Align bio-based industry's skills needs with education

GBS2020 – workshop on education, training & capacity building, virtual, November 2020

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The Bio-based Industries Consortium (BIC)



Mission (being updated)

- 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's membership is diverse

- > 240 industry members (large enterprises, SMEs and SMEs in clusters), includes brand owners/market actors
- Sector represented: Agriculture, food & feed, Aquaculture and marine, Chemicals and materials, Forestry and pulp & paper, Market actors, Technology providers, Waste management & treatment
- > 200 associate members i.e. universities, RTOs, associations, etc.
- Disciplines and sectors represented: from applied sciences to fundamental research in all above sectors; key enabling technologies; research & innovation centres & councils; associations of all industrial sectors; technology platforms; etc.

Bio·based Industries Consortium

From BBI JU to CBE JU - Vision 'The circular bio-society in 2050' Broader base and expanding into the society



By 2050, Europe will have a sustainable and competitive biobased industry providing jobs and growth that contribute to a circular bio-society. In this circular biosociety, informed citizens choose a sustainable way of life, supporting an economy that couples economic growth with societal well-being and respect for the environment.

Learn more at <u>www.biosocietyvision.eu</u>

Vision 'The circular bio-society in 2050'

BIC coordinates a broad field of stakeholders

The Vision is the result of <u>the collective work</u> by the Bio-based Industries Consortium (BIC) and its members, the BBI JU's advisory bodies: the States Representatives Group and Scientific Committee, and:

- European Bioeconomy Alliance (EUBA) and its members:
 - Confederation of European Forest Owners (CEPF);
 - Confederation of European Paper Industries (CEPI);
 - European Association for Bioindustries (EuropaBio);
 - European Association of Sugar Producers (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)

The Institute for European Environmental Policy (IEEP) has been consulted in this process.



BIC's mission: build new sustainable bio-based value circles

Across sectoral and disciplinary boundaries

Bringing 'non-traditional' partners together in programming and project consortia, crossing boundaries of

- Industrial sectors
- Scientific disciplines
- Regions
- countries

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 CO

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

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BIOREFINERIES Textiles Reuse & recycle Degrade

Bio-based products & markets

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

Compost

Ensure skills and competencies for the future

Address a rising skills mismatch and prevent a widening skills gap

Strategy:

- 1. What are industry's needs of skills and competencies; at which levels
- 2. What are existing and planned curricula, and training programmes at educational institutions across Europe
- 3. What are possibilities and opportunities for lifelong learning

Next steps:

- 1. Dialogue with educational institutions to pursue alignment of needs and curricula to the extent possible
- 2. Set up and agree on plan of action
- 3. Include education as needed in actions with/for society

Annual Work Programme 2018 topic to address industry's needs and educational institutions' programmes; in addition identify career opportunities in the bio-based industry.

Project: UrBIOfuture, running from May 2019 through Summer 2020

- BIC is now studying the project's results to set up relevant, concrete actions as of 2021
- Taking into account results of other workshops and realising that we need to work within the European complexity



Top skills needed by industry by 2030+



From UrBIOfuture

Bio-based Industries

Education programmes used for mapping with industry needs

MSc 46%; Undergraduate 35%; PhD 12%; VET 7%



Industry's needs for research and innovation competence

Sub competencies ranked needs and education levels

Anexample

Sub-competences	Weighted score
Innovation and change	100
Knowledge transfer: From lab to industry	92
Management and development of research	84
Analytical capacity	49
Fundamental research	37





Current offer of educational programmes













Main gaps: analytical capacity (higher in education than ranked by industry); knowledge transfer (higher ranked by industry than offered by education)

Join us! Thank you!





BBI JU – 9 Flagships from calls 2014-18

