



Addressing the plastics' challenge

Helsinki, 23 Jan. '20; Nelo Emerencia, Director Programming BIC

I would like to cover today

Bioeconomy as a tool to plastics' challenge

- Biomaterials and bioproducts possibilities
- What is going on in Europe
- BIC Vision 2050
- SIRA 2030

But first: who is BIC?

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Helsinki, Finland

The Bio-based Industries Consortium (BIC)

BIC: Members and Mission

About BIC

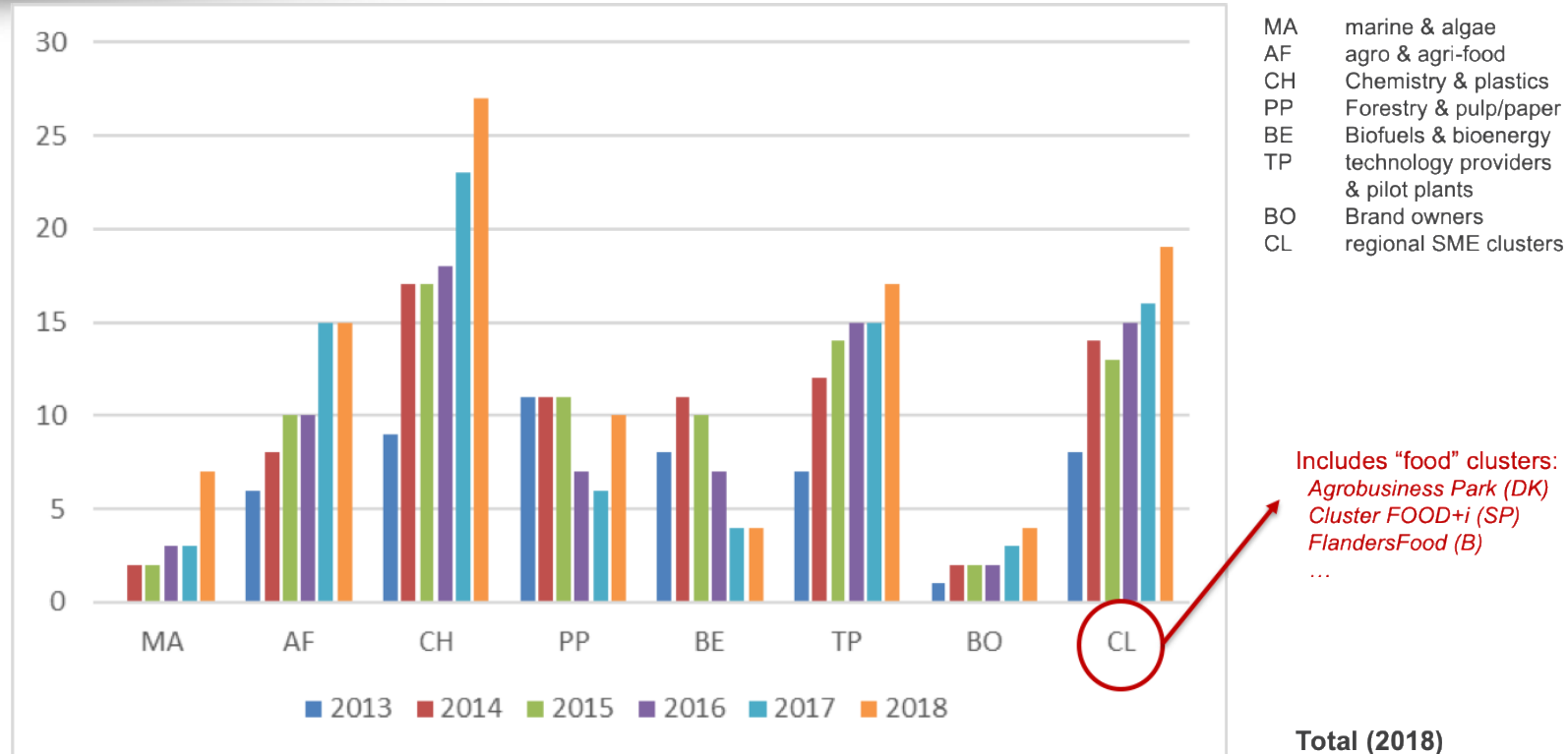
- **> 240 industry members (from 45+ in 2013):** across the value chain and sectors, of which over 80% SME's
- **Several industrial sectors** covered: Agriculture & Agri-food, Forestry and Pulp & Paper, Technology providers, Chemicals and materials, Energy, Marine and Aquatic, Waste, Brand owners
- Over 180 **Associate members e.g. universities, think tanks, R&D clusters**

Our Mission

- Build new **bio-based value chains**
- Create favorable business and policy climate to **accelerate market uptake**

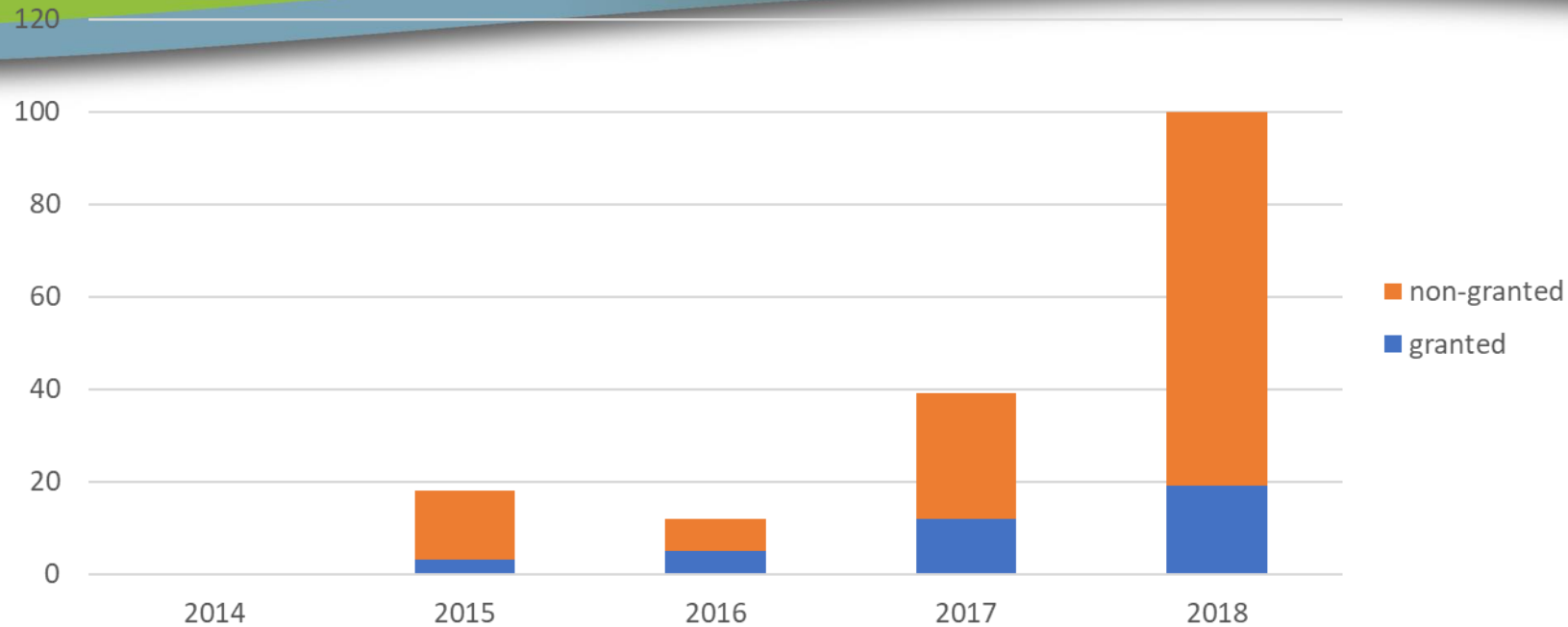
BIC membership (yearend 2018) – yearend 2019 similar

Membership continues to grow



LEs	0	12	16	8	2	2	3	-	43
SMEs	7	3	11	2	1	15	1	133	173

Growing participation of brand owners



Sectors:

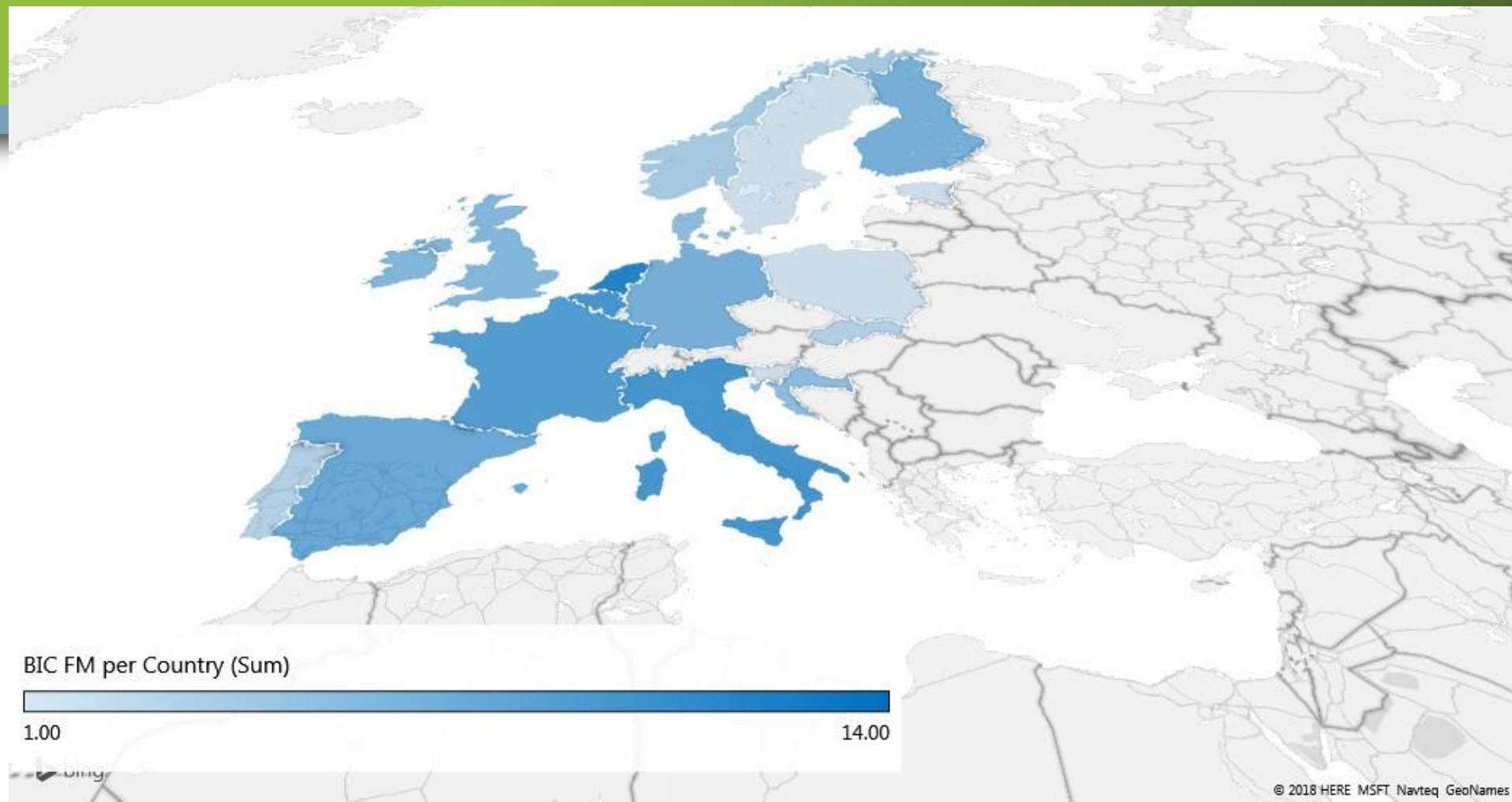
Food & drinks
Personal care
Construction
Furniture
Fashion/textile
Automotive
Car tires

Food & drinks
Toys
Water (industrial)
Paints

Food & drinks
Energy supplier
Sanitary
Personal care
Automotive
Car tires
Fashion/textile
Healthcare
Furniture
Lab products

Food & drinks
Food & feed ingredients
Agro-products
Personal care
Automotive
Construction
Fashion/textile
Furniture
Healthcare
Lab products
Packaging
Aviation

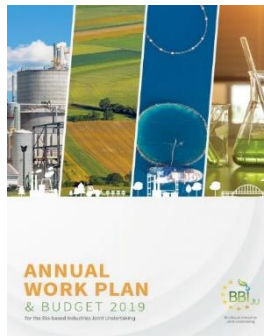
BIC FM distribution per Country



Industry-driven initiative

Strategic level: SIRA

Strategic Innovation and Research Agenda
guiding document developed by BIC



Operational Level Annual Work Plan

Drafting – Approval – Supporting



+ Scientific Committee
+ States Representatives Group



Call for proposals (RIAs, IAs, CSAs)

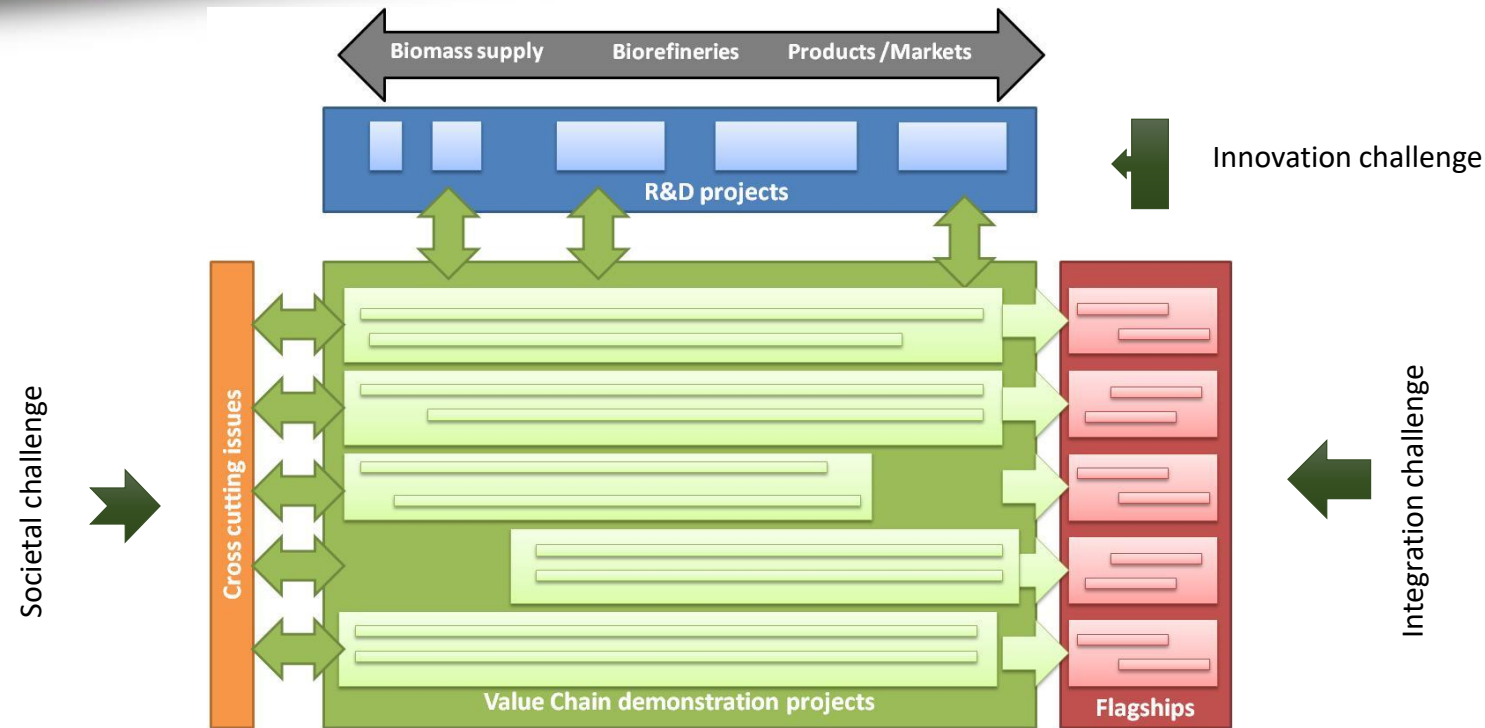
Publication &
Implementation



Reporting – monitoring
Dissemination – com.

Portfolio management

'Actions' in annual work plans



Research and innovation actions: TRL 4-5;	30.5% of budget
Innovation actions – demonstration: TRL 6-7;	30.5% of budget
Innovation actions – flagship: TRL 8;	35.5% of budget
Coordination & support actions;	3.5% of budget

Sustainable, circular bio-based value chains

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

Circular: recycle,
degrade, compost



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Bioeconomy as a tool to plastics' challenge

Realising the Vision 2050: the **circular bio-society** in 2050

Definitions and actions

Bioeconomy:

The EC: 'the bioeconomy comprises those parts of the economy that use renewable biological resources from land and sea – such as crops, forests, fish, animals and micro-organisms – to produce food, materials and energy.'

Circular bioeconomy:

Nova-Institute: the circular bioeconomy is the combination of circular economy and bioeconomy and utilises much better the bio-based side streams and links different industrial sectors, traditionally non partners in value chains.

Circular bio-society:

BIC and 15 associations: need to include the citizens in the process to achieve behavioural change

The change we're pursuing is 'purchasing and consumption behaviours that are different than traditional 20th century ones':

- Circular, and not linear
- With products/services that are recyclable or degradable
- With informed and engaged citizens
 - With industry providing transparent communications on the benefits and user-friendly tools for citizens to interact with the industry

Addressing the plastics' challenge in a bioeconomy

The bio-based industry will make bio-based plastics that 'outperform' fossil-based counterparts

- On sustainability criteria, proven on LCA basis
- On eco-design: to be recyclable or degradable and suitable for circular purchase and consumption behaviour
- Assist the EU with its 2018 plastics strategy:
 - All plastics packaging is recyclable by 2030
 - Reduce single-use plastics
 - Reduct the intentional use of microplastics
 - Oxo-degradable plastics will be banned from the EU market as of July 2021

The annual work programme 2020, opened as the BBI 2020 call in April 2020 will have a demonstration topic specifically addressing this issue.

The bio-based industry will welcome chemical recycling as a complementary step to recycle and reuse plastics

- Realising that the chemical recycling technologies are in the early stages of development (three types: solvent-based purification; chemical depolymerisation; thermal depolymerisation and cracking)
- And primarily focusing on bio-based plastics

THE LOOK AHEAD

Vision 2050



By 2050, Europe will have a **sustainable** and **competitive** bio-based industry providing jobs and growth that contribute to a **circular bio-society**.

In this circular bio-society, **informed citizens** choose a sustainable way of life, supporting an economy that couples economic growth with **societal well-being** and respect for the **environment**.

Partners

- All associations that are stakeholders in a bioeconomy:
Confederation of European Forest Owners (**CEPF**), Confederation of European Paper Industries (**CEPI**), European Association for Bioindustries (**EuropaBio**), European Association of Sugar Manufacturers (**CEFS**), European Bioplastics (**EUBP**), European Farmers and European Agri-Cooperatives (**Copa-Cogeca**), European Renewable Ethanol Producers Association (**ePURE**), European Starch Industry Association (**Starch Europe**), European Vegetable Oil and Protein Meal Industry (**FEDIOL**), Forest-based Sector Technology Platform (**FTP**), Primary Food Processors (**PFP**), European Agricultural Machinery Industry (**CEMA**), European Chemical Industry Council (**Cefic**), European Technology Platform '**Food for Life**', European Technology Platform for Sustainable Chemistry (**SusChem**)
- Consulted organisations representing NGOs (Institute for European Environmental Policy, Zero Waste Europe) for a better and clear link to the SDGs; and municipalities.

SIRA2030: the roadmap towards Vision 2050; focus on impacts

Change from current structure

Impacts that we pursue:

1. Create new business models to integrate strategic partners
 - a) Cross-sectoral, involving primary sectors and market actors as full-fledged partners/beneficiaries
2. Commercialise sustainable products and services to meet market demand and create employment
 - a) delivering sustainable and competitive products/services meeting market demand
3. Establish carbon-neutral value chains to mitigate climate change
4. Establish new purchasing and consumption patterns to create a circular bio-society
 - a) maintaining nutrients and water balances
 - b) nurturing the soil
 - c) protecting the environment

Each will contribute to specific UN's SDGs and to EU policies and regulations

SIRA2030 content

What we need:

- People with the right skills and competencies
- Biomass feedstock and waste in sufficient and sustainable quantities
- Applicable technologies, incl. digitilisation
- Value-adding and sustainable innovation and breakthrough R&D
- Supporting regulation
- Acceptance/endorsement/demand of sustainable products and services
- Investments, incl. public co-funding to resolve market failure

European partnership on 'Circular Bio-based Europe'

EU Commission's proposal



Ref. Ares(2019)4972449 - 30/07/2019

INCEPTION IMPACT ASSESSMENT	
Inception Impact Assessments aim to inform citizens and stakeholders about the Commission's plans in order to allow them to provide feedback on the intended initiative and to participate effectively in future consultation activities. Citizens and stakeholders are in particular invited to provide views on the Commission's understanding of the problem and possible solutions and to make available any relevant information that they may have, including on possible impacts of the different options.	
TITLE OF THE INITIATIVE	European Partnership on 'Circular bio-based Europe: sustainable innovation for new local value from waste and biomass' (Sustainable, inclusive and circular bio-based solutions)
LEAD DG (RESPONSIBLE UNIT)	DG Research and Innovation (RTD.C1)
LIKELY TYPE OF INITIATIVE	Proposal for a Council Regulation for a European Partnership on Circular bio-based Europe under Horizon Europe
INDICATIVE PLANNING	Q1 2020
ADDITIONAL INFORMATION	–
The Inception Impact Assessment is provided for information purposes only. It does not prejudice the final decision of the Commission on whether this initiative will be pursued or on its final content. All elements of the initiative described by the Inception impact assessment, including its timing, are subject to change.	
A. Context, Problem definition and Subsidiarity Check	
Context	
The proposal for Horizon Europe, the future EU's future research and innovation (R&I) programme for 2021-2027, outlines the approach (Article 8) and criteria (Annex III) for R&I partnerships under the umbrella term 'European Partnerships'. According to the political agreement between the Council and European Parliament, "European Partnerships shall be established for addressing European or global challenges only in cases where they will more effectively achieve objectives of Horizon Europe than the Union alone and when compared to other forms of support of the Framework programme". The overall financial framework for the upcoming partnerships still has to	

- Based on an 'inception impact assessment'
- The intent is to build on the achievements of the BBI JU
- The format of the PPP is not decided yet

EC expectations from the partnership CBE

Sustainable and strong Europe

- Use biomass and waste to replace non-renewable fossil and mineral resources
 - **Valorise/use by-products**; recycle nutrients
 - increase the **circularity of agri-food systems**
 - Produce **renewable products and nutrients**
- Create **sustainable and climate-neutral solutions** to accelerate the transition to a healthy planet
 - Provide durable carbon sink opportunities
- Support renewal of the EU's industrial base
 - **Demonstrate biorefinery operations** and **keep sustainable innovation in Europe**
- Create **awareness, capacity and structures, mobilising** industry partners, producers of biological resources and **end users**
- Create a **long-term scientific and technological basis** in the EU

Challenges to realise the full potential of the sector

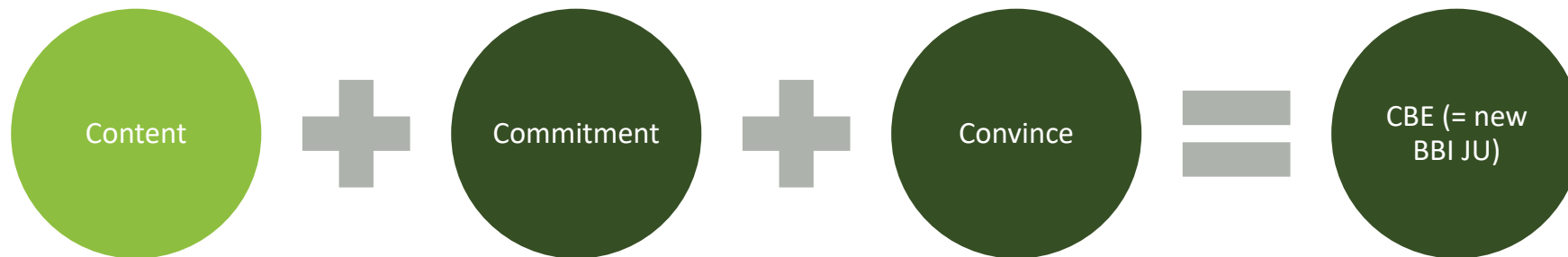
EC's perspective

- **Technological and innovation challenges**
 - To develop reliable and competitive supply chains for sustainable biomass; and
 - processes for converting biomass into industrial products
- **Multi-sectoral nature** of the bio-based sector
 - with fragmented value chains and untried or non-existent industrial ecosystems
- **Wide range of applicable policies** (agriculture, waste, industry, fertilisers, chemicals, etc.)
 - at EU, national and regional level, leading to a complex and sometimes fragmented policy environment
- **High risk and large capital expenditure** required to demonstrate and deploy large biorefineries;
- **Uncertainty around feedstock availability and costs.**

Good match between EC's proposal and BIC's vision & strategy



The (bio)chemical reaction towards CBE?



BIC's preference format: an institutional PPP

Capitalising on the work of BBI JU

With an iPPP:

- Budget is known; with agreed commitments
- Agreed roadmap with milestones: the SIRA 2030, leading to the Vision 2050
- Industry leads the specification of topics for the annual work plans: best way to
 - mobilise actors, bring together untraditional partners from wide spread of different sectors, disciplines and regions
 - (re)structure the industrial landscape and
 - foster the development of the emerging bio-based industry
- BIC coordinates a broad alliance of industrial sectors, all stakeholders of a circular bio-society in Europe
 - Increasing the commitment level to make the PPP a success

We're now in the process with the EC to obtain more clarity/insight into the detailed conditions of an iPPP to firm up our commitments.

Thank you!

