

# *Expectations from research to meet future demands seen from the BIOEAST Initiative*

XXXIII EURAGRI Conference

Agriculture, food, forest, fisheries: How to CONNECT our research with society, or  
society with research?

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# School strike(s) for the climate



What do we say?  
Success of young generation  
or failure of the old.

# How much cowbell is too much cowbell?



What do we say?  
Success of the environmental  
policy or failure of the agri.

# Modern Times



What do we say?  
Success of the technology or  
failure of communication.

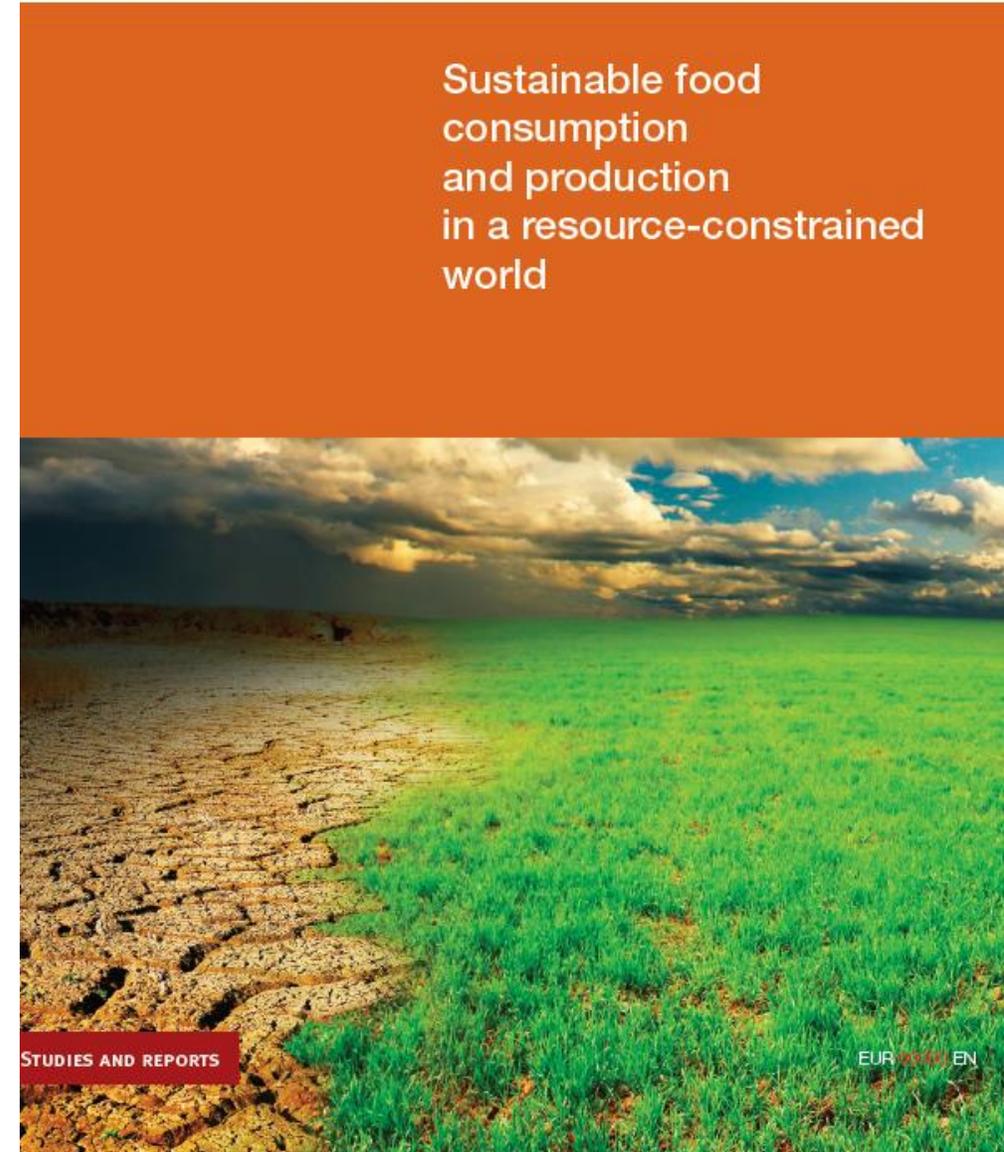
# Clash of generations

Born after:

- 2000 –
- 1975 –
- 1945 –

The **roles** were challenged during the past decades, and the **transition** still emerging:

1. How do we interpret the role of agri-food sector?
2. How do we interpret the role of environment?
3. How do we interpret the role of society?



# BIG Challenges of food and nutrition security in the sustainable bioeconomy

- Resource efficiency
- Climate Change pressure
- Demography & urbanization
- Diet & health transitions
- De-carbonization

## **Moral Challenge**

**-the greatest challenge-**

**If we are not acting, we are endangering everyone who is alive now and also future generations.**

# Why we need the BIOEAST Initiative?



**Because the solutions will be delivered by researchers,  
but the implementation should be eased by politicians.**

# 2019 Change Readiness Index: Climate Change

The 2019 Change Readiness Index (CRI) indicates the capability of a country – its government, private and public enterprises, people and wider civil society – to anticipate, prepare for, manage, and respond to a wide range of change drivers, proactively cultivating the resulting opportunities and mitigating potential negative impacts. (KPMG)

Figure 1: Relevant change readiness indicators for climate change

Enterprise	Government	People & civil society
Transport and utilities infrastructure	Food and energy security	Safety nets
Financial sector	Government strategic planning and foresight	Human capital
Enterprise sustainability	Environment and climate change	Civil society
Economic diversification	Public administration and state business relations	Inclusiveness of growth
Economic openness	Land and property rights	Health care coverage
Technology infrastructure	Macroeconomic framework	Access to information

# 2019 Change Readiness Index: Climate Change

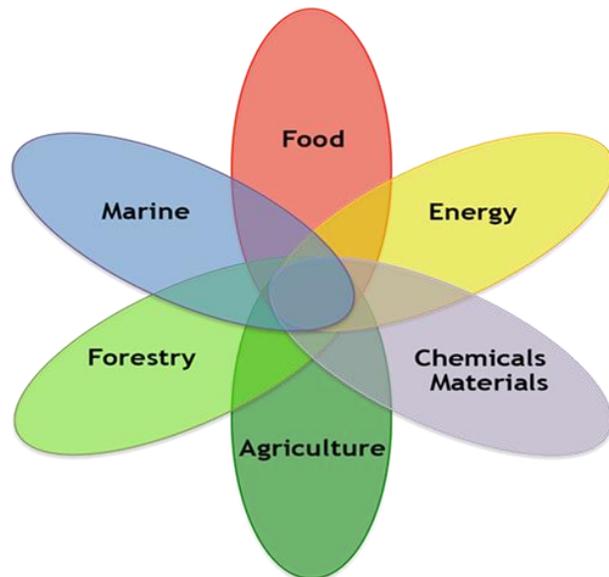
Overall rank	Country	Region	Enterprise capability	Government capability	People & civil society capability
1	Switzerland	Northern, Southern and Western Europe	1	1	3
21	Estonia	Europe and Central Asia	18	19	20
27	Czech Republic	Eastern Europe and Central Asia	28	28	29
29	Lithuania	Northern, Southern and Western Europe	30	31	34
33	Poland	Eastern Europe and Central Asia	35	38	32
37	Slovakia	Eastern Europe and Central Asia	37	40	35
48	Hungary	Eastern Europe and Central Asia	45	65	47
54	Romania	Eastern Europe and Central Asia	55	61	51
60	Bulgaria	Eastern Europe and Central Asia	53	82	61
140	Somalia	Sub-Saharan Africa	138	140	137

# The context of primary sectors in the CEE countries

## 1. Why we need research and innovation and involvement of HORIZON programme for primary production sectors?

- Because that is the only way how we can solve the big challenges and gain competitiveness.

## 2. Why is important to talk about sustainable bioeconomy?



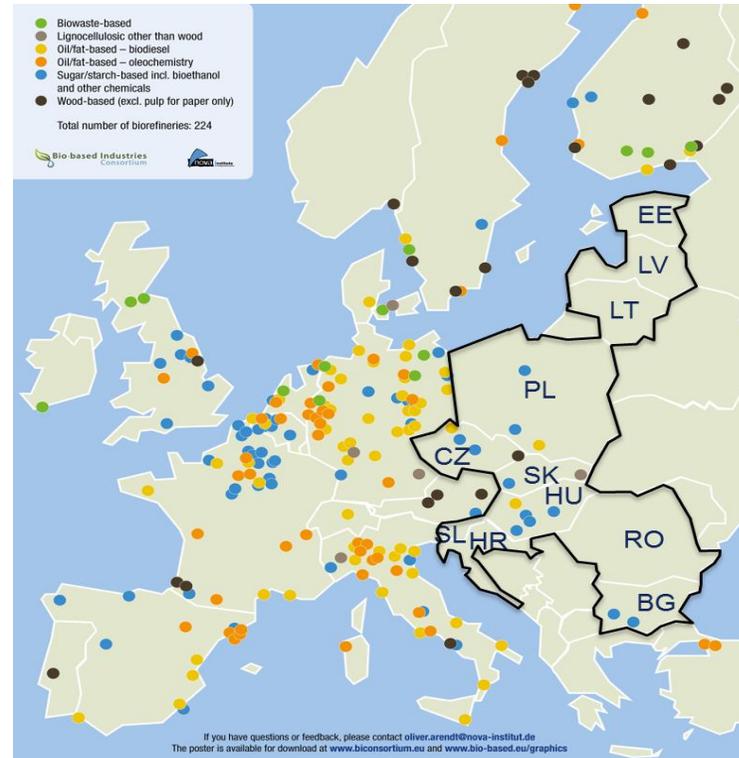
- The bioeconomy could provide added value to the primary production sectors, and perspective for rural development.

# There is a massive biomass/bioresources potential in the BIOEAST countries BUT:

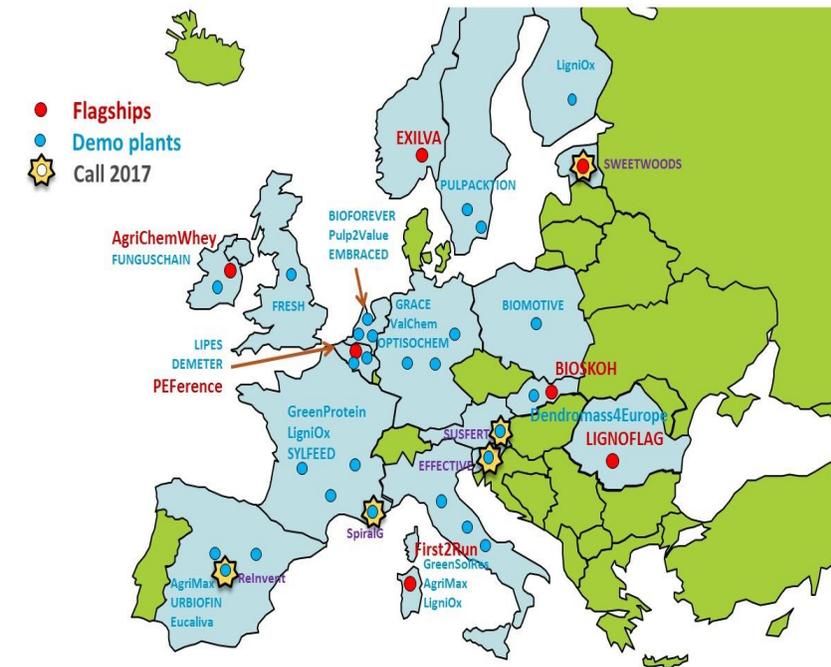
1. There is a lack of strategic research and innovation agenda on how to produce and process in a sustainable and circular manner
2. There is a lack of national bioeconomy strategies and action plans for the sustainable and circular use of the bioresources
3. There is a lack of investments into biorefineries for the sustainable and circular use of bioresources.



1. National bioeconomy strategies

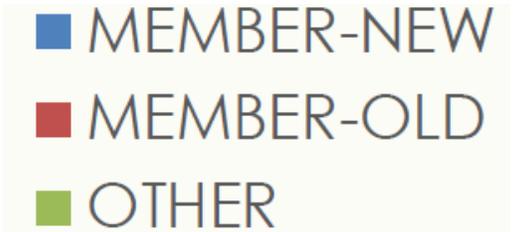
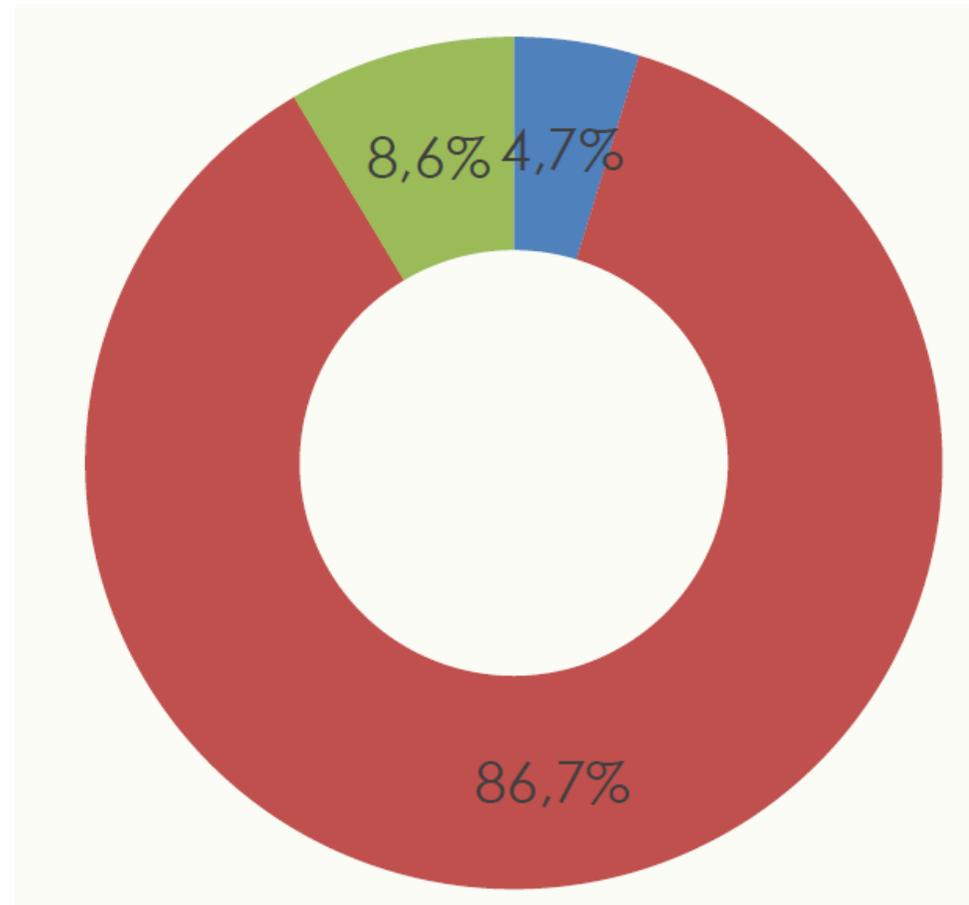


2. Functioning biorefineries



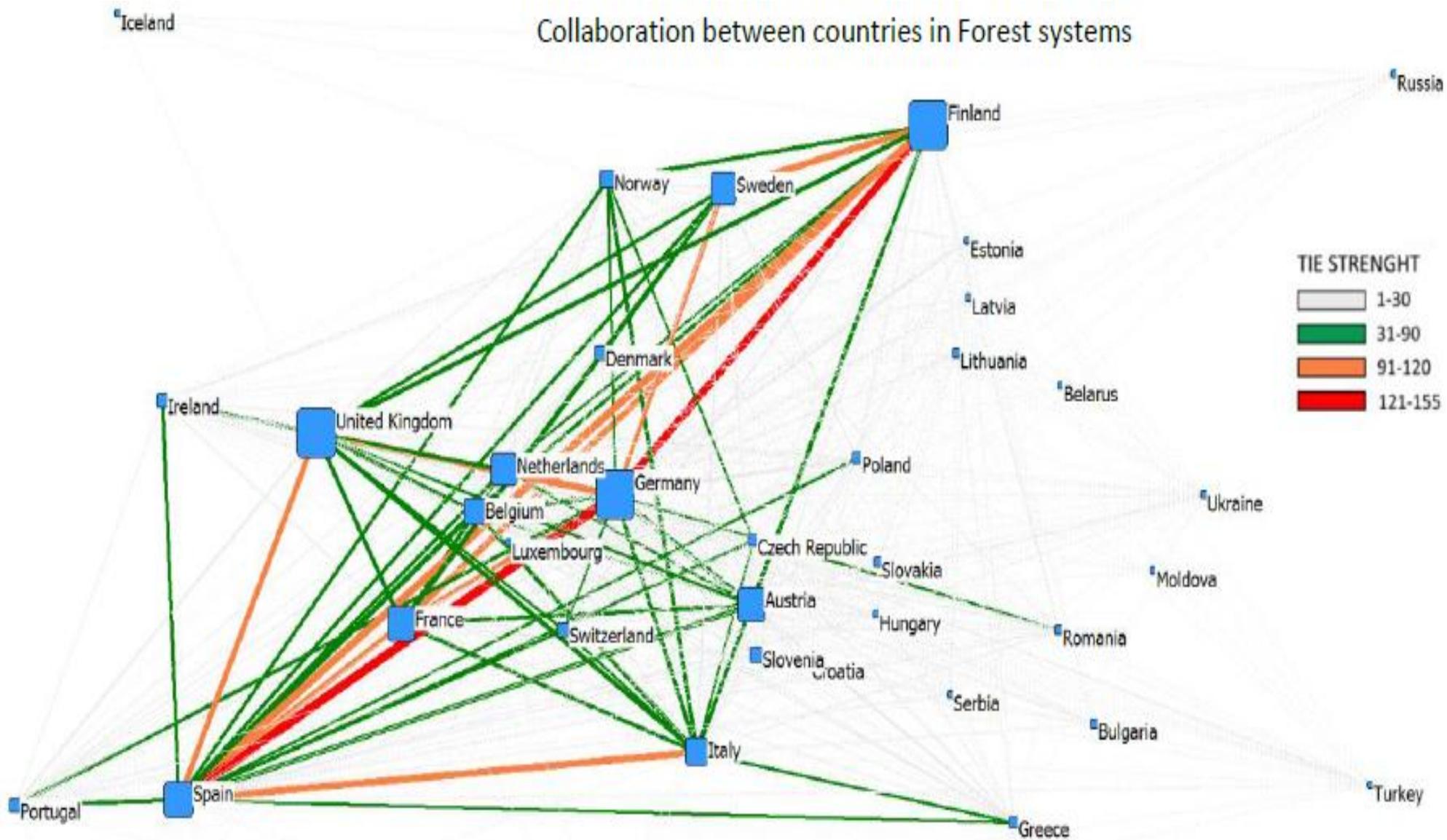
3. BBI JU project based biorefineries

# Share of EU13 (**NEW**) from HORIZON 2020



Data until 2018

# Lack of collaboration



**It can be seen that there are very few collaboration ties with Eastern European countries; and this feature is present throughout all supply chain categories**

# BIOEAST Challenges

- C1. Research and Innovation deadlock
- C2. Stalemate in the bio-based value chains
- C3. Governance impasse
- C4. Societal indifference
- C5. Financial barriers

# BIOEAST Initiative

1. Central and Eastern European (CEE) (Visegrad4+7) countries cooperation at governmental level
2. Research and innovation oriented

### 3. The Mission:

Is to assist Central and Eastern European (CEE) countries to operationalize their Vision for 2030 drawing on their potential and offering opportunities for:

- A **sustainable increase of biomass production**, to become competitive and leading, high quality, food and feed producers worldwide;
- A **circular (“zero waste”) processing of the available biomass**, to become key players in the development of new bio-based value chains;
- **Viable rural areas**: to develop an innovative, inclusive, climate-ready and inclusive growth model;

## Focus of BIOEAST



# OBJECTIVES of the macroregional BIOEAST Initiative:

1. **Initiate cooperation:** establish a multi-stakeholder network to facilitate joint actions;
2. **Provide an evidence base:** establish data-driven support for implementation of policies;
3. **Support strategies:** create the cross-sectorial approach for the development of a national circular and bioeconomy strategies;
4. **Focus on research:** map specific challenges for a Strategic Research and Innovation Agenda;
5. **Improve skills:** train a new generation of dedicated multi-stakeholder actors;
6. **Develop synergies:** promote regional, national, EU and international funding opportunities;
7. **Increase visibility:** draw attention to specific challenges of the CEE regions.

## BIOEAST macro region's characteristics

- Low shares of turnover in the total EU-28 bioeconomy
- High shares in employment (*mainly in the primary sectors*)
- Biomass-rich region with traditionally high importance of primary sectors agriculture, forestry and fishery
- Unused and underutilised biomass potentials
- Insufficient infrastructure, missing links between industries

(2018, SCAR study: *State of play of Central and Eastern Europe's bioeconomies*)

# BIOEAST macro region's characteristics

- **Agricultural land abandonment:**

EU is expected to continue at a rate of 0.2% in utilised agricultural area (UAA) per year until 2030. Literature not clear about situation in BIOEAST countries

- **Yield development :**

Production of major crops is expected to increase significantly in BIOEAST countries, almost entirely through increased yields (e.g., for wheat and maize, increases of 15% and 50% respectively are projected for 2026).

For instance Global yield gap atlas explains the difference between actual yields and agro-climatically achievable yields in the same region. For the BIOEAST countries, several examples underpin the existing gap from the north-western EU countries.

- **Residues:**

Potential from forestry and agroforestry residues could be further exploited.

- **Animal production:**

Higher productivity through an improved input/output ratio would therefore require less feedstock (available for other uses)

*(2018, JRC study: State of play of Central and Eastern Europe's bioeconomies)*

# Emerging questions from policy makers

1. Sustainable food systems in the bioeconomy
2. Decarbonisation through sustainable use and mobilisation of biomass for food and non-food uses
3. Using bioeconomy to generate growth and jobs
4. Adaptation to climate change through bioeconomy solutions

- To provide evidence base for policy development.
- To help the governance to develop tailor-made policy support facility.
- To bridge the current gaps in the knowledge a better contribution of economics, social and political sciences are needed
- To develop (Public-Private) Partnerships and to improve research infrastructure by public and private investment
- To initiate platforms for awareness raising and capacity building
- To bring solutions by reducing fragmentation, by creating synergies and complementarities between sectors, to maximize the underutilized potential of the CEE macro-region acting together at macro-regional level and to a wider extent at EU level

# Emerging research questions

1. Resource efficiency: shift to bio based pesticides and fertilizers
2. Food systems: shift in diets and nutrition
3. Agro-forestry and agro-energy: shift in profit realization
4. Externalities: shift from privatizing profits and socializing costs to privatizing costs and socializing profits
5. Fresh water based bioeconomy: shift from sectorial approaches to integrated approach
6. Consumer sciences: shift from product oriented approach to service oriented approaches
7. Value chain creation: shift from disrupted responsibility to overarching responsibility



Thank you for your attention!

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