

# CIBIECO Circular Bio-Economy: From theory to practice



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University of Lapland



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# From linear to circular thinking: Paradigm Shift in Economy and Society in Polar Regions

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## Circularity: What does it mean?

- **Theory/concepts** - Competing discourses: green economy, sustainable development, ecological economics, green infrastructure, bioeconomy, product-service system, recycling, upcycling
- **Practice:** Implementation and monitoring are still currently lacking.
- The circular transition remains globally modest at around 9% (Melles, 2021)
- **Challenges:** Legal issues, matter of efficiency, costs, behavioral incentives, community involvement (local knowledge, public-good orientated)

## State-of-the-art:

At this point major knowledge gaps exist on how this paradigm shift is implemented in practice.

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CIBIECO project focuses on the ideas of the circular economy and their practical implementation in small and middle size enterprises in Finland and Argentina - “from cradle-to-cradle instead of cradle-to-grave”, “building capital from waste rather than reducing it”, and “keeping economy in the circular loop”.

## Objectives:

1. Education: To develop and integrate a new field of study based on research and the needs of communities working life
2. Knowledge exchange: To assess the experiences of transferring the circular concept to practice in both polar regions and identify best practices.
3. Working life cooperation: To enhance the co-production of knowledge between education, research and local community enterprises.

# Circumpolar circularity



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## Partners:

Arctic Centre, University of Lapland (Rovaniemi, Finland) – Lead institution  
Cenrtia University of Applied Sciences (Kokkola, Finland)  
National University of Rio Cuarto (Rio Cuarto, Argentina)  
National University of Tierra del Fuego, Antarctica and South Atlantic Islands  
(Ushuaia, Argentina)

## Multidisciplinarity

Social anthropology, food science, applied biology, chemistry, material technology, and biomass refining technology, natural resources management, community development and indigenous studies

## Expertise:

Environmental, economic and social dimensions of circular bio-economy  
Established or developing cooperation with local/indigenous/regional enterprises

# Circumpolar circularity: comparative aspect

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## Needs (polar regions)

- Circular concept – is still a field in its infancy (EC-the new circular economy action plan, 2020; Argentina: 2<sup>nd</sup> international conference on circularity 2022)
- Need to address this issue in the conceptual and nuanced context of the interrelationship between society, environment and economy.

## Circumpolar (North and South) perspective:

- to highlight various national and regional policies, practices, approaches towards circular economy that have already been implemented
- To identify best practices and challenges

# CIBIECO themes



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- Shifting paradigms: Introduction to the circularity concept
- Polar region as home: Communities and economies
- Circular approaches in the tourism sector
- Circular bio- economy in polar regions: Food system
- Circular economy in energy production
- Circularity in bioeconomy
- The agro-industrial waste
- Digital technologies applied to food production
- Native herbs and their potential uses in food and medicine
- Circular economy and philosophy: the status of nature
- Sustainable territorial development policies

# CIBIECO Circular Bio-Economy: From theory to practice Thank you!



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Circularity in a small farm enterprise: Farmer and artist in Siberian village uses cow manure for his winter sculptures and later as the soil fertilizer for the potato field