



# A Bioeconomy for Europe

Using resources from land and sea  
for a post-petroleum economy

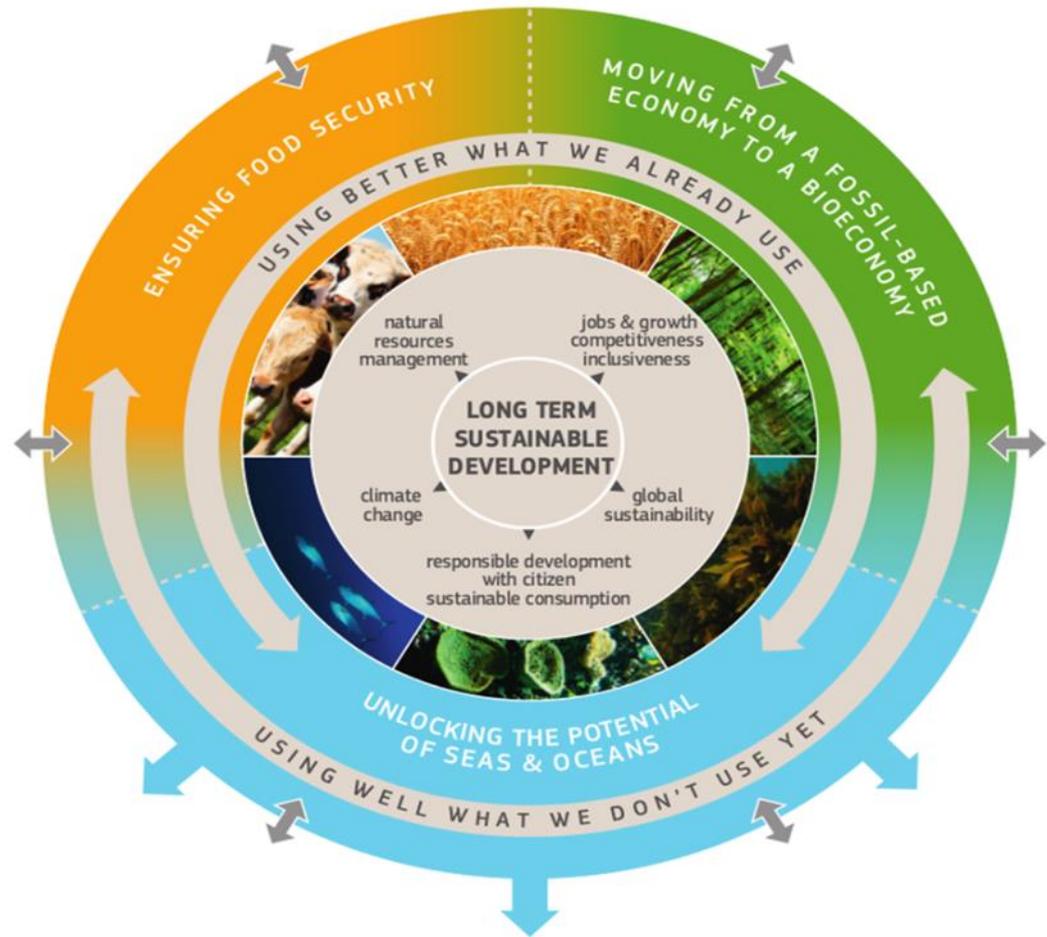
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Supporting the development of bio-based economy partnerships in  
the Danube Region through a triple-helix approach  
Budapest, 19-20/06/2016

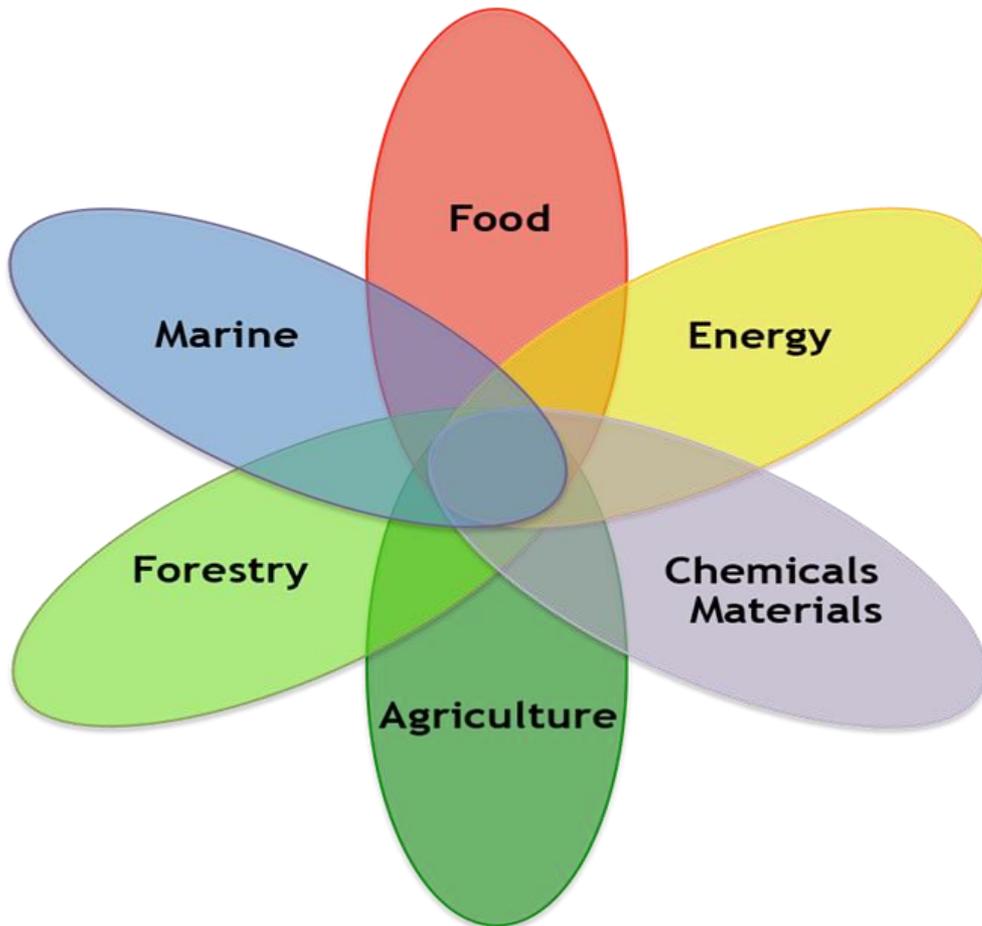
# 1. WHAT IS BIOECONOMY

" The Bioeconomy encompasses those parts of the economy that use renewable biological resources from land and sea to produce food, bio-materials, bio-energy and bio-products."

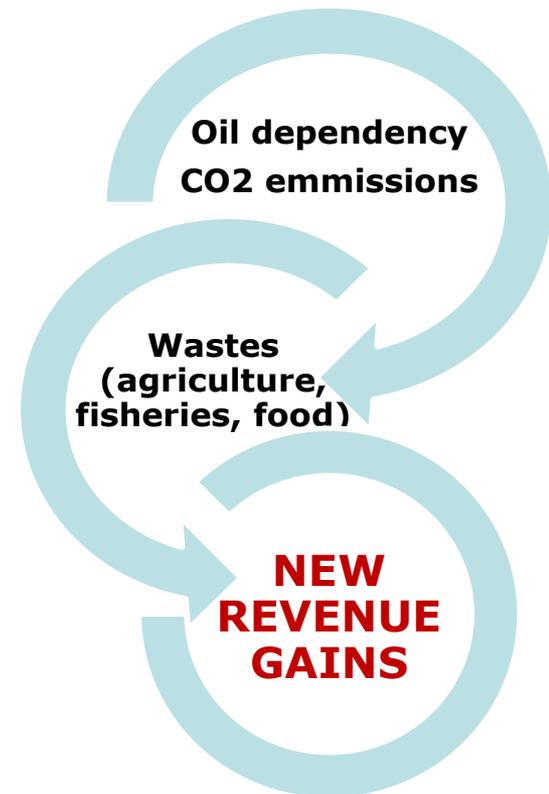
*EU bioeconomy strategy, 2012*



# Bioeconomy -



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



# Life sciences enable the creation of new **bio-based** value chains

## Primary production

## Waste



Sugar beets



Algae



Wood residues



Biological waste



Fish waste

INTO



Cosmetics



Plastic bottles  
Natural colourants  
for candy



Dashboards



Bio-based plastics



Pharmaceuticals

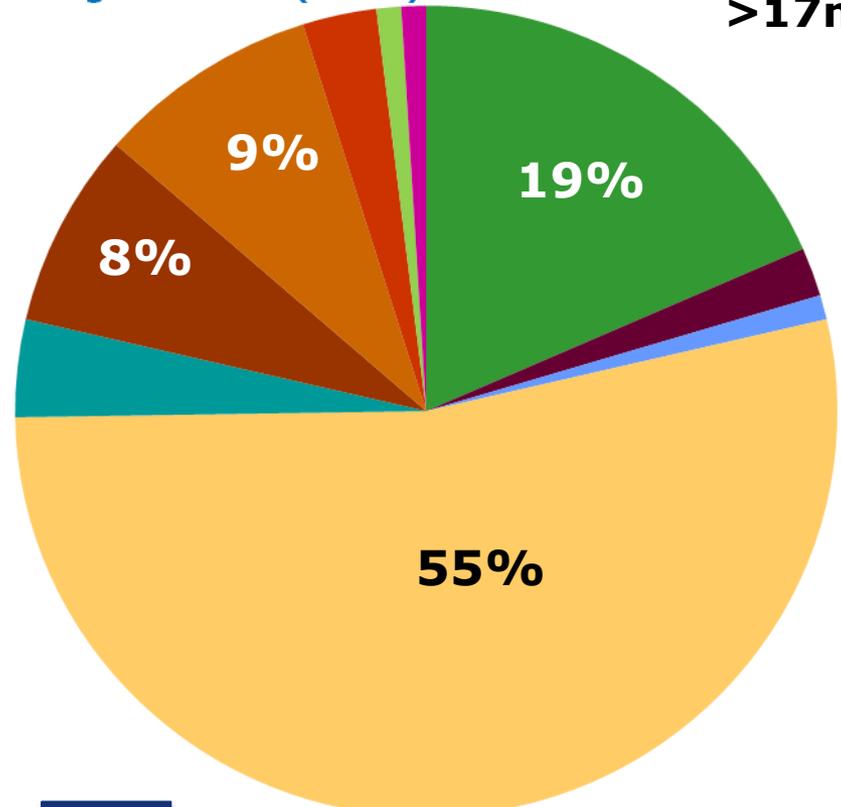


## Bioeconomy is key for Europe

**2 trillion euro turnover**  
**Employs >17m people**

**Turnover in the EU-28 by the bioeconomy sector  
In percentage of value (2013)**

- 19%** ■ Agriculture
- 2% ■ Forestry
- >1% ■ Fisheries & aquaculture
- 55%** ■ Food, beverage & tobacco industry
- 4% ■ Bio-based textiles
- 8%** ■ Manufacturing of wood & wood furniture
- 9%** ■ Manufacturing of paper & paper products
- 3% ■ Bio-based chemicals, pharmaceuticals and plastics
- >1% ■ Biofuels
- >1% ■ Bio-based electricity



## 2. EU CONTEXT

## 2. EU context



### 1. A new boost for jobs, growth and investment

2. A connected digital single market

### 3. A resilient Energy Union with a forward looking climate change policy

### 4. A deeper and fairer internal market with a strengthened industrial base

5. A deeper and fairer EMU

6. A reasonable and balance free-trade agreement with the U.S.

7. An area of justice and fundamental rights based on mutual trust

8. Towards a new policy of migration

9. A stronger global actor

10. A Union of democratic change



PRINCIPLE

1

Preserve and enhance natural capital by controlling finite stocks and balancing renewable resource flows  
ReSOLVE levers: regenerate, virtualise, exchange

# Bioeconomy

Renewables



Finite materials

Regenerate

Substitute materials

Virtualise

Restore

Renewables flow management

Stock management

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

Regeneration



Biogas



Biosphere



Farming/collection<sup>1</sup>

Biochemical feedstock

Cascades



Consumer

Collection

Extraction of biochemical feedstock<sup>2</sup>



Parts manufacturer

Product manufacturer

Service provider

Share



Maintain/prolong



Reuse/redistribute



Refurbish/remanufacture



Recycle

Minimise systematic leakage and negative externalities

PRINCIPLE

3

Foster system effectiveness by revealing and designing out negative externalities  
All ReSOLVE levers

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).

# 3. EU BIOECONOMY POLICY



## EU Bioeconomy Strategy introduced in 2012

# EU Bioeconomy Strategy & Action Plan

## Investment in R&I



- **Horizon 2020 (€3,8b SC2)**
- Increase multi-disciplinary & cross-sectoral R&I
- ESIF - Smart Specialisation
- EFSI

## Policy interaction & stakeholder engagement



- EU Policy coherence
- Development of regional and national bioeconomy strategies
- Bioeconomy Panel
- Bioeconomy Observatory
- International cooperation

## Enhancement of markets & competitiveness in bioeconomy



- Sustainable intensification of primary production
- Expansion of new markets
- Increase EU competitiveness
- **BBI JU**



## IN EUROPE:

Several MS have adopted **national Bioeconomy Strategies**.

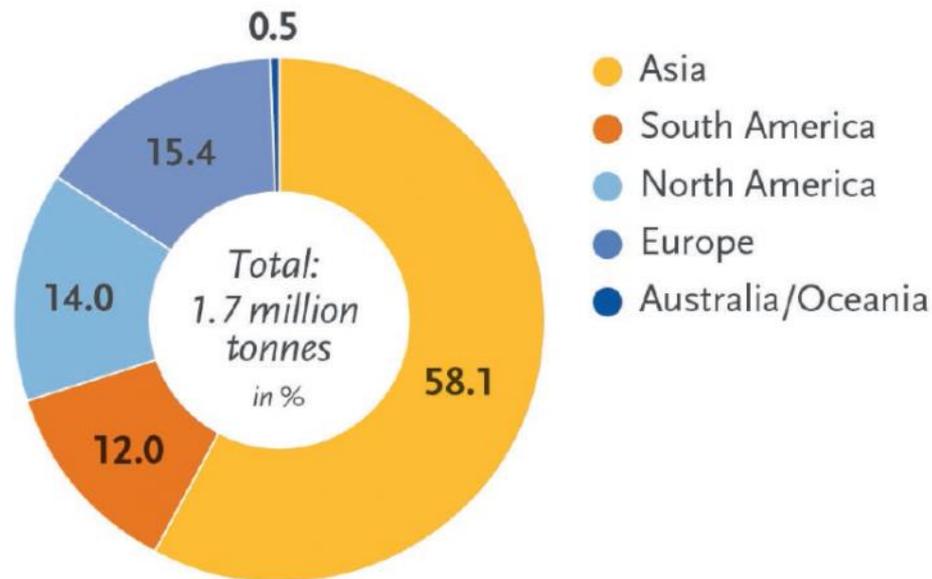


**More than 10 Regions  
are investing in  
Research on  
Bioeconomy (ESIF)**

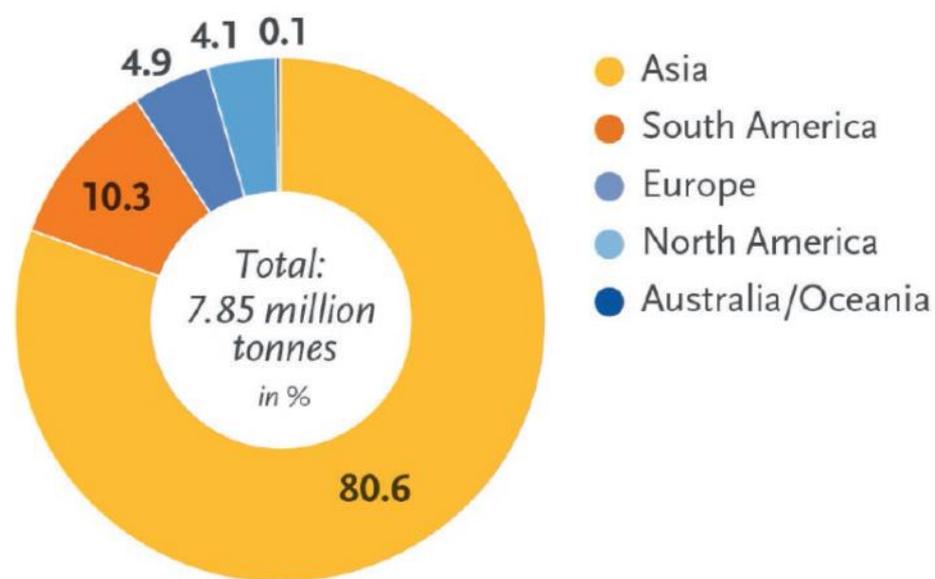
**Finland and Poland**  
the most involved countries  
*(Source: eye@RIS3)*

- dedicated bioeconomy strategy
- bioeconomy-related strategy
- ▨ be-related strategy; dedicated be-strategy is under development
- dedicated be-strategy is under development

## Global production capacities of bioplastics in 2014 (by region)



## Global production capacities of bioplastics in 2019 (by region)



**Europe needs to **act** to remain competitive for industrial production and attract **investment** in the bioeconomy**

# Next steps for the EU Bioeconomy policy: ..with the support of the EU Regions

## PRIORITIES

**Boost  
investments**

## ACTIONS

- Financial Instruments - **EIB/InnovFin**
- Synergies with **ESIF** (*SoE, Widening participation*)
- Link with other programmes (**EFSI**, COSME...)

**Favorable  
policy  
environment**

- Identify and address **regulatory & financial or other** barriers /gaps/needs (**REGIONS' INPUT!!!**)

**Address  
Knowledge  
gaps**

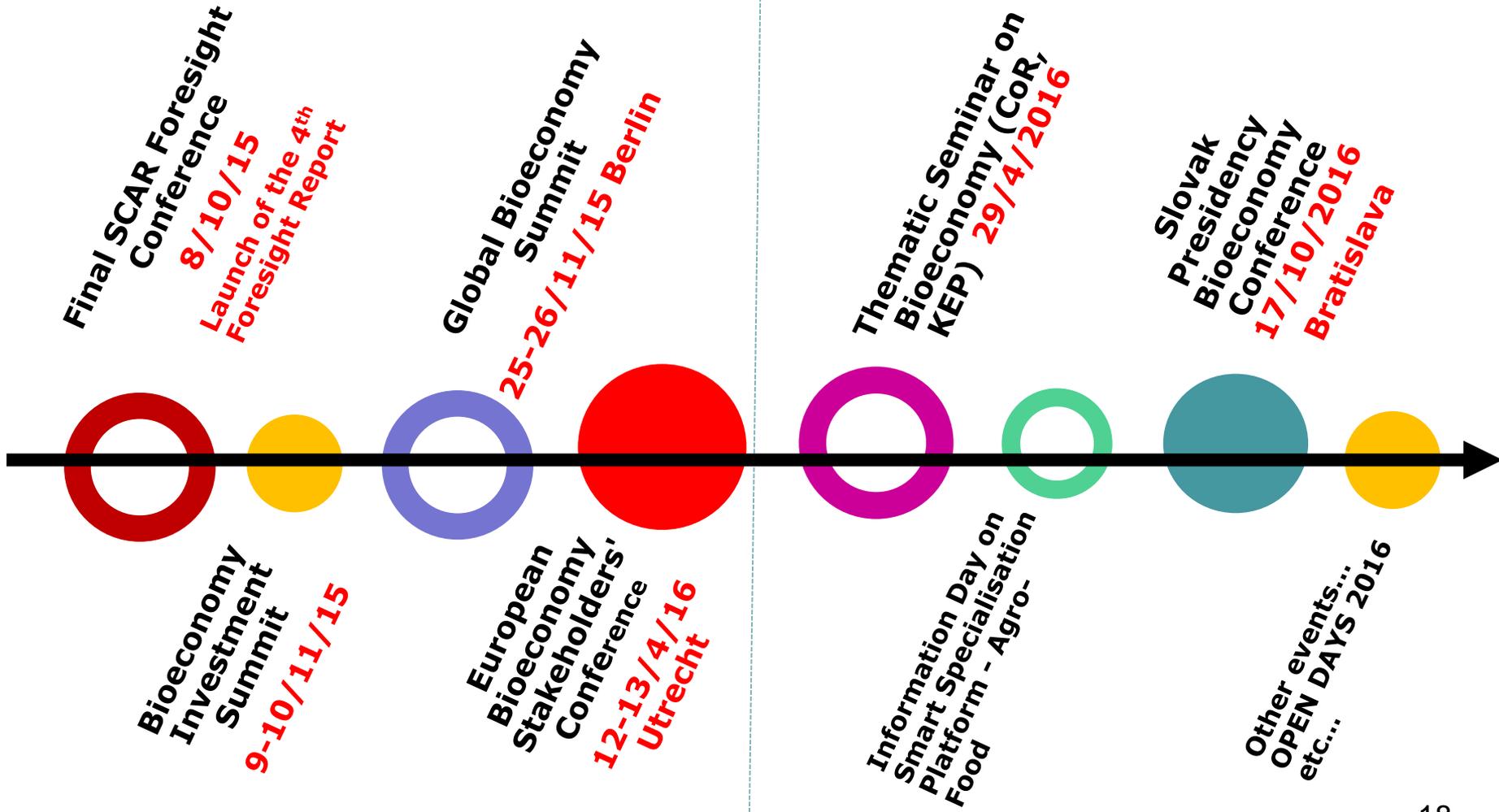
- **Study** to map EU regions BE Plans – RIS3 (2016)
- **Bioeconomy Knowledge Centre**

**Increase  
stakeholders  
engagement**

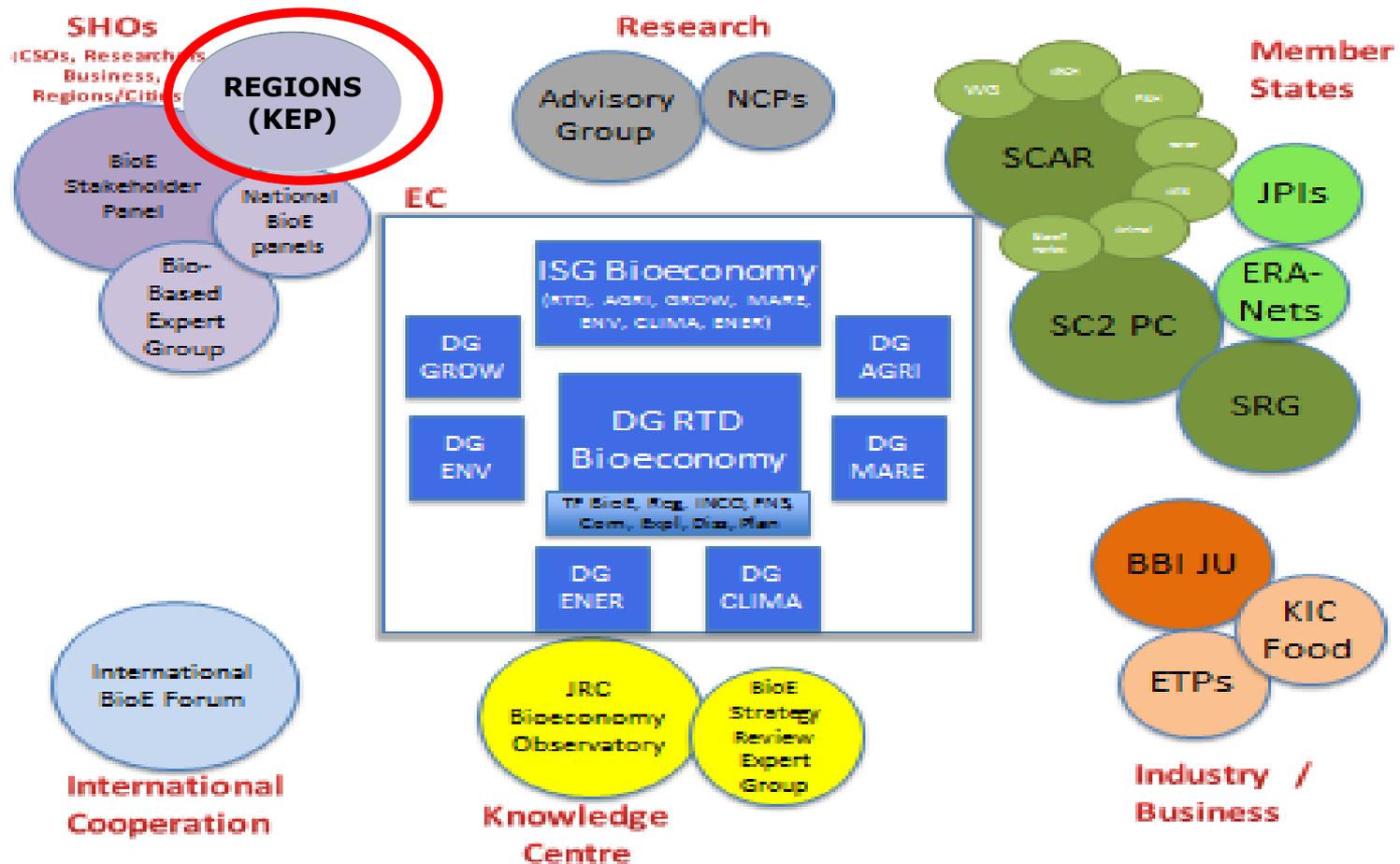
- **KEP-Knowledge Exchange Platform**
- Bioeconomy Stakeholder Panel
- Smart Specialisation Platforms, Networks (*ERRIN, ERIAFF*)

# **4. EU BIOECONOMY STRATEGY REVIEW**

# Calendar - events

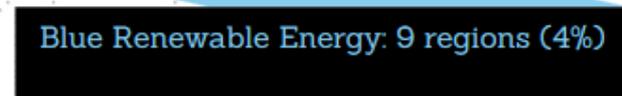
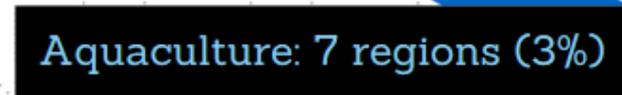
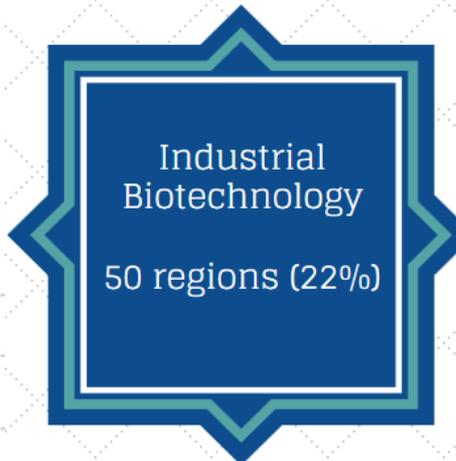
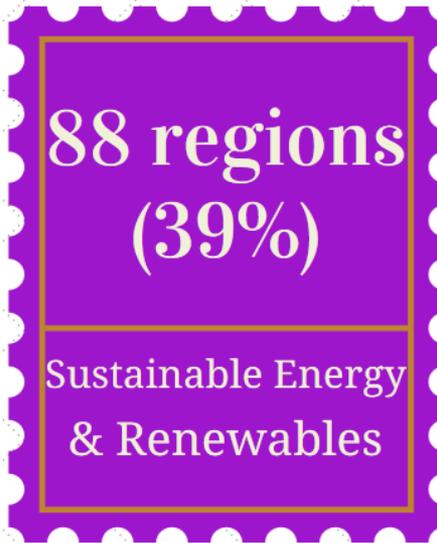


# We count on EU regions for the review of the Bioeconomy Strategy

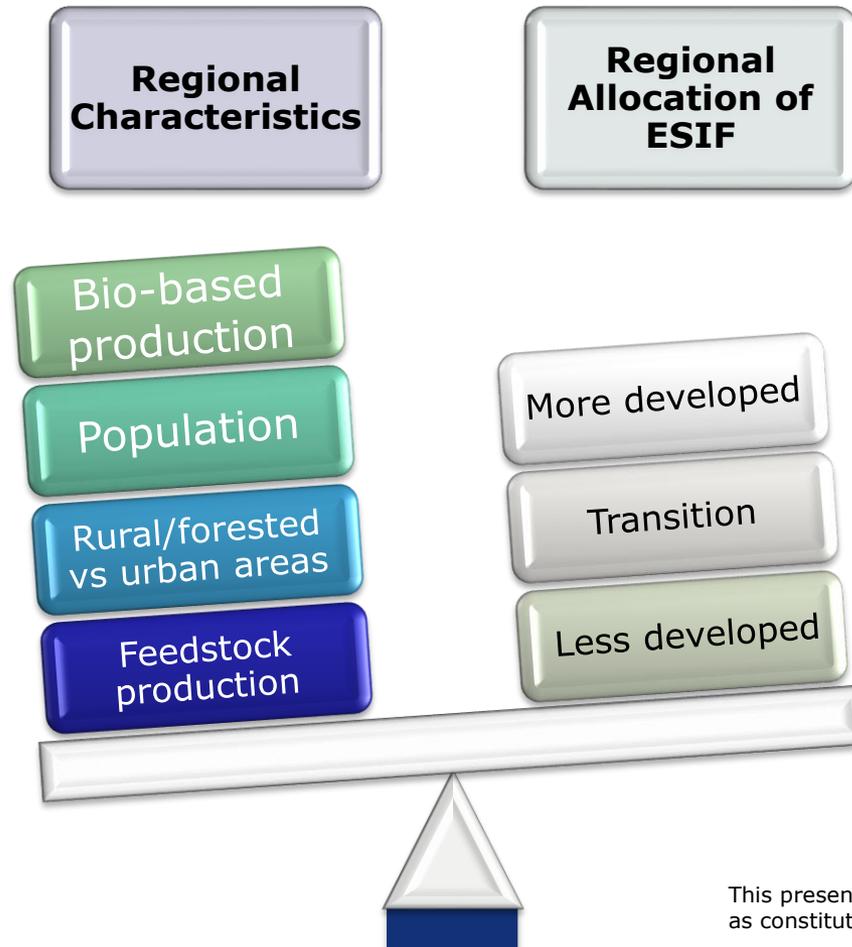


# **5. EU REGIONS ARE KEY PLAYERS FOR THE BIOECONOMY**

# What areas are EU regions going to invest in? *(RIS3)*

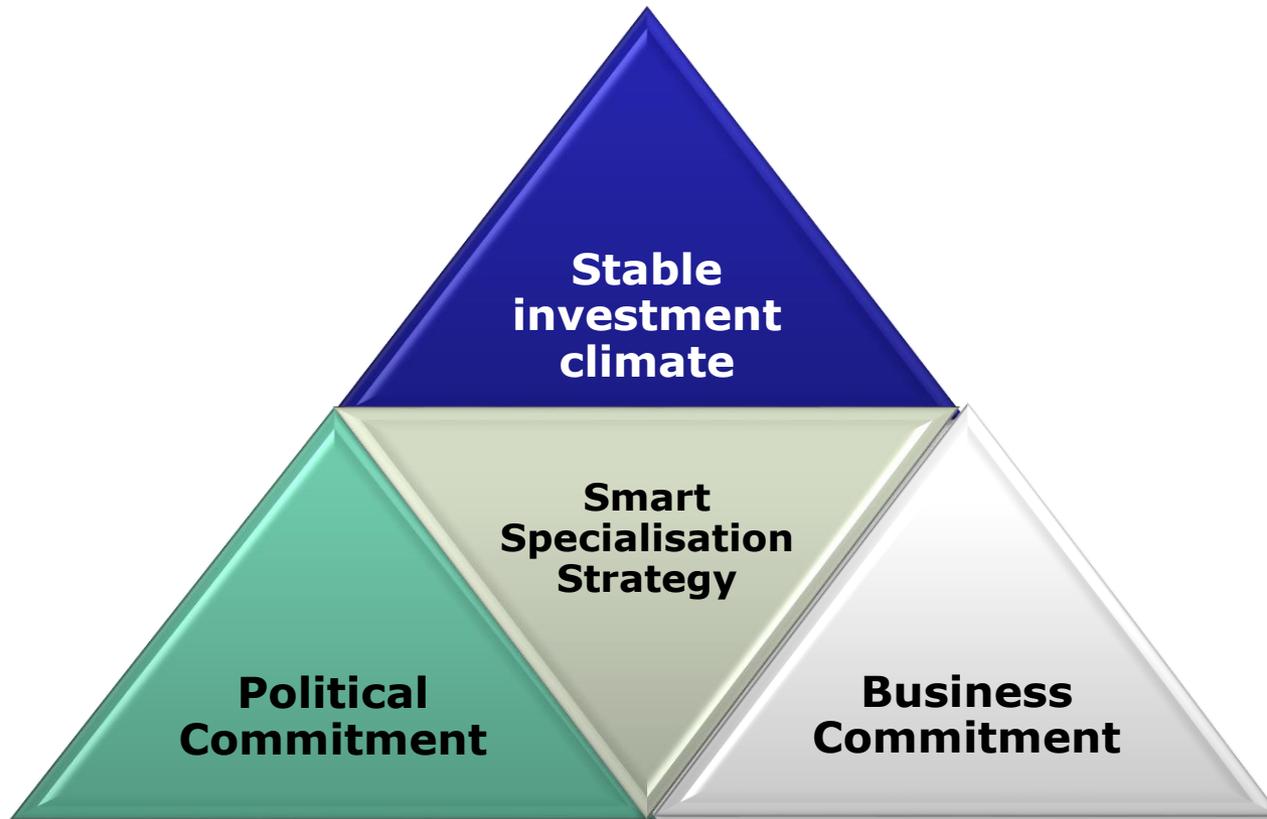


# EU Regions' diversity is their advantage!



# Regional Bioeconomy Strategy Development

## 4 fundamental ingredients



# Regional Bioeconomy Strategy Development

## 7 Tips to remember!

- 1. Learn from Best Practices!** (*various EC Guides, web-sites*)
- 2. Link/create networks, clusters** (*Clusters Observatory*)
- 3. Involve in existing initiatives** (*BBI JU, Vanguard*)
- 4. Use available tools** (*eye@RIS3, Bioeconomy Observatory*)
- 5. Look for inter-regional + macro-regional opportunities**  
*Baltic, Danube*
- 6. Use public-procurement** for new bio-based innovative solutions
- 7. Seek help!** (*Bio-NCPs, EIP-AGRI*)



## TRY BIOECONOMY



### Bio-Based Industries Joint Undertaking (BBI-JU)

<http://www.bbi-europe.eu/>

### SYNERGIES & SEAL OF EXCELLENCE (**new website!**)

<http://ec.europa.eu/research/regions/>

### AGRI-FOOD SMART SPECIALISATION PLATFORM

<http://s3platform.jrc.ec.europa.eu/agri-food> (**new initiative!**)

### VANGUARD INITIATIVE/ Bioeconomy Pilot Project

<http://www.s3vanguardinitiative.eu/cooperations/bioeconomy-interregional-cooperation-innovative-use-non-food-biomass>

### GUIDES ON ESIF-H2020 SYNERGIES

[http://ec.europa.eu/regional\\_policy/sources/docgener/guides/synergy/synergies\\_en.pdf](http://ec.europa.eu/regional_policy/sources/docgener/guides/synergy/synergies_en.pdf)<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/other/index.html>

[http://www.bbi-europe.eu/sites/default/files/documents/Guidelines\\_BBI-ESIF-Final.pdf](http://www.bbi-europe.eu/sites/default/files/documents/Guidelines_BBI-ESIF-Final.pdf)

### S3 KNOWLEDGE REPOSITORY

<http://s3platform.jrc.ec.europa.eu/knowledge-repository>



**Thank you!**

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HORIZON 2020