



**Circular  
Bio-based  
Europe**  
Joint Undertaking

# Transformation to Bioeconomy - a work in progress?

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# Circular Bio-based Europe Joint Undertaking

# From BBI JU to CBE JU

Building on the success of BBI JU while addressing remaining challenges.

BBI JU  
2014-2020

- Bio-Based Industries Joint Undertaking
- Part of Horizon 2020 programme
- €3.7 billion public-private initiative
- 142 projects, 1055+ unique beneficiaries across Europe & beyond
- Last BBI JU call for project proposals in 2020
- Horizon Europe: new EU R&I funding programme (2021-2027)

CBE JU  
2021-2027

- **CBE JU** - Circular **B**io-based **E**urope **J**oint **U**ndertaking
- Part of Horizon Europe - new EU R&I funding programme
- €2 billion public-private initiative building on the success of BBI JU
- Established by the Council of the EU on 19 November 2021
- Entered into force on 30 November 2021

# Circular Bio-based Europe Joint Undertaking



**A new € 2 bn European Public-Private Partnership (PPP) aimed at**

... will contribute significantly to the **2030 climate targets**, paving the way for climate neutrality by 2050

... will increase the **sustainability and circularity** of production and consumption systems

... will aim to develop and expand the **sustainable sourcing and conversion** of biomass into bio-based products

... will support the deployment of bio-based innovation at regional level, with a view to **reviving rural and coastal regions**

# Circular Bio-based Europe Joint Undertaking: main objectives

CBE JU will develop circular sustainable and competitive bio-based industries in Europe, deploying biorefineries that source their biomass sustainably.



Accelerate the **innovation** process and development of bio-based innovative solutions



Accelerate **market deployment** of the existing mature bio-based innovative solutions



Ensure a high level of **environmental performance** of bio-based industrial systems

# Specific objectives for CBE JU



Increase the intensity of **cross-disciplinary research and innovation** activities for the development and demonstration of sustainable bio-based solutions



Increase and integrate the **R&I capacity of stakeholders across the European Union** to exploit the **local bioeconomy potential**



Increase the R&I capacity for addressing **environmental challenges** and developing **more sustainable bio-based innovations**



Reinforce the **integration** of bio-based R&I processes in EU industrial value chains



**Reduce R&I investment risk** in bio-based companies and projects



Ensure that **environmental considerations** are taken into account in the development & implementation of R&I bio-based projects

# Main tasks of CBE JU

## Similar to BBI JU

Programming of R&I activities of public & private partners (e.g. call for proposals)

Support high impact multidisciplinary R&I projects (i.e. project portfolio management + follow up impacts)

Promote communication and collaboration between R&I actors and industrial stakeholders

## New / updated

**Wider participation of involved actors** (e.g. rural, coastal, urban areas and regions with unexploited potential; national and regional authorities)

Focus and monitoring on **environmental performance** including biodiversity while respecting the principles of circularity, sustainability and planetary boundaries

Broader, more explicit **communication** mandate (e.g. target policy makers, industry, NGOs and consumers at large)

**Financial contribution** from private partner

# CBE governance and bodies

## Similar to BBI JU

- Governing Board (GB) 50% BIC – 50% EC
- Executive Director and Programme Office
- Scientific Committee (15 members)
- States Representatives Group ( MS and AC)

## New / updated

- At least once per year: **strategic** (= expanded) meeting of the Governing Board
- **Deployment Group** - a third advisory body
  - One or more Deployment Groups to be established
  - Purpose: advise the GB on issues critical to market uptake of bio-based innovation; promote deployment of sustainable bio-based solutions
  - Output: provide recommendations on the issues related to the deployment of bio-based innovation upon a request from the GB or at their own initiative

# **Bio-Based Industry Joint Undertaking**

## **HIGHLIGHTS AND ACHIEVEMENTS**

# Bio-Based Industry Joint Undertaking: key figures (Call 2014-2020)



142 projects



1055 beneficiaries

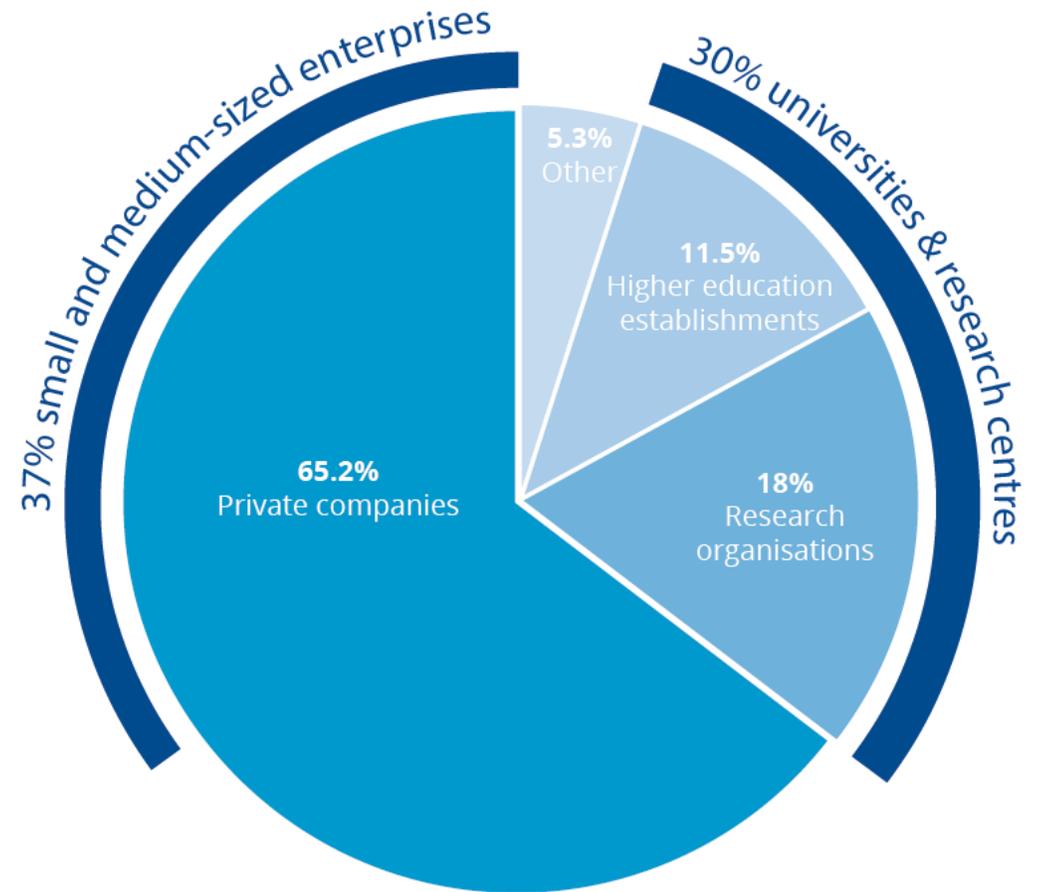


€822 million BBI JU funding



39 countries

BBI JU funding per type of beneficiary



# Universities and Research Organisations in BBI JU projects

**Universities**



**13%**

of BBI JU participants



**12%**

of BBI JU fundings

**Research  
organisations**



**19%**

of BBI JU participants



**19%**

of BBI JU fundings

→ 74% of BBI JU projects report they contribute to increase academia – industry cooperation

# 13 Flagship projects: expected socio-economic impacts



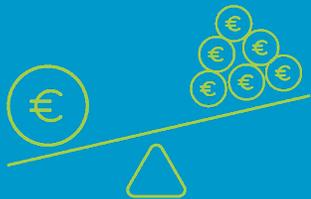
**4,700** direct jobs  
**15,000** indirect jobs



BBI JU grant:  
**€250** million



Private investment\*:  
**€1.3** billion



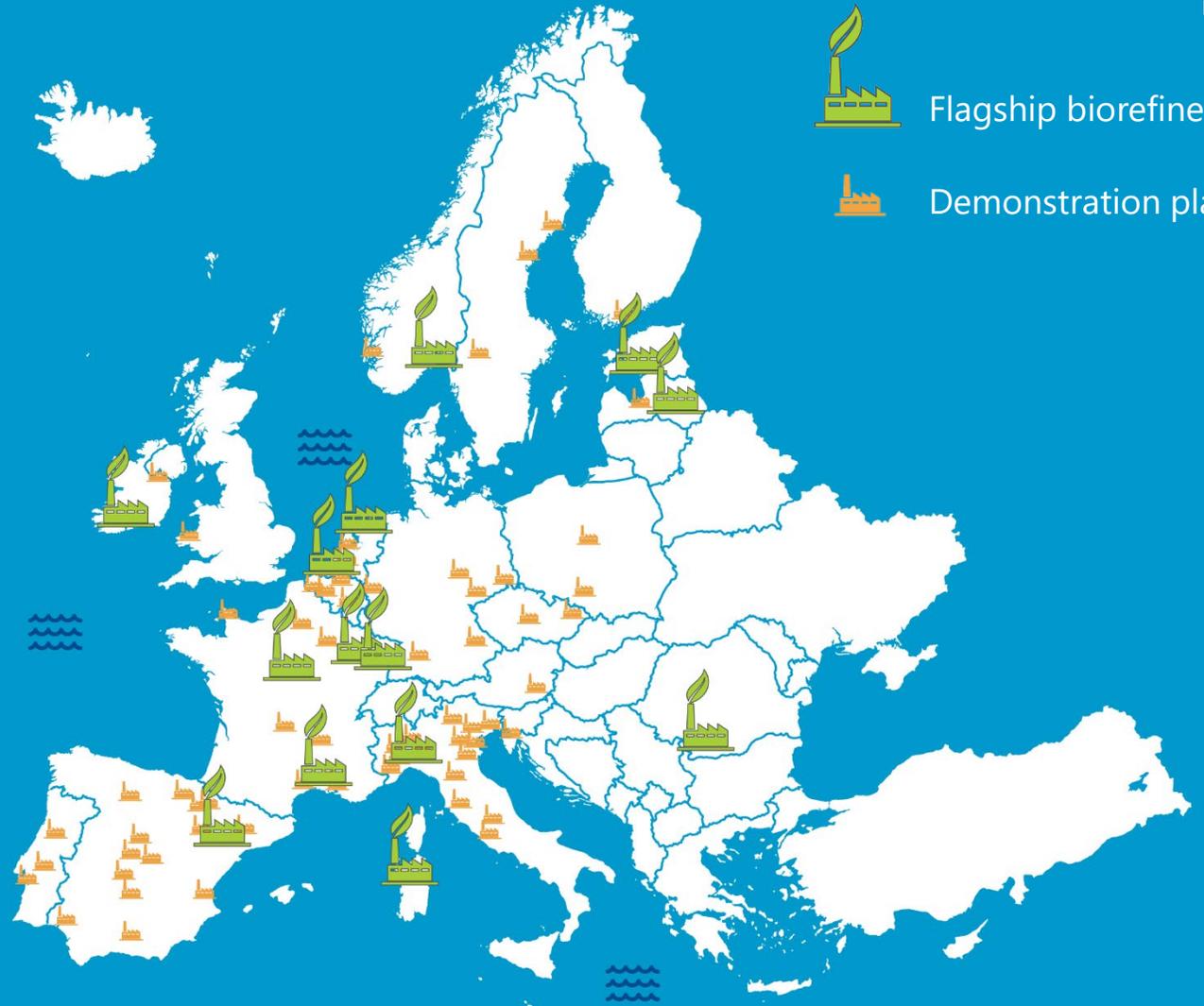
Leverage effect:  
**€5.20** private investment  
for **€1** BBI JU grant



**800+** KT CO<sub>2</sub> emission  
savings



**High replicability potential**



Flagship biorefinery



Demonstration plant

*\* Based on aggregated confidential data provided by the projects and subject to change until the Flagship plants are realised.*



**AgriChemWhey**

Dairy sidestreams ⇒ Lactic acid, minerals for food and fertilisers

**PLENITUDE**

Residues of cereal crops ⇒ Mycoproteins

**PEference**

Crop residues ⇒ FDCA for bioplastics

**EXILVA**

Cellulose ⇒ MFC MicroFibrillated Cellulose

**AFTERBIOCHEM**

Sidestreams from sugar beet ⇒ Flavourings, fragrances, hygiene products, pharmaceuticals, antimicrobials & polymers

**SWEETWOODS**

Lignin & hardwood residues ⇒ High-quality C5/C6 sugars & dried lignin

**VIOBOND**

Forest-based ⇒ Bio-based resins

**FARMYNG**

Mealworms & agri-food sidestreams ⇒ Proteins for animal feed & organic fertiliser

**LIGNOFLAG**

Crop residues ⇒ 2G bioethanol biofuel - building block

**SCALE**

Microalgae ⇒ Nutritional ingredients for food, feed and cosmetics

**ReSolute**

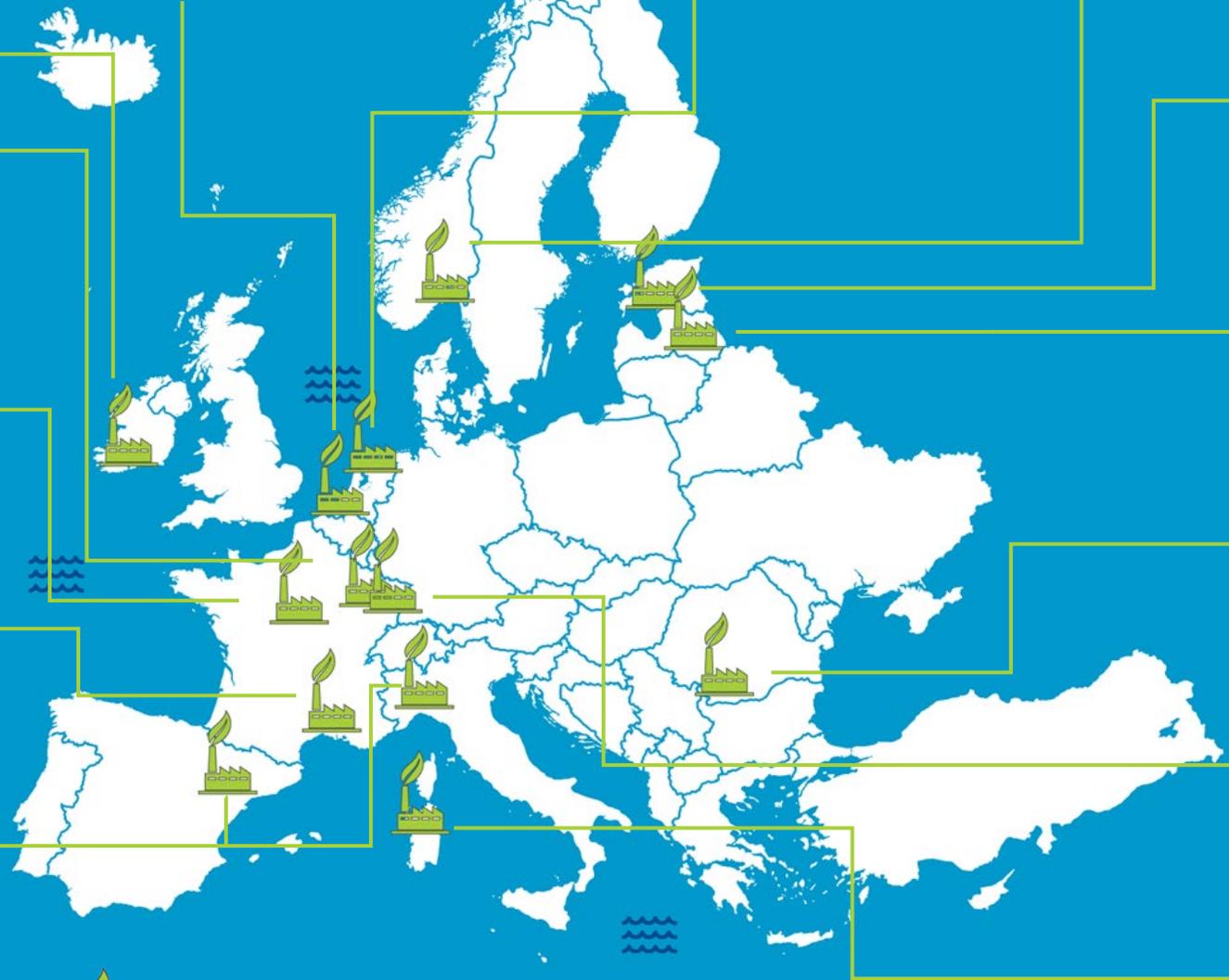
Sidestreams from pulp & paper industry ⇒ Biodegradable, harmless & bio-based solvent: Cyrene

**CIRCULAR BIOCARBON**

Municipal solid waste ⇒ High-value products from fertilisers to 5G technology

**FIRST2RUN**

Underutilized oil crops ⇒ Building blocks for polyester production & vegetable oils



**Flagship biorefinery**

# Expected socio-economic impact

## CREATING JOBS



**83%** of ongoing BBI JU-funded projects result in the creation of new skilled jobs

## FOSTERING COLLABORATIONS



**74%** of the projects increase the cooperation between academia and industry

## PROTECTING HEALTH



**44%** of BBI JU-funded projects produce healthier products than their fossil-based equivalents

## ATTRACTING INVESTMENTS



**€2.5 billion** of private investments will be leveraged by €272 million of BBI JU funding for the first 14 flagship projects

## BOOSTING INNOVATION



**81%** of projects create knowledge and come up with scientific breakthroughs

## ENABLING CHANGE



**61%** of the projects provide training and education in the bioeconomy

## SUPPORTING PRIMARY PRODUCERS

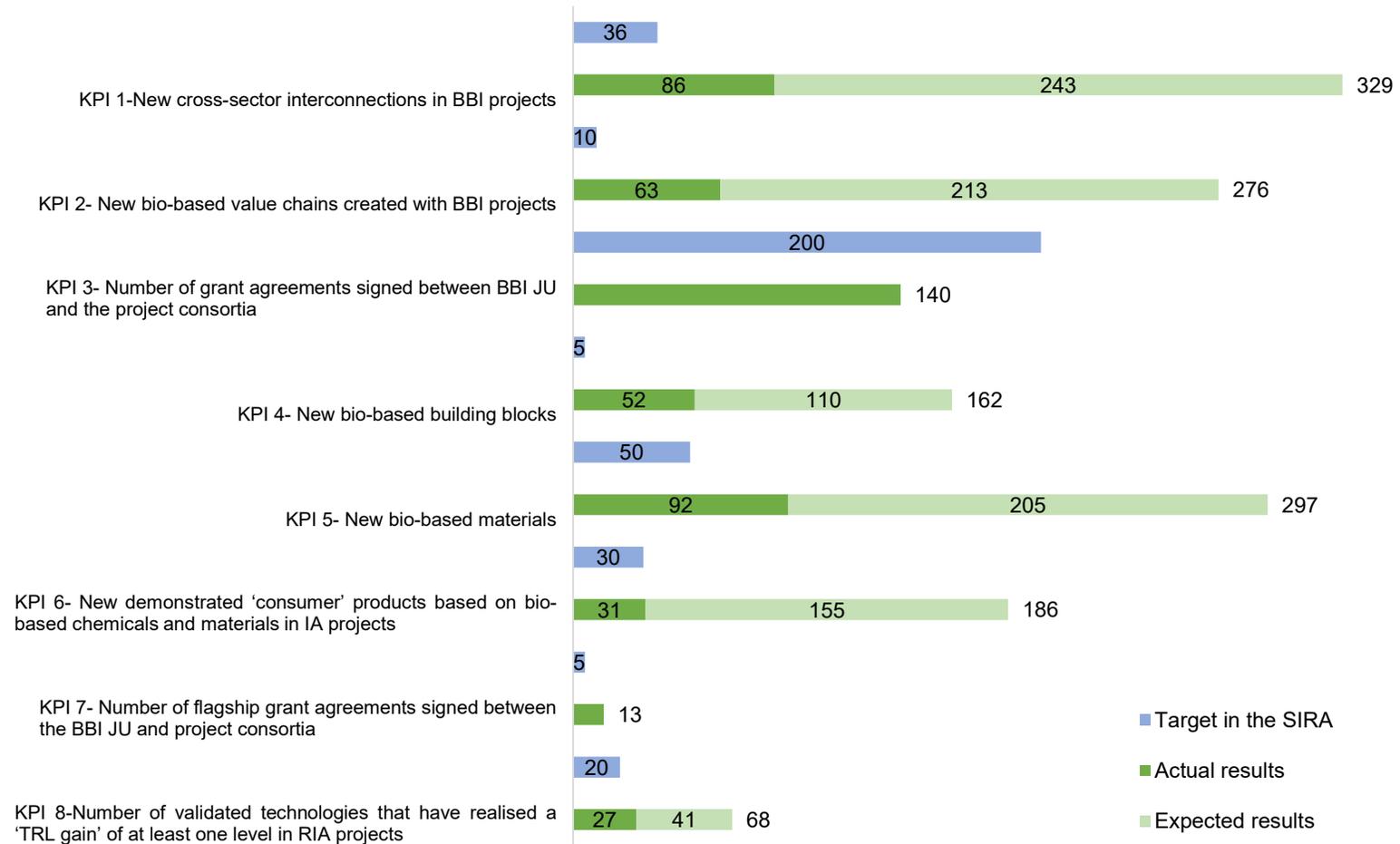


**32%** of projects help primary producers, such as European farmers

# BBI JU project outcome monitoring KPIs from SIRA\*

*Trend confirmed "actual results" from finalised projects*

BBI JU KPIs: 2021 results vs SIRA targets



# **Circular Bio-based Europe Joint Undertaking**

## **REMAINING CHALLENGES AND NEXT STEPS**

# Key achievements, but ...“We are not there yet”

## CBE JU under Horizon Europe

- Huge and still risky investments
  - Issues accessing private capital
  - Remaining funding gaps in Demo and Flag (non bankable)
- Structuration is still ongoing: market and demand risks
- Some areas not yet covered sufficiently
  - Farmers participation – integration in value chains
  - Full feedstock potential
  - Geographic coverage
- Maximise circularity – Improve sustainability monitoring
- Positive contribution to biodiversity and safeguard of ecosystems
- Increase deployment capacity & synergies with other sources of funding
- Feedback to policy - more coherent, supportive and stable regulatory framework
- Better tell the story of BioEconomy & bio-based products: consumer awareness, education

# Strategy for future bioeconomy related activities of the CBE JU

## Strategic Research and Innovation Agenda (SRIA)

- Maximise **circularity** of bio-based solutions
- Reducing EU's import dependency of **critical raw materials**
- Sourcing of **sustainable feedstock**
- Improve **market uptake**
- Increased societal awareness of climate and environmental aspects of activities

**Strategic Level: SRIA**  
Strategic Research and  
Innovation Agenda  
strategic document co-  
created by BIC and EC

Drafting – Advisory Body  
Consultation – GB Adoption -  
Supporting

**Operational Level:**  
Annual Work Plan

 Bio-based Industries  
Consortium



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Joint Undertaking

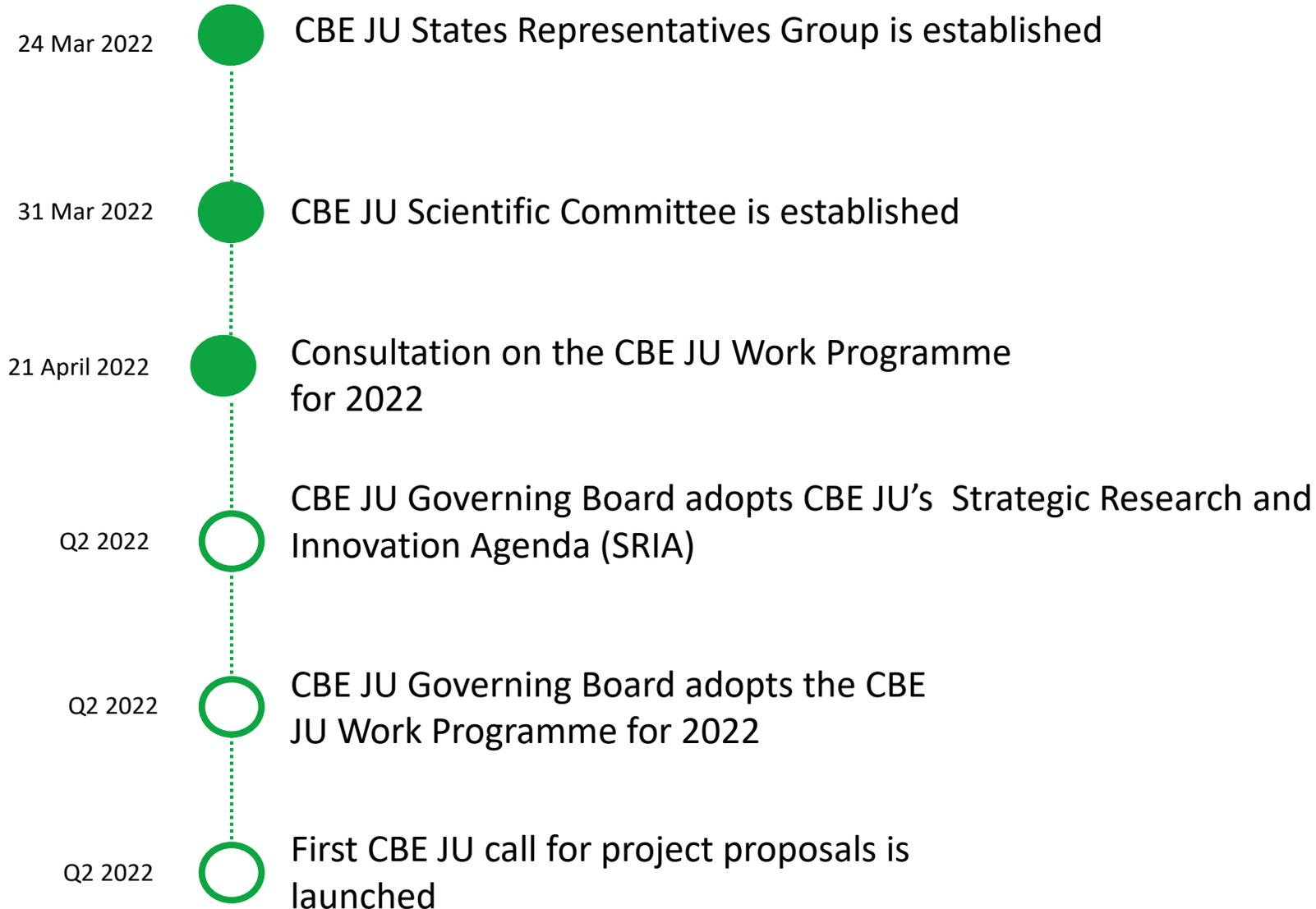
**Calls for Proposals**

 Circular  
Bio-based  
Europe  
Joint Undertaking

Publication  
&  
Implementation



# Indicative timeline of CBE JU - 2022



*\* All dates indicative and subject to change*

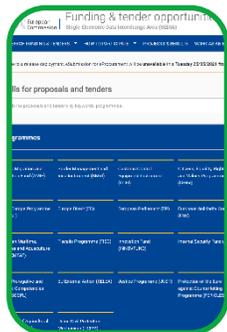
# More information



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Horizon Europe Funding and Tender portal: <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/home>



**Thank you!**

## Contact us



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