



# Circulus

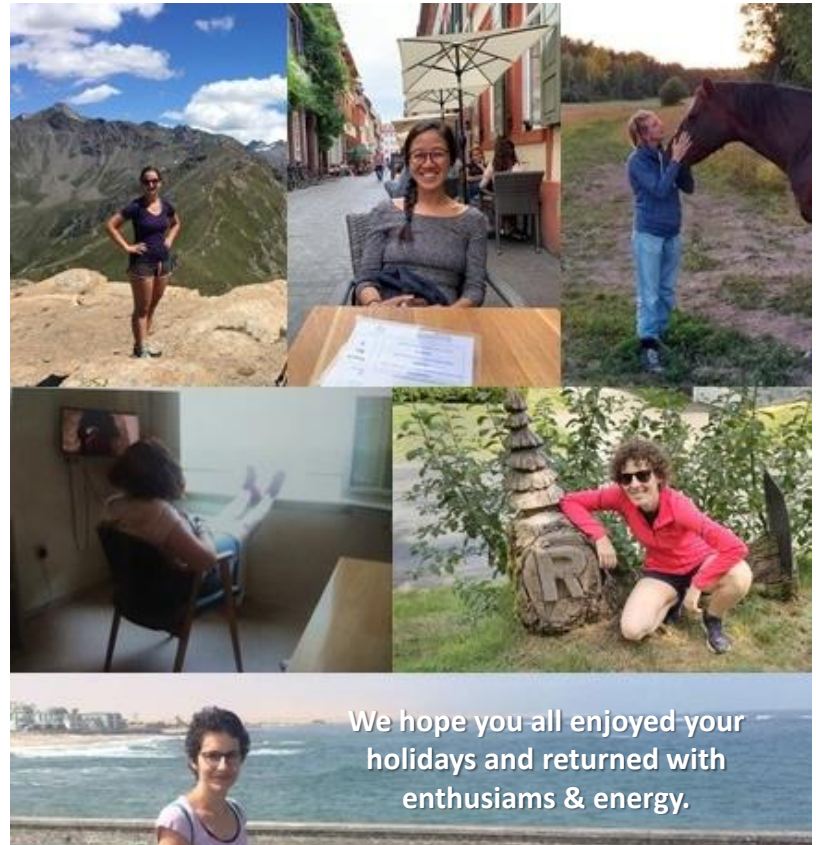
Opportunities and challenges of transition to a sustainable circular bio-economy  
*Newsletter n°5, September 2020*



## Greetings from Circulus!

The pandemic has catalyzed social acceptance of new behavioral patterns and working arrangements; some of which might be here to stay. The Circulus team, as with many others, has embraced home-office structures, online work coordination, streaming open lectures and teaching online. While we miss in-person meetings, we also welcome new workplace practices and opportunities that enable thoughtful exchanges without any travel emissions. For example, Circulus members recently took part in a conference held in Lima, Peru, without flying!

Regardless of formats, communication and interaction are as important as always. We have continued to engage in exchanges and outreach activities. This spring, we initiated a community effort to formulate a research agenda for a sustainable circular economy. Group members also engaged in several outreach activities, including a science-policy debate, a German TV-show about the planet and a practitioners workshop within a EU-Mexico exchange program. Enjoy reading!



We hope you all enjoyed your holidays and returned with enthusiasts & energy.

## Research for a sustainable circular economy

### A community effort for a circular economy agenda

Ongoing Research  
Text: Sina Leipold & Anran Luo

The circular economy (CE) has sparked much attention over the past years, leading to exponential growth in academic studies on the topic. It is a propitious moment to take stock of what we have learned about pathways to a sustainable CE so far, and identify the most pressing lines of inquiry for the future.

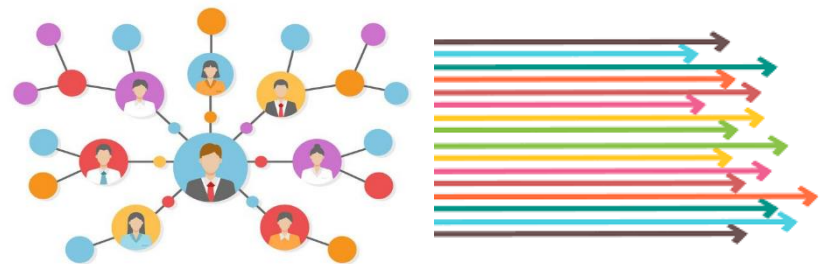
To facilitate this process, the Circulus team initiated a community effort using techniques from the Delphi method. We collected learnings and research questions from established CE experts from different fields, asked them to rank their top 10 research questions, and then virtually met and discussed the top ranked research questions with them to enable clarifications and consensus building.

Our aim is to identify and reflect upon:

1) the essential, policy-relevant learnings on the CE

that emerged from research so far;

2) important, open questions and knowledge gaps that should guide future research on a CE for social and ecological sustainability.



So far, we found that suggested future research directions focus on the conceptualization of a CE, policy and practice enabling a CE, monitoring to avoid trade-offs and to ensure an adequate distribution of costs, and the science-policy interface.

We thank all participants for making this concerted scholarly effort possible and are excited about the next steps!

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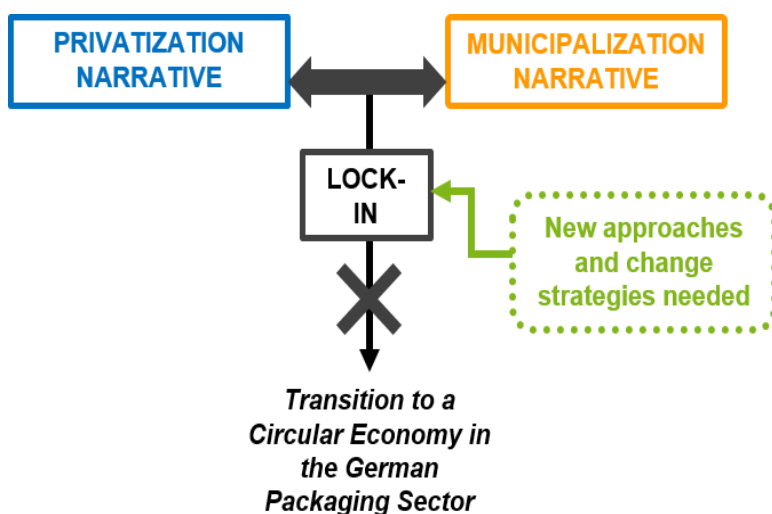


### Trading Radical for Incremental Change: The Politics of a Circular Economy Transition in the German Packaging Sector

Research outcomes from Circulus  
Text: Machteld Simoens

In this research, we study the transition politics of the shift to a circular economy in the German packaging sector, particularly the curious case of the 2019 German Packaging Act. In our analysis we show that stakeholders' perceived fear of radical changes are critical for transition politics. This fear created a lock-in of two narrative proposing conflicting organizational designs of packaging waste management. This lock-in could only be resolved by trading radical for incremental change, leaving many conflicts and challenges unresolved. Our findings suggest that stakeholders' fears not only prevent radical regulatory change but also create incremental change that may intensify unresolved conflicts and, thus, further weaken the stakeholders' capacity for future transition politics.

In the subsequent Policy Brief we propose "backcasting" as a promising tool to break the locked-in narratives and create an open dialogue oriented around a collectively articulated sustainable future. We call all stakeholders involved to contribute to this process and support the transition to a circular economy.



You can find the complete paper on [SocArXiv](#).  
Read the policy brief on our website and [here](#).

Machteld presented the study at the [International Sustainability Transitions Conference](#), August 2020.

### Setting right priorities: Food systems and Cities

Presentation of research at ISIE Americas | July 6-8, 2020  
Text: Hanna Helander & Anna Petit-Boix

As the conference of the International Society of Industrial Ecology (ISIE) Americas moved online, Hanna Helander and Anna Petit-Boix took the chance to share some key results from the Circulus project.

Hanna presented policy-relevant findings showing that dietary shifts towards more healthy diets have greater potential to decrease resource footprints of food systems than halving food waste. Healthy diets may even impede food waste reduction as the change implies an increase of products generally associated with higher food waste shares. Thus, to reduce resource footprints, it is necessary to consider both dietary changes and strategy interactions.

Anna discussed the fitness of the SDG indicator framework to monitor resource use in circular cities. Among the main shortcomings is the lack of footprint indicators. Given the relevance of a systematic evaluation of the urban metabolism, a concept aimed at integrating science and policy knowledge was discussed.

### Circular and urban food production systems

Research by visiting Scholar | Feb-Jun 2020  
Text: Martí Rufí-Salís, ICTA-UAB

Martí Rufí-Salís stayed with the Circulus group to research urban food production systems from a circular economy perspective.

To mitigate the impacts of long and inefficient food supply chains and to help cities move towards sustainable development, urban food systems are a promising alternative. Martí's thesis aims to analyze the environmental performance of applying circular strategies in urban agriculture systems. First, the thesis identifies relevant resource use optimization targets, including different nutrient recovery strategies for hydroponic systems. Thereafter, it takes an urban metabolism approach, to assess the potential of struvite applications (a residual secondary fertilizer precipitated in urban wastewater treatment plants) in hydroponic systems, while quantifying the feasibility of regional struvite recovery and reuse in the Barcelona urban area. Previous studies showed a decoupling between circularity and environmental performance, therefore, Martí's research with Circulus aimed to quantify the coupled performance of circular strategies while developing a new set of indicators.

For more information, visit Martí's [ORCID](#) or [ResearchGate](#), or send him an email: [marti.rufi@uab.cat](mailto:marti.rufi@uab.cat).





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## Awards

### Machteld Simoens won the Three Minute Thesis 2020 Competition

March 4<sup>th</sup> 2020 | Graduate School for Environment, Society and Global Change – University of Freiburg

Watch the winning 3 minutes in our [blog](#).

### Top downloaded paper 2018-2019

Circulus [paper](#) has been recognized as one of the most read in the *Journal of Industrial Ecology*

## Science Communication & Advisory

### Circulus on German TV in „Planet Wissen“

June 8, 2020 | TV show on ARD

No other EU country uses as much packaging as Germany, generating about 19 million tons of packaging waste every year. This TV show explores solutions away from ever greater consumption of resources with Sina Leipold as a guest. [Watch the video in German](#)

### Circulus in discussion with Federal Minister for Education & Research

July 20, 2020 | [Online discussion](#)

Everyone is talking about the more ‘circular’ use of resources. Implementing it, however, is a challenge. Sina Leipold was honored to discuss opportunities to overcome these challenges with the Federal Minister for Education and Research as part of the series “Karliczek. Impulse.” in the German science year 2020/21. [Watch the video in German](#)

### Circulus advising the Circular Economy Forum Northern States of Mexico

July 30, 2020 | [Webinar series](#)

Anna Petit-Boix was invited to be a speaker in one of the sessions of this initiative organized by the European Union Delegation to Mexico. 160 participants from policy and practice received input on our latest research on the circular economy in cities. [Content in Spanish](#)

## Recent Publications - Selection

Peer-reviewed scientific publications:

- [Sharing for a circular economy? An analysis of digital sharing platforms’ principles and business models](#)

Other publications:

- [Why does the German Packaging Act hardly contribute to a Circular Economy? \(German\)](#)

Check our blog on medium  
[Circular economy stories](#)



## Announcements

### Interdisciplinary Circular Economy Conference ICEC 2020

**New date &  
new format  
(virtual)**

November 30 – December 3, 2020  
Freiburg, Germany

Determining the implications of circular economy initiatives on the environment and human wellbeing is essential for successful policy development and monitoring. While technical and business aspects of circular economy initiatives receive growing attention, perspectives on power struggles, socioecological justice and trade-offs in implementation are underdeveloped. This conference brings together researchers from across the globe focusing on the societal aspects of a circular economy.

### Circulus in “Dialog Bioökonomie” Online Discussion

October 29, 2020

How to inform and discuss with citizens in a circular bioeconomy? And how widely enable people to participate? These questions will be explored in an online discussion together with Sina Leipold and other exciting guests. [More info here](#)

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