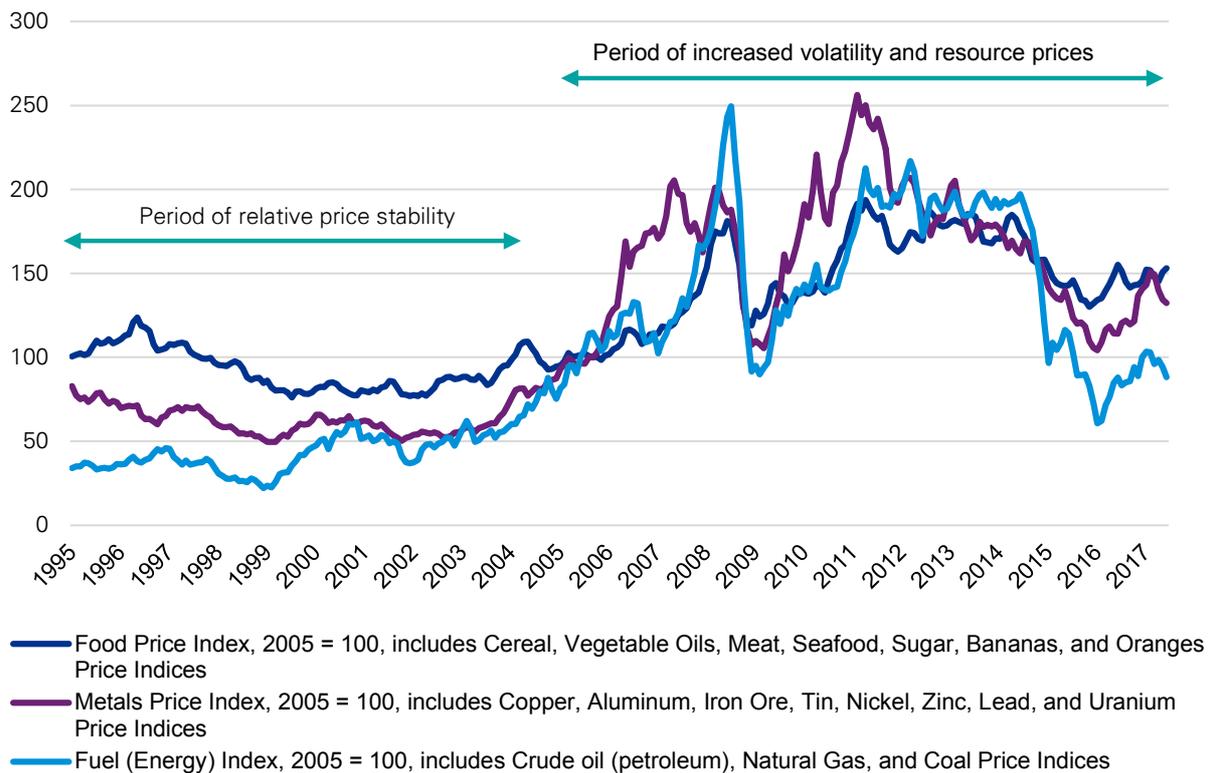
- increased material/procurement costs;
- supply risks affecting continuation of operations;
- and increased fluctuation in revenues due to volatility in prices and demand. These fluctuations are generally caused by economic shocks as a result of scarcity.

Circular economy reduces exposure to resource scarcity and provides competitive advantages

Increasing resource scarcity forces businesses to utilize resources more efficiently. The concept of circular economy provides a way of thinking which provides strategies and practices to increase resource efficiency.

In circular economy thinking the central goal is to retain as much value as possible from resources, products, parts and materials and to create a system that allows for long life, optimal reuse,

Figure 1: Resource prices for fuel, food and metals (source: IMF (2017), Online database)



refurbishment, remanufacturing and recycling (see: figure 2). This opposed to ‘linear’ systems in which products, components and materials are discarded as waste after they have been used. Sequentially, the materials which have been used in these products are no longer available which increases the scarcity of these materials. From a circular economy point of view, discarding such valuable materials is inefficient and corresponds to destroying the economic value of the materials.

Becoming more circular requires businesses to change their business model. This is because most of the regular business models are based on adding value to a particular product (e.g. by assembling bicycles from various parts), whereas in a circular economy the focus lays on maintaining value (e.g. remanufacturing bicycles). In order to be able to adopt such a circular model, it may be required to keep access to the end product as well as the parts and materials it consists of. For example, to be able to remanufacture bikes a producer needs to have access to the bikes after they have been used. This access can be facilitated by no longer simply selling bikes but leasing them, or by offering a fixed repurchasing price when selling the product (see:

box 1 for more examples of circular business models).

Adopting such circular business models can provide significant business benefits (see: box 2). These benefits depend on the adopted strategy, the degree to which the business processes are circular, the environment in which the company is active and the role of the company in the value chain.

SMEs face several hurdles to become circular

Following the definition of the European Commission the category SMEs is made up of “enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million” (European Commission, 2015a, p. 3).

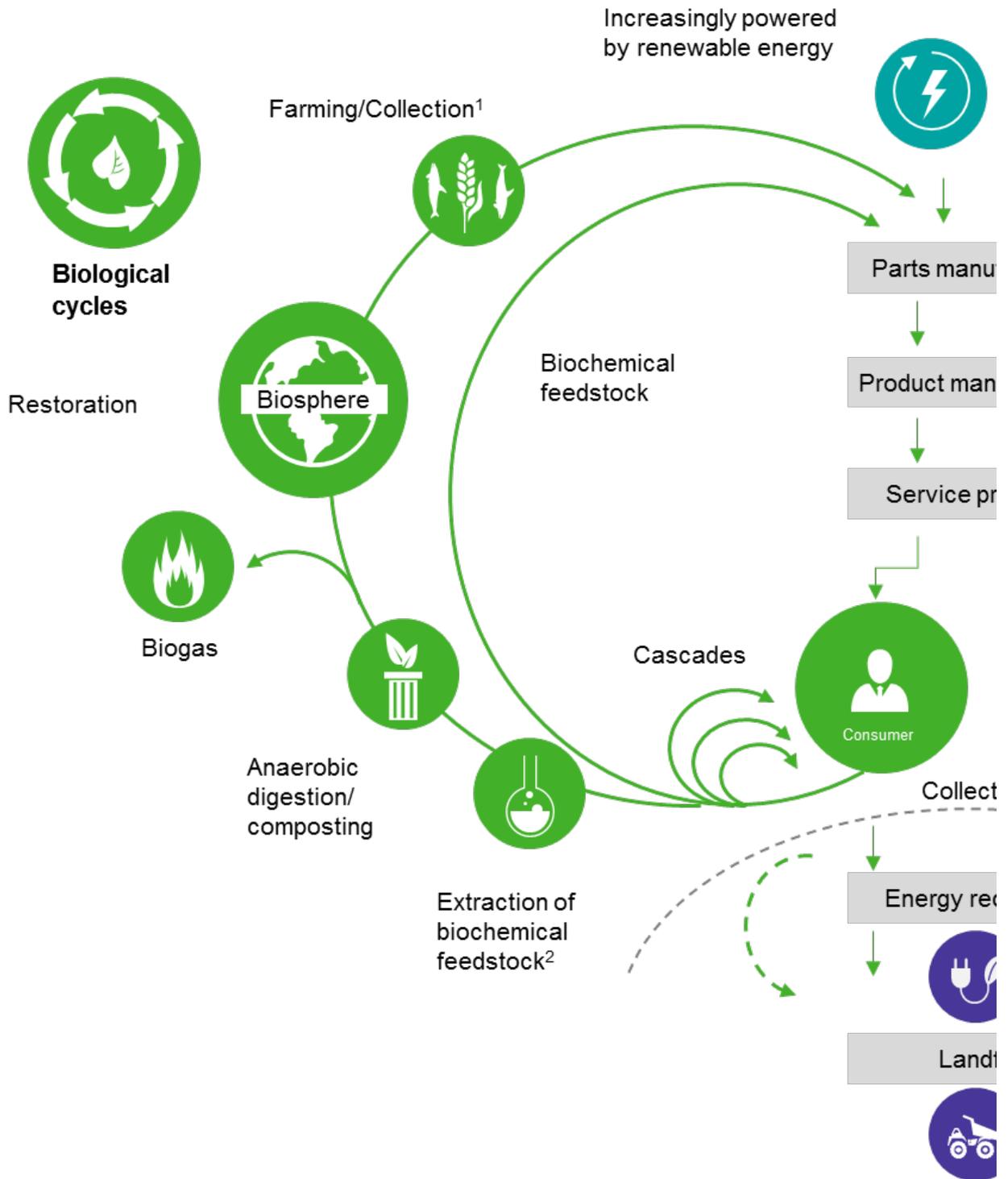
Although the business drivers for corporates SMEs to become more circular are the same, it is more difficult for SMEs to implement circular economy practices due to several hurdles which SMEs face (see: box 3). For example, SMEs have on average a smaller time horizon than large companies, making them less aware of the importance of adopting circular strategies and practices for longer-term survival. In addition, it is observed SMEs are more restricted in their organizational-, technological- and financial capacity, and have limited access to skilled personnel and financing. Consequently, it becomes more difficult for SMEs to uptake circular economy strategies and practices.

These hurdles significantly limit the speed at which the European economy can transition towards a circular economy. Since SMEs: (a) represent 99% of all businesses in the EU, (b) account for 85% of new jobs created over the last years and provided two-thirds of the total private sector employment in the EU (Eurostat, 2018).

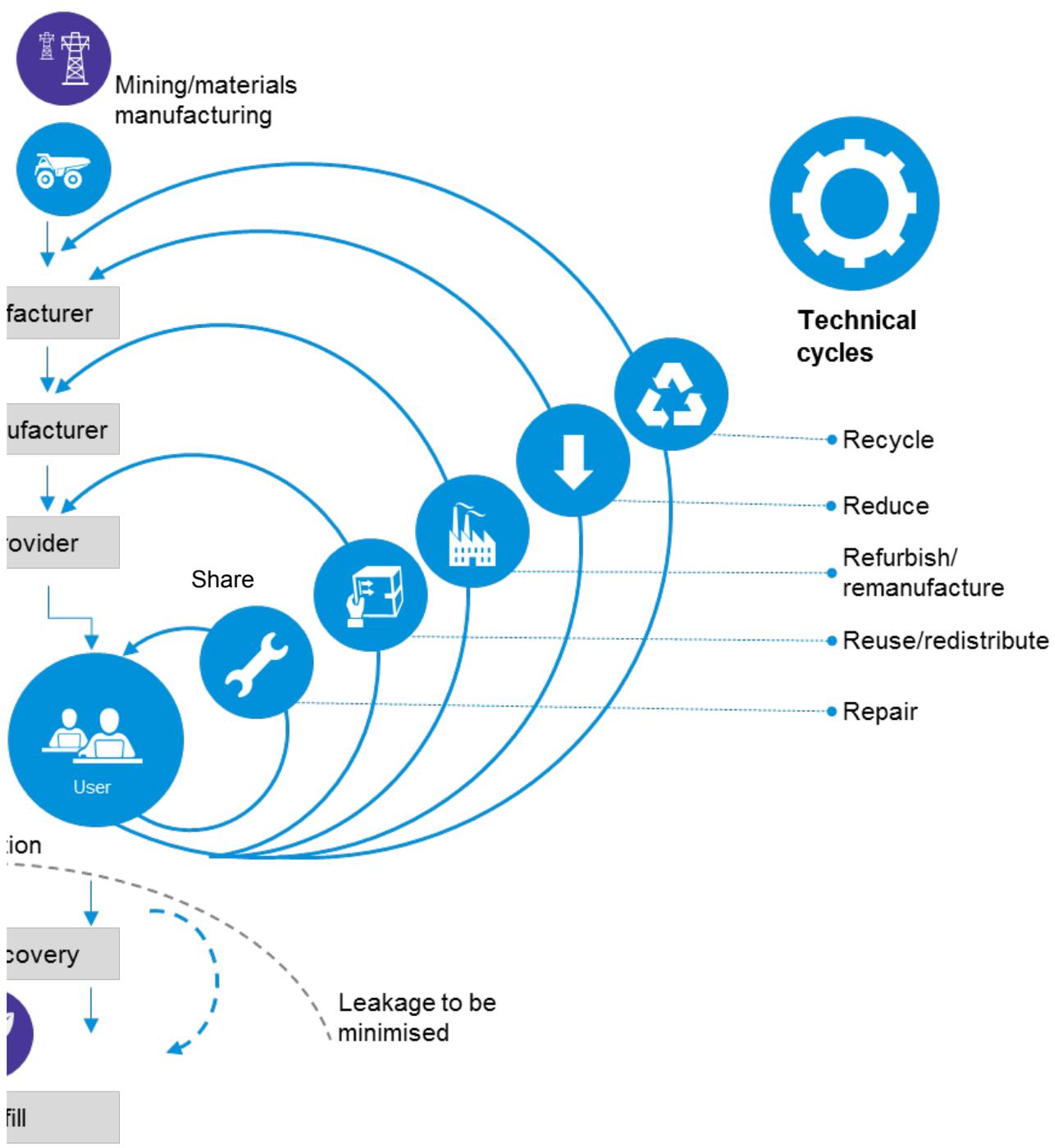
Various SME support organizations (e.g. chambers of commerce and industry associations) and regional authorities are setting up support programmes to help SMEs to overcome these hurdles and barriers. In addition, various regional authorities have integrated circular economy procurement procedures to stimulate demand for requirement into their circular goods and services, and/or are changing laws and regulations which act as a barrier for implementing circular strategies and practices. Nevertheless, more support is needed to facilitate a fast transition which can limit the economic impact of resource scarcity and the impact of the environmental challenges caused by the current rate of the consumption of natural resources.



Figure 2: schematic overview a circular economy (adapted from: Ellen MacArthur Foundation (2012))



Note: (1) Hunting and Fishing
 (2) Can take both post-harvest and post-consumer waste as an input





Moving away from ownership: pay-per-use washing machines

Bundles sells wash cycles – i.e. pay-per-use system - instead of washing machines. Through this model Bundles is able to extend the life time of washing machines while offering high-end and energy efficient washing machines to a wide range of consumers at relatively low costs.

On average, washing machines can be used for a period of six years. During this period, great amounts of energy, water and laundry detergent are needlessly misspent. For example, jointly we spread 150 million litre of chemicals through detergent and one household with a economical device spoils 2,000 litre of water and 150 kWh on energy (Bundles, n.d.). At the end of this user phase, the devices are often discarded and become burned or downcycled, destroying its economic value.

In order to uphold the material value and to become more environmentally responsible, the company Bundles adopted a new business model. Instead of simply selling washing machines, Bundles is retailing smart washing cycles for a monthly fee whereby an attached device monitors the user phase. Through statistics provided in the Wash-app, consumers gain insights into their costs of washing – including energy, water and detergent consumption - and are provided with tips to reduce these costs and extend the lifetime of the washing machine. To stimulate 'good behavior', customers who use the machine optimally are rewarded with a reduced monthly fee.

The relationship with the consumer is shaped through an operating lease. This means that the company retains ownership of the washing machine and is responsible for the installation, maintenance and repair of the machine as well as the replacement if the machine becomes outdated or broken.

FAIRPHONE

Circular in design: an ethical and modular smartphone

Fairphone sells ethically sourced, modular smartphones. These phones are designed with a focus on long-lasting design, fair materials, good working conditions and closing the loop through reuse and recycling. This with the aim of supporting reparability and encouraging sustainability.

Mobile devices contain on average over 30 different (conflict) minerals – ranging from cobalt and copper to nickel and rare earth elements (Fairphone, 2017). Many of these used minerals are becoming increasingly scarce due to a growing global demand. As there is currently no exemplary substitute for most parts, the impact on the environment is increasing and the market for mobile devices is becoming increasingly vulnerable (Graedel, Harper, Nassar and Reck, 2015). Still, many smartphones are designed for a short life-time and, ones discarded, often end up in landfill or are incinerated (Fairphone, n.d.)

The design of the Fairphone is based on the principles of easy repair and longevity, stimulating consumers to replace separate modules themselves if broken – e.g. batteries and audio jacks. The spare parts can be purchased on their website and easy repair tutorials are provided. Ones replaced, old phones and Fairphone modules are reused and recycled through the take back programme. This programme allows the company to retain material value as well as to improve the Fairphone in terms of easy dismantling.

Through this approach Fairphone can differentiate itself from its competitors with a more sustainable product and build a green image. This allows the company to benefit from consumer loyalty and a market of sustainable consumers. In addition, it reduces its exposure to the risk of rising and more volatile mineral prices.

The concept of circular economy provides inspiration for businesses to increase their resource efficiency. By adopting circular economy strategies and practices, entrepreneurs can realize all sorts of different business benefits depending on the strategy, processes and context. Nevertheless, we have identified six general business benefits which help to explain why adopting circular economy strategies and practices are beneficial for SMEs.



Costs savings

SMEs can realize significant costs savings by adopting circular economy practices on: waste management fees, material procurement costs, energy consumption costs, et cetera.



Reducing the exposure to rising and more volatile resource prices

As forementioned, scarcity of non-renewable natural resources results in rising resource prices and price volatility. Consequently, businesses are faced with higher material costs. This negatively affects a company's bottom line which influences its ability to pay of debts and seize opportunities. By adopting circular economy strategies and practices, businesses can reduce the amount of materials they require for their production or to meet their clients needs. This reduces the exposure to the risk of rising and more volatile resource prices.



Thinking circular stimulates innovation

The concept of circular economy invites businesses to look for new ways to increase their resource efficiency. This asks for the re-evaluation of current business models and operations which may provide new insights and thereby stimulate innovation. For example, in search of ways to reduce amount of materials used in construction, the Dutch construction company BAM invented new building materials made from plastic waste.



Creates a green image

Consumers, businesses and governments are becoming more aware of the environmental impact of the products which they use. They therefore are more tuned into sustainability when making buying decisions. By adopting circular economy strategies and practices, businesses can reduce the environmental footprint of their products and thereby create a green image. This allows them to differentiate themselves from their competitors.



Opens new markets and opportunities for growth

Looking at a product or industry from a circularity angle may create new markets and niches. For example, in the textiles industry there are various businesses which produce yarns from discarded clothing or from textiles waste. Since consumers are looking for sustainable clothing this has grown into a separate market which exists next to the market for regular textiles.



Attracts and retains talented employees

Adopting circular strategies and practices may help SMEs to easier attract talented people and retain them as employees. This is mainly because talented people are becoming more aware of the environmental impact companies have. Sequentially, they more often decide they want to work for companies who are committed to lowering this impact. In addition, involvement in sustainability may help to motivate employees thereby retaining them in the company.



Proactive compliance

Adopting circular economy strategies and practices is beneficial to business as the environment. By doing so, the concept of circular economy is a proactive way of meeting future environmental compliance requirements.



Increases customer loyalty and creates more stable revenue streams

Becoming more circular may be facilitated by adopting a different business model. For example, remaining the owner of manufactured products instead of selling them (as in the example of Bundles). Not only can a business create more stable revenue streams due less exposure to fluctuations in short-term demand, but can also increase its consumer loyalty. Namely, consumers are more tied to the business as the parts and materials in the product are retrieved at the end of the use period.

SMEs often face challenges that tend to uphold them more from adopting circular economy strategies and practices than corporates. These challenges include:



A lack of awareness and knowledge due to a smaller time horizon

The lack of awareness about the benefits of the circular economy is one of the main barriers to the implementation of circular economy practices among SMEs (Rizos et al., 2015). This lack of awareness is often caused by a smaller time horizon than larger companies. In addition, if SMEs are aware they often have limited access to knowledge required to be able to adopt circular economy practices.

A survey conducted by the FUSION project (2014), which is co-funded by the European Commission, found that the majority of the participating SMEs had either never heard of the term 'circular economy' or did not understand its meaning. On the positive side, when participants were given a clear definition of circular economy, involving aspects such as the re-use and recovery of waste materials, the majority responded that they were making efforts to recycle and repair. Additionally, companies identified waste management as one of the sectors that could unlock new business opportunities.



More restricted in organizational capacity

SMEs often manage their activities to increase their organizational effectiveness in a more informal and intuitive manner (Sarlak, 2010). Nevertheless, creating a more strategic process generally fosters the competitiveness and survival of SMEs on the longer term (Garengo & Bernardi, 2007). For example, by creating strategic partnerships and invest in human resources. Hence, it is seen as one of the key elements which withholds circular progress amongst SMEs.



Limited access to finance

In circular business models companies often wish to retain ownership over (parts of) their products so they can maintain the economic value of the materials. Consequently, products will remain on the company's balance which requires additional pre-financing. Commonly, SMEs would acquire financial resources through bank loans. However, due to the longer pay-back periods and limited possibilities to use such products as collateral it is more difficult for banks to finance circular business models.



Lack of technical skills

Many SMEs do not have the technical capacity to identify, assess and implement more advanced technical options that would enable them to reduce their environmental impacts while realising cost savings (Rizos et al., 2015). In addition, they often lack the resources to be able to acquire this knowledge via external actors (e.g. consultants, universities).



Lack of support from supply chain

SMEs often face a lack support from their supply chain to implement circular initiatives that require participation from other parties in the supply chain. Due to their limited size they also have limited bargaining power to influence their supply chain partners.

Together towards a circular Europe

The potential economic consequences of material resource scarcity are especially relevant for businesses in Europe. Europe has relatively small stocks of virgin non-renewable natural resources whereas the consumption rate lies relatively high. Inevitably, the European economy is heavily dependent on the imports of certain materials.

In order to protect the competitiveness of the European Union against scarcity of material resources and to help combat environmental challenges caused by overconsumption of natural resources, the European Commission has adopted an ambitious circular action plan. This action plan includes measures which will help to stimulate the transition towards a circular economy and bring with environmental - and economic benefits. However, more action is required from economic actors and local-, regional- and national authorities to enable the transition to a circular economy, especially to support SMEs.

The European Commission aims to boost the transition towards a circular Europe

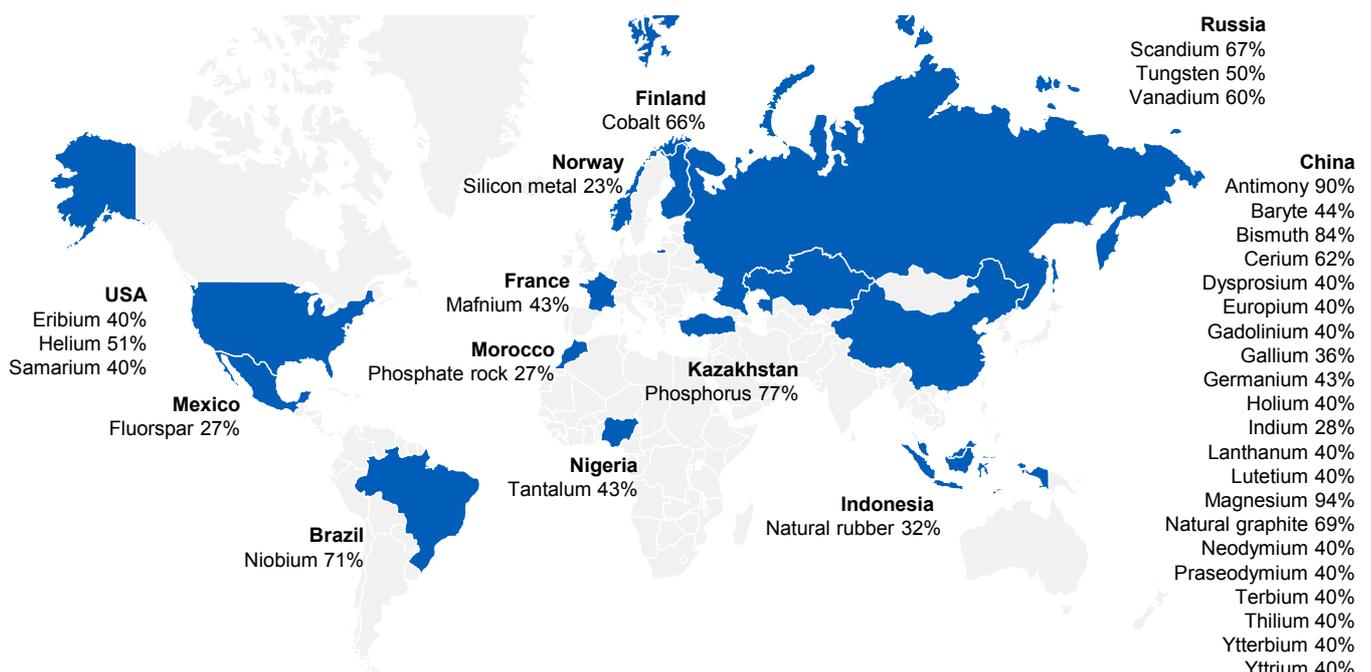
The European economy is more exposed to the economic risks associated with material resource scarcity as other economic blocks. Due to the relatively high standard of living and –economy the consumption rate of natural resources is relatively high, whereas the stocks of virgin non-renewable which are available on the continent are relatively small. As a consequence, the European economy is heavily dependent on the imports of natural resources. This is especially the case for certain materials which are crucial for important economic sectors and for which there is a lack of viable

alternatives. The dependency of the European economy on imports of these materials underlines the geopolitical and macro economic urgency to transition towards a circular economy (see: figure 3).

In order to protect the EU's competitiveness against scarcity of material resources and help combat environmental challenges caused by overconsumption of natural resources the Commission has adopted a circular economy action plan. In addition to encouraging competitiveness and sustainability in the long-term, via this plan the Commissions aims to:

- save costs for European industries;

Figure 3: Countries accounting for the largest share of supply of critical raw materials for the European Union (Adapted from: European Commission (2017))



- unlock new business opportunities;
- build a new generation of innovative, resource efficient European businesses – making and exporting clean products and services around the globe;
- create local low and high-skilled jobs;
- and create opportunities for social integration and cohesion (European Commission, 2015b).

The action plan outlines a set of both general (e.g. related to: product design, production processes and recycling) and material/sector-specific actions (e.g. related to: plastics, food waste and biomass).

Actions from the Commission can drive investments, create a level playing field, and remove obstacles stemming from European legislation or its inadequate enforcement. However, more action is required from economic actors and local-, regional- and national authorities to enable the transition to a circular economy. Especially to support SMEs given the hurdles and barriers for SMEs to implement circular economy strategies and practices.

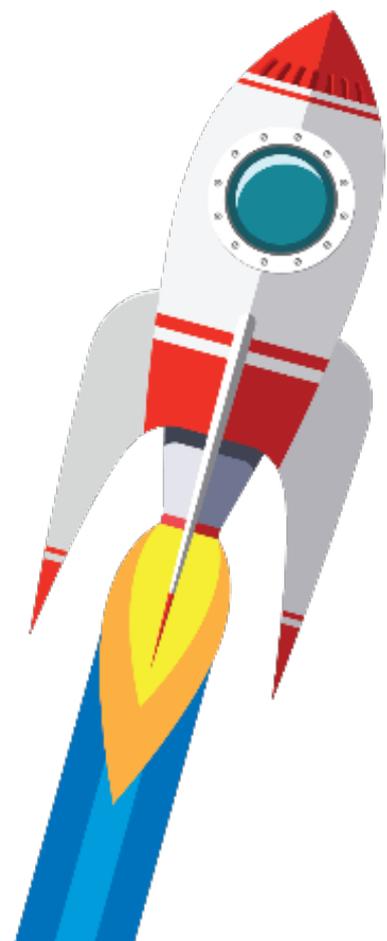
Boosting the circular economy amongst SMEs in Europe

Several leading green SMEs (For example [Bundles](#) or [Closing the Loop](#)) are ahead of corporates in terms implementing circular strategies and practices. Nevertheless, the European Commission recognizes that the majority of SMEs are lacking behind in adopting circular economy strategies and practices in comparison with corporates. Since SMEs are the backbone of Europe's economy this is an important limiting factor for a fast and smooth transition towards circular economy.

In order to boost the uptake of the circular economy amongst SMEs, the Commission has launched various (pilot) initiatives including this project. Via this project the Commission aims to boost the transition towards a circular economy amongst SMEs by:

- advising to 6 regional authorities on how they can stimulate/remove barriers for SMEs to become more circular;
- providing training to 28 SME support organizations on how to set-up a support programme on circular economy;
- and providing scale-up support to a selection of 13 highly promising circular solutions.

Via these activities the Commissions aims to indirectly support hundreds of thousands of SMEs across Europe.



Regional authorities as boosters of the local transition

Regional authorities have an important role in launching and accelerating the transition to a circular economy by: leading by example, setting clear framework conditions and/or directly supporting regional stakeholders. Speeding up this transition amongst SMEs is a critical lever in accelerating the overall transition. To realize this acceleration amongst SMEs, regional support program(s) needs to be in place which informs SMEs about the benefits of circular economy and helps to reduce/overcome the barriers that hinder the implementation of circular economy strategies and practices. Depending on the regional context, regional authorities have a larger or smaller role in facilitating and running such a programme.

Circular economy can bring economic, environmental and social benefits for regions

In 2016, the EEA identified the following benefits that advancing a circular economy could bring to EU member states:

- improved resource security and decreased import dependency: thanks to reduced demand for primary raw materials;
- reduced environmental impact: including a drastic reduction in greenhouse gas emissions;
- economic benefits: including new opportunities for growth and innovation, as well as savings related to improved resource efficiency;
- and social benefits: ranging from new job creation across all skill levels to changes in consumer behaviour leading to better health and safety outcomes.

A growing number of EU member states and regional authorities acknowledged that these benefits are as well relevant on a regional scale (ESPON, 2016).

Regional authorities can realize these benefits by boosting the local circular economy

To realize these benefits, regional authorities need to launch and accelerate the local circular economy. To realize this acceleration amongst SMEs, a regional support programme is required. This is a combination of support services offered to SMEs to inform them about the benefits of circular economy and helps them to reduce/overcome the barriers that hinders the implementation of circular economy strategies and practices. Examples of support services offered through such programmes are:

- a green deal on circular procurement;
- raising awareness amongst SMEs;

- promotion of more sustainable consumption patterns;
- offering trainings on topics and themes related to circular economy (e.g.: circular design, circular procurement);
- facilitating communities of practice;
- offering vouchers and subsidies to reduce risk for SMEs to explore/implement circular economy strategies and practices;
- support for access to finance and subsidies;
- matchmaking between supply and demand for circular solutions - advocacy for ambitious circular economy policies;
- collecting and communicating inspiring examples;
- research, e.g. on circular economy obstacles and government policies - organizing challenges;
- incubators for circular start-up companies;
- organising circular cafés and meet-ups;
- and organising circular economy events/conferences.

Depending on the regional context the package of services offered may differ and regional authorities have a larger or smaller role in facilitating and running such a programme (see: box 4 for practical examples of support services).

The main aim these support programmes is to inspire and help groups of SMEs which are somewhat aware of circular economy (e.g. because they are active in an industry or supply chain in which circular economy is a highly relevant topic), but have not yet implemented a circular business model (see figure 4).

Denmark: A taskforce to remove regulatory barriers

Existing regulation can unintentionally hinder the uptake of circular economy strategies and practices. Therefore, the Danish Business Authority put in place a task force for resource efficiency in 2014. This with the main aim to increase the economic competitiveness of the Danish economy (Grøn Omstillingsfond, n.d.).

Through the use of exploratory studies, existing regulation was reevaluated and a set of barriers and underlying conflicts of interest identified. These identified barriers were related to:

- starting circular business models;
- optimizing operations;
- or the use of waste as a resource (Niras, 2015).

For example, one of the identified barriers in starting up circular business models, is the lack of guidance and ambiguity regarding legislation.

For each of the identified barriers, solution teams have been set up to design effective means of solving the problem. The development of the latter has proven to be a complex process (Ellen MacArthur Foundation, n.d.). For example, due to complications in measuring the impact or gaps in research. Therefore, solution teams are in dialogue with relevant stakeholders – in this case various authorities and businesses – to include different perspectives.

Glasgow (Scotland): an action plan to exploit circular opportunities in the region

As Glasgow is faced with challenges in job creation, improving productivity, and strengthening the economy, the circular economy provides great opportunities to the region. Hence, the uptake of a circular economy is set as priority in the policy agenda of Glasgow city council (Glasgow Chamber of Commerce, 2016). Businesses play an essential role in this transition. Therefore, a pioneering study (Circle City Scan to address the most pressing business issues in the region was developed.

This study consisted of four steps:

1. select the sectors in the region where change can be best initiated based on circular potential and political / economic support;
2. analyse the economic- and environmental impact through material flow mapping of the selected sectors;
3. identify scalable and practical circular strategies to the most pressing issues;
4. set out a pilot based on an action plan for the selected strategies with achievable goals (Glasgow Chamber of Commerce, 2016).

Building on the study, the Chamber of Commerce developed a programme to build best practices and capacity on circular economy across businesses in Glasgow. Through the programme businesses are helped to identify opportunities for support and implement circular ideas. Activities include: workshops and events, a Circle Assessment (a tool which helps businesses understand opportunities to become more circular) and Circle Lab (an online hackathon event to find a circular solution to a local challenge).

Nijmegen (the Netherlands): raising awareness and providing support through circular check-ups

Many SMEs are unaware of opportunities which may arise from adopting circular economy strategies and practices or find it difficult to put the concepts of circular economy into practice. To fill these gaps, the municipality of Nijmegen in collaboration with regional partners designed a support programme for SMEs.

This programme is centred around awareness raising and providing information and advisory services. In collaboration with several partners SMEs will be assisted in:

- identifying business specific circular opportunities;
- signaling barriers which can be tackled directly to seize these opportunities;
- developing a circular business model for one of the identified opportunities;

- translating this one opportunity into practice;
- creating a strong circular position in the market (RvN, 2018).

Flanders (Belgium): promoting green procurement

To safeguard a stable context for sustainable economic growth, competitiveness and social welfare, the concept of circular economy is providing great opportunities for the region Flanders. For example, the creation of 27,000 new jobs and a saving of €3.4 billion in cost of materials (Dubois and Christis, 2014).

Consequently, the Government of Flanders has set the priority to transition Flanders towards a circular economy. To achieve this objective, different projects are set in action – building on previous efforts over the years (2004-2017) – to develop innovative and green procurements practices in the region (Verdonck, 2015).

One of the projects is the development of the learning network ‘Green Deal Circular Procurement’. Procurement can play an important supporting role for the uptake of circular economy amongst businesses. A public-private learning network was chosen as previous

experience revealed that circular procurement can only be successful in dialogue with the market. The main aim of this network is to:

- develop and share knowledge;
- build tools and methodologies;
- and test new forms of value chain collaborations on the topic of circular procurement (Vlaanderen Circulair, n.d.).

Both purchasing and facilitator organisations (e.g. federations, educators and researchers, consultants, governmental departments and certifiers) shape the network. These organisations come together roughly four times per year to discuss (international) cases and find effective solutions for concrete issues. In addition, an online learning platform is provided to the attendees.

In order to sign into the network, organisations have to meet several set conditions. For example, the execution of at least two circular procurement pilots as a purchasing organisation in the timeframe of two years. At the moment, more than 100 purchasing organizations and 60 facilitators signed up (Vlaanderen Circulair, n.d.).

Regional authorities as facilitators of local SME support programmes

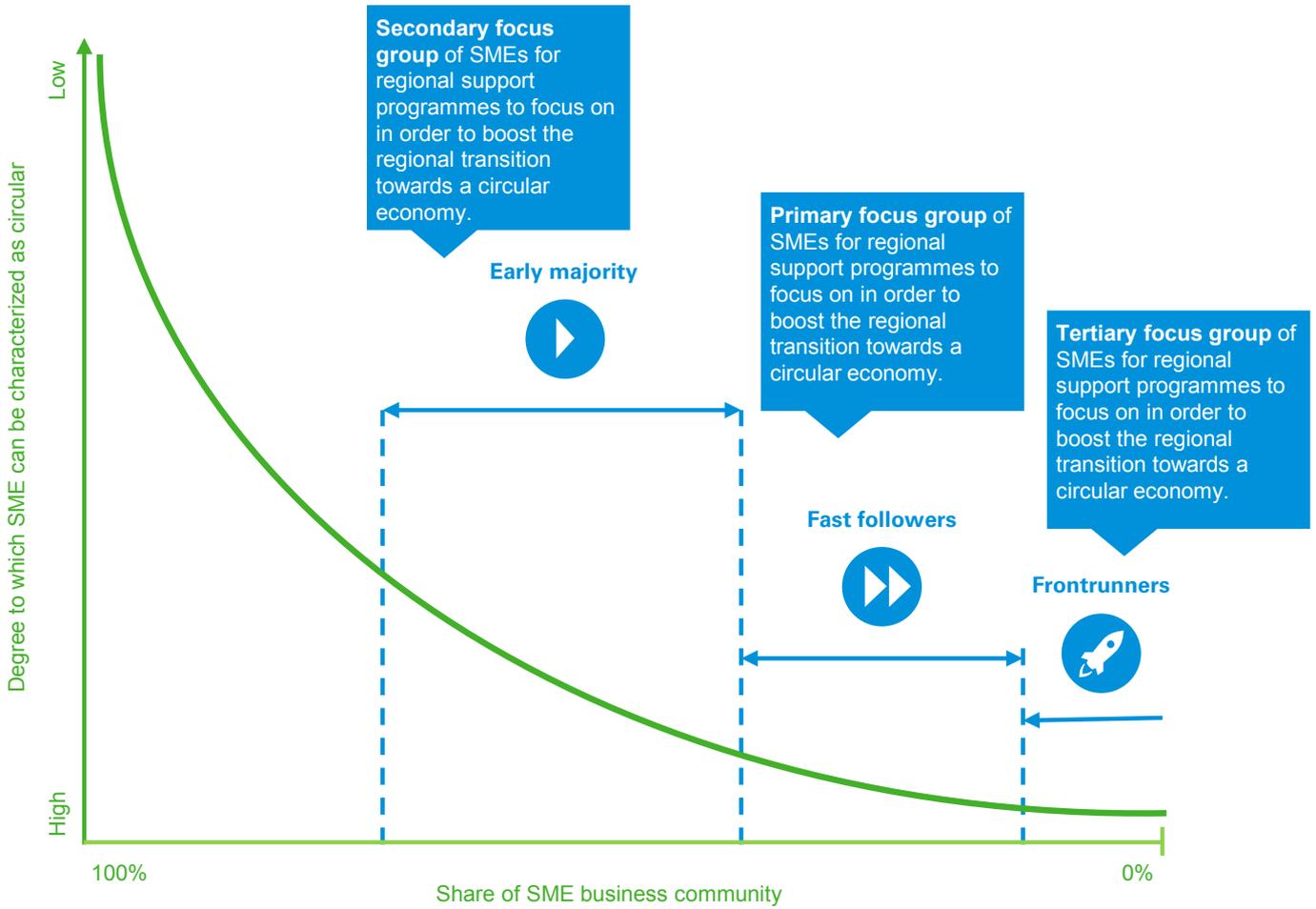
Dependent on the local circumstances, regional authorities may need to take upon a combination different role(s) in order to establish and roll-out an effective support programme for SMEs on circular economy. Several policy instruments can be applied to fulfil these roles:

- regulation: revising legislation that may acts as barrier, improving the performance/enforcement of existing regulation and designing new circular measures or regulations;
- support instruments: setting up voluntary agreements/fiscal incentives/awareness raising programmes and providing information and advisory services;
- circular public investments: supporting circular activities through public investments – e.g. through R&D, infrastructure, green public procurement and collaboration platforms (PSI,

IEEP, BIO & Ecologic Institute, 2014)

All policy actions have to be tailored to the context of the region – i.e. the specific circular opportunities and barriers present across sectors. Within public- and industry alignment/collaboration are thereby indispensable in the process. This multi-stakeholder approach enables the formation of a realistic circular economy roadmap in terms of level and scope for businesses while being in consensus with the policy context.

Figure 4: Graphical overview of main focus groups for SME support programmes to accelerate the local transition towards a circular economy (KPMG, 2018)



The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every sale, purchase, and payment must be properly documented to ensure the integrity of the financial statements. This includes recording the date, amount, and purpose of each transaction, as well as the names of the parties involved.

Secondly, the document highlights the need for regular reconciliation of accounts. This process involves comparing the company's internal records with the bank statements to identify any discrepancies. Regular reconciliation helps to detect errors or fraud early on and ensures that the books are balanced at all times.

Thirdly, the document stresses the importance of proper classification of expenses. Expenses should be categorized according to their nature and purpose, such as salaries, rent, utilities, and advertising. This classification is essential for preparing accurate financial statements and for tax reporting purposes.

Finally, the document concludes by emphasizing the role of the accounting department in providing reliable financial information to management and stakeholders. It states that accurate and timely financial data is crucial for making informed business decisions and for maintaining the trust of investors and creditors.

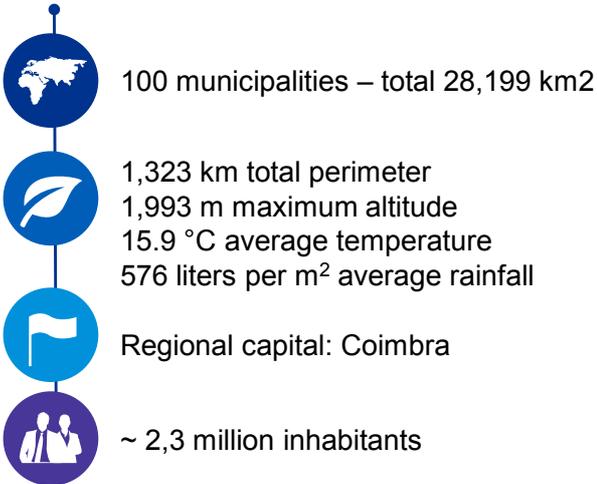


Part II:
Boosting the
transition
towards
a circular Centro
Region

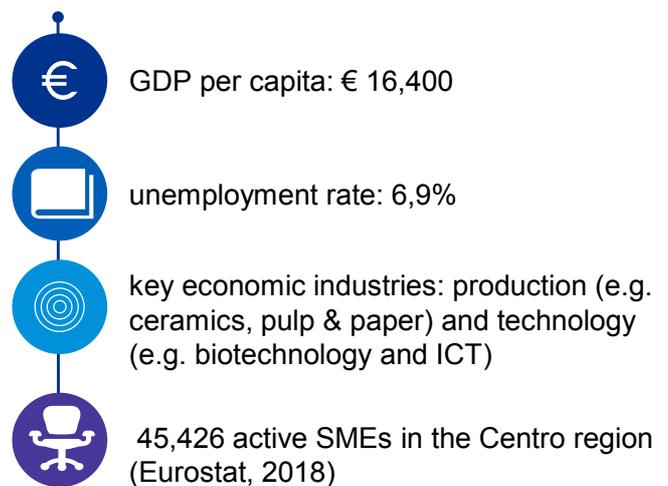


Key characteristics of the region

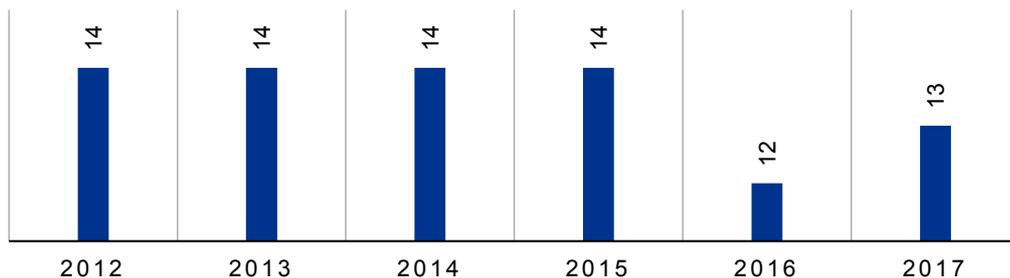
General



Economics



Resource efficiency ranking of Portugal compared to other EU member states (European Commission, 2018a)



Circular economy ranking of Portugal (European Commission, 2018; Hervey. G, 2018)



The Centro Region

The Centro region is located in the regional center of Portugal and comprises of eight sub regions with Coimbra being the capital of the region. The region inhabits 2,3 million people, dispersed over a total area of 28.199 km². Economical the region is diversified, consisting of both low, medium and high technology sectors. The Centro region accounts accounts for 19% of the national GDP (Eurostat, 2018).

General characteristics

The Centro Region is, as the name predicts, a region located in the geographic center of Portugal. The region comprises of eight sub regions, with the city of Coimbra serving as its capital. The municipalities present within the region amount to 100 and are spread over an area of 28,199 km², which accounts for about 31% of Portugal's land area (European Commission, 2018b). With 11 municipalities having more than 50,000 inhabitants, the region has a balanced network of medium-sized urban centers (CCDR, 2018a).

Located in the heart of Portugal, the region is bordered by two of the 7 Regions of Portugal, with the Norte region bounding the region in the north and the region of Alentejo flanking the region in the south. In the west the region is bordered by the Atlantic Ocean and in the east by Spain. Centro is located strategically within Portugal, as it is situated in between the two major cities of the country, Lisbon and Porto, with Coimbra serving as its educational, cultural and health-services center (World Health Organization, 2018).

The Centro region consists of a variety of landscapes. The coast line is the west is covered by sandy beaches bordered by hillsides, dunes and pinewoods. The interior is mountainous, dominated by the second biggest and highest mountain in Portugal, 1993 meters, the Serra de Estrela. The green and rough landscape is abundant of natural streams of water with multiple rivers crossing the region. Combining these aspects with its forest and arable land, the region is considered a rich region in natural capital.

The Centro region inhabits approximately 2,3 million people, which accounts for 22% of the living population in Portugal. The region has a population density of 79,1 inhabitants per square kilometer and therefore is considered to be a low density area.

This low density is due to the overall desertification of the 'inland', in contrast with the more urbanized and populated coast lands (European Commission, 2018b).

The Centro region has well established transportation links to the main Metropolitan areas of the country. Multiple logistical connections, such as ocean, rail and motorway, connect the region with the Metropolitan Area of Porto to the North and the Metropolitan Area of Lisbon to the south.

Important economic region of Portugal

The Centro region plays a noteworthy role within the Portuguese economy, with a Gross Domestic Product (GDP) of 44,3 billion EUR in 2016, the region accounts for roughly 20% of the national GDP. The GDP per capita in purchasing power standards (PPS), is lower than Portuguese and European Union (EU) average, with 19,700 EUR in Centro compared to 22,500 EUR within Portugal and 29,200 EUR in the EU (European Commission, 2018b; Eurostat, 2018).

The production industry has established itself as the main industry, which has been enabled by the well-developed transport connections to and from the region.

Overall the economy of Centro is differentiated, with both low technology level industrial sectors (e.g. ceramics, glass, cement, agro-food) and medium /high-tech sectors being present (health services, bio technology and renewable energy). Centro has some clusters of regional excellence, namely health, life sciences, biotechnology, ICT and materials.

In 2015, the businesses present in the region generated a gross value of 29,821 mln EUR. The main contributing sectors were services, 76.5%, and industry, 28.9%, with the manufacturing sector generating 79.6% of the value added by the industry sector (Eurostat, 2018). The manufacturing industry in the Centro region accounts for 26.5% of the value that is generated by the industry in Portugal.

The employed population of the region added up to 1,073,000 people in 2017, with an unemployment rate of 6,9%. This unemployment rate is relatively low, considering that the unemployment rate is on average 8,9% in Portugal and 6,8% within the whole European Union, which makes Centro the region with the lowest unemployment rate in Portugal.

SMEs are relatively important to the regional economy, with the total number of SMEs adding up to 45,426. This corresponds to an average of 20 SMEs per 1,000 inhabitants (Eurostat, 2017). This average is higher than the European average, of 14 SMEs per 1,000 inhabitants (Eurostat, 2016; analysis KPMG).

A region with large ambitions to reduce environmental impact

The Centro Region has a large amount of endogenous resources that enable the production of renewable energy using solar, wind, water, biomass, geothermal, biogas and biofuels. The environmental management of the region has a high importance within the region, as is reflected in the mission of the Regional authority, CCDRC, aimed at promoting an integrated and sustainable development of Portugal's Centro region (European Commission, 2018c).

There is still a lot of improvement potential for the Centro region in developing sustainably, as was identified in the Strategic Environmental Assessment of the region. Although there have been investments in renewable energy, mainly in wind energy and bio energy, and resources are available in the Centro region, the major source of energy is still fossil fuels. In 2014, the total amount of Green House Gas emissions (GHG), totalled 14,743 tonnes of CO₂-equivalents (Eurostat, 2016). Also with regard to waste management there is a lot of improvement potential. In 2013, 904,147 tonnes of municipal waste was produced in the Centro region, which is 19.7% of the total waste generated in Portugal (Eurostat, 2016; analysis KPMG).



Current policies facilitating the transition towards a circular region

The Portuguese government has recently expressed its ambition for 2050. In 2050, Portugal aims to be a carbon neutral economy with resilient economic prosperity. To achieve this ambition, a shift to a green and circular economy is required. Therefore, the Portuguese government published the action plan 'leading the transition', the national action plan for circular economy 2017-2020, which aims to accelerate the transition to a circular economy in Portugal. The Centro region will contribute to this transition through implementing a circular agenda.

Portugal is promoting the circular economy

Recently, the Portuguese government has set up an ambition for Portugal 2050 which amongst others is designed to leverage and accelerate the European Action Plan for the Circular Economy (APCE). This ambition aims to move towards a carbon neutral economy and inclusive and resilient economic prosperity. The Portuguese government acknowledges that the transition to a new economic model, which the circular economy is, is not an easy or rapid process. It requires a system approach that impacts multiple layers of society (Government of Portugal, 2017).

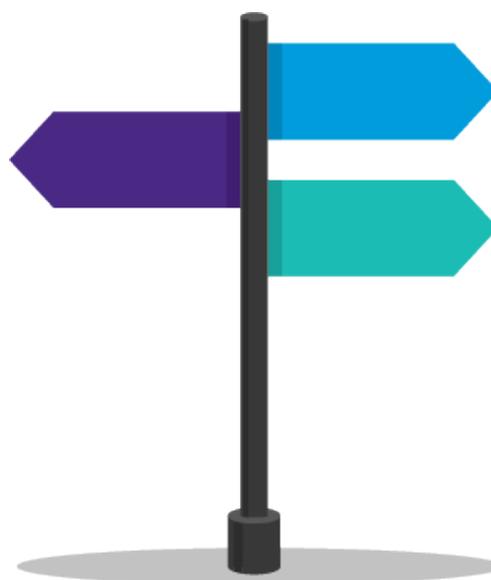
To accelerate the transition towards a circular economy, the Portuguese government set-up an action plan circular economy 2017-2020, named 'leading the transition'. Within this action plan the focus is not solely on policy instruments, but resources are also directed at mobilizing stakeholders and educating them on their responsibilities. Correspondingly, 7 concrete macro actions have been set with sub-actions at the sectoral and regional level, all elaborating upon the goals of the action, the key sectors, the stakeholders to be involved and additional guidelines. At the end of 2020, an assessment and review will be conducted to evaluate the actions and make subsequent changes. Accordingly, a new cycle of 3-5 years will begin, with a renewal every 3-5 years (Government of Portugal, 2017).

Compared to other EU member states, Portugal has an average resource efficiency, ranking 13th out of 28 countries within the EU (European Commission, 2018). When zooming in on specific circular economy related topics and the Circular Economy ranking of the EU member states, the country performs well with regard to food waste and trade in

recyclable raw materials. However, significant progress can be made in the areas of reusing materials, municipal recycling and patenting on circular economy inventions (European Commission, 2018).

Centro and its transition to the circular economy

As the Centro region is a large region in Portugal, it plays an important role in the transition towards a sustainable and circular Portugal. The shift towards a circular economy provides Centro with the opportunity to increase its competitive national and international position. Currently, the region does not have a circular economy strategy at a regional level. However, a regional circular agenda will be implemented (CCDRC, Boosting the Circular Economy in Centro, 2018c).



Cluster Habitat Sustentável

The Cluster Habitat Sustentável or The Sustainable Habitat cluster is a cluster for sustainable construction in the build environment. It aims to bring together municipalities, business associations companies, R&D centers and other entities that want to be innovative and competitive through sustainable practices.

The organizations within the cluster develop synergies for the development of new sustainable products, technologies and building systems that enable innovation and subsequently competitiveness hand in hand with novel energy solutions and better environmental performance (Centro Habitat, 2018).

BLC3

Association BLC3 - Technology and Innovation Campus is a Portuguese organization focused on the concept of circular economy through dedication to the development of bio refineries, bio economy and smart regions. BLC3 develops its industrial biotechnology activities on a national as well as international level. Locally, BLC3 aims to develop local and regional activities and policies that accelerate bio innovation regarding the establishment of critical mass, valorisation of endogenous resources and the territory genetic patrimony (BLC3, 2018).

One of BLC3's project, Centro Bio, is specifically aimed at the development of 'smart economy and regions' through a bio and circular economy concept. This through working with researchers and local farmers, foresters and entrepreneurs to develop new industries from by-products, improve businesses efficiency and train future scientists and entrepreneurs. In 2016, the project was recognised with a RegioStars award in the category of 'Sustainable Growth: Circular Economy' presented by the European Commission (BLC3, 2018).

CERNAS

The Research Centre for Natural Resources, Environment and Society (CERNAS) is an organization which aims to conduct research in the fields of agriculture, food science & engineering and environment & society, subsequently promoting sustainable development.

One of the research groups for the period 2015-2020, the Environment and Society Research Group, amongst others tries to answer questions with regard to ecosystem conservation, environmental services and eco-efficiency (CERNAS, 2018). Circular thinking is one of the pathways in which the group tries aims to answer these questions.

IPN Incubator

IPN is an incubator that is based in the city of Coimbra. Its activities are aimed at the promotion of innovation and technology transfer between scientific and technological institutions and business. IPN was considered the 'Best Science Based Incubator' of the world in 2010 (European Commission, 2018d).

The incubator has its own technological infrastructures, incorporating six laboratories, besides support of a network of (scientific and technological) researchers from the University of Coimbra. Of these six laboratories, the materials laboratory has several projects that align with circularity principles. The ideas developed at this laboratory are brought from their genesis to their real life application. Think of projects with regard to reusing building models and printing smart furniture.

Challenges in transitioning towards a circular region

Despite the aforementioned national and regional efforts, only small steps towards a more circular region are currently observed in the Centro region. This is mainly due to several bottlenecks including: a lack of awareness and limited access to knowledge, lack of focus of support activities to boost regional circular economy, little demand for circular products in the marketplace and a lack of willingness and financial support for investing in circular practices. By tackling these bottlenecks in a systematic manner, the Regional authority of Centro can create an environment that stimulates circular innovation thereby accelerating the transition towards a circular economy.

Relatively low level awareness and limited access to knowledge

Only a small minority of the SMEs which are active in the region are currently aware of the benefits of adopting circular economy strategies and practices. This fraction is growing slowly, since more and more SMEs are being made aware via several initiatives such as the Circular Action Plan 2017-2020. Additionally, the focus on circular practices by several (non-profit) organizations and research centers such as BLC3, IPN, Cluster Habitat Sustentável and IteCons, also contributes to the public knowledge on this topic. Nevertheless, this growth could be accelerated via circular economy support platforms and/or SME support programmes which are ran, preferably (co-) sponsored by business support organisations (e.g. employers associations, chambers of commerce, industry associations) and entrepreneurs themselves.

In addition, it is observed that SMEs who are already aware of the benefits, face difficulties in adopting circular economy practices and scaling up current efforts, due to barriers on a knowledge, legal or financial aspect. Therefore, these support programmes can also serve as platforms to provide specialized support on circular economy strategies and practices and gather new knowledge.

Limited focus of support activities

At the time of our visit, the Regional authority of Centro and several stakeholders in the region were making efforts to promote and facilitate the regional transition towards a circular economy. Yet, we noticed that not all important stakeholders in the region were aware of what other organizations are doing in the field of circular economy, nor is there a clear division of roles. Subsequently, these stakeholders do not optimally collaborate in focussing their efforts on specific industries, geographical areas and / or sustainability challenges in order to make a substantial impact. Setting up a

central steering mechanism may help to direct and support the efforts of the regional authority and stakeholders in a more effective manner.

Little demand for circular products in the marketplace

To stimulate the uptake of the circular economy amongst SMEs, it is of importance to create more demand for sustainable and circular products/services in the marketplace. Public authorities in the region can play an important role in stimulating this demand through Green Public Procurement (GPP) / circular procurement.

Lack of willingness and financial support for investing in circular practices

We found that a fair amount of SMEs are not willing to invest in circular practices. A reason for this is that it is harder for SMEs to identify the business case for circular practices and business models. Investing in other opportunities might look more attractive in the short run. Subsequently, SMEs should be educated about the circular business models and related business cases.

Additionally, we found that organizations that have identified the business case, face difficulties in acquiring financing to implement and/or scale circular practices (e.g. EcoXperience and IPN Incubator based start-ups). This difficulty can be explained by the fact that circular business models often require more pre-financing and offer limited possibilities for collateral, which makes it more difficult to receive bank loans to meet this demand. Also from experience we know that SMEs face difficulties in obtaining finance as soon as they start working with circular propositions, especially in the scale-up/ adult phase. This therefore prevents organizations from being able to adopt circular business models. Although these models would provide significant business and environmental benefits.

It is therefore of importance to provide more financial support or set up specific programmes/vehicles to finance/promote circular initiatives (f.i. a regional circular fund which provides loan to SMEs for pre financing their circular business cases).



Policy recommendations to accelerate the transition

To tackle the identified bottlenecks and thereby accelerate the regional transition towards a circular economy, we would like recommend the Regional authority of Centro to: (1) set-up a regional support programme for SMEs on circular economy, (2) focus of support activities in order to make a sizeable impact, (3) boost demand for circular products and services through public procurement, and (4) stimulate investment and provide financial support to SMEs to help them implement circular economy strategies and practices.

Set-up a regional support programme for SMEs on circular economy

As a result of all sorts of initiatives, the overall awareness level amongst SMEs is increasing. This growth could be accelerated by implementing a support programme, through which (1) SMEs can be informed about the benefits of circular economy (raise awareness) and (2) help can be offered to implement circular economy practices (provide financial- and non-financial support). Dependent on the roles which other stakeholders are willing to fulfil, the Regional authority of Centro may have a larger or smaller role in facilitating and running such a programme. Such programmes exist out of combination of support services (e.g. awareness raising projects, organising circular cafés and meet-ups, etc.), which differ depending on the regional context.

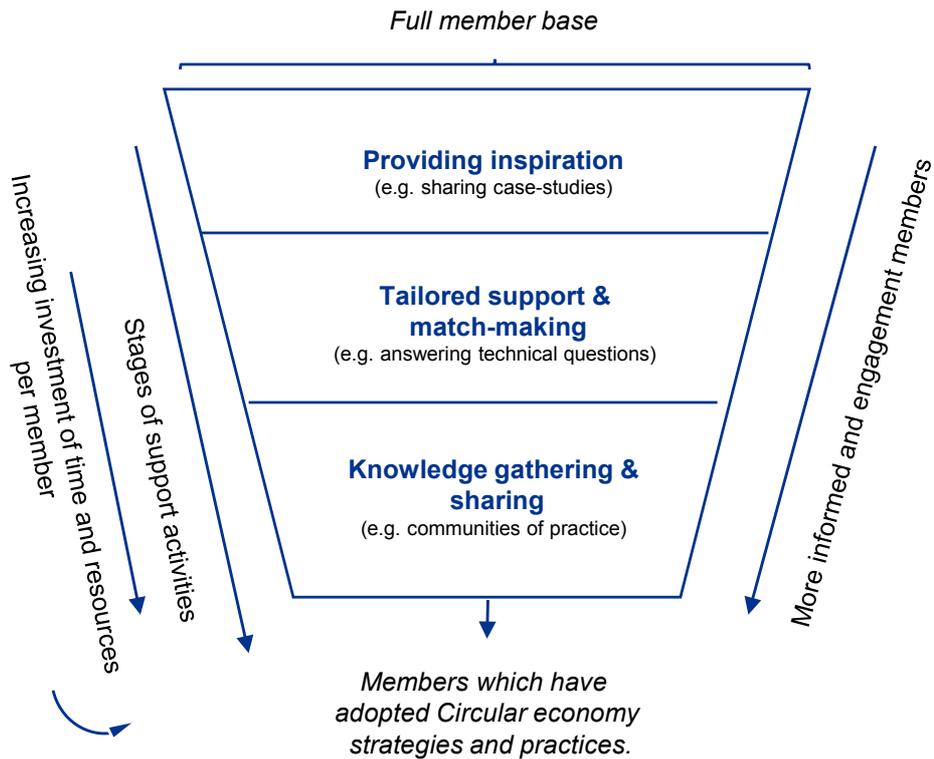
The overall package of offered services should help SMEs from getting inspired to become more circular as well as to being able to adopt circular economy strategies and practices. To develop such a package of services MVO Nederland often uses the framework presented in figure 5. This figure illustrates how SMEs can be supported to adopt circular economy strategies and practices through a series of interlinked support services, which jointly form an integrated support program.

Good examples which can be used for inspiration for a on such programmes are amongst others: [Circular Glasgow](#), and the [Futureproof Community](#). More examples of support programmes, support activities and ready to be applied tooling can be found/accessed via the [European Resource Efficiency Knowledge centre \(EREK\)](#).

Focus of support activities in order to make a sizeable impact

We recommend the Regional authority of Centro to establish a coalition of regional stakeholders (e.g. business networks, chambers of commerce, chambers of arts & crafts, financial institutions, local authorities and incubator programmes) to jointly focus regional efforts to accelerate the transition towards a circular economy amongst SMEs on: a particular industry (e.g. construction & demolition, agrifood), a small geographical area (f.i. 'greater Coimbra') and/or a specific sustainability challenge (e.g. sustainable packaging). Since it is our experience that this focus helps to swiftly achieve tangible results, which boosts the overall momentum in the transition. Examples of such bundled and focused efforts are: [the Rabobank Circular Challenge](#), and [Crescimento Verde](#). For the decision on where to focus regional efforts on, the analyses already conducted by the Ellen MacArthur Foundation can be used.

Figure 5: Graphical overview of various types of financial instruments which can be provided by regional authorities



Boost demand for circular products and services through public procurement

Public agencies in Centro could accelerate the transition towards a circular economy by boosting demand for circular products and services through public procurement. In European economies a significant amount of the total overall demand for goods and services is generated by public agencies, 12% of GDP (OECD, 2017). Therefore public procurement can be a strong mean to increase demand for sustainable products and services.

To facilitate procurement officers many countries and regions have developed criteria and practical instruments to integrate Sustainable and/or Circular Procurement into purchase requests. Examples of such sets of criteria are: [the Dutch Sustainable Procurement requirements](#), [the Nordic countries](#) and [the Category and Commodity Guidance of Zero Waste Scotland](#).

Applying and assessing these criteria often requires specialized knowledge about the sustainability/circularity aspects related to the to be acquired goods and services. To tackle this, some countries and regions have appointed specific procurement categories to specific agencies. For example, they appointed the national police as the centralized procurement function for purchasing for

the army and other public agencies). uniforms (also

More than general Green Public Procurement (GPP), circular procurement requires procurement officers to identify the needs of the user in order to assess whether a product is required or that a service would suffice ('product-as-a-service'). This different approach to the procurement process also requires a different attitude among suppliers. To achieve a good match between requirements and the options available on the market, and to make reasonable demands of the market, it is advisable to hold a market consultation (for guidance on market consultations, see: [flyer on market consultations by CSR Netherlands](#)). In addition, public procurement often provides difficulties because of separate budgets for acquisition, management, maintenance and disposal. This often needs to be addressed by making clear agreements about the authorisation of budget holders (authorizing officers) and the 'four-eyes' principle. For more guidance on circular public procurement please refer to: the [CSR Netherlands Circular Procurement Guide](#).

The impact of circular public procurement initiatives can be further increased by also including private sector entities in the initiative. For example in the Netherlands, 40 both public and private organisations have a [joint green deal to experiment with public procurement](#).

Stimulate investment and provide financial support to SMEs to help them implement circular economy strategies and practices

SMEs could be stimulated to invest in sustainable solutions to increase resource efficiency (e.g. energy and water saving measures) and adopt circular business models – by sharing best practices and highlighting the return on investment of such investments.

However, especially circular business models (strategies) require more pre-financing. This financing is difficult to acquire for SMEs since they have limited possibilities to provide collateral which is often a pre-condition for bank loans. Moreover, the upfront costs of any type of investment and the anticipated pay-back period are particularly important for SMEs, which are generally more sensitive to additional financial costs resulting from green business activities compared to large enterprises (Oakdene Hollins, 2011; Rademaekers et al., 2011).

This is because traditional linear businesses sell products or deliver services for which they receive a one-time payment. With this payment they can finance the procurement of new goods from their supplier which they can sell. However in the circular economy businesses often wish to retain ownership over their products, parts of their products and/or the materials in their products so they can reuse, redistribute, refurbish and/or recycle their products at the end of the use-period. They therefore adopt circular business models such as 'product as a service' in which users regularly pay a fee for being able to use the product rather than acquiring the product. For example, Philips offers the possibility to its clients to pay for light as a service rather than buying lamps so Philips can refurbish these and is able to invest in lightbulbs which last a long-period of time.

To help SMEs overcome this hurdle, the regional authority could offer financial instruments to provide seed- / start-up- / high-risk-low-interest financing. Thereby these instruments would help SMEs to get started and build up to financing from banks or other

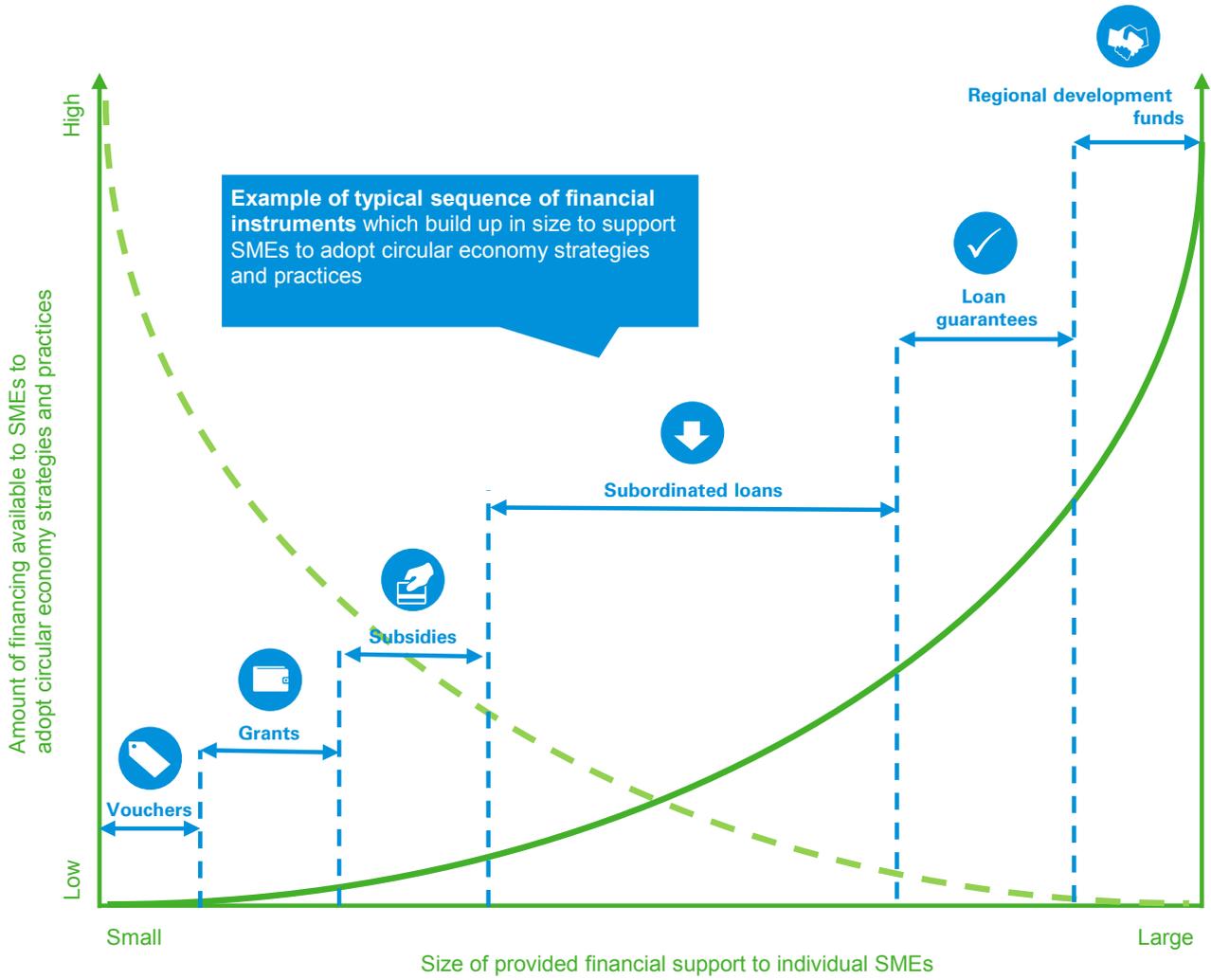
private parties (see: figure 6 for an overview of such instruments).

These instruments could range from vouchers which represent a value of goods / services which can be acquired (e.g.: [Catalan Eco vouchers](#)) - to a regional development fund consisting of financial means of various parties via which financing can be provided to SMEs (see: example: [Zero Waste Scotland](#)). Different instruments serve different levels of needs of SMEs for financial support. For example a mid-sized SME which wants to change its business model from a sales model to a product-as-a-service model with a strong balance sheet is not sufficiently supported via a voucher, but a start-up which is in need for some small-scale support to be to take the next step could be supported sufficiently with such a voucher.

Therefore we advise the Regional authority of Centro to, together with other regional stakeholders, explore which needs SMEs in the region have and which instruments are currently missing to address these needs.



Figure 6: Graphical overview of various types of financial instruments which can be provided by regional authorities



In order to establish a regional support programme for SMEs focused on circular economy which tackles the identified challenges and - incorporates the provided recommendations, various steps need to be taken and milestones reached. We would like to provide the Regional authority of Centro and other regional stakeholders with a roadmap which identifies the major steps or milestones needed to establish such a programme. In turn, this programme will result in a booming regional circular economy.

Regional support programmes require strategic thinking and collaboration between stakeholders

Successful regional support programmes require strategically chosen starting points and collaboration between key stakeholders across various work streams. In the roadmap we have defined four work streams (strategy development, stakeholder management, support activities / services and stimulating demand) which relate to the provided policy recommendations. The first steps in these four work streams all focus on gaining insights which help to identify strategic starting points / focus areas for a regional support programme. Hereafter followed by recommendations plotted over a period of three years which build up to an advanced support programme with building blocks (i.e. awareness raising campaigns, non-financial support, financial support (incl. a regional investment fund) and a circular procurement programme). These blocks have proven to be highly valuable/essential parts of various successful support programmes across Europe.

The first steps in the roadmap focus on:

- Selecting strategic focus areas for the starting period of its support programme (e.g. industries in with a high material consumption and high GVA or relatively large industries which are depended on critical raw materials), see: [Rabobank Circular Economy Challenge regional circular opportunities assessment](#), [Interreg Europe CIRCE focus on textiles in Catalonia](#); [Circular Glasgow report](#).
- Identifying- and establishing relations with key stakeholders which are crucial to the success of the programme (e.g. business networks, industry associations);
- Selecting key product categories in which regional / local authorities can stimulate demand for circular products and services via GPP (for

guidance, see: [European Commission GGP Training Toolkit](#), [European Commission Buying Green Handbook](#)).

These steps are crucial, as they determine the starting point for the main building blocks / projects of the overall support programme.

We would advise to start with boosting the awareness raising components of the programme (e.g. seminars on circular economy, [initiating dialogues with individual SMEs on the subject](#)), since the concept on circular economy is generally not common knowledge amongst SMEs. These campaigns should be aimed on providing inspiration to SMEs on how they could become more circular (through examples). In turn this will generate demand for follow-up services which help them to implement these ideas (see: conceptual framework on p.31).

Over the start-up period of the support programme more and more advanced support services (financial and non-financial) could be developed / offered to help SMEs with implementing circular economy strategies and practices. For non-financial support services these could range from sessions where entrepreneurs can share experiences to providing consultancy services (e.g. through voucher programmes). Whereas for financial support, services can be build up from referring

entrepreneurs to the most appropriate financial instruments, via vouchers and subsidies to a regional investment fund (see: figure on p. 33).

In parallel with developing non-financial and financial support services, public agencies in Centro, in collaboration with main corporates in the region, could accelerate the transition towards a circular economy by boosting demand for circular products and services through (public) procurement. After determining in which product categories to boost demand for circular products and services, it is advised to develop/pick a set of criteria and practical instruments which can be applied by procurement officers to integrate Sustainable Procurement into purchase requests. Applying and assessing these criteria often requires specialized knowledge about the sustainability aspects of the acquired goods and services. It might therefore be helpful to appoint specific procurement categories to specific agencies.

Simultaneously by starting to develop and deliver support services, it is important to reach an agreement on a common goal shared by all stakeholders involved in the support programme. Many support programmes are focused on establishing a circular economy within a certain region. However this is difficult to quantify/define, and therefore it is trouble to determine whether this goals has been attained. We would therefore recommend to operationalize this goal (e.g. in terms of number of SMEs provided with services).

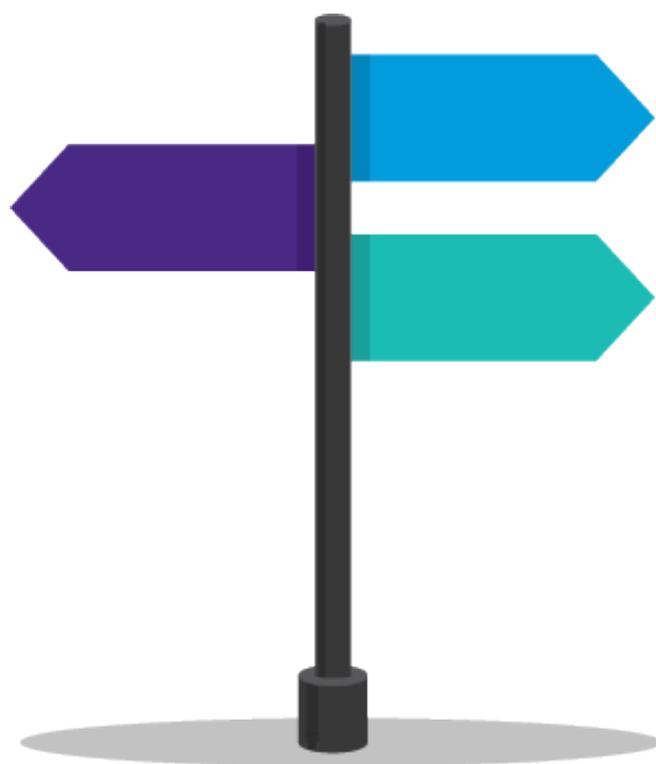
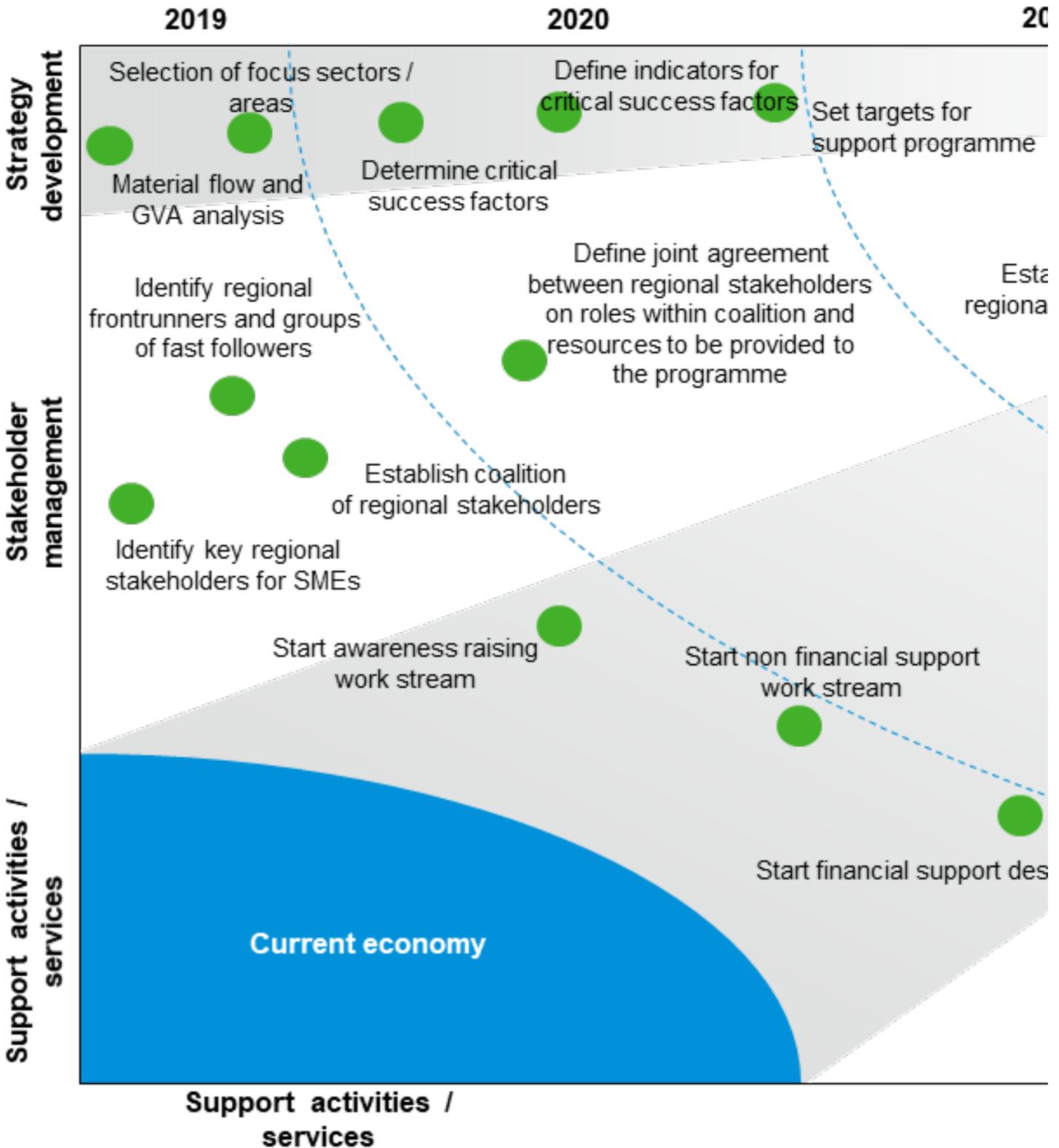
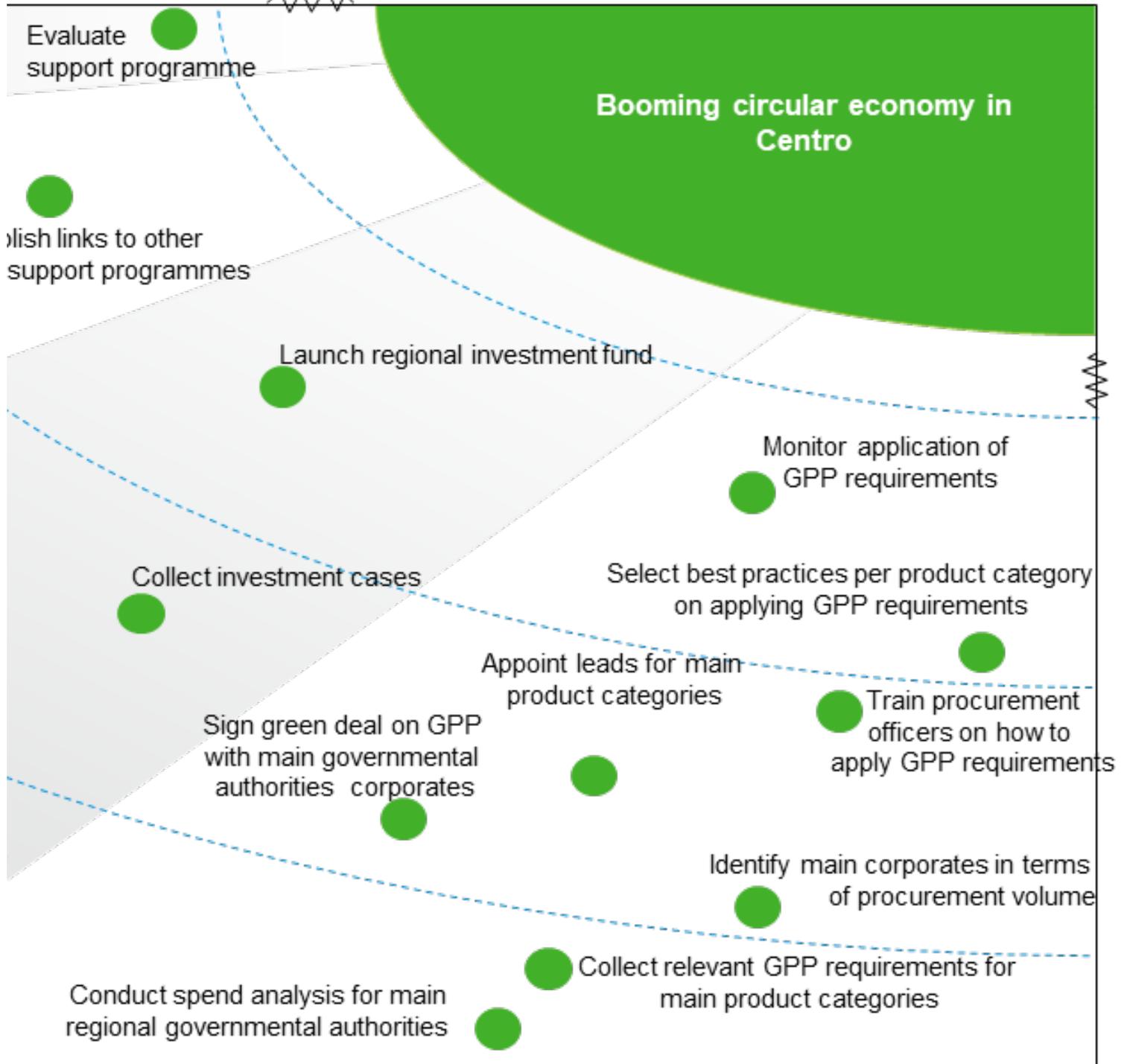


Figure 7: Graphical overview of policy recommendations





Stimulating demand

A roadmap is a high-level document that helps articulate strategic thinking

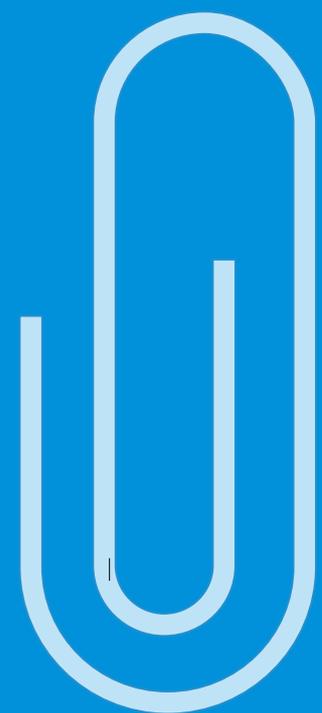
A roadmap is a strategic plan that for a goal or desired outcome, identifies the major steps or milestones needed to reach it. It also serves as a communication tool, a high-level document that helps articulate the strategic thinking behind the goals and the plan for achieving this goal. It is not a very specifically defined document. It is essentially a to-do list of the tasks required to complete a strategic initiative over time. But does not provide specific guidance on how to complete these tasks.

The provided roadmap should therefore be seen as a guiding overview on which steps need to be taken during the coming period in order to establish a successful regional support programme, that: (a) informs SMEs about the benefits of circular economy and (b) helps them to reach these benefits.



Appendices

- Methodology
- List of regional stakeholders
- References



The recommendations in this policy brief are based on insights gained through interviews with local stakeholders and data analysis on key regional economic and environmental statistics. In this section of the policy brief we provide more information on the methodology which we followed to gain these insights. In addition a summary is given of the process based on which the Centro region has been selected to receive this policy brief.

Basis for our policy recommendations

The policy recommendations presented in this document are based on insights gained through:

- a review of policy documentation on/from the region;
- interviews with policy officers from the regional authority and -with local stakeholders (see: list of regional stakeholders);
- and analysis of regional economic- and environmental data.

These interviews have been conducted over the course of a two-day visit of KPMG circular economy experts to the region. These visits were organized by the regional authority. The regional authority was also responsible for selecting and inviting the most relevant key local stakeholders.

The policy recommendations provided based on the insights from the review, interviews and data analysis have been reviewed by:

- senior experts in the fields of circular economy and –administration;
- policy officers from the European Commission;
- and by policy officers from the regional authority.

Selection of the participating regional authorities

In addition to the Commission for Coordination and Regional Development of Centro Region also the following regional authorities have received policy briefs on how to boost the transition towards a circular economy amongst SMEs as part of this project:

- Regional Development Agency of the Ljubljana Urban Region;
- the Regional Government of Lombardy;

- the Regional Government of Catalonia;
- the Regional Government of Extremadura;
- and Varazdin County.

These regional authorities have been selected out of 64 applications based on a five step process:

1. deriving a longlist;
2. desk research to come to a shortlist;
3. reaching out to potentially relevant participants;
4. rating of the motivation and suitability of applicants;
5. and final selection by the European Commission.

The first step of this selection process was to derive a longlist of regions and regional authorities in the European Union. For this project we have derived a longlist potentially relevant regions and regional authorities based on the NUTS 2 classification. This classification lists 273 different regions in the European Union, and has been developed by the European Commission for the application of regional policies. From this list we have excluded regions in countries which were not a member of the EU.

The second step was to reduce this overview to a shortlist of regions where the potential economic and environmental benefits of boosting the transition to a circular economy amongst SMEs were the largest. We did this by performing a data analysis on which regions:

- have a relatively large environmental footprint in terms of GHG emissions- and municipal waste per capita;
- have a relatively high concentration of SMEs;
- and/or in which one or multiple focus sectors from the EU action plan on circular economy are relatively important to the regional economy.

In step 3, we actively reached out to regional authorities from the regions on the shortlist and invited them to apply for this project. This call for expression of interest was also open to all other the European regional authorities. Since we wanted to provide all regions in the European Union an opportunity to apply and receive policy advice on how to include resource efficiency, circular economy and eco-innovation related policies and actions targeting SMEs in their regional or industrial development strategies.

The fourth step was to rate the motivation and suitability of the applications we received. This rating was performed by experts from KPMG. The rating has been conducted based on objective guidelines on how to assess and score the answers provided by the regional authorities to questions in the application form.

The final step was for the European Commission to make a selection of which regional authorities they wanted to participate in the project. Their selection has been based on the rating and the desire to select a mix of regions: from various geographical regions and with different socio-economic characteristics



List of regional stakeholders

Name	Organisation
Alexandra Rodrigues	CCDRC
Ana Abrunhosa	CCDRC
Ana Quintais	CCDRC
António Tadeu	IteCons
Carlos Moita	RCD
Carlos Silveira	CCDRC
Catarina Sá	Verallia
Carmo Ambrósio	AIDA
Joana Branco	Biocant
João Almeida	IteCons
João Pedro Alegria	FPT – Energia e Ambiente, S.A. - Fundão
Jorge Brito	CIM Região de Coimbra
Jorge Corker	IPN
Margarida Franca	CCDRC
Mariana Gonçalves	IPN
Neusa Magalhães	NERLEI
Nuno Nascimento	CM Viseu
Sílvia Machado	APICER
Sónia Azevedo	AEBB
Teresa Jorge	CCDRC
Victor Ferreira	Cluster Habitat
Victor Fancisco	CTCV
Goncalo Sá	EcoXperience
Elisabete Oliveira	Interecycling, S.A.
Fabiano Raupp Pereira	IPN
Carlos Amorim	CS Coelho da Silva
João Nunes	BLC3

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Contacts

The contacts at KPMG in connection with this report are:

Arnoud Walrecht

Director, KPMG Sustainability

Tel.: +31 20 6564584

Walrecht.Arnoud@kpmg.nl

Jeroen van Muiswinkel

Manager, KPMG Sustainability

Tel.: +31 6 82829029

vanMuiswinkel.jeroen@kpmg.nl

Victor Custers

Consultant, KPMG Sustainability

Tel.: +31 6 22826681

Custers.Victor@kpmg.nl



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