

# Realising the Transition to the Circular Economy: ReTraCE

# Report on Milestone M7

Arrangement of a multi-stakeholder Delphi-based focus group; establishment of a structural framework for definition in order to assess economic efficiency within the CE.





#### 1. INTRODUCTION

The benefits of the transition to a Circular Economy (CE) has been highlighted by key regional (European Commission, 2017) and international policy findings (World Economic Forum, 2014; The Club of Rome, 2016). While the potential benefits of CE are huge and appealing, the concept is clearly under-investigated, especially in terms of CE Economic Efficiency measures that would deliver the expected transition. Indeed, what a CE Economic Efficiency measures would encompass in terms of its definition, variables and constraints that would affect it or even assumptions that would underpin such a measure has found limited theoretical and practical development.

In light of these and the fact that CE development has a wide range of stakeholder interest across various groups, the process of developing a CE Economic Measure needs to be informed by stakeholder views. Consequently, a stakeholder mapping exercise is conducted in order that the development of a CE Economic Measure is informed by key stakeholder groups.

The multi-stakeholder mapping process will enable key direct and indirect stakeholders across government ministries, industry, business and non-governmental, specific economic sectors, etc to be identified. The process also set out the objectives and scope of the consultation as well as providing guidance on the engagement process.

#### 2. STAKEHOLDER ENGAGEMENT PROCESS

The stakeholder engagement process would be delivered through the following steps:

- Step 1: IDENTIFYING: To identify relevant groups, organizations, and people
- Step 2: ANALYSING: Understanding multi-stakeholder perspectives, interests, influences, impacts, etc on the economic efficiency of the circular economy.
- Step 3: MAPPING: Visualizing relationships to CE objectives and other stakeholders
- Step 4: PRIORITIZING: Ranking of stakeholder relevance, finalisation of critical list of stakeholders and identifying key issues

**STEP 1: IDENTIFYING:** This mapping process involves the construction of a list of relevant stakeholders. This will be dynamic in nature since it must be continuously updated if need be. The





final list of major stakeholders will depend on those with direct interest and relevance to assessing the economic efficiency of the CE. Given the very extensive regional and international scope of potential stakeholders, an initial identification of relevant stakeholders groups in one country can be replicated in others not already covered as the process develops. Major stakeholder groups identified includes:

 Academic, Consultancy, Government, Industry, Investors, Media, NGOs, Public, Unions including Networks and Platform

**STEP 2: ANALYSING:** Within this process, further analyses of the initial stakeholder list will be undertaken in order to better understand the relevance of the stakeholders, their relationship to the CE project and to prioritize them based on their relative usefulness for the consultation process. The analyses will be based on the factors such as: Potential Value Contribution to the CE project, Power, Legitimacy and Urgency of engagement with CE issues.

**STEP 3: MAPPING:** This step will enable the different stakeholders and the often complex interplay of issues and relationships relevant to the CE project to be visually mapped. It will further determine which stakeholders are most useful to engage with.

**STEP 4: PRIORITIZING:** Given the large number of stakeholders, it is not practical and necessary to engage with all stakeholder groups. As such, it is important to be clear and strategic about the stakeholder consultation process as this will save both time.





## Academia

This stakeholder offers courses and programs for students which should in future advance the CE. Also, some of the academic centres have established collaborations with private and public organizations to accelerate the transfer of knowledge into practice.





Country	Stakeholder	Description
Netherlands	Centre for Sustainability: Leiden•Delft•Erasmus	Circular Economy Master's Programmes
Netherlands	Delft University of Technology (TU Delft)	Online courses - collaboration with McArthur Foundation
Netherlands	Wageningen University & Research	MOOCs - Free Online Course: Circular Economy: An Interdisciplinary Approach
Netherlands	SDR lab	SDR Lab @ UNU-MERIT focuses on explorations and experiments in sustainable development and transformation research, education & training, and knowledge transfer & outreach activities in the field of innovation, policy and governance.
Sweden	KTH Royal Institute of Technology	The 'CE@KTH' project aims to strenthen the research and education in Circular Economy through a number of iniatives such as workshops, hosting representatives from several businesses and 2 undergraduate programmes, 8 Master's programmes and 2 PhD programmes related to the Circular Economy.
Sweden	Lund University	Offers three Master's programmes related to CE
Sweden	University of Borås	Offers a PhD programme related to CE
Sweden	Mälardalen University Sweden	Offers a course on 'Circular economy and environmental engineering'
Sweden	Chalmers University of Technology	Almost entirely committed to the environmental cause through its offering of education in technology, science, architecture and maritime engineering.
Spain	UEx (Universidad de Extremadura)	UEx holds a master in circular and green economy
Spain	UCM Universidad Compultense de Madrid	UCM offers a dregree on Social innovation and Collaborative Economy that bring formation on circular economy
Spain	Centro de Innovación y Desarrollo para la Economía Circular	Initiative of the Universitiess Politécnica, Autónoma y Complutense of Madrid to promote a sustainable and circular development.
Spain	Universidad Autonoma de Madrid	It offers courses on wew disruptive economic processes: the circular economy and the collaborative economy
Spain	Universitat Autònoma de Barcelona	It promotes a professional training on circular economy and industry 4.0
Spain	Universitat de Barcelona	It is developing and own plan to make the campus of UB circular
Belgium	KU Leuven	KU Leuven performs research towards a CE and it's implementing measures to implement circularity in its own campus
Belgium	Universiteit Gent	UGent performs research towards a CE and it's implementing measures to implement circularity in its own campus
Belgium	REPAiR	REPAiR is an EU horizon 2020 project to devise place-tailored solutions to promote the use of waste as a resource in six european cities.
Belgium	Universiteit Antwerpen	UGent performs research towards a CE and it's implementing measures to implement circularity in its own campus
United Kingdom	University of Bradford	It offers a MBA focused on CE. University of Bradford and the Ellen MacArthur Foundation continue to partner to support and develop teaching and research programmes around CE.
United Kingdom	Cranfield University	It offers a MSc in Technology Innovation and Management for a CE plus short courses focusing on important areas aimed at industry professionals.
United	University College	It offers several programs related to CE and also hosts a state-of-the-art lab for
Kingdom	London	CE purposes.
United Kingdom	University of Exeter	It offers several MOOCs and also a MBA program focused on CE which offers students with the opportunity to work with organisations on real world circular challenges for their summer 'Business Projects'.





# Consultancy

Non-manufacturing, service-based companies, which claim to assist the CE transition through sharing knowledge on best practices.

Country	Stakeholder	Description
Netherlands	Acceleratio	Acceleratio's expertise claims to be in the field of Circular Economy, Smart Cities, Waste Management and Resource Efficiency. Activities include amongst others: Strategy and design of sustainable concepts, products and organizations. Programme and project management. Setting up new partnerships (like the first international Green Deal on the "North Sea Resources Roundabout"), making fact sheets and Due Diligence support.
Netherlands	Circular Academy	A social enterprise that accelerates the transition towards a circular economy by translating academic research into actionable insights for businesses, NGOs and governments.
Sweden	Green Strategy	Green Strategy is an innovation-driven and research-based consultancy firm specializing in sustainability and circularity issues of the fashion industry. Our aim is to help clients develop and communicate their sustainability and circularity ambitions and ongoing work more successfully, based on key sustainability principles, circular thinking, best practice and latest research.
Sweden	Esam AB	We are consultants for sustainable development. Our long term vision is to step by step support the global transition towards sustainability. Much has happened since 1990, when Esam took its first faltering steps. Little did we know about Esam's future, that we, twentyfive years later would be one of the Swedish pioneers in sustainable development.
Sweden	Urban Earth	We provide independent technical and environmental consultancy services and advice, mainly in waste management and sustainable urban development.
Sweden	RISE	Collaborates with academics, public sector and private sector to develop services, products, technologies, processes and materials that contribute to a sustainable future and a competitive Swedish business community.
Belgium	VITO	VITO is an independent Flemish research organisation in the area of cleantech and sustainable development. They also contribute to the CE transition through research.
United Kingdom	WRAP	WRAP works with governments, businesses and communities to deliver practical solutions to improve resource efficiency through teh Circular Economy.





#### Government

Develops CE legislation and regulations; develops market incentives for using raw materials that can be reused; finance CE business models and invest in CE entrepreneurs; stimulates creation of knowledge and innovation through education and research as well as spreading and sharing knowledge within networks; foster international cooperation for CE as supply chains and waste flows are global. Governments will want to see a transition to the Circular Economy over the next decade to an extent that satisfies the 17 Sustainability Development Goals (SDGs) by 2030, as required by the United Nations 2030 Agenda.

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Country	Stakeholder	Description
Netherlands	Ministry of Infrastructure and Water Management & Ministry of Economic Affairs and Climate	National authorities responsible for the transition to a circular economy: share knowledge and expertise with public authorities and social organisations. Also, take part in the nationwide Circular Economy programme, including the From Waste to Raw Materials programme (Nederland circulair in 2050).  The Green Deal is a part of the green growth policy and is a joint initiative by the Dutch Ministries of Economic Affairs and Climate Policy (EZK), Infrastructure and the Water Management (I&W) and the Interior and Kingdom Relations (BZK).
Netherlands	PBL Netherlands Environmental Assessment Agency	PBL Netherlands Environmental Assessment Agency is the national institute for strategic policy analysis in the fields of the environment, nature and spatial planning. The PBL role is to assess the current state of the circular economy in the Netherlands.
Sweden	Ministry of the Environment	The Ministry of the Environment is responsible for the Government's environmental and climate policy. The Ministry works on issues concerning the climate, biological diversity, chemicals, ecocycles, nature and forest conservation, marine and water environments, radiation safety and international environmental cooperation.
Sweden	Tillvaxtverket	The Swedish Agency for Economic and Regional Growth is a government agency under the Ministry of Enterprise and Innovation. Our focus is on fostering sustainable growth and competitiveness in all parts of Sweden. Our vision is that more businesses want to grow and have the capabilities and courage to do so. Providing knowledge, networks and funding are our main tools.
Sweden	Delegationen för cirkulär ekonomi	The purpose of the Circular Economy Delegation is to strengthen society's transition to a resource-efficient, circular and bio-based economy both nationally and regionally. The delegation is an advisory body to the Government which has been placed with the Agency for Growth. The delegation takes and is responsible for its own decisions.
Sweden	Naturvärdsverket	The public agency in Sweden that is responsible for environmental issues. The Agency carries out assignments on behalf of the Swedish Government relating to the environment in Sweden, the EU and internationally.
Spain	Ministerio para la Trancision Ecologica	The Spanish Ministry for the ecologic transition is currently elaborating a strategy towards a circular economy transition.
Spain	Catalan Observatory of Circular Economy	Observatory to make visible the efforts made by Catalonia in the field of green economy and to circulate and disseminate the achievements achieved.
Spain	Catalan Government	The Government of Catalonia was among the first in the Eu to draw a strategy towards a circular economy.
Spain	Andalousian Government	The Andalusian Government has approved a Circular Bioeconomy Strategy that focuses on the areas of bioeconomy activities that are less developed in the region.
Belgium	Public Waste Agency of Flanders (OVAM)	OVAM, as responsible of managing public waste, is one of the flemish public agencies more involved in implementing CE programs.
Belgium	City of Gent	The city of Gent has launched many programs, as the CleanTech cluster, and it's committed to foster a transition towards a CE.
Belgium	Service public fédéral Economie, P.M.E., Classes moyennes et Energie	The Federal Public service of Belgium has drafted a strategic vision for a circular economy
United Kingdom	London Waste and Recycling Board	In June 2017, LWARB published a Circular Economy route map for London as part of Circular London, one of its three key programmes.
United Kingdom	UK Green Building Council	UKGBC is working with its members and other stakeholders to develop practical guidance, raise awareness and influence policy to enable organisations working in the built environment overcome the barriers to implementing circular economy principles.
United Kingdom	Department for Environment, Food & Rural Affairs	It has set out a strategy that shows how to preserve material resources by minimising waste, promoting resource efficiency and moving towards a circular economy in England.





#### Industry

Below are companies which claim to have circular business model or offer circular services. They can be private or public, and range in size from sole traders to employing thousands of individuals. They can also be based only in the host country, or be multi-national corporations with offices, facilities and staff spanning several countries including Sweden.

The Circular Economy represents a paradigm shift for the industry in general, which have mostly focussed on maximising profit in a linear fashion (make, use, dispose); industry will now be encouraged to adopt practices that are more sustainable through the concept of reduce, reuse and recycle.

Some companies will voluntarily adopt more sustainable practices, but others may be incentivised or forced to do so through legislation adopted by government, in turn influenced by the European Union and the United Nations 2030 agenda.

Country	Stakeholder	Description	
Netherlands	StoneCycling	StoneCycling, has developed a process which turns building and industrial waste into bricks. The bricks are made from 60-100% recycled materials and these are fired at temperatures which are 200 to 300 degrees less than usual.	
Netherlands	Ahold Delhaize	Ahold Delhaize is claiming to be one of the world's largest food retail groups. It joined the New Plastics Economy Global Commitment, led by the Ellen MacArthur Foundation in collaboration with UN Environment.	
Netherlands	Gispen	Gispen designer sofa made from 95% recycled plastics.	
Netherlands	Philips	Many of Philips' new propositions claim to support the circular economy; current waste recycling rate is at 81%; the company is getting most of its energy from renewable sources; two-thirds of total sales revenues comes from green products. Also, Philips is one of the founding members of the Dutch Sustainable Growth Coalition (DSGC).	
Netherlands	Unilever	The company is collaborating with the Ellen MacArthur Foundation and its New Plastics Economy initiative to define what materials are put into the marketplace. This will ensure that the packaging is compatible with existing and future recycling infrastructure.	
Netherlands	Royal Dutch Shell,	Shell has been involved in the distribution of biofuels for over 30 years. Together with the Brazilian sugar and ethanol company Cosan SA Indústria e Comércio, Shell founded the joint venture called Raízen in 2011. By the end of 2014, 12 out of their 24 mills were certified by the robust Bonsucro multistakeholder sustainable standard. During the sugar cane biofuel production process, all of the biowaste is reused. The crushed dry cane is burned for electricity, more ethanol can be converted from cane waste materials and the liquid waste is returned to the field as a natural fertilizer.	
Netherlands	DyeCoo	DyeCoo's mission is to passionately lead the textile industry to a lean and clean future. The company already has partnerships with major brands like Nike and IKEA https://www.weforum.org/agenda/2019/02/companies-leading-way-to-circular-economy	
Netherlands	Peerby <sup>1</sup>	At Peerby there are products available for rent and rental in an area. Her one can use each other's goods, such as ladders, electric drills or cars. Such innovative business models focus on usage instead of ownership.	
Netherlands	Swapfiets1	Bike rental company – renting instead of owning, repairing instead of disposing.	
Sweden	AB Joraform	Joraform has developed and marketed compost machines for local composting of domestic waste.	
Sweden	Acosense AB	Acosense is a Swedish high tech company that develops and markets Acospector® Acoustic Chemometer, an innovation for non-invasive fluid analysis in real-time. Their mission is to offer intelligent fluid analysis solutions to obtain new knowledge to empower the process industry to optimize their production, save resources and become more green and lean for the benefit of all.	
Sweden	Again AB	Again offers the best technique available on the market today for nutrient recycling from household wastewater streams. Again's solutions for houses and apartments are based on academic research in wastewater treatment technologies with focus on sustainability and recycling for agricultural purposes.	
Sweden	Boliden Bergsöe AB	Boliden Bergsöe lead smelter is one of Europe's largest recyclers of used lead batteries, and the Nordic region's only secondary smelter for lead. The main products are pure lead and customised alloys. Boliden Bergsöe contributes in many ways to a viable ecocycle by annually extracting lead from approximately four million scrap car batteries.	
Sweden	Clivus Multrum AB	Clivus Multrum is a container for composting sewage. The sewage is composted, among other things, by using very effective ventilation. Incidentally the bathroom is also odourless before,	





		during and after your visit. The volume of the sewage is considerably reduced in the process. After a year the remaining volume is about one third of the original amount. The container must have a capacity big enough to receive and store the sewage until it has been composted, a duration of
Sweden	Miljöbolaget i Svealand AB	about six years.  Miljöbolaget i Svealand AB offers treatment and deposition of hazardous industrial waste and contaminated soil. Industrial waste is neutralised and, if possible, treated to reuse components. Contaminated soil is decontaminated by for example soil wash, thermal treatment and biological treatment before depositing. Miljöbolaget does also carry out research and development to maximize recycling and minimize the deposited volume.
Sweden	Surfcleaner AB	SurfCleaner cleans and separates all types of pollution from water surfaces with a new patented energy efficient separation process. The products (skimmers) can be driven by solar cells, batteries or by conventional electricity. SurfCleaner can be used on the open seas, offshore, rivers, ports wells, rainwater tanks and water towers. It eliminates proteins, foam, debris (solids) oil sheen and thicker oil from water surfaces.
Sweden	Taurus Energy AB	Taurus Energy AB is a research company that has developed a new method for the production of ethanol from forestry and agricultural waste. Taurus Energy's method makes it possible to produce ethanol with the help of renewable raw materials that previously could not be exploited.
Sweden	Värmevärden AB	Distribution and production of district heating by incineration of waste.
Sweden	Altered	Altered develops products that drastically reduces the use of water and energy without sacrificing user experience, functionality or design. Altered uses proprietary technologies to develop products that drastically reduces the use of water and energy without sacrificing user experience, functionality or design. Our retro-fit products install in less than a minute and follow a global standard. Small simple solutions with huge global impact.
Sweden	Ecopilot	Ecopilot AB develops, markets and sells innovative, intelligent and intuitive software services for building optimization. Improve the working environment and improve productivity. Our clients describe Ecopilot as an A.I. (Artificial Intelligence) that enables various systems to collaborate, rather than constantly working against each other. A more pleasant indoor climate is created and maintained, while costs are reduced. Plus, it contributes to fulfilment of the EU's requirements on greenhouse gas emissions. A smart solution which works with all existing ventilation, heating and cooling systems.
Sweden	Hällefors Ekobriketter AB	Hällefors Ekobriketter AB manufactures wood briquettes for household heating applications It's like burning wood but wood briquettes have higher heating value and burns longer. For wood boiler, furnace, stove, cooking pot or stove wood briquettes is an excellent fuel. Wood briquettes produce no carbon dioxide or sulfur emissions. Hällefors Ekobriketters mission is to manufacture and sell environmentally friendly, renewable energy with minimal impact on the environment.
Spain	Cámara de Comercio de España	The spanish chamber of commerce has a special Circular Economy Commission with the objective of identify and and propose measures that contribute to achieve a more balanced and sustainable economic growth.
Spain	Forética	Forética is the association of companies and professionals in corporate social responsibility / sustainability leader in Spain and Latin America, whose mission is to promote the integration of social, environmental and good governance aspects in the strategy and management of companies and organizations.
Spain	Coca-Cola, Unilever (Tulipán), Grupo Siro (supplier of Mercadona), Damm and Calidad Pascual	5 more impactful companies towards CE according to a report from the Instituto Coordenadas de Gobernanza y Economía Aplicada. Although I did some research on that institute and it is just a very partisan lobby that doesn't inspire me much confidence and quite intransparent.
Spain	Envasos Ferrer, Boscos Vallès, Pesa i Pensa, Projecte Simbiosi Industrial i oficina Sinèrgies Bufalvent.	4 examples of excellent practices in implementing circular business models in Catalonia.
Belgium	Public Waste Agency of Flanders (OVAM)	OVAM, as responsible of managing public waste, is one of the flemish public agencies more involved in implementing CE programs.
Belgium	City of Gent	The city of Gent has launched many programs, as the CleanTech cluster, and it's committed to foster a transition towards a CE.
Belgium	Service public fédéral Economie, P.M.E., Classes moyennes et Energie	The Federal Public service of Belgium has drafted a strategic vision for a circular economy.

<sup>&</sup>lt;sup>1</sup> Sharing Economy





#### **Investors**

Financial enterprises which claim to assist the CE transition through investing or advising investments in CE business models and practices.

Country	Stakeholder	Description
United Kingdom	Carbon Trust	It advises businesses, governments and the public sector on their investments in innovative low-carbon companies.
Netherlands	CE Booster	Helps start-ups in all stages grow. They claim their work contributes to boosting the circular economy to build a better future. Their three programmes and CE Support Desk are all circled around one idea: use the value others can add to your business.
Netherlands	Netherlands Foreign Investment Agency (NFIA)	Assists companies at every stage of establishing or expanding (circular) operations in the Netherlands.
Netherlands	Social Impact Ventures NL	They invest in clean and innovative technologies and services that accelerate the transition from a linear economy to a circular one - a new economy that thrives on solutions based on clean energy, upcycling of materials, clean water systems, safe and healthy products, and social fairness.
Sweden	Tundra Sustainable Frontier Fund	In August 2015, Tundra launched the first global frontier fund with a sustainability approach. Among the seed investors are three Swedish public institutions. This is the first global fund to combine investments in frontier markets with a sustainability approach. Like all of Tundra's funds, the fund does not invest in companies that violate international conventions on human rights, environment, labour rights or corruption (UN Global Compact) and do not initiate an action plan within twelve months after these breaches have been communicated by Tundra.

# Media

(Digital) Newspapers, Blogs, Social Media – relevant stakeholders as they can support and promote the CE concept and shape people's understanding and perspectives on CE

Country	Stakeholder	Description
Netherlands	Nu	https://www.nu.nl/tag/Circulaire%20economie
Sweden	Super Miljö Bloggen	A popular blog on environmental news
Spain	EcoPost	Digital newspaper specialized in environmental news
Spain	Sostenible.cat	Digital newspaper specialized in environmental news
Spain	Econotícias	Digital newspaper specialized in environmental news
Various	Environmental Units of various mainstream media companies	Mainstream media dedicated to environmental and sustainability issues





# **NGOs**

The non-profit organizations can implement CE related projects, build multi-stakeholder platforms and cooperatives for promotion of CE concept.

Country	Stakeholder	Description
United Kingdom	Ellen MacArthur Foundation	A charity registered in the UK registered charity which aims to inspire a generation to re-think, re-design & build a positive future through the framework of a circular economy.
Netherlands	The Cradle to Cradle Products Innovation Institute	Is a non-profit organization that administers the Cradle to Cradle Certified <sup>TM</sup> Product Standard which provides designers and manufacturers with criteria and requirements for continually improving what products are made of and how they are made. It is headquartered in Oakland, California, with an office in Amsterdam, the Netherlands.
Netherlands	Circle Economy	A social enterprise, organised as a cooperative, aims to accelerate the transition to circularity through on the ground, action focused, development of practical and scalable solutions and international campaigns, communications, and engagement, focused on spreading the circular message.
Netherlands	Both Ends	The vision of Both ENDS is a world where long-term environmental sustainability and social equity take priority over short-term profits. In order to make our vision reality, Both ENDS strengthens global civil society to gain decisive influence on the use of nature and the environment, thus contributing to societies that stay within our planetary boundaries and respect all human rights, including the rights to water, food and a safe living environment.
Netherlands	The Transnational Institute (TNI)	TNI is an international research and advocacy institute committed to building a just, democratic and sustainable planet. TNI has a reputation for well researched analysis on key global issues long before they become mainstream concerns. As a non-sectarian institute made up of researchers, scholaractivists and movement-builders, TNI uniquely combines a 'big picture' analysis with proposals and solutions that are both just and pragmatic.
Netherlands	Milieudefensie	As an independent environmental organization, Milieudefensie works on a sustainable and fair Netherlands. It performs research and creates reports (sometimes requested by the government). Moreover, it has also developed into an action group, often operating together with other organisations, such as the political party Green Left, and is the Dutch branch of Friends of the Earth. Milieudefensie is part of the 30 national organisations that Friends of the Earth Europe represents and unites at the European level.
Sweden	Svebio	Svebio is a commercial environmental organization for companies and individuals. We are strongly rooted in our values. We believe in renewable energy, entrepreneurship and a free market economy.
Sweden	Stockholm Environment Institute	an international non-profit research and policy organization that tackles environment and development challenges.
Sweden	AXFOUNDATION	Axfoundation is an independent, non-profit organization whose objective is to establish venues and conditions for real change that propel us toward a sustainable society. Our work often involves building bridges between researchers, experts, decision-makers and practitioners. Both research and experience show that collaborations between disciplines and across industries are a very effective way to generate new ideas and solutions.
Belgium	Transitienetwerk Middenveld (TNM)	The Transitienetwerk Middenveld (TNM) is a network of trade unions, the environmental movement, North-South organizations, social organizations, the cultural sector, alternative media and scientists. The members of the TNM want to join forces to realize the transition to a sustainable society.





# Unions/ Networks / Platforms

Enabling multiple stakeholders who come together and collaborate on joint CE initiatives

Country	Stakeholder	Description
Netherlands	EIT Climate-KIC	Bringing together business, academia, and the public and non-profit sectors to create networks of expertise, to develop innovative products, services and systems bring them to the market and scale them up for impact - to reach a prosperous, inclusive, climate-resilient society founded on a net zero-carbon, circular economy = aka a new climate-conscious economy.
Netherlands	Circular Economy Platform of Ports	LOOP-Ports aims to facilitate the transition to a more circular economy in the port sector, providing an innovation ecosystem around port activity fostering circular economy initiatives, and facilitating the exchange of experiences and good practices.
Netherlands	The City Deal Circular City	The City Deal Circular City brings together 9 cities, 3 Ministries and 3 knowledge parties, with the aim, at the latest by 2050, of achieving fully circular cities in parallel to the ambition outlined in the National Government Programme Circular Economy. The City Deal Circular City encourages access to the new market for the circular economy for parties on the supply and demand side, by sharing knowledge and best practices via joint (digital) platforms, and placing pioneers in the spotlight.
Netherlands	Holland Circular Hotspot	Holland Circular Hotspot is a private public platform in which companies, knowledge institutes and (local) authorities collaborate internationally with the aim of exchanging knowledge and stimulating entrepreneurship in the field of circular economy.
Netherlands	Dutch Sustainable Growth Coalition	The Dutch Sustainable Growth Coalition (DSGC) unites eight multinationals. They aim to drive sustainable growth by combining economic profitability with environmental and social progress — and in that way contribute to the SDGs - Unilever, DSM, AkzoNobel, FrieslandCampina, Philips, Shell, KLM and Heineken.
Sweden	Swedish Life Cycle Center	a center of excellence for competence building and knowledge exchange to drive the life cycle field forward. We co-create an arena for universities, research institutes, industrial players and authorities to collaborate in.
Sweden	RE: Source	Leading research and innovation investment within the resource and waste area
Sweden	Cradlenet	Sweden's network platform to accelerate its transformation towards a circular economy
Sweden	Atervinningsindustrierna	Recycling Industries' Association of companies within the recycling field
Sweden	IVL Swedish Environmental Research Institute	IVL was jointly founded in 1966 by the Swedish state and national business interests to carry out research on industrial air and water issues. Today we are an environmental agency concentrating on much more. Common to all of our assignments is the interaction between ecological, economic and social perspectives.
Sweden	National Food Strategy for Sweden	The Food Strategy is a platform that sets out the direction of our policy towards 2030, to create stability and ensure a long-term approach.
Sweden	Swerea	A network of government agencies, research projects and companies
Sweden	Teknikföretagen	The Association of Swedish Engineering Industries is an employers' organisation, and a force for innovation. We are present throughout Sweden and assist 4,000 engineering companies in labour law and industry issues, enabling them to focus on developing world-class goods and services.
Sweden	Produktion2030	Produktion2030 is a strategic innovation programme supported by Vinnova, the Swedish Energy Agency and Formas. Its goal is to ensure that Sweden remains a competitive manufacturing nation.
Sweden	Sveriges Byggindustrier	Construction federation that stimulates sustainability
Sweden	Avfall Sverige	Avfall Sverige is the Swedish Waste Management and Recycling association with 400 members from both the public and the private waste management and recycling sectors. 99,9 per cent of the Swedish population are represented through Avfall Sverige. Avfall Sverige represents its members in dealings with politicians, other decision makers, authorities and media, both in Sweden and internationally.
Spain	Fundación para la Economía Circula	The Fundación para la Economía Circula is a private Foundation, of Iberian scope and supranational projection, formed by a board composed of professionals of recognized prestige in both the public and private sectors. World personalities and experts, public administrations, private entities and social agents collaborate with the Foundation.
Spain	Fundacion Cotec para la innovacion	Cotec is a foundation that involves private companies and governments and generates reports and debates, also with the topic of circular economy.
Belgium	Vlaanderen Circulair	Vlaanderen Circulair (Circular Flanders) is the hub and the inspiration for the Flemish circular economy. It is a partnership of governments, companies, civil society, and the knowledge community that will take action together.





Belgium	VLAKWA (Vlaams	VLAKWA is the independent intermediary active in the integrated water chain. It's
	Kenniscentrum Water /	involved in many programs as Vlaanderen Circulair.
	Flemish Water Knowledge	
	Center)	
Belgium	AGORIA	AGORIA is a network of expertise centres, market teams, industry teams and policy
		units committed to a sustainable future.
Belgium	BBL - Bond Beter Leefmilieu	BBL is a partnership of organizations, citizens, governments and companies, with one
		goal: to make the transition to a sustainable, renewable society. To achieve that, they
		promote a change in terms of energy, mobility, raw materials, food and spatial
		planning.

#### **Public**

The public can comprise of customers of CE related products and services, concerned and unconcerned citizens for the environmental/health issues.

Some citizens may be interested in the CE because they are aware of the consequences of the current linear approach and wish to support more sustainable products and services, so there is currently limited engagement with CE issues. However, it is hoped that by raising awareness and the adoption of CE related policies and incentives, citizens in general will become far more engaged with CE issues. By creating a larger demand for sustainable products and services, companies will be forced to adapt and cater for this demand. The public can therefore make a significant contribution to the CE project.

In addition to seeing a wider variety of sustainable products and services becoming available to, the public may be encouraged to buy used items instead of new items. And licencing or leasing of items may become more popular than ownership of items, as the responsibility of items after use remains with the manufacturer. For instance, instead of buying a fridge outright, consumers would licence it from the manufacturer instead. Once the consumer no longer needs the fridge, it is returned to the manufacturer, who is then responsible for the fridge. The manufacturer can choose to make it available for reuse or recycle it. The manufacturer can also dispose of it in landfill but doing so would likely be unprofitable.





## 3. SCOPE OF SURVEY QUESTIONNAIRE AND THE DELPHI-STYLE METHOD

Following the Stakeholder Mapping process, a multiple rounds of questionnaire would be developed by adopting a Delphi-style Method in order to gather repeated relevant information and feed-forward to stakeholders. Key issues such as conceptualising an Economic efficiency Measure, critical CE factors assumptions and constraints, etc in determining economic efficiency of the CE would be considered.

Relevant themes which would be covered in the survey would include capturing information on:

- Demographic Information
- Capturing specific interests of the stakeholder on CE issues
- Specific role of the stakeholder in contributing to the CE delivery
- Current stakeholder understanding of how CE is measured
- Expectations of how CE Economic Efficiency measurement should be defined and measured
- Views on what stakeholder perceives to be CE constraints and assumptions, which can affect CE Economic Efficiency measurement
- What variables are do stakeholders consider to be important and so must be captured in CE Economic Efficiency measurements.

#### **CITED REFEENCES**

- European Comission (2017). Implementation of the Circular Economy Action Plan.
   Brussels, 26.1.2017, http://ec.europa.eu/environment/circular-economy/implementation\_report.pdf. COM(2017) 33 final.
- The Club of Rome (2016), The Circular Economy and Benefits for Society Jobs and Climate Clear Winners in an Economy Based on Renewable Energy and Resource Efficiency; Available at: http://www.clubofrome.org/wp-content/uploads/2016/03/The-Circular-Economy-and-Benefits-for-Society.pdf
- World Economic Forum (2014), Towards the Circular Economy: Accelerating the scaleup across global supply chains; Available at: http://www3.weforum.org/docs/WEF\_ENV\_TowardsCircularEconomy\_Report\_2014. pdf

