



Disrupting the Linear Economy and Going Circular

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The Bio-based Industries Consortium



Mission

- Build new *bio-based value chains* (develop new technologies, products and applications, optimise feedstock)
- Create favourable business and policy climate to *accelerate market uptake* of bio-based products

BIC membership in figures

- > 240 industry members (large enterprises, SMEs and SMEs in clusters), includes **brand owners/market actors**
- > 200 associate members i.e. universities, RTOs, associations, etc.





Sector represented

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



The bioeconomy and biobased economy in Europe

Bioeconomy
€ 2.4 trillion

Bio-based industries
€ 0.75 trillion



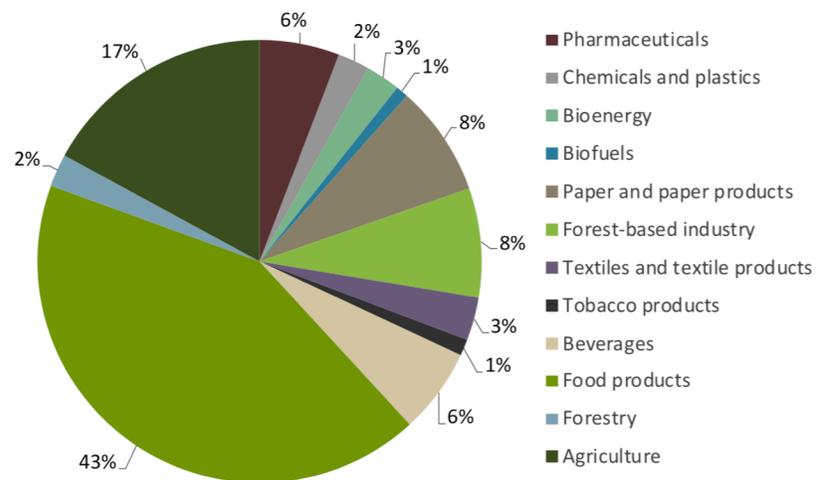
Bioeconomy
18.5 billion

Bio-based industries
3.5 billion

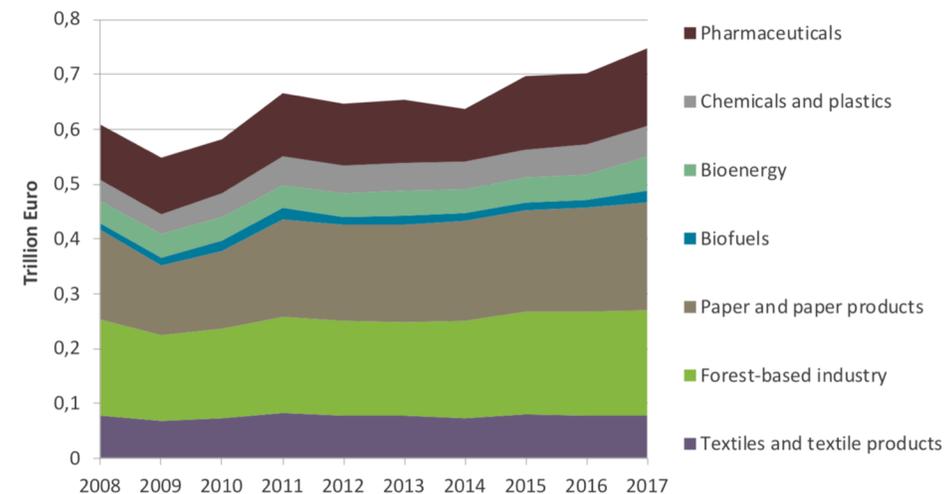


Turnover of the EU bioeconomy

Turnover in the bioeconomy in the EU-28, 2017, total: 2.4 trillion Euro

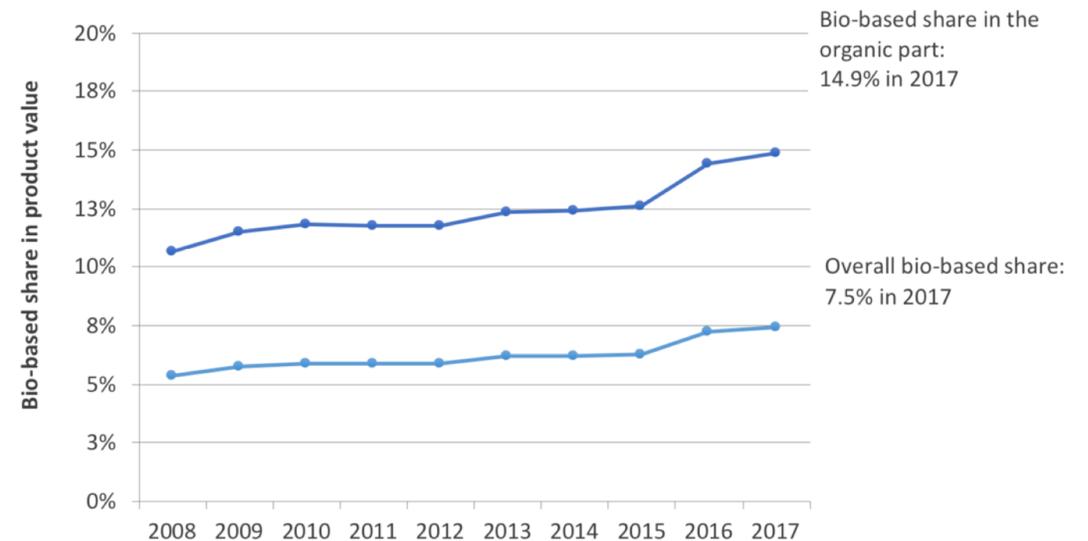


Turnover in the bio-based economy in the EU-28, 2008–2017



Biobased shares (chemicals)

Bio-based shares in the product value of chemicals and chemical products (NACE division 20)*, EU-28, 2008–2017





European policies:
linking bioeconomy to circular economy and Green Recovery

Circular Economy: A key political concept in the EU since 2014

European Commission introduced several initiatives, re-enforcing link between industry and bioeconomy

2014-2015: Circular Economy Strategy and the related Action Plan “Closing the loop”

- Commission defines the “circular economy [as the economic space] where the value of products, materials and resources is maintained in the economy for as long as possible, and the generation of waste minimised”
- But: “The circular economy is still in an early stage, stronger on paper than in practice.”

2020: (New) Circular Economy Action Plan “For a cleaner and more competitive Europe”

- Circularity is an essential part of a wider transformation of industry towards climate-neutrality and long-term competitiveness.
- Goal: **Scaling up the circular economy** from front-runners to the mainstream economic players
- Enable **greater circularity** in industry by supporting the sustainable and circular bio-based sector through the **implementation of the Bioeconomy Action Plan**

What is the EU's understanding of the Bioeconomy.....

Circularity not (initially) part of European Commission definition

All sectors & systems that use / produce/ process / are driven by biological resources

- Ecosystems on land and sea
- Primary production systems - agriculture, forestry, aquaculture / fisheries – **incl. waste/side streams**
- Food, feed, fibres, bio-based industry, fuels and bio-energy

A Bioeconomy for Europe: First proposal in 2012

Proposal for a BBI JU one action point in 2012 Communication



Communication on Bioeconomy – 2012

To pave the way to a more innovative, resource efficient and competitive society that reconciles food security with the sustainable use of renewable resources for industrial purposes, while ensuring environmental protection.

Food security, sustainable management of natural resources, climate change mitigation, reduced fossil-dependence, jobs creation and EU competitiveness

Proposal for a BBI JU one action point in 2012 Communication



Review of Bioeconomy Strategy – 2017

Good delivery, objectives still relevant, increasing importance, more focussed actions for evolved context (SDGs, renewed industrial policy, circular economy, ...)

Source: European Commission

Up-dated Bio-economy strategy presented in 2018

A sustainable bioeconomy for Europe



...was developed jointly across different DGs (RTD, AGRI, ENV, MARE, GROW, JRC, CLIMA) to develop actions and ensure impact.

The updated Bioeconomy Strategy aims to

- Link the sustainable use of renewable biological resources for food, feed, bio-based products and bioenergy, with the protection and restoration of biodiversity, ecosystems and natural capital across land and water.
- Step up action to ensure that the Bioeconomy provides a long-term balance of social, environmental and economic gains
- Have a stronger focus on sustainability and circularity

Source: European Commission

The way towards a sustainable, circular bioeconomy

Three key actions

1

STRENGTHEN AND SCALE-UP THE BIO-BASED SECTORS, UNLOCK INVESTMENTS AND MARKETS



Mobilise stakeholders in **development** and **deployment** of **sustainable bio-based solutions**



Launch the **EUR 100 million** Circular Bioeconomy Thematic **Investment Platform**



Analyse enablers and bottlenecks for the deployment of **bio-based innovations**



Promote and develop **standards, labels and market uptake** of **bio-based products**



Facilitate the **development of new sustainable biorefineries**



Develop substitutes to fossil based materials that are **bio-based, recyclable and marine biodegradable**

Source: European Commission

2

DEPLOY LOCAL BIOECONOMIES RAPIDLY ACROSS EUROPE



Launch a Strategic Deployment Agenda for sustainable food and farming systems, forestry and bio-based products



Launch pilot actions for the development of **bioeconomies** in rural, coastal and urban areas



Support regions and Member States to develop Bioeconomy Strategies



Promote education, training and skills across the bioeconomy

3

UNDERSTAND THE ECOLOGICAL BOUNDARIES OF THE BIOECONOMY



Enhance knowledge on biodiversity and ecosystems



Monitor progress towards a sustainable bioeconomy



Promote good practices to operate the bioeconomy within **safe ecological limits**



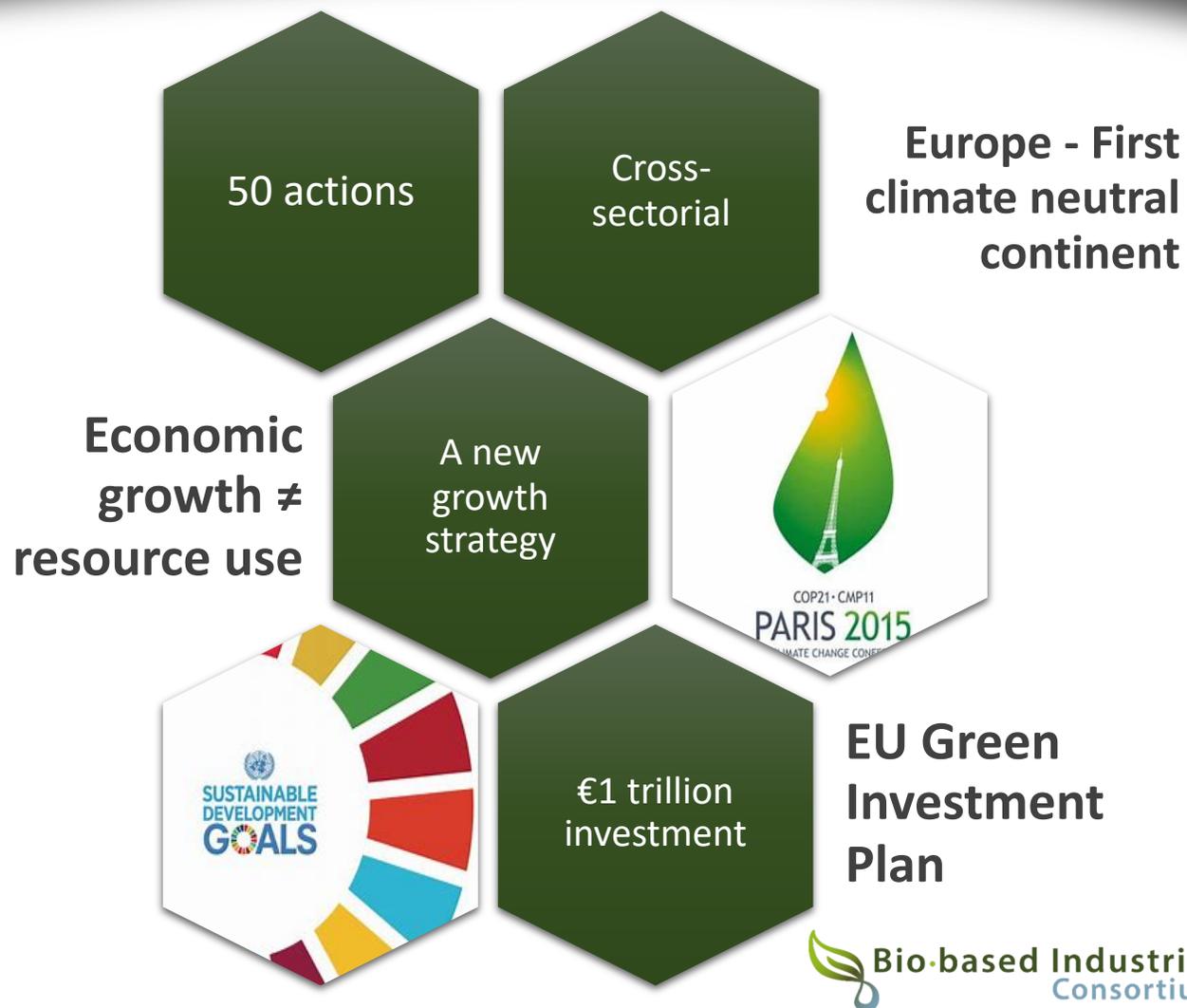
Enhance the benefits of biodiversity in **primary production**

Introduction to the European Green Deal...



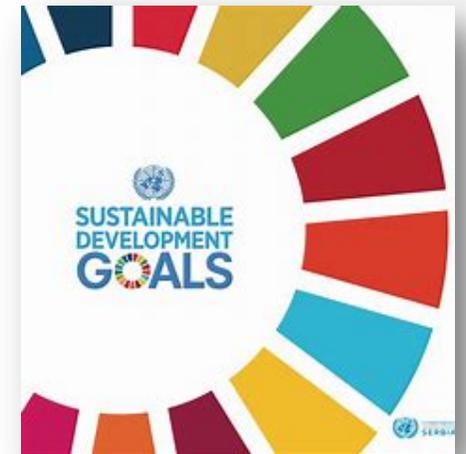
*"[...] It is a **broad roadmap** for a rapid transition to a cleaner continent and the **start of a journey**"*

EC President, Ursula Von der Leyen, 11/12/2019



A few key takeaways..

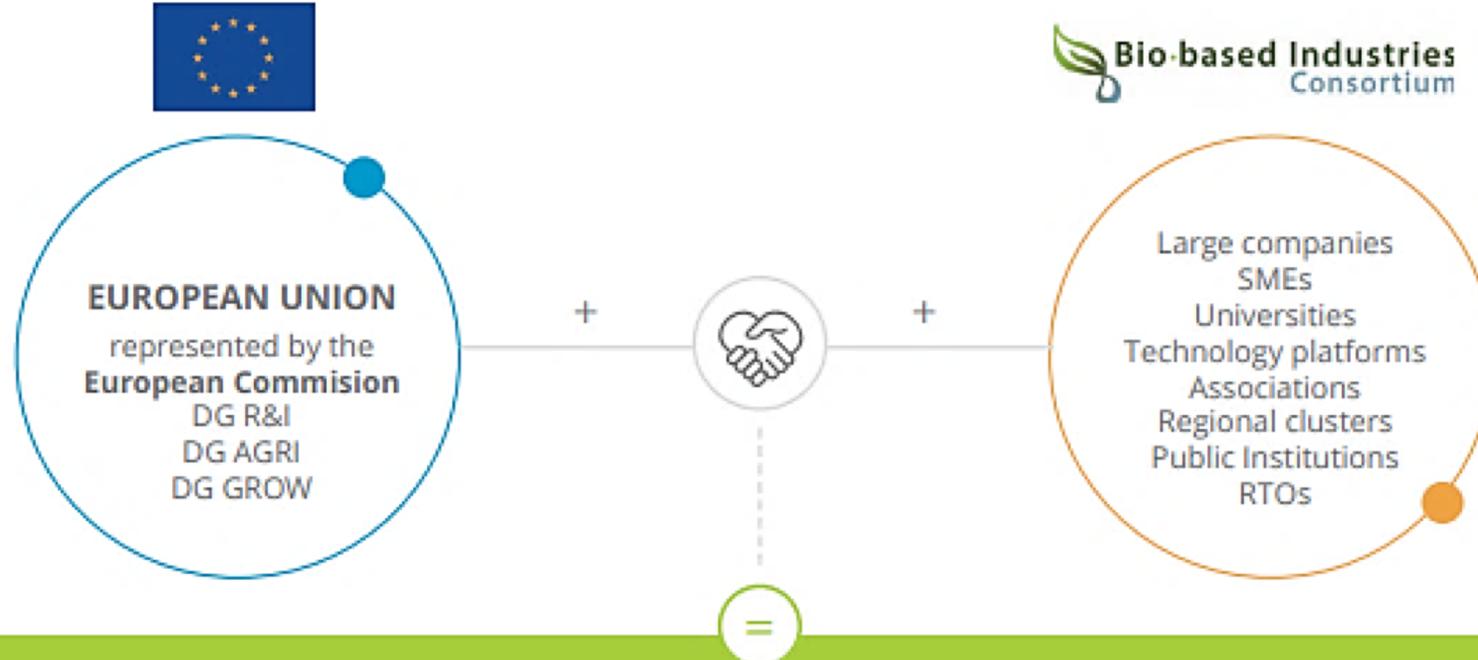
- ❑ EU Green deal and its key policy measures represent a significant opportunity for growth of the EU bio-based sector, both within the Single market and outside of the EU (gaining access to new markets).
- ❑ EU Green deal provides concrete incentives for the development of the bio-based sector, provided that it functions in a circular manner and under stricter biodiversity requirements. (in respect of the “planetary boundaries”).
- ❑ EU Green deal has been broadly supported by the EU Member States and EU Parliament, providing a degree of predictability on the overall political direction and the acceptance of the suggested measures.
- ❑ EU Green deal has a strong focus on sustainable development being part of the Commission’s strategy on the implementation of the UN SDGs. It includes not only environmental, but also social and economic aspects of sustainability. Green Deal’s measures aim at de-risking investments in sustainable development projects, exporting EU policies through “green deal diplomacy” and promote sustainable business models, rather than single products.



The background is a collage of green-tinted images. On the left, there are logs of wood. In the center, there is a pile of fresh tomatoes. On the right, there are several glass beakers or test tubes, some containing liquid, arranged in a row. The overall theme is biological and scientific.

The BBI JU: a public private partnership

BBI JU: Partnership between industry (BIC) and EC



BIO-BASED INDUSTRIES JOINT UNDERTAKING (BBI JU)

Bio-based value chains envisioned in the BBI Initiative

Biomass and organic waste

From the agro-based industries

- Feedstock originating from the agriculture and agro-food industries
- Agricultural crops such as flax, hemp and fibre
- Co-products, side streams, and residues from the agriculture, including animal manure and from the agro-food industries, including residues from food processing plants

From the forest-based industries

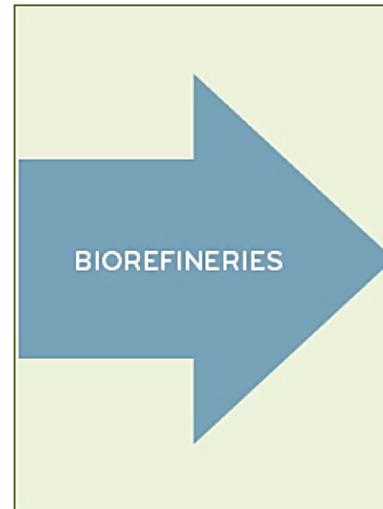
- Feedstock originating from the forest and forest-based industries
- 'Woody and non-wood forest feedstock'
- Co-products, side streams, and residues from the forest and forest-based industries, including the wood industry, saw mills, Paper and Pulp

From the aquatic-based industries

- Feedstock originating from the aquatic and aquatic-based industries, including aquaculture, the fish and fish processing industries
- Co-products, side streams and residues from the aquatic and aquatic-based industries

Bio-waste and CO₂

- Biodegradable garden and park waste
- Food and kitchen waste from households, restaurants, caterers and retail premises
- Waste water and sludge
- CO₂



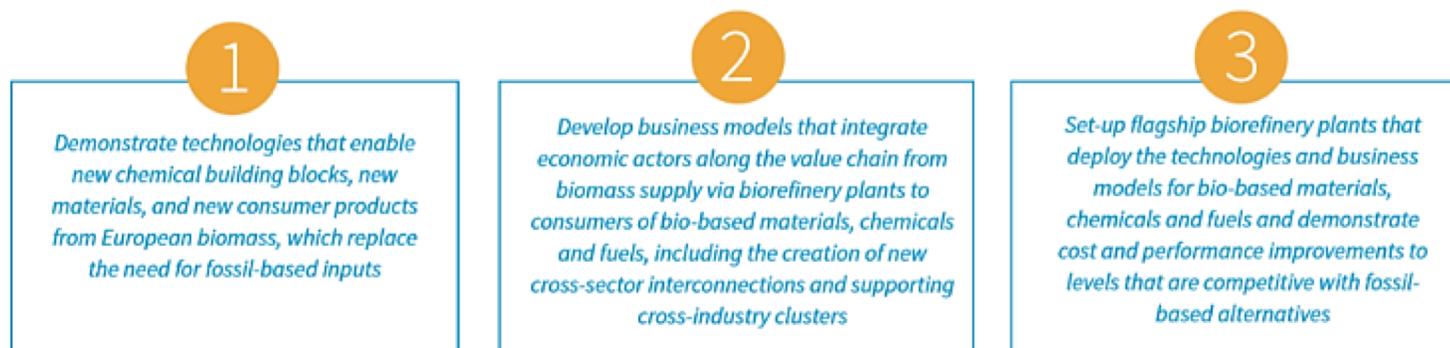
Bio-based products & markets

- Bio-based chemicals
- Bio-based plastics, polymers, materials, packaging
- Specialties (for example bio-based surfactants, lubricants, pharmaceuticals, nutraceuticals, cosmetics)
- Textiles
- Food ingredients and feed
- Advanced biofuels

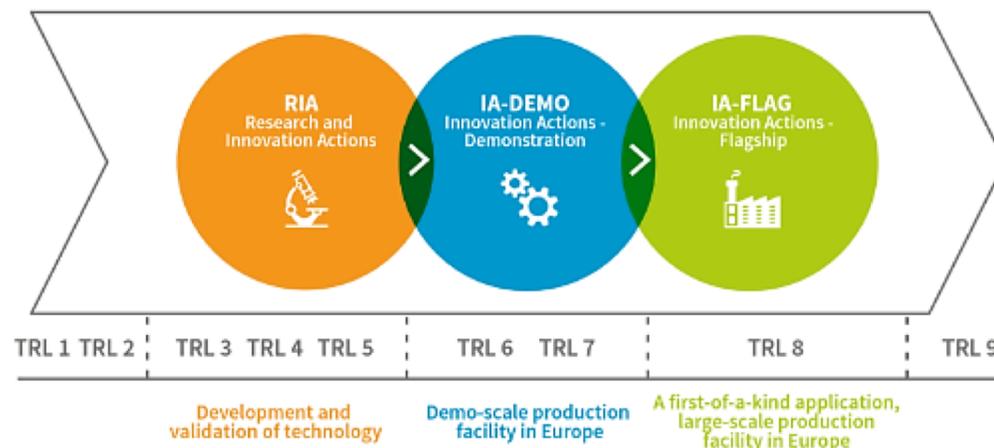


BBI: Objectives & actions

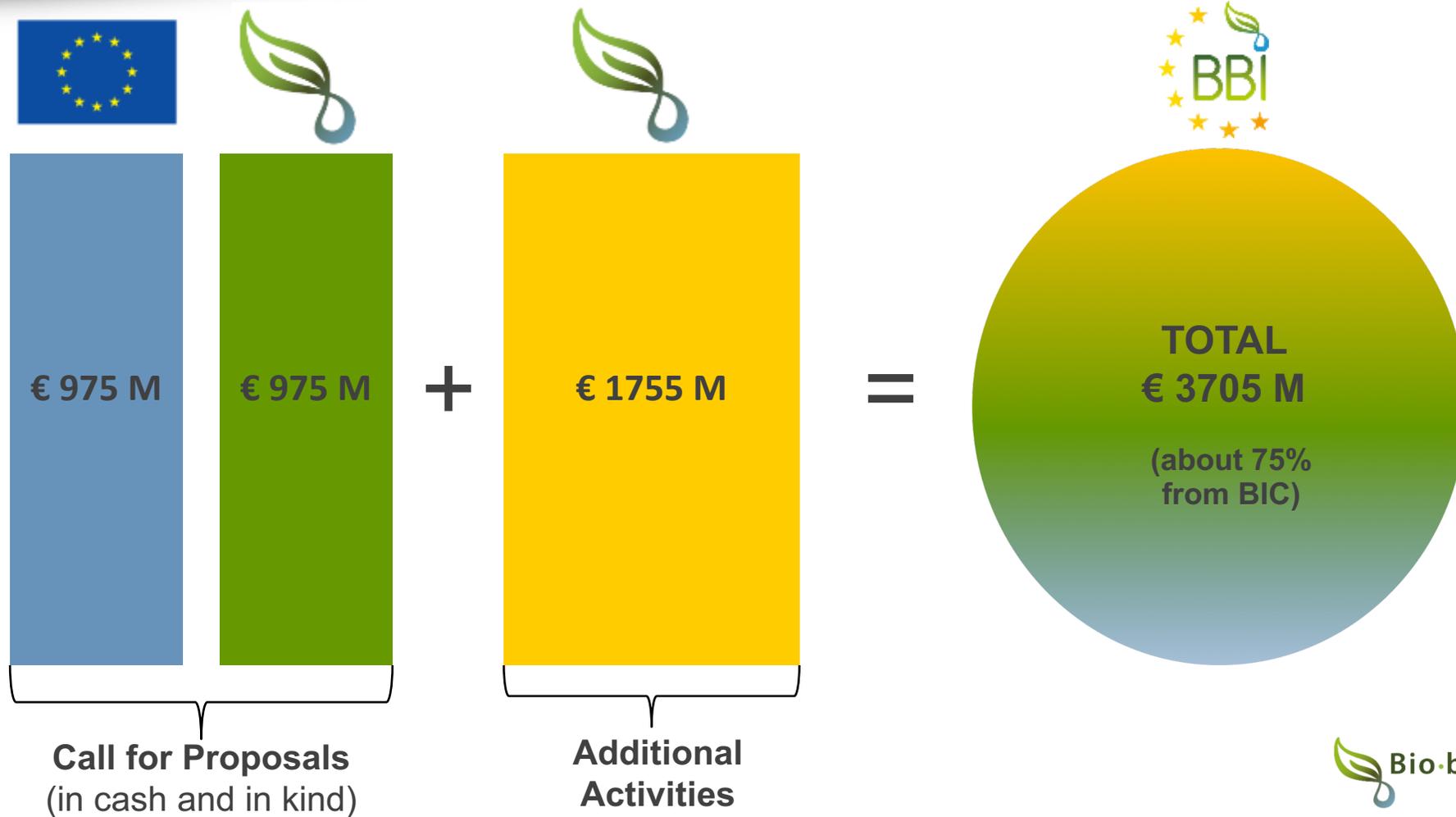
BBI JU's objectives are to contribute to a more resource-efficient and sustainable low-carbon economy and to increasing economic growth and employment, in particular in rural areas, by developing sustainable and competitive bio-based industries in Europe. These objectives will be based on advanced biorefineries that source their biomass sustainably, and in particular to:



BBI JU Actions



A € 3,7 bn public-private partnership

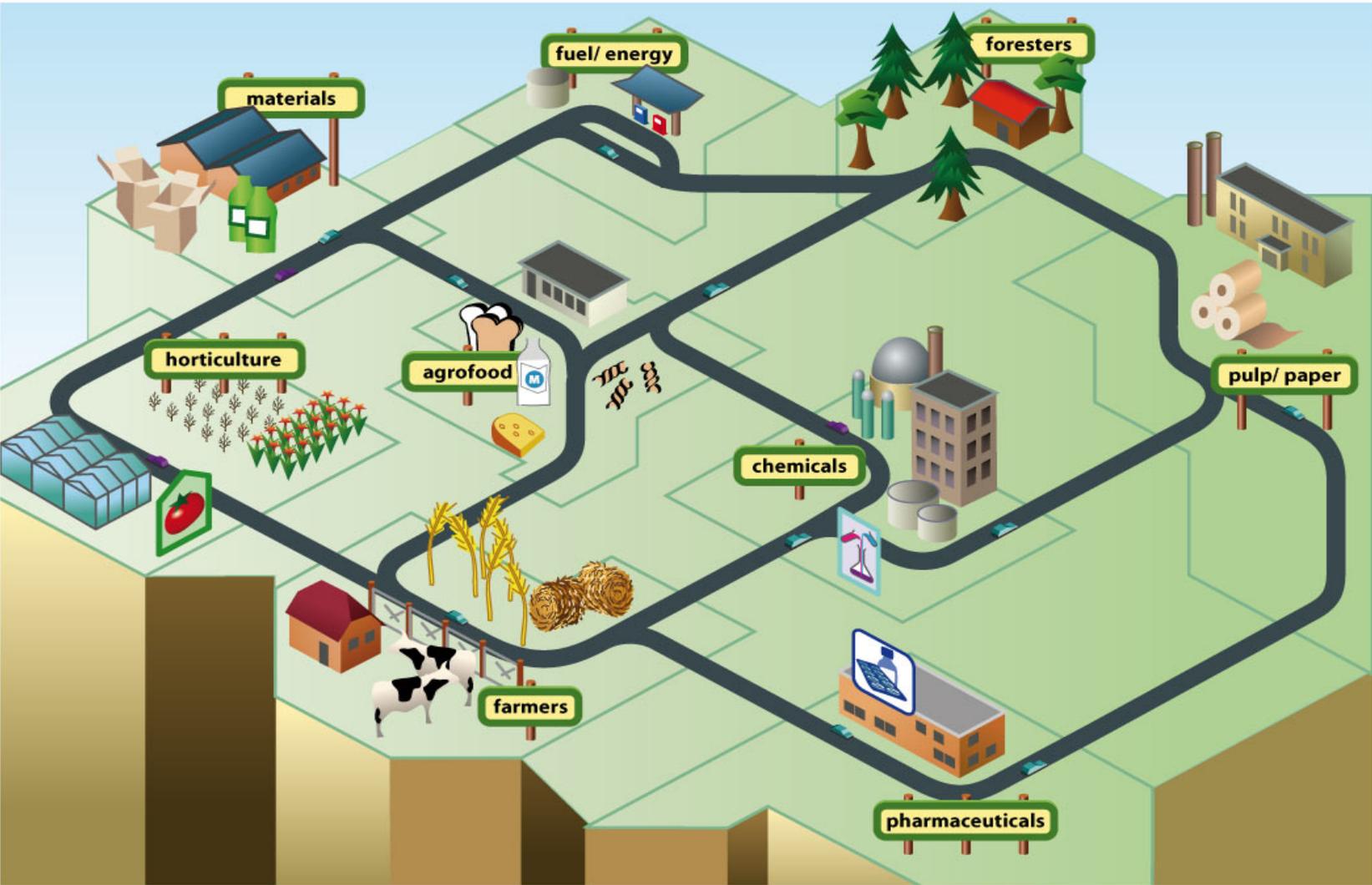


Impact of BBI JU (2014-today)

- **Mobilisation of private investment in Europe:** keeping knowledge and innovation, and investments in innovative production processes in Europe. Attract companies from outside EU to invest in innovation in Europe!
- **Growing interest for BBI grants,** including growing number of demo and flagship proposals
- **Development of new innovative value chains:** e.g. food industry collaborating with the chemical industry, the forestry and pulp & paper sector collaborating with chemical and textile industry, etc.
- **New industrial sectors are joining** e.g. by creating value from waste and side streams (food processing sector, aquatic/marine sectors, bio-waste, ...). As a result we also observe a **wider geographical spread** throughout Europe.
- **Linking the industry to policies and initiatives** such as the Circular Economy Package and COP21.
- **Increased market focus:** participation of brand owners is key as they help to develop new applications and create new markets. Their involvement also shortens time to market for innovative bio-based products.
- **Growing involvement of the regions:** BIC and BBI JU have strengthened their collaboration with the EU regions to exchange information and explore synergies and opportunities for joint financing, and deployment of new local value chains.
- **Growing awareness from EU-13 of the opportunities.**

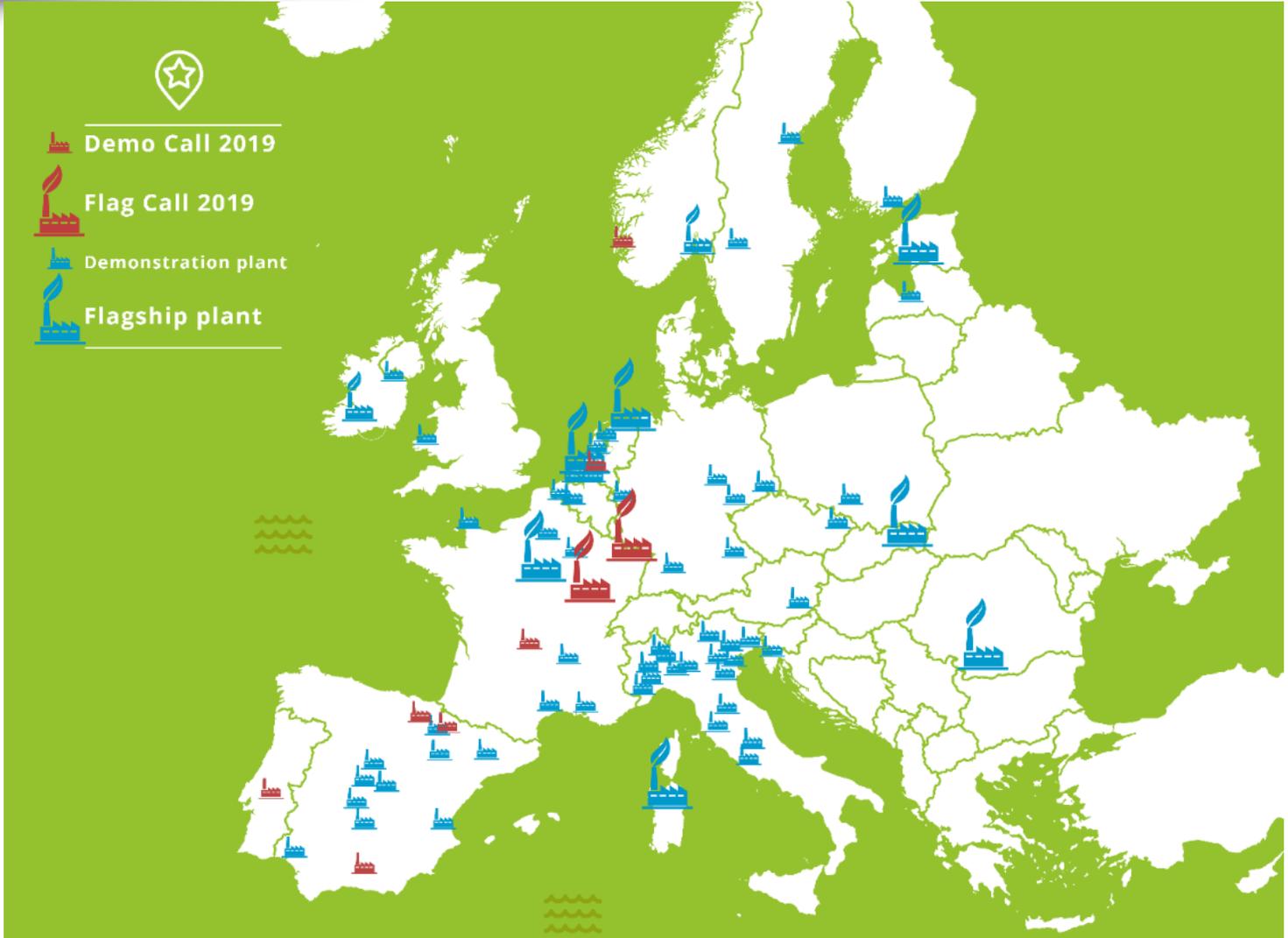






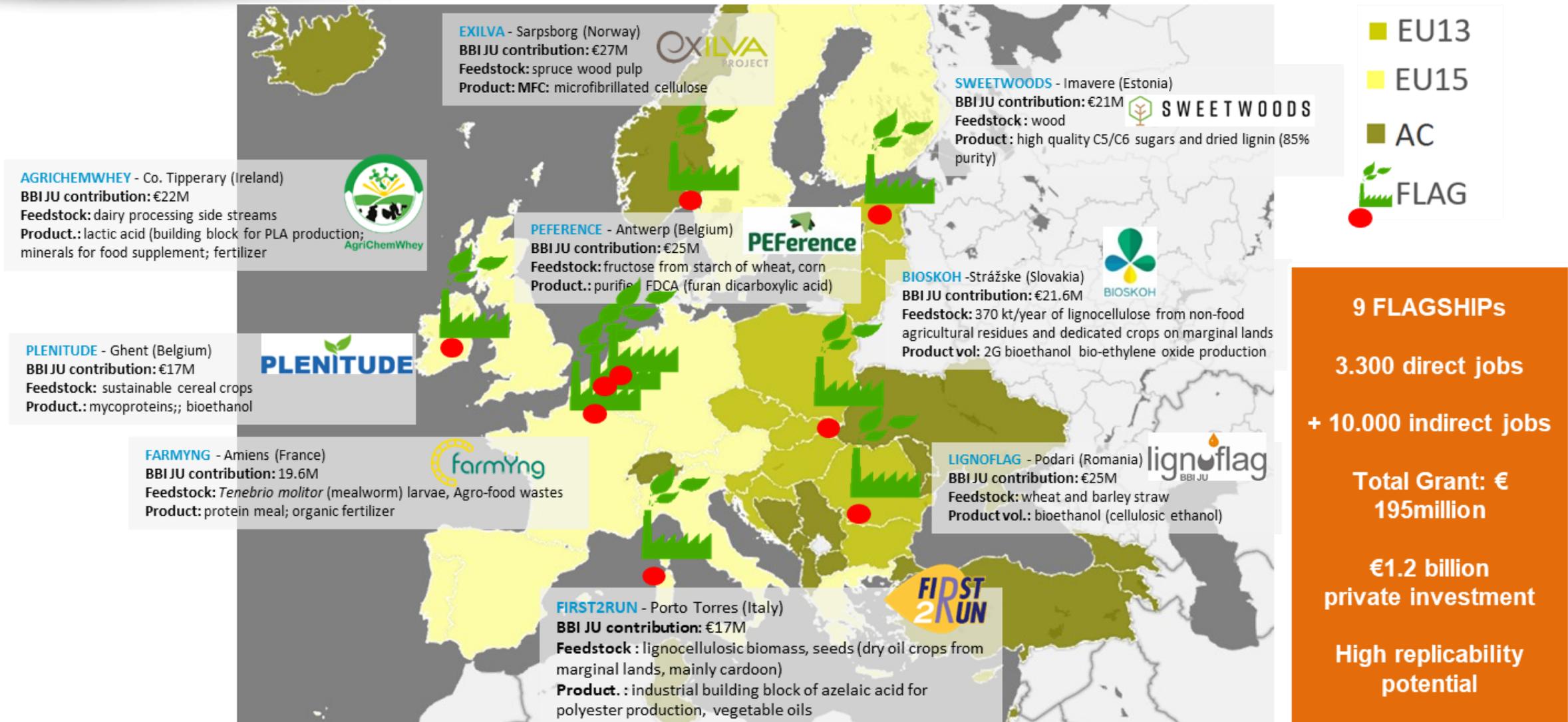
Geographical coverage of DEMOs and FLAGs

2014-2019



The location of DEMO and FLAG plants from Call 2019 may evolve.

BBI JU – 9 Flagships from calls 2014-18





Conclusions

Conclusions

- The bioeconomy / biobased economy is already an important economic activity in Europe (turnover & employment), and is still growing
- Several policies and initiatives support the development of a sustainable, circular biobased economy in Europe (bioeconomy strategy, circular economy action plan, Green Deal, public-private partnership, ...)
- The impact of the current BBI JU is clear and visible (new value chains, additional investments, new applications, new collaborations between industrial sectors, ...)
- We are setting up a new PPP, with more focus on circularity and SDGs

Thank you!

