How to shift towards the circular economy from a small and medium business perspective: A guide for policy makers

embedding low carbon thinking
through the life of a business

FUSION
innovative & sustainable entrepreneurs

About us

What is the Fusion Project?
Fusion has drawn together a group of experts in the field of eco-innovation and sustainability to test with small and medium businesses some of the key challenges they are facing in attaining growth that is sustainable (economic, social and environment). The team have considered how to support changes to business models at every phase of company development, and how the circular economy approach can provide a framework for the economic, cultural and behavioural changes needed to support business growth within a world of finite resources. The Fusion project has been delivered by a partnership of 10 organisations across England, Netherlands, France and Belgium.

Support through the project has focussed on two types of business:
Eco-enterprises: who are businesses providing a product or service that measures, prevents, limits or mitigates environmental impacts.
Eco-responsible businesses: businesses who are taking action to improve their environmental performance and understand the risks and opportunities posed by a changing climate.

The project ran from January 2012—September 2014, assisting over 200 businesses and trialling over 20 business support tools across the region. The project was lead by Kent County Council (KCC) with support from BSK-CiC. Other partners included VOKA, CD2E, Lille Chamber of Commerce (CCI), Centre for Sustainable Design (CfSD), University of Kent, Enviu, TU Delft and WSX Enterprises.

A working group of the project made up of senior partner representatives, local policy-makers and SME representatives was the Fusion Observatory. This body has acted as a bridge between the delivery of support, the SMEs and the policy-makers. It has also sought to understand the principles of a circular economy and what this means for business and policy.

For more information on the Fusion project go to www.bsk-cic.co.uk/Fusion

Subscribe to the Fusion Observatory Blog for news and information on SMEs and the circular economy. Go to www.bsk-cic.co.uk/Fusion-observatory

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Executive Summary

The overall objective of Fusion was to support the long term growth of small and medium businesses (SMEs), to reflect on the business models and support needs at every phase of company development, to engender sustainable businesses. For the Fusion partners the circular economy provides a framework for the economic, cultural and behavioural change needed to support business development within a world of finite resources. Through the Fusion Observatory, the project has exchanged practical information and ideas on the circular economy with policy-makers and funding organisations.

This report supports this exchange and continues to raise awareness of the principles and policy context of a circular economy. It highlights the support of the Fusion partnership, how it supports SMEs to shift towards a circular economy, however, baring in mind the barriers and issues that SMEs face. The report is intended to support policy makers to shape regional policies post 2014, which in turn support Europe's vision of a smart, sustainable and inclusive Europe.

Humans have evolved over millennia and over this time, we have been spoilt with an abundance of resources that have been easy to access and create value from. This has meant that our needs are met quickly and cheaply, and when we have a new requirement, we are able to throw away the old and substitute it with a new gadget. This take-make-dispose way of living is no longer sustainable as increasing populations means an increase in demand for resources which are now becoming scarcer and less accessible. Over the millennia, our way of living has had an impact on our planet with literally mountains of rubbish being created on land and in the oceans. We need to change the way we live and we need to do this sooner rather than later as changes in our climate puts additional pressures on us.

The European Union has recognised these challenges and has put in place actions to achieve a smart, sustainable and inclusive Europe by 2020. It recognises the need for a new way of doing things and promotes the principles of the circular economy; where we keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of each service life.

From dialogue within the Fusion Observatory, it is thought that as businesses shift towards a circular economy this will result in a reduction of greenhouse gas emissions, an increase in the production of energy from renewables and an increase in the energy efficiency of our building stock—all targets of the European Union's 10 year growth strategy, Europe 2020. Most businesses realise the need to operate differently and already face increasing resource and material costs, however, there are barriers to fully integrate circular economy including:

- a lack of information and understanding on the principles of circular economy;
- inconsistent legislation and regulations; and
- a lack of finance.

Policy-makers need to address these issues and provide financial and business support packages that fill the gaps.

This report provides tips on how best to support SMEs to shift towards a circular economy and recommendations on how policy-makers should start addressing the barriers of moving towards a circular economy.

Introduction

Europe has enjoyed many decades of growth and wellbeing, based on an assumption that resources are abundant, easy to source and cheap to dispose of. We have developed a 'consumer culture' where we take-make-consume and dispose.

Today in the EU, each person consumes 16 tonnes of materials annually, of which 6 tonnes are wasted, with half going to landfill. We have become very good at throwing away.

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Because of this, we are now facing challenges where there is increasing demand and competition for finite resources, world population is continuing to grow and is expected to reach 9 billion by 2050, warming of the climate is unequivocal with snow and ice diminishing, sea level rising and greenhouse gas concentrations increasing.

To meet these challenges, we need to change the way we do things, growing in such as way as to ensure that the quality of this growth leads to a sustainable future.

The European Commission set out how it intended to do this with the publication of its 10-year growth strategy, Europe 2020 which aims for a new kind of growth, one that is smart, sustainable and inclusive. To deliver the resource efficiency agenda of the strategy, the Commission recommends a move towards a circular economy, and it is this that the Fusion Observatory has focused on.

With increasing policy drivers and more prevalent environmental issues, the Fusion Observatory has tried to understand how governments can better support businesses, specifically small and medium businesses (SMEs) overcome years of conventional consumer habits (make, take, dispose) to shift towards an economy which is ultimately less harmful to the environment. It has used the results and experience of the project partnership as well as undertaking some primary research to provide an insight into the requirements of SMEs moving towards a circular economy.

This report has been produced to summarise the findings of the Fusion Observatory for policymakers and to provide recommendations on how future policies/strategies and support packages should be developed to assist the European Commission meet its vision of a smart, sustainable and inclusive Europe.

The report begins with a definition of what is the circular economy as defined by the Fusion Observatory, followed by how a business could benefit from integrating elements of a circular economy into the way they operate. The European policies referencing the circular economy are detailed with a discussion of how these policies are translated regionally and locally within the project area. A summary of the Fusion Observatory surveys are provided on how SMEs and finance providers view the circular economy. The Fusion partnership has attempted to assist SMEs shift towards a circular economy trialling and testing many support packages and some of these are presented in this report, showing how they deliver on some of the principles. Through this support, SMEs have highlighted issues and the partnership have learnt some lessons, these are listed followed last but not least by recommendations for policy makers when drafting future policies and support packages.

Defining the circular economy from a small and medium perspective

The term circular economy is slowly becoming more recognised across Europe, with mention of it in European policies and with some larger organisations embracing some of the principles. However, there is still discussion around what the term actually means and includes, especially with respect to a small and medium business.

The Fusion Observatory members have agreed on the following description of a circular economy and hope it echoes the views of others who are working on the topic.

A circular economy takes a holistic approach to the design and use of our products, materials and resources to maximise their value before disposal. The principle is to conserve and re-use resources through introducing multiple product life cycles as opposed to the traditional linear model of a 'take, make and dispose' way of thinking.

This linear approach results in a loss of opportunities for innovation and growth which can be realised through an increased understanding of materials and resources and their potential for wider use. In addition, the socio-economic and environmental consequences are a depletion of finite resources for products, accumulation of waste, and environmental degradation. Ultimately, adoption of a 'circular way of thinking' can move our economy towards greater resilience through operating in a smart, low carbon and resource efficient way.

At a practical level, a circular economy is achieved through promoting durable products designed and produced in such a way that they can be repaired, reused and recycled, or use fewer materials in the first place. At the end of their usable lives products could be disassembled and remanufactured, while others could be recycled or composted.

Operating and interacting within the circular economy offers economic benefits to businesses through opening new routes for revenue and maximising profits as well as building resilience and market competiveness. There are many options through which a business can get involved, such as:

New production and consumption models How do you deliver value to your customer? Can you deliver this value in a different way? For example, renting or leasing your product (servitisation).	**Product and service development** In addition to recycling there are opportunities for taking products and materials out of the waste stream and generating a new service or product through repairing, remanufacturing and re-using of 'waste'.	**Design** Can your products be designed to help conserve resources through being made to be repaired and re-used, or use fewer materials in the first place? This could lead to less cost spent on production.	**Business to business relations** There may be an opportunity to earn revenue from another business's waste or by-products or even your own, something often described as industrial symbiosis.

Whichever way a business operates within the circular economy some key rules to consider are:

- How is your business impacting on resource use, and how is the scarcity of those resources affecting your business? This includes resource efficiency, use of renewable energy sources in your everyday business.
- Think about the design of product and how to maximise the life span of the resources and materials within it.
- Are there opportunities to work collaboratively with other businesses and discover new opportunities?

Business benefits of a circular economy

Circular economy through improved resource productivity, represents financial and environmental benefits for businesses as well as new opportunities.

It has been estimated that working towards a circular economy through waste prevention, eco-design, reuse and similar measures could bring net savings of around €600billion, or 8% of annual turnover, for businesses in the EU, while reducing total greenhouse gas emissions by 2-4%[7].

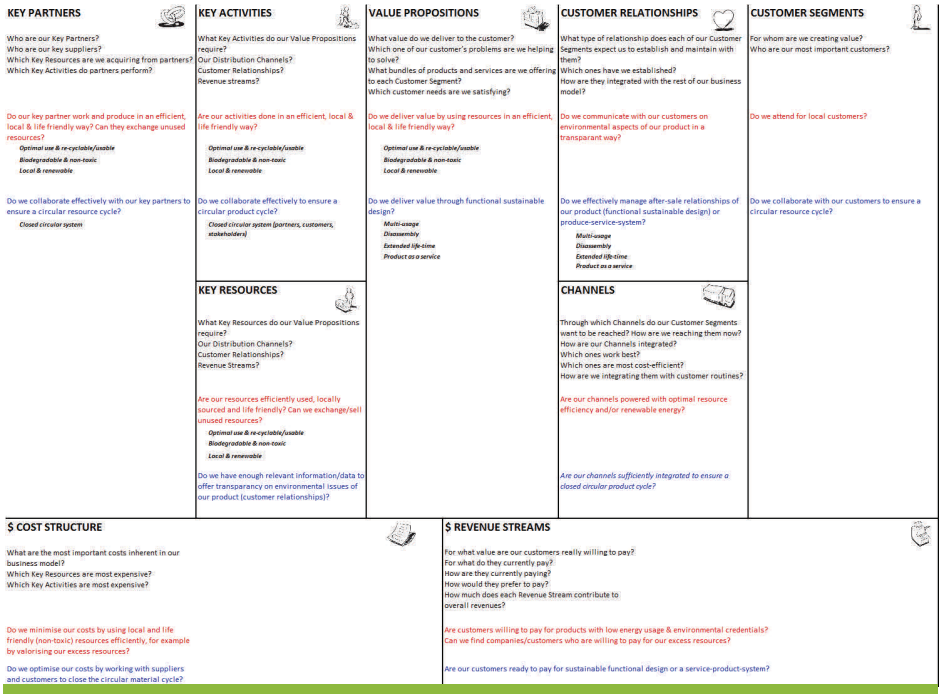
A business who integrates circular economy principles into their business model can benefit from:

- Reduced operational costs as resources are used more effectively and efficiently,
- Improved reputation amongst stakeholders due to reduced impact on the environment and local community,
- Reduced environmental and social impact, for example reduced waste production,
- Opportunity to be more competitive as product and service prices can be driven down through reduced resource requirements,
- Opportunities for new business models and new ways of creating revenue i.e. making money from waste streams, collaborating with other businesses for mutual benefit,
- Improved position to address emerging resource scarcity issues, to become a more resilient business.

As the Observatory has defined, circular economy approaches also involve innovation throughout the value chain unlocking opportunities for businesses to consider alternative business models to create value. This may include consumers renting, lending or sharing products instead of owning them, businesses working together to reuse/sell waste or share materials, new markets for secondary raw materials or repaired/remanufactured products being created, or intelligent technology being used to monitor and retain customers through improved customer services.

Changing the way a business operates, considering resources and waste, as demonstrated by the Fusion partnership, does deliver financial and environmental benefits.

Just one example is from Northern France, where the Chambers of Commerce in Lille worked on an industrial estate consisting of 55 companies, Panef. The estate had the ambition to work together to collect, treat and reuse or sell their waste. They now reuse packaging materials and a new market for secondary raw materials has been created with waste being sold on. These initiatives have saved the companies money and brought in a new revenue stream.



Sustainable Business Model Canvas: *To assist businesses to understand their current business model and understand where there are opportunities to move towards a circular economy and reap the benefits. This tool has been used by Fusion partners, including the Centre for Sustainable Design and WSX Enterprises.*

Policy context of a circular economy

There are a number of European policies and instruments that already align with some aspects of the circular economic model covering waste, chemicals, eco-design and the bio-economy. The term itself appears in several key European Commission communications, recently, *Towards a circular economy: a zero waste programme for Europe (*2014).

The paper maps out the evolution of the thinking that a more circular economy is essential to deliver the resource efficiency agenda established under the Europe 2020 strategy for smart, sustainable and inclusive growth. A flagship initiative of the strategy to deliver sustainable growth is *Resource Efficient Europe (2011)* and its associated action plan*, Roadmap to a Resource Efficient Europe (2011)* which proposes a framework for action with the main aim being to increase resource productivity and decouple economic growth from resource use and its environmental impact. Some of the actions described relate to the principles of circular economy such as increasing consumer demand for more sustainable products, boosting efficient production through industrial symbiosis, turning waste into a resource, including resource relevant criteria into the design and use of products (e.g. Ecodesign) and supporting research and innovation. The main ideas of the Roadmap are now developed in the Seventh Environment Action Programme (7th EAP).

The diagram[9] highlights some the core aspects, activities and stakeholders within a circular economic model . They are all interlinked; where you might have resources might be kept within the system through industry by-product exchange, or through repair and reuse of products. The idea is to use resources to their optimal value.

In order to deliver these policies, the European Parliament has agreed that at least 20% of the entire European Union (EU) budget for 2014-2020 will be spent on climate related projects and policies, such as those that aim for a low carbon, resource efficient Europe. This triples the current share and could yield as much as €180 billion over the seven-year period.

Translating circular economy into regional policy

Member states are progressing these European policies on differing levels and following a Fusion Observatory meeting with policy-makers from across the partnership, it was evident that there are varying levels of awareness of the circular economy with the principles of it being applied quite differently across the regions.

In some cases, it may be that individual aspects of the circular economy are being supported or promoted, for example recycling, but the role and opportunities of those have not necessarily been recognised within the wider context of a circular economy. In the UK for example, circular economy is not a widely recognised term however it is gaining traction and is recognised by the government that it is important to continue to move towards a circular economy as detailed in the UK Parliamentary Report published in July 2014[1]. Local environmental and economic strategies set ambitions to promote renewable energy sources, reduce resource use and increase the demand of low carbon goods and services, which in effect is working towards the circular economy. Similarly, the Netherlands translates circular economic principles into instruments around waste prevention, waste taxation, reduction in greenhouse gases and improved resource productivity. France and Belgium seem to have grasped the circular economy more fervently, recognising it as an opportunity for business growth setting commitments to supporting the shift.

Vision 2050 is the Flemish long-term strategy for sustainable development which focuses on addressing issues relating to poverty, climate change, ageing populations and limited resources. It includes a number of actions which relate to a circular economy and some of these measures are already underway such as promoting cradle-to-cradle designs.

Vision 2050: Flemish Sustainable Development Strategy

The Nord-Pas de Calais region in France has committed itself to a number of strategic objectives which include circular economic principles such as energy efficient networks, recycling and sustainable innovation, these being enshrined in several regional strategies such as the Regional Innovation Strategy and Nord-Pas de Calais Third Industrial Revolution Master Plan 2013 which aims to make the regional economy one of the most resource-efficient, productive and sustainable in the world.

An important driver for translating circular economy into regional policies is the push from the European policies like Europe 2020 and its associated strategies and action plans. Markets too will play a significant role as businesses spend more money on materials and energy costs. It is felt that local and regional policies should take further steps in integrating the principles of circular economy, not only for promoting resource efficiency and smarter ways of working and living, but also to identify and promote the associated business opportunities, and how that can improve an organisation's competitiveness and resilience.

Nord-Pas de Calais Third Industrial Revolution Master Plan 2013

Despite legislative and market drivers, policy-makers still recognise a number of barriers and challenges in undertaking integration of the circular economic principles. These will vary from region to region, but some common themes are:

- **Lack of information and understanding on the principles of circular economy**
  There is not necessarily a clear understanding of what is meant by a circular economy and how policy makers and businesses can integrate elements into their policies or business models.

  Alongside this, is the lack of understanding from consumers who continue to take-use-dispose or products. These conventional consumer habits can hinder new product and service development.

- **Inconsistent legislation and regulations**

  Changing or weak policy around resource efficiency and low carbon can reduce confidence in the circular economy with some legislation (e.g. waste, public procurement policy) being restrictive and hindering social and environmental benefits being considered alongside economic.

- **Lack of finance**

  Businesses often struggle to access funding to support efficiency improvements or investment for innovative business models as these are deemed more risky and complex.

For circular economy to be truly integrated into regional policies, these barriers should be better understood and addressed within regional policies and support packages. Policy-makers agreed that there needs to be a more urgent drive to integrating circular economic principles as the challenges we face will only get more difficult to overcome.

The small and medium business perspective of a circular economy

In a survey done by the Fusion Observatory of 286 companies from France, Belgium and the UK, the barriers identified by policy -makers were echoed by the survey respondents, for example 48.5% of SMEs surveyed had not heard of the term 'circular economy'. Encouragingly, however, over 60% of respondents felt that there business was aligned to some of the concepts of the circular economy (namely, recycling different waste and repairing equipment).

What does the Circular Economy mean to you?

48.5% had not heard of the term

25.3% were not sure what it meant

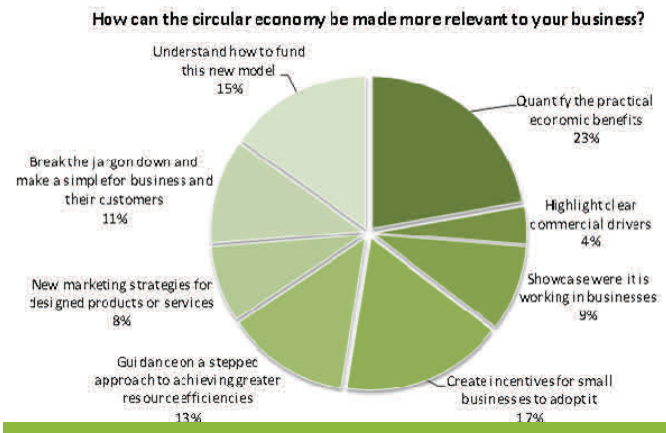
17% had some understanding

9.2% understood the term circular economy and thought about it context of business

This question was asked to business owners/ senior managers/directors

It was evident that still a lot of work is required around awareness raising of the circular economy; making it relevant and accessible to SMEs and their customers and giving practical guidance on how businesses can get involved. A review of 349 websites belonging to Kent based companies working in the low carbon sector corroborated this, showing that only 2 organisations use the terminology of "circular economy" in their online publicity. The terms "sustainability" and "renewable" were used the most (23% and 24% of websites respectively). This highlights the need for targeted end-customer communication to drive demand for products derived from circular economic principles.

Not surprisingly respondents thought that waste companies, manufacturers and construction companies were most likely to benefit, as the circular economy became more mainstream. But they also had the foresight to see how the design of new products and services is also going to matter. What was even more impressive was that quite a number of people had begun to grasp the issues about some resources becoming scarcer, and 11.2% of respondents highlighted rare earth metals as a material group that had the potential for greatest gains.



Results from Fusion Observatory survey of 286 small and medium businesses from France, Belgium and UK on their understanding of the circular economy.

It was also interesting to find out why businesses weren't getting more involved. As with any small business survey 'time' is always flagged as a big problem and it is often the business owner who would have to do the work and for them it is a constant struggle 'just doing the day job'. But these business owners were constructive and admitted that they weren't sure how to apply the concept to their business or if they had the right skills in the business to be able to change. They openly shared their concern that they might also lack the creativity to deliver such a new vision (5%). Regulation and lack of customer demand also inhibited their interest in developing a new business model.

What can we do to help small companies develop their ideas?

As we know from many other 'innovation' areas, for companies to change it either needs a business owner to have a real passion for the topic or a very clear economic case made; and obviously both are preferable. But for many small companies this can be tough, or it just isn't right. Its about making sure we start working with businesses for whom it makes real sense. We need to be able to offer coaching, mentoring, information and help them to finance their ideas. From the work of the Fusion partnership, we are already starting to see some leaders with new models developing.

How do investors view the circular economy?

Earlier research carried out by the Fusion Observatory demonstrated that very few organisations provide specialist low carbon/environmental technology funding for small companies looking at relatively low levels of finance. Low tolerance by investors to risk levels seen within SMEs still remains an issue for borrowing and especially in a new developing sector, where market demand can fluctuate due to changing government funding or regulation and limited customer knowledge.

In 2014 the Observatory took their work further and talked to a range of investors about their knowledge, and perceptions of the circular economy. Whilst we know at a national level this has become a more widely familiar concept we were testing its base at a local finance level, i.e. that mainly accessed by SMEs.

Finance providers felt that policy-makers could support a greater level of investment through increasing demand for low carbon environmental goods and services, supporting businesses at proof-of-concept phase and offering tax incentives.

Encouragingly the majority of generalist lenders contacted in the UK were aware of the term, 'circular economy' and a few felt that they had a reasonable understanding. However it was not something they had operationalised as part of any investment criteria. The majority of investors confirmed they supported companies that wanted finance for waste management, transforming waste into new products and those producing low carbon/eco-technology products.

The local bank teams, independent advisors and public funding bodies felt that more work needs to be done to give them guidance on the financial benefits (33%) that can be derived from the circular economy approach. An equal proportion believe that it is a developing area that needs to be supported by public funding and 20% said it would be useful to have examples of companies successfully implementing 'circular economy' principles and the financial/risk reduction benefits they derived from their actions.

Additionally the Fusion Observatory asked the participants in the survey what more they felt policy makers could do to support a greater level of investment. They felt strongly that there needed to be an increase in the demand for low carbon environmental products and services. They also wanted to have provision for independent specialist help or funding at research and development/proof of concept phase and finally to offer companies tax incentives or other similar rewards for those adopting circular economy principles.

> **"I think I know what is meant by the term circular economy but some more information wouldn't go amiss. The same goes for some of the new technology and services that are coming on the market. As a bank, we tend to lend money to a business with a sound order book."**

Business support tools for a circular economy

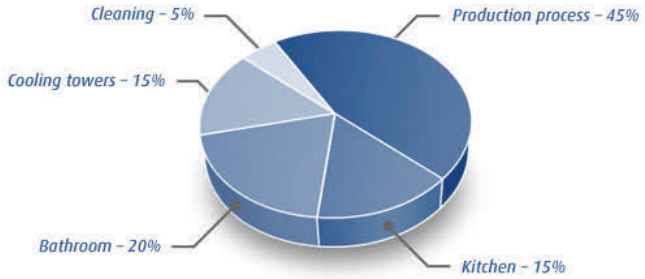
Historically, business support organisations have primarily focussed on energy and waste reduction. Increasingly, however the emphasis is moving toward understanding how an organisation can create value from new ways of working, factoring in, for example, minimising resource use and waste generation into existing/new business models, or establishing mutually socio-economic and environmentally beneficial business to business collaborations.

The Fusion partnership began to test some of these new methodologies across France, Belgium, UK and the Netherlands. Although the support varied on a case-by-case basis, the aim of it was ultimately the same, that is, to update business models to assimilate the philosophy of life cycle thinking and drive behaviour change to ensure a long-lasting impact.

New production and consumption models: How to deliver value to your customers in a different way which results in economic, social and environmental outcomes.

Promoting reductions in water consumption through CCI, France

The L'Ec'eau'diagnostic tool delivers a simple audit of an SME's water consumption, highlighting areas with high water use and developing recommendations for improvement. The tool is delivered as a spreadsheet to be completed by the SME and reviewed by technical experts from CCI. The tool highlights the importance of water and the risks to its availability in light of a changing climate and how through a circular economy, better resilience can be established through collaboration.



CCI's L'Ec'eau'diagnostic tool identifies where a business is using water the most (e.g. cleaning, production, kitchen) and recommends actions for improvement.

BSK-CiC supporting life-cycle thinking in start-up companies, UK

A simple approach, delivered as a workshop, to get delegates thinking how their business idea impacts on the environment in terms of people, planet and profit and to help them understand how they can adapt this idea to have a reduced negative impact. The workshops poses a series of questions to introduce the topic of life-cycle thinking; a technique to assess the environmental impacts associated with all stages of a product's life i.e. from raw material extraction through materials processing, manufacture, distribution, use, repair and maintenance and disposal or recycling. When thinking about a business idea in terms of its life-cycle, a business can identify new ways of working that reduce their impact on the environment and on the community how they can move towards a circular economy.

BSK—CiC ran workshops asking delegates to think about their business idea in terms of its impact on people, planet and profit.

KCC supporting organisations to manage their environmental impacts according to an Environmental Management System, UK

As a result of increasing customer demand, many businesses are taking action to improve their environmental credentials and change the way they do things but are struggling to demonstrate these actions without having to pay for expensive international/national standards. KCC have developed a step-by-step programme that introduces SMEs to environmental management systems, a formalised approach to identifying an organisation's environmental impacts and environmental risks/opportunities; rating them according to significance and putting in place objectives and targets to improve performance and resilience. The scheme, Steps to Environmental Management (STEM) has three levels, Blue, Silver and Gold and eligible businesses are rewarded at each stage. A business can complete the assessment forms for each level individually or attend a half-day workshop guiding them through the principles.

University of Kent supporting start-up businesses to realise their ideas, UK

Business advice is delivered on a 1:1 basis with qualified business advisors helping entrepreneurs develop their business ideas from a concept through to reality. The advice is tailored to the needs of the individual but can cover business planning, cash flow forecasting, funding applications and business models (including introducing models that support a shift to a circular economy). Applicant businesses receive a report detailing the advice provided and action points for the business.

WSX joined up with Universities of Southampton to offer start-up companies support through the Creative Entrepreneurial Freelance Practice programme. Ieva Poriete, now a high-end fashion designer benefitted from this support developing a sustainable business plan to set up a shop in London and be her own boss.

Supporting ideas grow into businesses, WSX Essex, UK

A programme of support was provided through helping student businesses realise their ideas into actual businesses. The programme encouraged those start-ups to take up a range of opportunities which included: use of incubator space, micro-grants, use of sustainable business model canvas, business assignments and mentoring.

Design: Can products be designed to help conserve resources through being made to be repaired and re-used, or use fewer materials in the first place?

Making space for innovators, RDM Makerspace, The Netherlands

RDM Makerspace has been established on the RDM Campus in Rotterdam, Netherlands as a collaborative venture between the Albeda College, Rotterdam University (of Applied Sciences) and the Port of Rotterdam Authority. The idea behind RDM Makerspace is to make a variety of tools, including a variety of 3D printers, a 3D scanner, laser cutters, and wood working tools, milling and welding machines available for members to test new product ideas.

Innovators can test new product ideas, learn how to design these products producing minimal waste and to design for remanufacture and also gain an understanding on how to take products to market through the expertise available at the centre.

RDM Makerspace in the Netherlands makes a variety of tools available to members to test product ideas, design out waste and be creative.

Product and service development
In addition to recycling there are opportunities for taking products and materials out of the waste stream and generating a new service or product through repairing, remanufacturing and re-using of 'waste'.

Grassroots innovation and circular economy, CfSD, UK

CfSD carried out research which sought to understand the relevance of grassroots 'community workshops' to the drive towards a more circular economy and the opportunities and implications they present for business, policy makers and civil society. Two examples of grassroots 'community workshops' are: Repair Cafés and Hackerspaces. The former offer a free meeting place for people to bring, repair and extend the useful life of a wide range of products, including; consumer electricals/electronics, clothing, furniture and bicycles. Hackerspaces, however, are physical places where people with an interest in technology can meet and work on their projects, which characteristically include software and hardware development as well as the more traditional 'maker' arts and crafts. Their growth has been facilitated by new and affordable technologies, particularly the advent of cheap computing and digital fabrication devices, such as 3D printers, the use of social media as a means of sharing information and the principles and products of 'open source'. The growth of these community workshops has been rapid with over 500 Repair Cafés established around the world since 2010 and Hackerspaces increasing from fewer than 20 in 2005 to 1035 today.

Repair Cafes bring together people who repair and extend the useful life of a wide range of products, making them an ideal place to act as a circular 'incubation hub' for the free flow of ideas around product innovation.

The research revealed that volunteers in Repair Cafes are strongly motivated to participate to help others to live more sustainably and to improve product longevity and reparability. Hackerspace participants are interested in 'Hacking for Sustainability' but this is not a significant motivation to participate. Their motivations to participate are largely related to meeting others who share their interests, to being intellectually stimulated and to learning new skills. However, activities pertinent to circular economy; including repair, upcycling and specifically projects related to energy monitoring and control, are not uncommon.

Business to business relations
Working together to create value by sharing resources, waste and ideas—often described as industrial symbiosis.

CD2E supporting the exchange of waste amongst high-growth companies, France

An innovative web-based tool which allows buyers and sellers to publish adverts to find specific waste or to sell waste. The tool also provides information on regulations governing certain types of waste as well as technical information and a list of local companies working in the sector. SMEs use the tool to find partners to sell their waste to prevent disposal or to buy waste which they could use in their business processed. It is also a useful tool to market an organisation and often new business contacts are created between members.

Stimulating business collaboration on industrial parks, VOKA, Belgium

To deliver a circular economy, collaboration between businesses, universities, municipalities, residents and other key stakeholders is paramount. To encourage this on industrial parks, VOKA are instrumental in setting up intercompany agreements between municipalities and industrial estate developers to establish sustainable industrial estates in the region. Long-term actions are included within the agreements to ensure that sustainable considerations are taken into account in the development of these estates.

VOKA have been working with industrial business parks to establish sustainable business park management plans, ensuring collaboration between tenants and landlords.

As the partnership have experienced, the concepts of a circular economy can be integrated into any business at any stage of their development, however the support tools tested and those that will be developed to deliver circular economic businesses in the future should be developed to deliver at least one of the following goals:

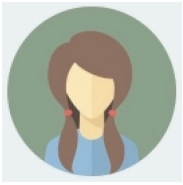
- To raise awareness of the concepts of circular economy,
- To introduce the business to new business models that meet the principles of circular economy,
- To highlight 'hot spots' in an organisation that could benefit from a change in process e.g. activities with high energy, water use,
- To enable eco-innovative businesses to test new services/products,
- To match businesses together for mutual benefits,
- To assist organisations in integrating elements of circular economy into all aspects of their business,
- To highlight the benefits of low carbon technologies that can limit resource use, and
- To assist businesses in applying for funding to help them change the way they do things.

> **"Any business can integrate circular economic principles into the way they work, they just need to know how, why and where to do this—and this is the role of the business advisor."**

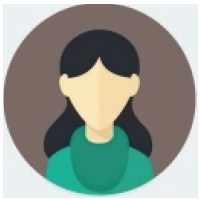
Issues faced by SMES when moving towards a circular economy

From the support offered and delivered through Fusion, businesses highlighted several common issues which they encounter when moving towards a circular economy. Not surprisingly, these barriers echo those identified by policy makers, but a lack of information and understanding on the principles of circular economy seemed to be the dominant issue.

What's in it for me, what will I gain from employing elements of the circular economy. At the moment, I am struggling with cash flow and keeping people employed.



I don't know what circular economy means and why it is relevant to me. I wouldn't know how to embed some of the principles into my organisation.



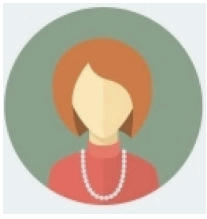
Lack of information and understanding on the principles of circular economy

Even if I wanted to start moving towards a circular economy, I don't think I or anyone in my organisation has the relevant skills. I also don't know what low carbon, environmental alternatives are available and what the benefits of them are.

I have reduced my energy use, changed my waste contractor to enable me to recycle more but when I speak to customers about this, they don't care and simply want the best price. I don't see any value in 'being green'.

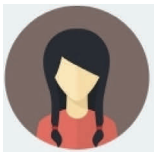
Inconsistent legislation and regulations

I diversified my businesses so that I could install solar panels in light of the government announcing that you could get paid to generate electricity, but the business never took off as the government changed its mind.



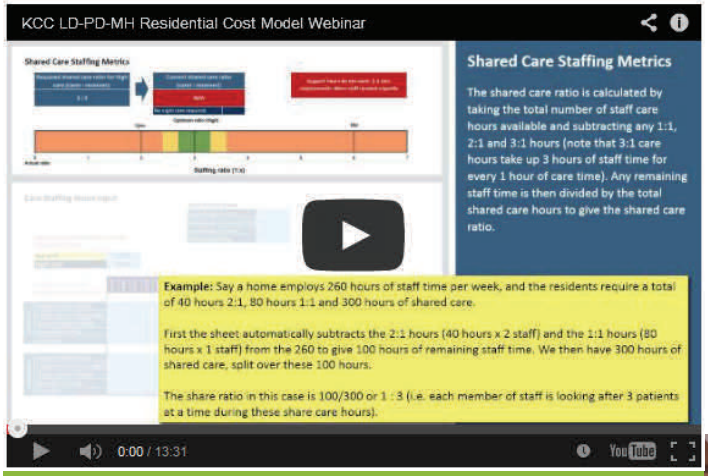
I can't seem to get financial support for my new product which will result in less consumer waste going to landfill.

Lack of finance



Lessons learned when supporting SMEs shift towards a circular economy

1. One size doesn't fit all. Tailor business support according to company size and stage of development.
2. Avoid jargon. Make the principles of circular economy relevant to the business by linking it to general business support i.e. choosing the right price, business planning, managing waste contracts, paying bills.
3. Some businesses are pioneers, others are followers. Make sure you know which business you are working with, start with the pioneers and the followers will join.
4. Implement circular economic principles in stages. Updating a business model is daunting, encourage lots of small steps and some big leaps.
5. Start-ups are more receptive to new ideas. Link circular economic principles to start-up business support.
6. Manage expectations. Business benefits will not all be realised immediately, make businesses aware of this.
7. Understand your audience. Businesses prefer straight-talking, meeting on their terms (i.e. attending business network meetings), knowing what is in it for them. For effective communication, find out how your businesses prefer to receive information (e.g. email, post, phone).
8. Let business make up their own minds. Present the facts, the need for urgency, and the tools for change but do not force the issue. This could be counter-productive.



Some businesses prefer webinars where they do not have to leave the office and continue with other tasks while learning something new.

Fusion Final Conference in Ashford, Kent with 130 businesses attending from across the partnership region.

Recommendations

The aim of this report is to support policy makers to shape future strategies, policies and business support packages to ensure that the principles of a circular economy are encouraged amongst small and medium businesses. In developing these future policies and packages, the following recommendations are posed. Throughout the Fusion project's dialogue with SMEs, finance providers and policy-makers, 3 key barriers have been highlighted and it is in reference to these that the recommendations are given below.

1. Lack of information and understanding on the principles of circular economy

1.1 To increase awareness of circular economic principles by mainstreaming them into general business support around tax, business planning, annual accounts, etc.

1.2 Train policy-makers, procurers from large organisations, business support organisations (business coaches, mentors) and finance providers on the principles of circular economy, the benefits, how it can be incorporated and demonstrated within a business, the business barriers and the importance of ensuring that businesses start changing the way they operate.

1.3 Facilitate methodologies to encourage discussion or marketing from businesses to their customers to support consumers to understand circular economy and why businesses are shifting towards this economy, how products and the use of them are changing.

1.4 Support the collaboration of businesses working together from start-ups, to high-growth, to innovators and fixers.

1.5 Technologies will play a key role in supporting the shift towards a circular economy. It is critical that schools, universities, business support organisations remain up-to-date on technological advancements and understand how these can shape the SMEs of the future.

2. Inconsistent legislation and regulations

2.1 Ensure that regional and local policies translate National, European and International policy for local delivery, supporting businesses to adapt to reap the opportunities or build resilience to risks, supporting them through changes and updates.

2.2 Ensure there is a good working relationship with SMEs, policy makers, higher education centres, and business support organisations to make sure that the views of the SMEs are heard and considered when developing support packages and policies.

3. Lack of finance

3.1 Offer grants/loans to businesses who are providing/seeking to provide a product which will reduce the consumer's impact on the environment, especially at the proof-of-concept phase.

3.2 Offer grants/loans/tax incentives to businesses who want to integrate the elements of a circular economy into their organisation through energy efficiency measures, waste reduction schemes, sustainable travel options, green procurement and the like.

3.3 Set up a support structure to encourage repairing, remanufacturing and fixing including physical spaces, access to finance and support for start-ups.

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Kent County Council kent.gov.uk	Carolyn McKenzie, Jennie Colville, Adam Morris and Chris Bell	www.kent.gov.uk/lowcarbon
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cd2e ACTEUR DE L'ÉCO-TRANSITION	Christian Traisnel, Alexia Pestra and Audrey Verspieren	www.cd2e.com
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