SESSION DESCRIPTION

ID: S10

Circular (bio-)economy - the solutions to the global challenges of climate change, decreasing natural resources and environmental degradation?

Hosts:

	Title	Name	Organisation
Host:		Marianne Thomsen	Aarhus University, Denmark
Co-host:		Lorie Hamelin	Federal University of Toulouse, France

Abstract:

In the transition towards a low fossil carbon (and eventually decarbonized) economy, scarcity of resources represents a global societal challenge. It underpins the need for circular (self-sustaining) resource management systems supplying human needs while ensuring ecosystem health and preserving production systems. As resources get scarcer, circulating them within the economy is increasingly valuable. This also applies for carbon (scarce in a low-fossil economy): given the urgency to stabilize global climate, re-circulating carbon along with inducing negative emissions are well-acknowledged necessities.

Parallel to increasing scarcity of resources, there are increasing global demands for clean water-, soil- & air, arable land, healthy food and sustainable consumer products, among others. These demands all put pressure on the boundaries of our finite planet.

Goals and objectives of the session:

In this session, we will have informal discussions of research gaps addressing the challenges in the scales/scopes of economy, putting on the agenda diversification (scale and design) and local symbiosis as a pre-condition for returning secondary raw materials and resources to larger scale and global symbiosis system (SDG 17).

- Understanding the scale flow and supply chains and how scale connects these
- Coupling the waste and production sectors in the transition towards zero waste societies
- Reconnecting disrupted urban-rural nutrient flows for increased circularity (self-supply)
- Circular nutrient management, emission capture and return to the circular economy systems

In the light of the Sustainable Development Goals, what should be the key parameters characterizing the performance of circular regenerative (bio-)economic value chains?

We ask the following questions:

- How do we measure key performance parameters of existing production and consumption systems and their transition into towards climate neutral systems self-supplying ability to interact with nature to sustain heathy ecosystems and their services; e.g. the provision of resources in a circular bioeconomy?
- How do we ensure that the various forms of emerging use of primary and secondary biomass resources are restorative by design?

If you think you can contribute to answering at least one of these questions – this is your session!

Planned output / Deliverables:

During the meeting, we will reflect on and have informal discussing the above questions.

We will discuss the opportunity of contributing to the special issue "*Ecosystem Services in a Bio- and Circular Economy*" in the open Access Journal Sustainability will be explored during the session.

We hope to stimulate discussion on the transition into decentralize resource management for local diversification (scale and design) and local symbiosis as a pre-condition for returning secondary raw materials and resources to larger scale and global symbiosis system. This includes raising awareness on the ecosystem service concept at local multiple stakeholder level, business as well as in European policy-making and the wider public.

We will be happy to receive wishes for future activities within the SWG10, project ideas and ideas for collaborative papers addressing the key issues of the SWG is welcomed.

Related to ESP Working Group/National Network:

Sectoral Working Groups 10: S10 – ES in the circular (bio-) economy


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