



Forum for Sustainability
through Life Cycle Innovation

Getting to grips with the Circular Economy vision

Workshop-Report | Berlin, 06.06.2017



Circular Economy
Resource Efficiency
Life Cycle Innovation

Same objectives, same impacts?

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Introduction

At the end of January 2017, the Forum for Sustainability through Life Cycle Innovation (FSLCI) organized a lunch-to-lunch workshop around the question: “Circular Economy, Resource Efficiency, Life Cycle Thinking: Same objectives, same impacts?”. During the workshop, which took place at the Rainmaking Loft in Berlin, participants discussed which opportunities and challenges derive from a Resource Efficiency and Life Cycle Thinking perspective out of the Circular Economy policies currently promoted in Europe and beyond. They also discussed whether and how those policies might need to be amended to overcome implementation barriers for life cycle innovation and thus allow for an enhanced overall resource efficiency and sustainability performance.

The workshop was organized by the FSLCI in response to various conversations with relevant stakeholders about the Circular Economy concept, which has gained wide traction among decision-makers as well as the general public more recently. Previously, a focus on Resource Efficiency had been promoted by decision-makers to address climate change mitigation and adaptation as well as other sustainability challenges. Hence one of the key objectives of the workshop was to identify linkages, commonalities and differences between the different approaches and concepts.

During both workshop days, keynote speakers and panellists offered valuable input which was then taken up by workshop participants in their respective group discussions. This paper provides a summary of the key outcomes of their deliberations and is meant to serve as a starting point for a broader discussion around the Circular Economy concept within the life cycle community and beyond.

A common understanding is needed

One of the key outcomes and realizations was the lack of a common understanding of what constitutes the Circular Economy. While some participants initially had a narrower definition in mind which is focussed on material circularity, others outlined that the Circular Economy

vision can also be understood as a concept that integrates a systems perspective and is broader than material circularity. To this end the first keynote speaker, Martin Stuchtey, co-author of the *Growth Within* (MacArthur et al 2015) report and the recently launched follow-up publication called *Achieving Growth Within* (Blériot et al 2017) outlined his vision for an economy that „reconciles planet and prosperity“ around six key business actions for a better economy that focuses on:

- Renewable energy and materials as well as on revitalising ecosystems,
- Creating and fostering a sharing economy,
- Resource efficiency and optimisation through big data,
- Keeping materials through recycling and remanufacturing of products or components,
- Creating digital access to resources such as books, music, shopping etc., and
- Applying advanced new materials, technologies and products and services.

Workshop participants thus concluded that a clarification of the understanding and definition of the Circular Economy concept was needed along with an emphasis on the broader, system-orientated understanding, which was considered to be more compatible to a life cycle thinking approach. Even with the broader Circular Economy understanding in mind, participants noted that the three discussed concepts and approaches followed different logics and priorities:

- Circular Economy, in its broader understanding as outlined above, was understood to be focusing on a societal perspective with an emphasis on a sharing economy and a more collaborative and linked society,
- Resource Efficiency was defined to focus more on an actual product level with the focus on enhancing resource efficiency first and foremost from an ecological and economical viewpoint, while
- Life Cycle Thinking was also understood to put an emphasis on the product / service / organisational level, however with a stronger focus on the avoidance of burden shifting and better decision making.

Still, both Resource Efficiency and Life Cycle Thinking were seen as crucial elements for a Circular Economy, which provides a view of looking at multiple life cycles. With these

understandings in mind, participants acknowledged that shifting from a value chain to value circle perspective would be a positive step forward. At the same time, the various challenges of achieving material circularity were highlighted. Thus it was agreed that resource and system efficiency strategies need to be part of an integral and system-based and thus broader circular economy approach to address sustainability challenges along the life-cycle of products, services and organisations.

Understand what you measure

Participants also noted that the Circular Economy currently represents a vision that still needs to be translated into a more tangible concept. Participants thus called not only for a common understanding and definition of what the Circular Economy constitutes, but also highlighted the need for a quantifiable measurement approach that could guide the implementation efforts and help tracking the implementation progress. In this context participants suggested that such an effort could be led by ISO, to ensure a global acceptance and involvement in such a process.

With regards to indicators participants noted that while a new measurement matrix for the Circular Economy is needed, indicators used to define a benchmark or starting point do not necessarily need to be reinvented, given the many existing indicators that could be used for such a purpose - especially for environmental impacts. It was also noted that such a matrix would require indicators that could be adapted to the type of company, its business model (e.g. subscription, take-back, refurbishment etc.) and its position in the 'value circle' to ensure a fair attribution of responsibility.

To this end, workshop participants highlighted that using LCA as an assessment tool could help with both, developing a quantifiable measurement matrix as well as providing linkage and collaboration points. Participants also noted that life cycle information will need to be applied on a much larger scale to support better informed decision making and thus contribute to the application of Circular Economy aligned policies and practices. In this context, workshop participants pointed to legislative restrictions, which have a wide impact on the establishment

and realization of a circular economy, and highlighted the need for better and more flexible legislation that supports and facilitates systems-based sustainability approaches.

Challenges on route to go full circular

As outlined before, workshop participants agreed that the current lack of a standardized definition of what constitutes a Circular Economy and an equally missing matrix to measure a business' progress is a significant limiting factor for implementing a Circular Economy.

And even though recycling was generally welcomed as a beneficial strategy in many cases, participants also highlighted a number of environmental, thermodynamic, technologic, and or economic limits of recycling which challenge the vision of achieving complete material circularity. In this context they also noted that for certain industries it might be very difficult to develop a solid understanding about their products' actual end-uses and end-users, which would then significantly complicate the set-up of take back systems.

Beyond the challenges outlined above, participants emphasised the need for an immense societal effort to challenge the prevailing consumption and ownership culture in favour of a share- and service-based society that could help businesses to easier transition towards a successful Circular Economy business model.

Collaboration as a requirement for implementation

In this context participants agreed that there are various factors that need to fall into place in order for businesses to successfully transition. Businesses that seek to implement any systems-focussed approach to sustainability will need to integrate the concept not only into their business' corporate strategy but into their business' DNA by fully embracing sustainability as a core value.

In order for a smooth transition process, it will need to be perceived as an evolutionary instead of a revolutionary process. To achieve this, businesses should build on already existing strategies and implemented concepts such as design for recycling and reuse that can

contribute to higher resource efficiency – which can all be integrated in a holistic, system-oriented Circular Economy approach.

However, given the comprehensive nature of implementing any systems-approach, it was also highlighted that collaboration within any business as well as with its external stakeholders will become a key success factor. A business-wide emphasis on embracing cooperation and (open source) collaboration will be required which will however challenge existing roles, mind-sets and ways of doing business.

Making the business cases

Implementing a Circular Economy approach will also not only challenge the old way of doing business in terms of how to work with one another, but also in terms of business models. To this end, consumers as well as businesses will need to adapt from an ownership and sales logic to a new performance-focused and service-based one where access to the services or goods is granted instead of ownership. Business models thus need to focus significantly more on take back, reuse and recycling strategies and thus follow a ‘value circles’ rather than a ‘value chains’ perspective. While such business models are already applied in some sectors, others will however struggle to follow that path.

Still, participants agreed that the current sustainability megatrend is already resulting in a societal shift towards a sharing economy in some sectors, such as mobility (car-sharing) and traveling (couch-surfing / co-living). They also noted that the growing sustainability movement is starting to result in a trickle-down effect which helps to bring more businesses into the transitioning process.

However, workshop participants also agreed that a new Circular Economy will only be achieved, if these new and innovative service-based business models prove to be economically successful. Making the business case will thus determine to what extent businesses will adopt a Circular Economy strategy. In this context the role of front runners was highlighted, noting that more businesses will support and embrace a Circular Economy

strategy, once it becomes clear that to stay on top, applying a Circular Economy perspective is key.

In addition, workshop participants outlined that implementing a systems approach would still depend to a great extent on the maturity of a business' in terms of its sustainability strategy, as well as its ability to provide resources for upfront investments. Equally so expectations with regards the (timeframe of) return of investment and risk evaluation will need to be adjusted. Still, it was also noted that willingness to adjust could be more important than readiness, as outlined previously.

Transparency in reporting and visibility of external costs is key

In terms of driving forces that could further help support the transition, the second keynote speaker Ralph Thurm provided a comprehensive overview of the Reporting 3.0 initiative – a platform he helped launch to open a new chapter on reporting to drive change. He outlined that companies and businesses will be pushed to become more and more transparent about their businesses and that a new reporting approach is thus needed to accelerate the transition towards a more sustainable and thus Circular Economy.

In this context workshop participants highlighted the value of life cycle information for reporting purposes and reemphasized the focus on collaboration and cooperation, for example between sustainability managers and accountants. They also noted that this new focus on better reporting could complement initiatives that seek to make external costs visible.

In this context the work on ISO 14008 on “Monetary valuation of environmental impacts and related environmental aspects” was referenced as a starting point to help getting the prices right by making external costs visible. Here, life cycle information could help assessing costs and thus provide the needed data to adjust prices.

Reflecting external costs, or at least a part of them, in the pricing of resources, materials and products could create a huge business incentive to implement resource efficiency strategies.

It could also enable more profitable take-back systems and thus help change from a waste towards a resource logic.

Everybody needs to be on board

Given the comprehensiveness and complexity of transitioning towards a Circular Economy, the roles and responsibilities of various stakeholders were discussed. Businesses themselves should accept and ideally embrace the shift towards a systems-based sustainability approach by for example focussing on eco-design, applying life cycle information to enhance decision-making and shifting from a product to a service-based business model.

Products and services should also be developed around user-centred design in order to avoid inappropriate use. Finally, businesses also need to enhance their internal as well as external education and advocacy measures and facilitate the collaboration between all stakeholders in the value chain as outlined previously. In addition, detailed information on sustainability impacts of a product or service needs to be made available to consumers in an easily accessible and understandable form.

Participants suggested that academic researchers should focus more on testing the possibilities of future concepts instead of going in circles within existing research lines. They also noted that discipline-centric silo thinking needs to be overcome. And even though participants acknowledged the important role of civil society organisations to highlight issues and critically review business' actions, a shift towards a more collaborative approach would be welcomed.

With regards to governments and policy makers it was highlighted that they themselves need to develop a better understanding of the available concepts and their inherent limitations. Once such an understanding has been established, a policy framework that focuses on system innovation and life cycle thinking within a Circular Economy needs to be developed to support and drive the required societal and economic paradigm shift. Such a framework should be

built around existing initiatives and regulations to ensure compatibility, implementability and a level playing field.

From vision to implementation

In conclusion, workshop participants highlighted that in order to successfully implement the Circular Economy vision into practice, a societal effort is required that needs to be supported by business, academia, politics and civil society as well as media stakeholders. They recommended to:

- develop a common, holistic and system-oriented understanding of the Circular Economy definition, plus boundaries and limits with different but related concepts such as Resource Efficiency and Life Cycle Thinking to better understand how they can be integrated and all together aligned most effectively,
- focus on an evolution of existing concepts, systems and tools such as resource efficiency and life cycle assessment that can help drive the transition towards a Circular Economy,
- implement policies that foster and favour the development of more sustainable products while ensuring a level playing field,
- ensure that an impact-focussed measurement approach is developed, for example by ISO, that can help monitor the progress of implementation,
- enhance access to data and measurement tools that enable businesses to save time and money when assessing sustainability performance,
- develop an understanding and assessment of external costs and use that information to develop policies that set corresponding price signals,
- engage with a wide range of stakeholders such as for example insurance companies, banks and investors and others to help them become drivers of change,
- identify and promote Circular Economy champions that have a broad, system-orientated understanding of the concept and can drive a campaign that is highly visible and thus fuels a societal shift.

Workshop participants acknowledged the traction that the Circular Economy concept has gained over the past years, yet also highlighted that the concept itself still needs to be defined more concretely in a holistic and system-oriented way and should be built on existing concepts and tools such as Resource Efficiency and Life Cycle Assessment rather than trying to reinvent the wheel. They also emphasized the potential of the Circular Economy vision to create bridges and linkages between different concepts and stakeholder groups. In summary it was agreed that the Circular Economy vision can help driving sustainability forward when focussing on a broad understanding that is aligned with Life Cycle Thinking.

References:

Blériot J et al (2017) Achieving 'Growth Within'. Ellen Mac Arthur Foundation, Cowes

MacArthur E et al (2015) Growth Within. Ellen Mac Arthur Foundation, Cowes