The circular bio-based economy is key for a sustainable future

Joint BG-RO Cluster event, virtual, 28 September 2020

Nelo Emerencia, Director Programming

Bio·based Industries Consortium

Transform Europe into a circular bio-based economy

The bio-based industry is at the heart of the circular bio-based economy:

- We make bio-based products for application in all market segments
  - From sustainable, biomass feedstocks
  - Applying the cascading use of the feedstock wherever possible
  - Providing ‘renewable carbon’, capable of replacing fossil carbon in almost all applications
- We design processes, products, services and our business models on ‘circularity’
  - No linear ‘take-make-waste’ economy
  - Resources, materials and products are used as long as possible, maintaining their value
  - Material and energy efficiencies are maximised; waste and emissions are minimised
- We target ‘zero-emissions’ operations, contributing to Europe’s goal of climate-neutrality by 2050

We aim to establish a European bioeconomy that has sustainability and circularity at its heart

Bioeconomy is already a significant force in Europe

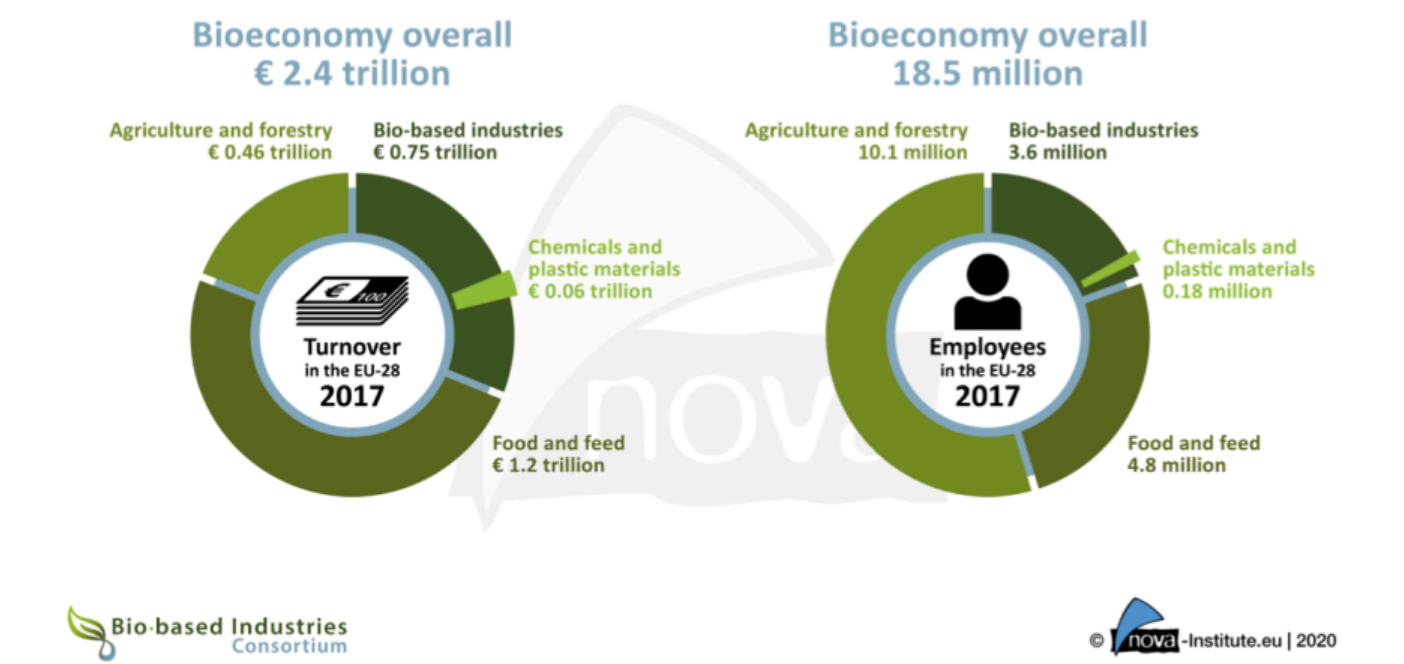


Figure 1: Overall turnover and employment of the bioeconomy and its bio-based industries in the EU–28 in 2017

From:
European Bioeconomy in Figures 2008–2017; nova Institute and BIC, Sept 2020

Turnover:

- 25% increase since 2008
- ~50% by food and beverages
- ~20% by agriculture and forestry
- ~30% by the bio-based industry

Employment:

- 9% drop since 2008 (restructuring agricultural sector)
- 55% by agriculture, forestry and fisheries (but turnover is rather low)
- CEE strong in less value-adding sectors that generate lot of employment
- NWE generate higher turnover compared to employment generated

Turnover by the bio-based industry: 25% increase since 2008

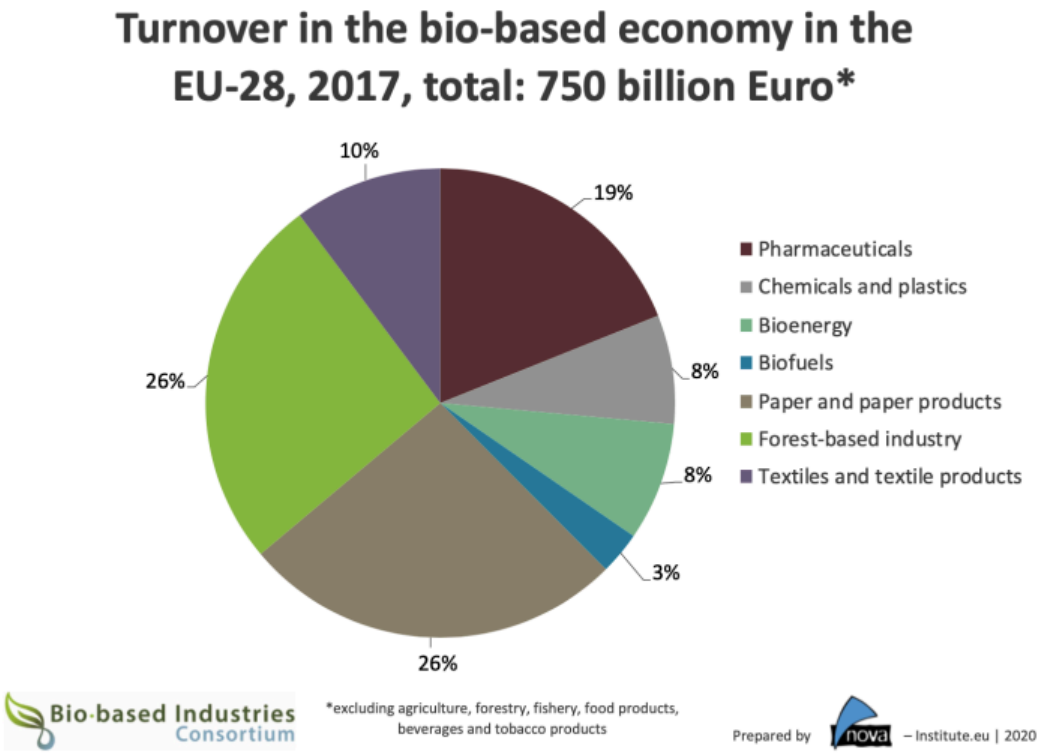


Figure 6: Turnover in the bio-based economy in the EU-28, 2017

From:

European Bioeconomy in Figures 2008–2017; nova Institute and BIC, Sept 2020

- Paper and paper products (26%) and forest-based industry (wood products and furniture, 26%) contribute >50%
- Followed by pharmaceuticals (19%) and textile and textile products (10%), chemicals and plastics (8%) and bioenergy (8%)

Employment in the bio-based industry

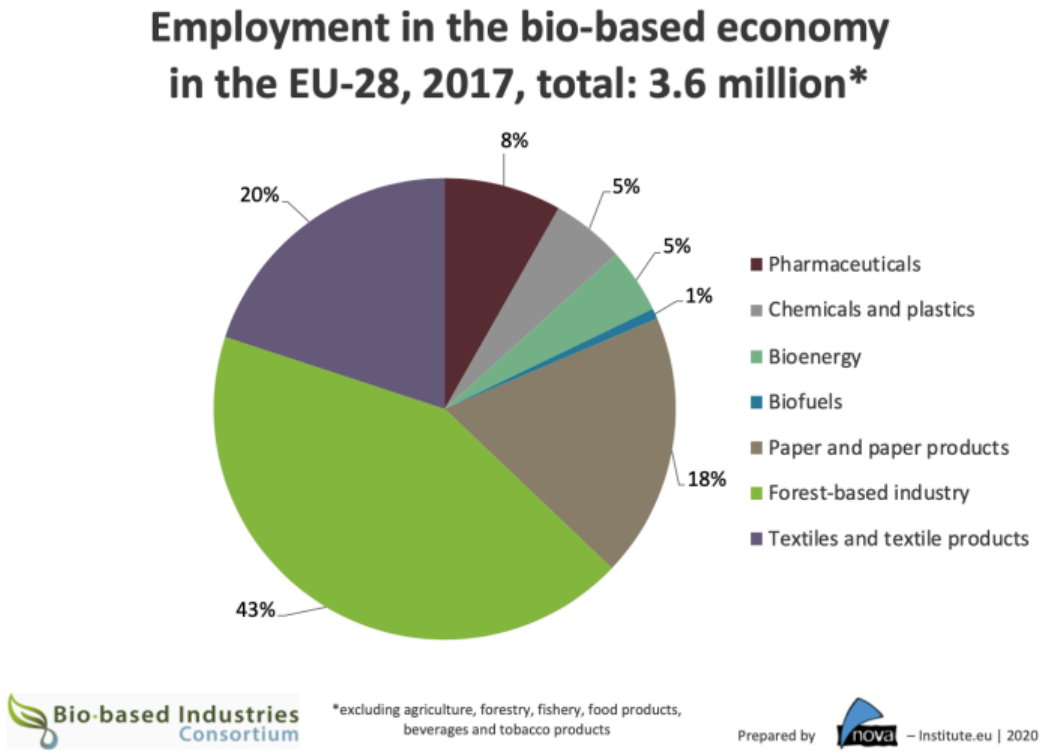


Figure 11: Employment in the bio-based economy in the EU-28, 2017

This is the employment in the industrial sectors only (i.e., excluding primary biomass production/extraction)

- Employment has been declining, mostly because of increasing optimisation, automation and digitalisation in the agricultural sector
- Other sectors are stable or increasing employment
- Most employment by the forest-based industry, paper and paper products, and the textile industry

Bio-based industry contributes to the European green recovery

Towards 'Circular Bio-based Europe' (CBE) under Horizon Europe (2021-2027) as continuation of BBI JU under Horizon 2020 (2014-2020)

- With the Bio-based Industries Consortium (BIC) and the European Commission (EC)

Realise ambitions of Vision 2050: 'The circular bio-society in 2050'

- SIRA2030: roadmap towards 2050, with milestones for 2030

CBE key objectives:

- Long-term sustainability of the society in Europe
  - European climate targets for 2030 towards climate neutrality by 2050: European Green Deal and Horizon Europe
- Increase research, up-scaling and full-scale deployment actions towards sustainable, competitive solutions providing health and income
  - Circular use of biomass, residues and waste: Circular Economy Action Plan and UN SDGs
  - Focus on regional approaches
- Contribute to a circular economy that operates within the planetary boundaries

Need: **strong industry** across Europe partnering with **primary and market sectors**, **academia** and **society**, working with **regions** on their strategies and strengths: ***quadruple helix***

BIC membership in figures

- > 240 industry members (large enterprises, SMEs and SMEs in clusters), including **brand owners/market actors**

- > 200 associate members i.e. universities, RTOs, associations, etc.

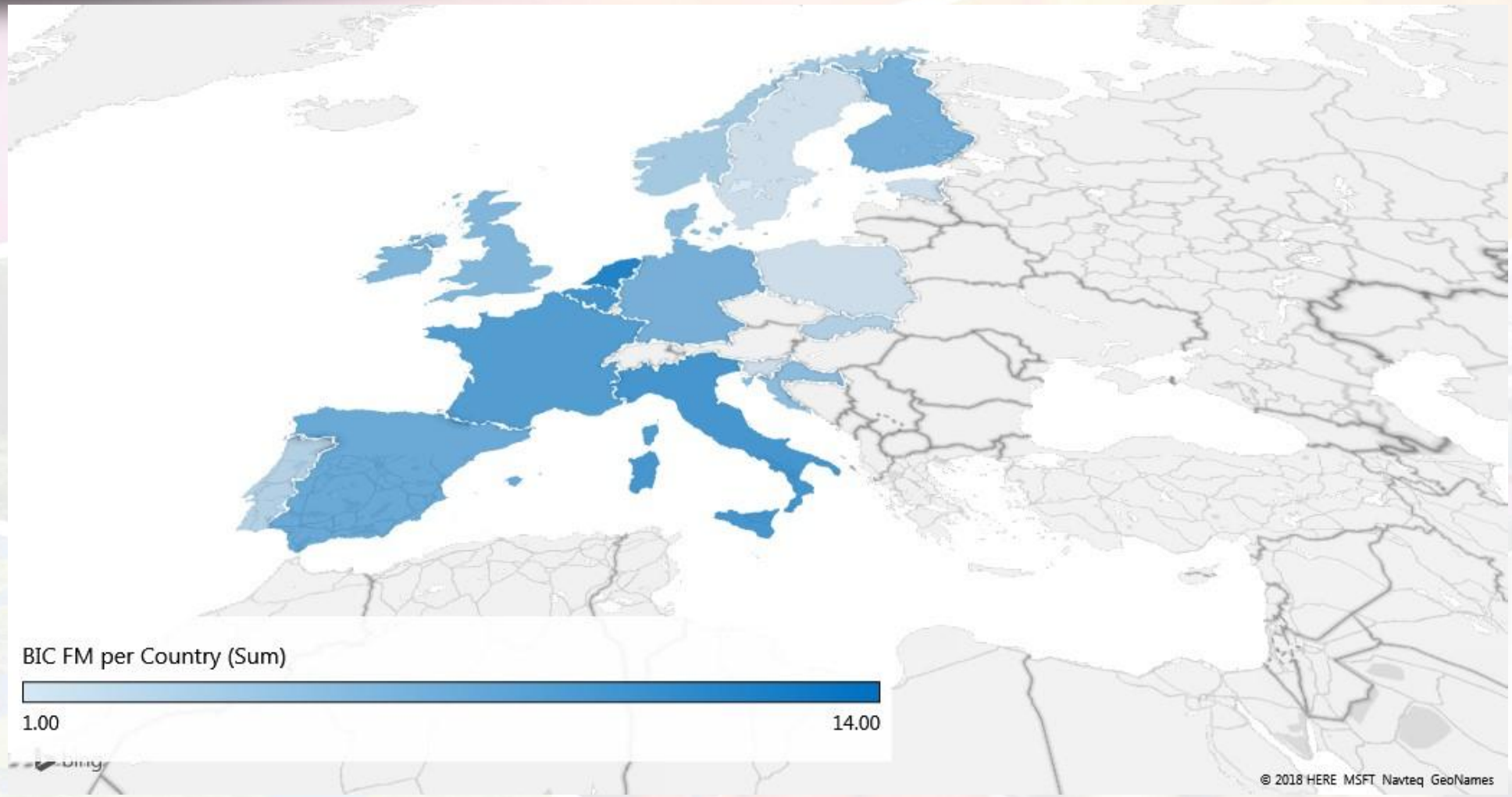
Bio·based Industries Consortium

Sector represented

- Agriculture, food & feed
- Aquaculture and marine
- Chemicals and materials
- Forestry and pulp & paper
- Market actors
- Technology providers
- Waste management & treatment

Bio·based Industries Consortium

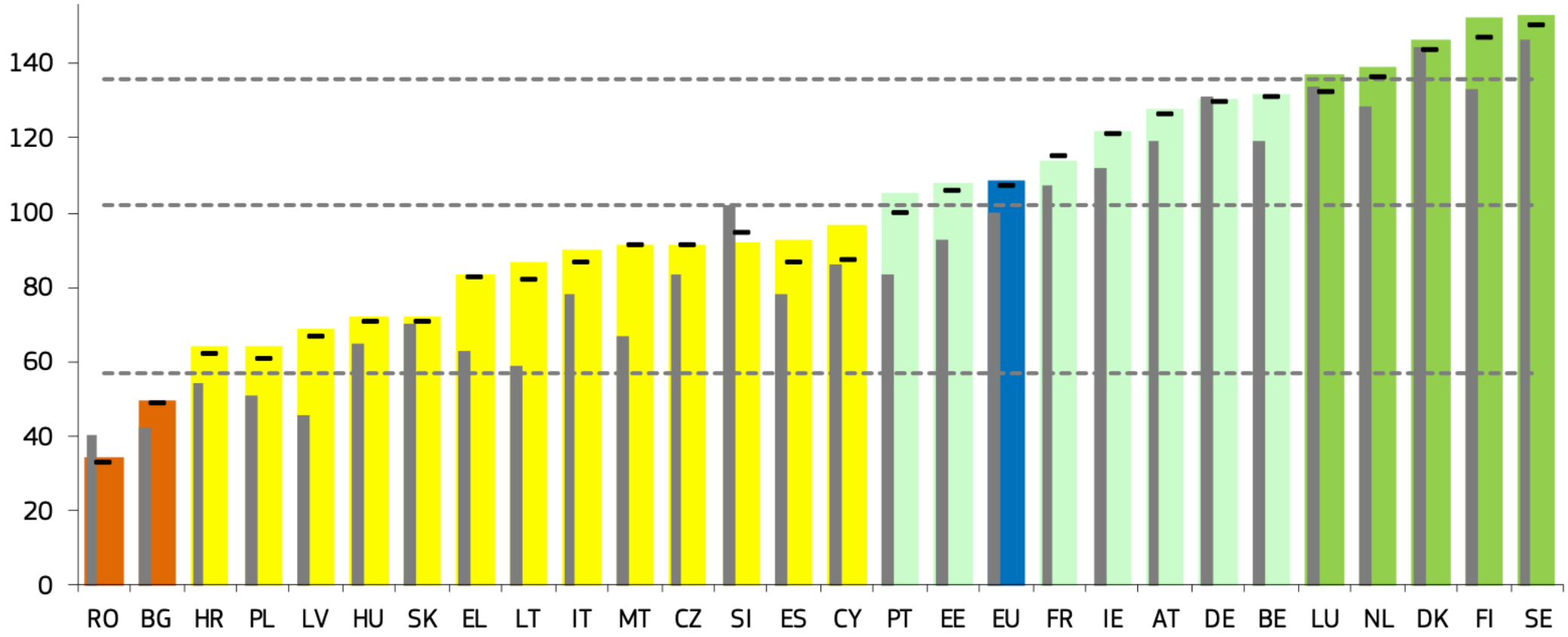
BIC industry members in Europe (January '20)



Performance of EU Member States' innovation system

European innovation score board 2020

Figure 2: Performance of EU Member States' innovation systems



Coloured columns show countries' performance in 2019, using the most recent data for 27 indicators, relative to that of the EU in 2012. The horizontal hyphens show performance in 2018, using the next most recent data, relative to that of the EU in 2012. Grey columns show countries' performance in 2012 relative to that of the EU in 2012. For all years, the same measurement methodology has been used. The dashed lines show the threshold values between the performance groups..

Expanding bio-based industry across Europe

BIC strategic outreach programme

BIC's new bioeconomy platform

Partnering platform based on profiles with key data

100 + Bio-based industry

- Sector(s)
- Target market sectors
- Feedstocks currently in use
- Feedstocks seeking to use
- Biorefineries in Europe
- BBI JU project participation
- BBI JU calls applied for
- Offer to regions e.g. feedstock to commercialise, pilot plants to develop, etc.
- Corporate contacts

> 50 Regions

- General introduction of region
- Regional bioeconomy strategy
- Bio-based investment priorities/RIS3
- Bio-based feedstocks
- Financial incentives for bio-based investment
- Industry sectors seeking investment from
- Skills & competencies
- Population, GDP & area
- Primary & secondary contact

9 regions from CEE participating in BIC platform

From six CEE countries

Hungary (1)

Dél-Alföld (Southern Great Plain)

Latvia (1)

Vidzeme

Lithuania (1)

Klaipeda

Poland (3)

Pomorskie

Małopolska

West Pomeranian

Romania (2)

Centru

Nord-Est

Slovenia (1)*

having regional administrative divisions

BIC members in CEE

Croatia to Estonia…

Croatia

Bio Eco Energy Company

Bio-Mi

Mi-plast

Institute for Development and International Relations

Czechia

Unipetrol Centre for Research and Development (UNICRE)

Estonia

Graanul Invest AS

University of Tartu

BIC members in CEE

Hungary to Lithuania…

Hungary

Bay Zoltán Nonprofit Ltd. for Applied Research

Bay Zoltan Non-profit for Applied Research

Latvia

Latvian State Institute of Wood Chemistry

Lithuania

VYTAUTAS MAGNUS UNIVERSITY

Vytautus Magnus University

BIC members in CEE

Romania to Slovenia

Romania

National Institute for Research and Development in Chemistry and Petrochemistry (ICECHIM)

Gheorghe Asachi Technical University of Iasi (TUIasi)

Slovakia

EnergoChemica

Slovak University of Technology

Slovenia

Chamber of Commerce and Industry of Stajerska

Join us!

Thank you!

Bio·based Industries Consortium

info@biconsortium.eu

The BIC platform for industry and regions:

Learn more & sign up @ www.bioeconomy-regions.eu

Or contact: Ben.Kennard@biconsortium.eu

Bio·based Industries Consortium