

Atelier décryptage CBE 2024

Topics focus chimie

Type	TOPICS 2024	Budget / Topic
FLAG	HORIZON-JU-CBE-2024-IAFlag-01 Bio-based value chains for valorisation of sustainable oil crops	20
FLAG	HORIZON-JU-CBE-2024-IAFlag-02 Bio-based dedicated platform chemicals via cost-effective, sustainable and resource-efficient conversion of biomass.	20
FLAG	HORIZON-JU-CBE-2024-IAFlag-03 Bio-based value chains for valorisation of sustainable natural fibre feedstock	20
IA	HORIZON-JU-CBE-2024-IA-01 Bio-based materials and products for biodegradable-in-soil applications	15
IA	HORIZON-JU-CBE-2024-IA-02 Sustainable micro-algae as feedstock for innovative, added-value applications	15
IA	HORIZON-JU-CBE-2024-IA-03 Enlarging the portfolio of commercially produced bio-based SSbD solvent	15
IA	HORIZON-JU-CBE-2024-IA-04 Circular and SSbD bio-based construction & building materials with functional properties	15
IA	HORIZON-JU-CBE-2024-IA-05 Selective and sustainable (co)-production of lignin-derived aromatics	15
IA	HORIZON-JU-CBE-2024-IA-06 Innovative bio-based adhesives and binders for circular products meeting market requirements	15
IA	HORIZON-JU-CBE-2024-IA-07 Innovative conversion of biogenic gaseous carbon into bio-based chemicals, ingredients, materials	15
RIA	HORIZON-JU-CBE-2024-RIA-01 Valorisation of polluted/ contaminated wood from industrial and post-consumer waste streams	7
RIA	HORIZON-JU-CBE-2024-RIA-02 Biotech routes to obtain bio-based chemicals/ materials replacing animal-derived ones	7
RIA	HORIZON-JU-CBE-2024-RIA-03 Sustainable, bio-based alternatives for crop protection	10
RIA	HORIZON-JU-CBE-2024-RIA-04 SSbD bio-based coating materials for applications under demanding and/or extreme conditions	7
RIA	HORIZON-JU-CBE-2024-RIA-05 Innovative bio-based food/feed ingredients	7
CSA	HORIZON-JU-CBE-2024-CSA-01 New forms of cooperation in agriculture and the forest-based sector	4
CSA	HORIZON-JU-CBE-2024-CSA-02 Mobilize inclusive participation in bio-based systems and supporting the CBE JU widening strategy and its action plan	3
CSA	HORIZON-JU-CBE-2024-CSA-03 Supporting the CBE JU Deployment Group on Primary Producers	3

Programme de travail 2024 complet : https://www.cbe.europa.eu/system/files/2024-02/CBEJU-AWP-2024_amended.pdf

HORIZON-JU-CBE-2024-IAFlag-02 Bio-based dedicated platform chemicals via cost-effective, sustainable and resource-efficient conversion of biomass.



Action Type: IA Innovation Action
End TRL: 8



Topic budget: 20M€
EU contribution per project: 20M€



Funding:
60% Private – 100% non-profit

Main objectives: Reinforcing the integration of bio-based research and innovation in the Union bio-based industry and increase the involvement of R&I actors. Ensuring the integration of circularity and environmental sustainability requirements, contribution to climate neutrality and zero pollution ambition. Scaling up production and market uptake of innovative biobased products. Demonstrating the sustainable supply of bio-based feedstock.

IMPACTS

Project results should contribute to the following expected outcomes:

- **Demonstrate cost-effective, sustainable and resource-efficient large scale production processes to obtain one or more bio-based dedicated platform chemicals meeting technical market requirements.** Optimize process efficiency, CAPEX/OPEX, E-factor (process waste) and process safety. Both *upstream* and *downstream* process aspects are in scope. *Chemical, physicochemical, biotech or hybrid technologies and symbiosis concepts* are in scope.
- **Indicate the targeted feedstock(s), its availability and process flexibility against feedstock composition.** Cascading valorisation of secondary biomass and residual streams are in scope.
- **Validate the conversion and integration of obtained chemicals into final products** for market-relevant applications.
- Integrate assessment based on the safe-and-sustainable-by-design (SSbD) framework.
- The project should contribute to improved sustainability, strategic autonomy, resilience and competitiveness of the European chemical industry as well as improved environmental and safety performance across the value chain vs benchmarks (fossil or ref bio-based).
- Assess societal relevance and acceptance of circular bio-based solutions.

Expected outcomes

HORIZON-JU-CBE-2024-IA-03 Enlarging the portfolio of commercially produced bio-based SSbD solvents



Action Type: IA Innovation Action
End TRL: 6-7



Topic budget: 15M€
EU contribution per project: 7.5M€



Funding:
60% Private - 100% non-profit

Main objectives: reinforcing the integration of bio-based research and innovation throughout industrial bio-based systems and increasing the involvement of feedstock providers. Ensuring the integration of circularity and environmental sustainability requirements, contributing to climate neutrality and zero pollution ambition.

Expected outcomes

IMPACTS

Project results should contribute to the following expected outcomes:

- Demonstrate **sustainable and efficient production process(es) to obtain bio-based solvents**. Applications: i) production processes and/or ii) recycling, decontamination or pollution control processes; and/or iii) formulation ingredients/additives
- **Demonstrate availability of feedstock/flexibility of process** and cascade valorization of waste streams.
- **Testing/validating the solvent in final process**; ensure applications show **critical market volumes**.
- **Improved sustainability/circularity and safety/health profile compared to existing market counterparts:**
- Integrate assessment based on the safe-and-sustainable-by-design (SSbD) framework.
- Increased end user/consumer awareness and acceptance of SSbD bio-based solutions. Assess the social sustainability performance of the bio-based solutions via S-LCA

HORIZON-JU-CBE-2024-IA-05 Selective and sustainable (co)-production of lignin-derived aromatics



Action Type: IA Innovation Action
End TRL: 6-7



Topic budget: 15M€
EU contribution per project: 7.5M€



Funding:
60% Private - 100% non-profit

Main objectives: reinforcing the integration of bio-based research and innovation throughout industrial bio-based systems. Unlocking sustainable and circular bio-based feedstock for the industry. Ensuring the integration of circularity and environmental sustainability requirements, contributing to climate neutrality and zero pollution ambition. Increasing innovative bio-based outputs and products.

IMPACTS

Project results should contribute to the following expected outcomes:

- **Demonstrate the efficient, cost-competitive and sustainable production of aromatic bio-based chemicals** from lignin (examples: phenols, alkylphenols, BTX and/or other aromatics).
- **Scale-up the cascading use of lignocellulosic biomass** with improved atom economy; address upstream processing of biomass and downstream processing of lignin; demonstrate high **yields/selectivity**. **Valorization of secondary streams** is encouraged.
- **Advanced analytical characterization** of lignin and target aromatics are expected as well as the **clarification of reaction mechanism**.
- **Test and validate the aromatics at TRL > 5** for their **conversion** further down the value chain.
- Demonstrate **sustainability of feedstock origin** and flexibility of process; show **improvement of environmental and safety performance** vs benchmark.
- Integrate assessment based on the safe-and-sustainable-by-design (SSbD) framework.
- Address societal relevance and social acceptance of circular bio-based solutions and products.

Expected outcomes

HORIZON-JU-CBE-2024-IA-07 Innovative conversion of biogenic gaseous carbon into bio-based chemicals, ingredients, materials



Action Type: IA Innovation Action
End TRL: 6-7



Topic budget: 15M€
EU contribution per project: 7.5M€



Funding:
60% Private - 100% non-profit

Main objectives: reinforcing the integration of bio-based research and innovation throughout industrial bio-based systems. Ensuring the integration of circularity and environmental sustainability requirements, contributing to climate neutrality and zero pollution ambition. Contributing to GHG emissions reduction. Demonstrating the sustainable supply and resource efficiency of bio-based feedstock

IMPACTS

Project results should contribute to the following expected outcomes:

- **Demonstrate the efficient capture and conversion of biogenic gaseous carbon from selected source(s)*** into ingredients, chemicals / polymers and/or materials with maximized productivity.
- Demonstrate both the **flexible and economically viable systems for capture and/or purification of biobased gaseous stream** according to selected feedstock and targeted use, and the **efficient recovery and purification of products**; subsequently show their performance for targeted applications.
- Show **improved environmental performances and resource efficiency** of bio-based processes; create **industrial symbiosis** for GHG emission reduction; assess carbon removal potential via monitoring systems
- Assess the **replication potential** of the technology to other sources of biogenic carbon
- Integrate assessment based on the safe-and-sustainable-by-design (SSbD) framework.

*Biogenic gaseous carbon emissions from plants dedicated to the production of bioenergy from biomass combustion and from syngas are not in scope.

HORIZON-JU-CBE-2024-RIA-02 Biotech routes to obtain bio-based chemicals/ materials replacing animal-derived ones



Action Type: RIA Research & Innovation Action
End TRL: 5



Topic budget: 7M€
EU contribution per project: 3.5M€



Funding: 100% for all type of organisation

Main objectives: Increase the intensity of cross-disciplinary research and innovation activities. Develop innovative production systems in the bio-based industry with improved environmental performances (zero waste, zero pollution, reduction of GHG emission, optimal life-cycle, etc.)

IMPACTS

Project results should contribute to the following expected outcomes

- **Develop biotech routes for sustainable bio-based alternatives to (a set of) animal-derived product(s) from non-animal-based biomass feedstock** (hormones, amino-acids, animal oils and fats, fibers, casein, collagen, feather, leather, bone, etc.). Co-production of other ingredients is valuable (food/feed).
- **Characterize the properties of the resulting bio-based products;** validate performance of final product(s) to test compatibility with market requirements.
- **Consider availability** of safe and sustainable by design bio-based products.
- **Evaluate socio-economic impacts** along the value chain, from feedstock suppliers to chemicals and materials producers to end users (involve all actors). Consider **social acceptance** of circular bio-based solutions and products.
- Integrate a prospective assessment based on the safe-and-sustainable by-design (SSbD) framework.

Expected outcomes

HORIZON-JU-CBE-2024-CSA-02 Mobilize inclusive participation in biobased systems and supporting the CBE JU widening strategy and its action plan



Action Type: CSA Coordination & Support Action
End TRL: -



Topic budget: 3M€
EU contribution per project: 3M€



Funding: 100% for all type of organisation

Main objectives: Increase and integrate the research and innovation capacity of stakeholders across the Union. Stimulating research activities in countries and regions with underdeveloped R&I capacity for bio-based systems.

Expected outcomes

IMPACTS

Participants:

- regional **bio-based stakeholders in countries and regions with less mature bio-based ecosystems**
- greater participation of **less represented countries and regions** in the CBE JU program
- **local innovation ecosystems**, relevant **national and regional R&I clusters** and **industrial associations**.

The proposals should:

- **Foster stakeholder engagement and collaboration:** best-practices, joint projects.
- **Develop capacity building and raise awareness:** knowledge transfer platform, activities increasing awareness about CBE JU, recommendations for the growth of the bio-based sector
- **Promote synergies with relevant (macro-)regional networks:** collaborations with relevant bio-based funding programs at all levels.