# The Necessity of National Level Strategic Planning in CEE Countries

**“STRATEGIC THINKING: BUILDING A RESEARCH AND INNOVATION LED BIOECONOMY””**

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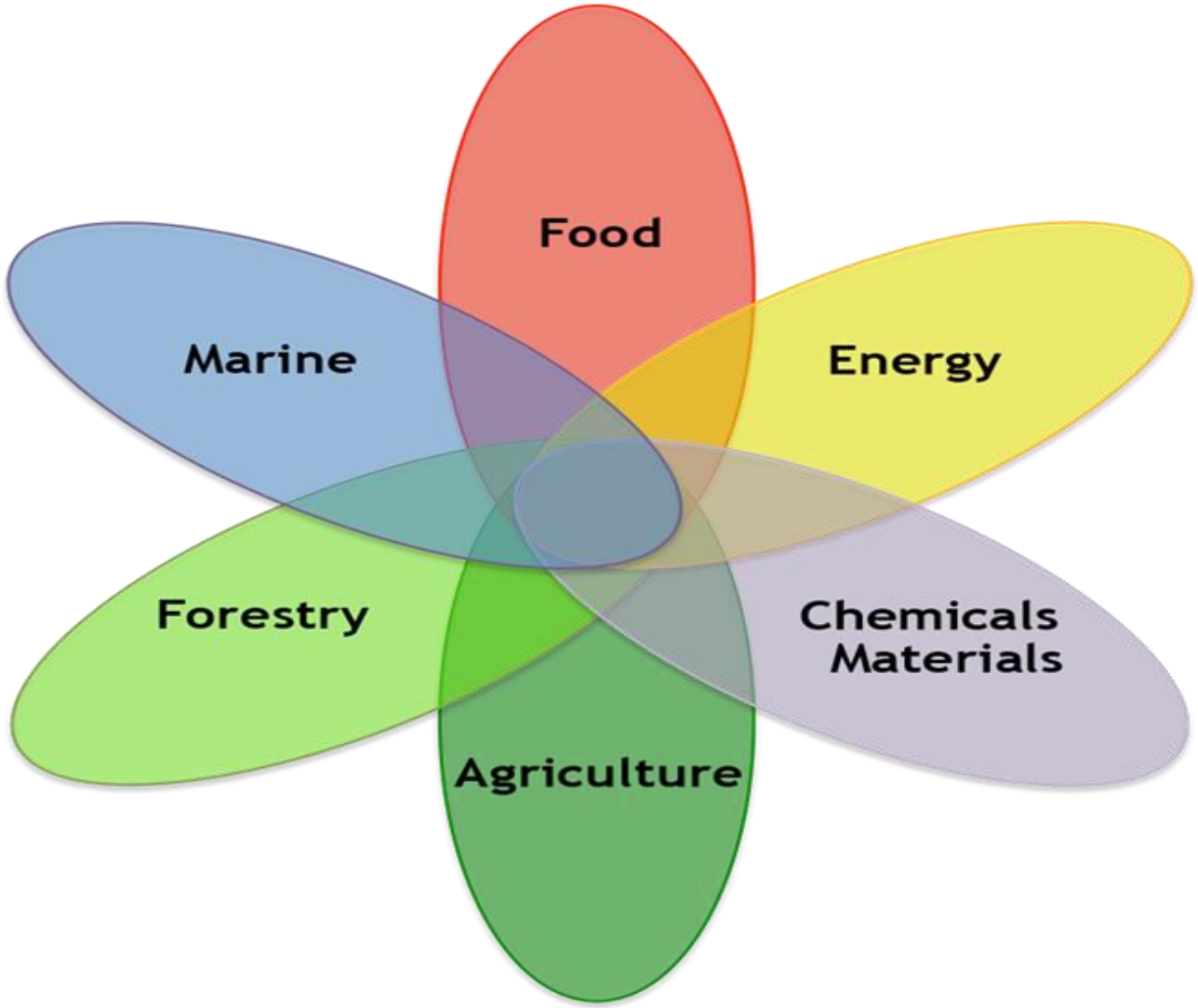
# BIOECONOMY linked Research and Innovation




**Using biological resources to produce "more and better, from less"**

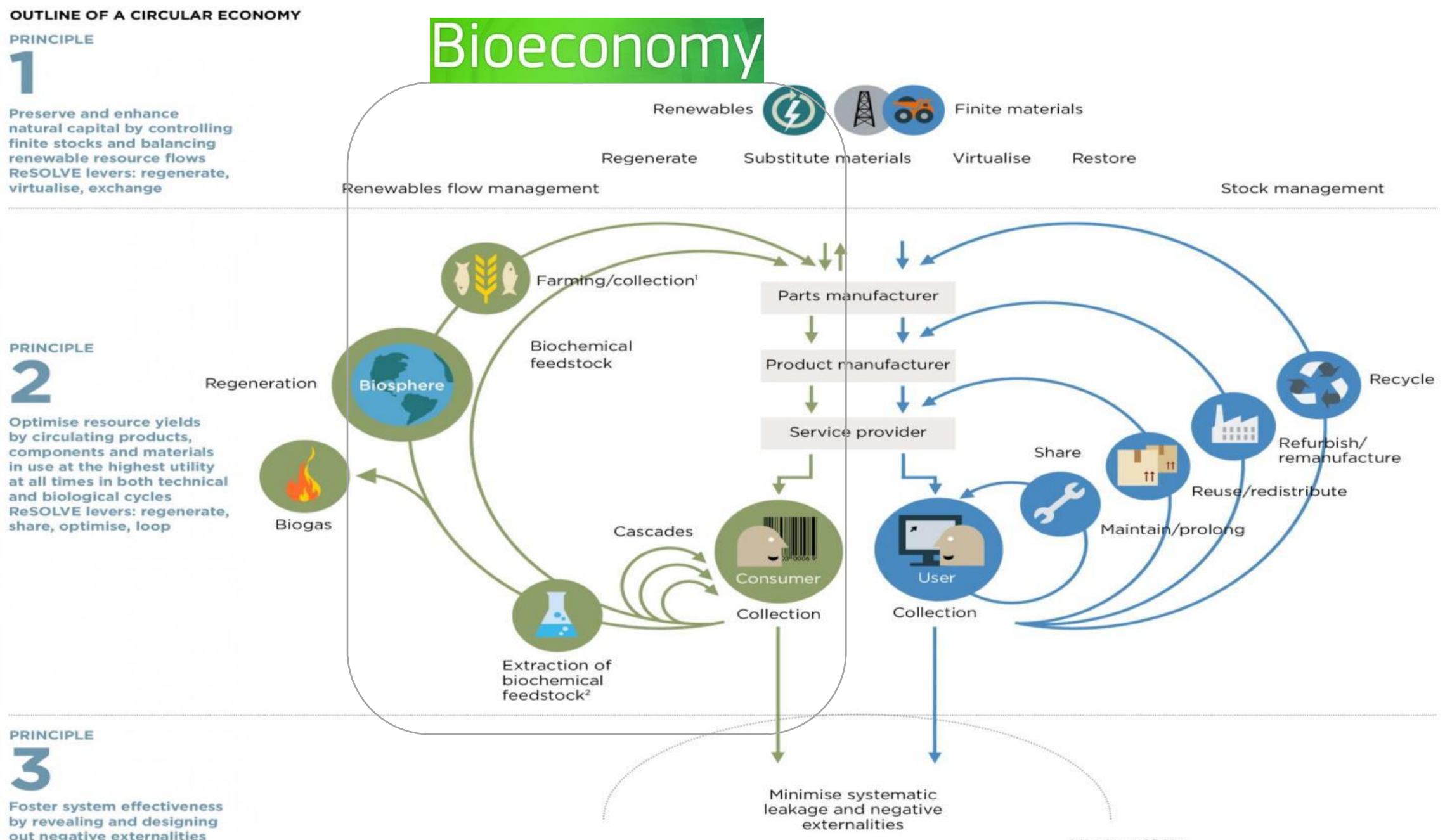
# Unsolved equation on sustainability

1. Climate change
2. Ecosystem services under pressur (N, P, Freshwater etc.)
3. Population growth
4. Increase use of bioresources

1. Energy security
2. Jobs, growth and competitiveness
3. Food, feed and nutrition security
4. Fresh water security

Shift in the economic paradigm towards “sustainability”

# Bioeconomy


OUTLINE OF A CIRCULAR ECONOMY
PRINCIPLE
1
Preserve and enhance natural capital by controlling finite stocks and balancing renewable resource flows
ReSOLVE levers: regenerate, virtualise, exchange
PRINCIPLE
2
Optimise resource yields by circulating products, components and materials in use at the highest utility at all times in both technical and biological cycles
ReSOLVE levers: regenerate, share, optimise, loop
PRINCIPLE
3
Foster system effectiveness by revealing and designing out negative externalities
All ReSOLVE levers
Renewables
Finite materials
Regenerate
Substitute materials
Virtualise
Restore
Renewables flow management
Stock management
Farming/collection1
Biochemical feedstock
Regeneration
Biosphere
Biogas
Parts manufacturer
Product manufacturer
Service provider
Recycle
Refurbish/ remanufacture
Reuse/redistribute
Share
Maintain/prolong
Cascades
Consumer
User
Collection
Collection
Extraction of biochemical feedstock2
Minimise systematic leakage and negative externalities
1. Hunting and fishing
2. Can take both post-harvest and post-consumer waste as an input
Source: Ellen MacArthur Foundation, SUN, and McKinsey Center for Business and Environment; Drawing from Braungart & McDonough, Cradle to Cradle (C2C).

All the offered solutions for solving the challenges requires:

1. systems approach (transdisciplinary and cross-sectoral)

2. technological (innovative) solutions.

Are the Central and Easter European Economies  prepared for solving the problem?

# Gaps

1. Lack of societal understanding and participation in addressing challenges
2. Sector based, parallel processes (ex. agro-food sector)
3. Market driven approaches (mostly profit driven, some times technology driven, but no governance)
4. Often missing research based policy-making
5. Missing macro-regional approach for the sustainability (economic, environmental, societal)
6. Traditional knowledge transfer process

# The strategic thinking is inevitable

1. To solve „food first” issues
2. To ensure sustainable yields
3. To have cascading approach for biomass use
4. To secure circularity
5. To sustaine the diversity of production systems

# The strategy building is multi-layered and due to time constrains should be done parallelly

1. National (including micro-regional) /government level strategy
   - To avoid the „just for immediate economic profit” situations
   - To ensure the principles based approaches
   - To solve security questions (food, jobs, energy etc.)
2. Macro-regional level cooperation and strategy
   - To cope with sustainability (environmental, societal and economic)
3. European level
   - To ensure knowledge transfer between EU13 and other member states
4. Global level cooperation
   - To ensure viable solutions with solidarity

# To do things at national and macro-regional level:

- **Initiate cooperation:** establish a multi-stakeholder network to facilitate joint actions;
- **Provide an evidence base:** establish data-driven support for implementation of policies;
- **Focus on research:** map specific challenges for a Strategic Research and Innovation Agenda;
- **Improve skills:** train a new generation of dedicated multi-stakeholder actors;
- **Develop synergies:** promote regional, national, EU and international funding opportunities;
- **Increase visibility:** draw attention to specific challenges of the CEE regions.

# Challenges for Strategic (Research and Innovation) Agenda building

1. Systems approach:
   - for national security (food and nutrition, energy, jobs) and for macro-regional sustainability questions the answers should be transdisciplinary and cross-sectorial
2. Technological developments:
   - (Bio)Technologies to increase yields, reduce wastes and losses, create new biomass-derived products
   - Trade-off between reducing wastes and losses, and the creation of new value chains in a circular & cascading biomass-based economy
3. Societal acceptance:
   - Consumers' behaviours (determinants, variability, changes, …)
   - Education on skills and competences
4. Governmental policy
   - To incorporate changes and ruptures (environmental, behavioural or technological)

Where we are in this process?

**www.bioeast.eu**

Thank you for your attention!