EN

Annex VIII

Horizon Europe

Work Programme 2025

9. Food, Bioeconomy, Natural Resources, Agriculture and Environment

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Introduction

Horizon Europe Cluster 6 will serve the new Commission priorities for 2024-2029 with a focus on "Sustaining our quality of life: food security, water and nature" and "A new plan for Europe's sustainable prosperity and competitiveness". The Cluster will further contribute to the priorities "Supporting people, strengthening our societies and our social model" and "Protecting our democracy, upholding our values".

The Horizon Europe mandate for Cluster 6 is to provide research and innovation opportunities to strengthen and balance environmental, social and economic goals and to set human economic activities on a path towards sustainability. Cluster 6 supports transformative change of the EU economy and society to reduce environmental degradation, halt and reverse the decline of biodiversity, better manage natural resources, and meet the EU's climate objectives. This needs to happen while ensuring food and water security and fostering the sustainable prosperity and competitiveness of the EU, taking into account the evolving geopolitical context. The Work Programme builds on the new research and innovation (R&I) priorities outlined in the Horizon Europe Strategic Plan 2025-2027[1].

Activities in this Work Programme will contribute to all Key Strategic Orientations (KSOs) defined by the Strategic Plan, namely: 1) the green transition; 2) the digital transition; and 3) a more resilient, competitive, inclusive and democratic Europe.

To contribute to these programme-level KSOs, Cluster 6 will deliver on six specific expected impacts defined in the Strategic Plan. In this Work Programme, each expected impact has been developed into one or two specific destination(s) (see table below). Activities in a given destination may be of a cross-cutting nature and may often contribute to several expected impacts. The specific contribution to the overall expected impacts is explained in the narrative of each destination.

Expected impact (Strategic Plan 2025-2027)	**Destination (Cluster 6 work programme)**
27. Fostering mitigation of and adaptation to climate change in areas and sectors covered by Cluster 6.	Destination 5: Land, oceans and water for climate action
28. Putting biodiversity on a path to recovery, and protecting and restoring ecosystems and their services.	Destination 1: Biodiversity and ecosystem services
29. Achieving healthy soils and forests, as well as clean air, fresh water and marine water, whilst ensuring water resilience and the transition to a clean, competitive and circular economy and sustainable bioeconomy.	Destination 3: Circular economy and bioeconomy sectors Destination 4: Clean environment and zero pollution

[1] Horizon Europe strategic plan 2025-2027 - Publications Office of the EU (europa.eu)

30. Ensuring healthy food and nutrition security by making agriculture, fisheries, aquaculture and food systems sustainable, resilient, inclusive and within planetary boundaries.	Destination 2: Fair, healthy and environmentally friendly food systems from primary production to consumption
31. Sustainably developing rural, urban and coastal areas.	Destination 6: Resilient, inclusive, healthy and green rural, coastal and urban communities
32. Developing innovative governance models and tools enabling sustainability and resilience.	Destination 7: Innovative governance, environmental observations and digital solutions in support of the Green Deal

Cluster 6 will support the new innovation agenda for Europe and help accelerate the green transition by implementing the European Green Deal[2]. Achieving climate neutrality by 2050 in line with the European Climate Law[3] will be done by preserving Earth's natural carbon sinks and stocks in ecosystems, including soils and plants, forests, farmed lands and wetlands and the marine environment. This requires substantially reducing GHGs from the forestry and agricultural sectors and transforming the food system. In addition, activities will foster innovation on circular economy in line with the upcoming Circular Economy Act announced in the Clean Industrial Deal and exploit the potential of biological resources for renewable products. This will reduce the EU's dependence on resources and emissions/waste from industrial processes, transforming waste into resources and using more sustainable bio-based systems. At the same time, it will avoid trade-offs that could damage biodiversity and promote biodiversity protection.

In addition to the EU's climate policy, R&I will support the objectives and implementation of the EU Competitiveness Compass and of the European Green Deal for a competitive, resilient and sustainable agri-food system, the EU vision for agriculture and food, the EU biodiversity strategy for 2030[4] and the Kunming-Montréal Global Biodiversity Framework[5], the EU Clean Industrial Deal and the announced Circular Economy Act, the EU zero pollution action plan [6], the updated EU bioeconomy strategy, the EU forest strategy for 2030[7], the EU soil strategy for 2030[8], the sustainable blue economy strategy[9], the long-term vision for the EU's rural areas[10], the chemicals strategy for sustainability[11] and the EU plastics strategy[12].

2 A European Green Deal | European Commission (europa.eu)
3 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32021R1119.
4 EUR-Lex - 52020DC0380 - EN - EUR-Lex (europa.eu)
5 https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-04-en.pdf.
6 EUR-Lex - 52021DC0400 - EN - EUR-Lex (europa.eu).
7 Forest strategy - European Commission
8 EUR-Lex - 52021SC0323 - EN - EUR-Lex (europa.eu).
9 eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021DC0240.
10 The long-term vision for the EU's rural areas: key achievements and ways forward - European Union (europa.eu)
11 Chemicals strategy - European Commission.

R&I in this cluster will help meet the long-term priority objectives to 2030 set out in the 8th Environment Action Programme[13] and contribute to ensuring that policy development is firmly anchored to the latest science and knowledge**.** This cluster will also contribute to achieving the target of dedicating 10% of the Multiannual Financial Framework 2021-2027 annual spending to biodiversity as of 2025.

Protecting and restoring the integrity of ecosystems and their capacity to deliver essential services is fundamental to achieving European Green Deal objectives. This will put Europe's biodiversity on a path to recovery by 2030, as required by the EU biodiversity strategy for 2030. Avoiding biodiversity loss (from genes to species and ecosystems) could also help avoid threats to human health in the future. In 2025, this cluster will improve knowledge on the state of biodiversity, the role of ecosystems and their services and will notably develop innovative solutions to support the implementation of the EU Nature Restoration Regulation[14]. This cluster deals with agriculture, forestry, aquaculture and fisheries, food and bio-based systems, which have profound environmental impacts and are also affected by global environmental changes, while providing opportunities for economic and social sustainability in the context of Europe's strategic autonomy.

Cluster 6 will accelerate the transition to competitive, resilient, sustainable, healthy and inclusive food systems to achieve the objectives of the European Green Deal, the Vision for agriculture and food and the United Nations Sustainable Development Goals (SDGs). It will empower farmers, fishers and aquaculture producers to efficiently transform their production methods, making the best use of nature-based solutions, technological, digital and social innovations and transferable knowledge while supporting fair incomes and the competitiveness of the entire EU food value chain. This will accelerate climate mitigation and result in positive environmental outcomes, increased climate resilience and reduced dependency on pesticides and antimicrobials, fostering multi-disciplinary approaches including the One Health approach[15]. Furthermore, it will also provide consumers with affordable, safe, nutritious, healthy and sustainable food. R&I will also stimulate sustainable practices at all stages of the food system from production to processing, services, the use and valorisation of waste and by-products and surplus management. This will ensure safe and sustainable food and enable a shift to sustainable and healthy diets. R&I will also support the design, implementation and monitoring of the common agricultural policy (CAP), the common fisheries policy (CFP) and the EU General Food Law[16].

Improved knowledge and innovations will be key to achieving the transition towards a sustainable and circular economy and the zero-pollution ambition of the European Green Deal to halt and prevent pollution, by addressing issues concerning fresh and marine waters, soils, nutrients as well as the environmental performance of processes. R&I will support EU environmental legislation and policies that target a higher level of protection for biodiversity,

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12 Plastics strategy - European Commission.
13 https://ec.europa.eu/environment/strategy/environment-action-programme-2030_en.
14 Regulation - EU - 2024/1991 - EN - EUR-Lex.
15 One health
16 General Food Law - European Commission

soil, water, air and marine resources, including the Nature Restoration Regulation, the Birds Directive [17] and the Habitats Directive [18], the EU pollinators initiative [19], the upcoming European Water Resilience Strategy, the Water Framework Directive[20], the Marine Strategy Framework Directive [21], the revised Ambient Air Quality Directives [22], the EU waste legislation[23], the Ecodesign for Sustainable Products Regulation[24] the upcoming European Ocean Pact and the EU Arctic policy as well as the objectives of the proposal for a directive on soil monitoring and resilience[25] and of the proposal for a regulation on a Forest Monitoring Framework[26].

The cluster will help develop resilient and vibrant rural, coastal and urban communities in line with the Commission priority 'Sustaining our quality of life: food security, water and nature'. To support the long-term vision for rural areas by 2040, it will help achieve thriving rural innovation ecosystems by supporting and/or establishing synergetic initiatives such as living labs, smart and start-up villages, European Innovation Partnership for Agriculture Productivity and Sustainability (EIP-AGRI) operational groups and a Thematic Smart Specialisation Platform. It will develop innovative governance models to implement the European Green Deal, ensuring a fair and just transition and that no one is left behind. The cluster will foster the use, uptake and deployment of environmental observations and take advantage of data and digital solutions in line with the EU priority 'A new plan for Europe's sustainable prosperity and competitiveness'.

To be more effective in achieving a positive impact, proposals should synergise with relevant Horizon Europe initiatives, including European Partnerships, Missions and the Knowledge and Innovation Communities (KICs) of the European Institute of Innovation and Technology (EIT). Through Cluster 6, special attention will be given to ensuring cooperation between universities, scientific communities and industry, including SMEs, citizens and civil society and their representatives. This allows bridging gaps and reducing inequalities between genders, territories, generations and regional cultures, supporting women innovators and caring for the needs of young people in shaping Europe's future.

In this context, applicants should consider and actively seek synergies with, and, where appropriate, possibilities for further funding from other R&I-relevant EU, national or regional programmes, such as the European Regional Development Fund (ERDF)[27], the European

17 EUR-Lex - 32009L0147 - EN - EUR-Lex (europa.eu).
18 EUR-Lex - 31992L0043 - EN - EUR-Lex (europa.eu).
19 EUR-Lex - 52018DC0395 - EN - EUR-Lex (europa.eu).
20 EUR-Lex - 32000L0060 - EN - EUR-Lex (europa.eu).
21 http://data.europa.eu/eli/dir/2008/56/oj
22 https://environment.ec.europa.eu/topics/air/air-quality_en.
23 https://environment.ec.europa.eu/topics/waste-and-recycling/waste-law_en.
24 EUR-Lex - 52022PC0142 - EN - EUR-Lex (europa.eu)
25 EUR-Lex - 52023PC0416 - EN - EUR-Lex.
26 Proposal for a Regulation on a Forest Monitoring Framework - European Commission.
27 The ERDF (including Interreg) focuses, among others, on the development and strengthening of regional and local R&I ecosystems and smart economic transformation, in line with regional/national smart specialisation strategies. It can support investment in research infrastructure, activities for applied research and innovation, including industrial research, experimental development and feasibility

Social Fund Plus (ESF+), the Just Transition Fund (JTF), the European Maritime Fisheries and Aquaculture Fund (EMFAF), the European Agricultural Fund for Rural Development (EAFRD), the LIFE Programme, InvestEU and private funds or financial instruments.

Synergies are also sought with the work of the European Space Agency (ESA) to ensure complementarities and mutual benefits with R&I actions conducted by ESA, contributing to the European Commission-ESA Earth System Science initiative to support significant breakthrough in the areas covered by the Cluster.

Research on a societal and political framework is necessary to achieve the transformation expected and R&I investments under Cluster 6 will therefore emphasise the essential role played by the social sciences and humanities (SSH) for accelerating the green transition as well as gender aspects, citizens and societal engagement and inter- and trans-disciplinary and systems approaches. R&I will build on existing research infrastructures.

Cluster 6 activities will sustain the EU's ambition in international fora in areas such as biodiversity, climate change, the management of natural resources, seas and ocean, zero pollution, sustainable agriculture, food safety and food and nutrition security. In line with the EU's global approach to research and innovation, and in support of the global gateway strategy, projects involving international partners will lead to increased scientific knowledge and transfer of technology, to address global challenges while fostering sustainable growth and job creation in the sectors covered by the Cluster. Special attention is given to the EU-African Union Partnership on Food and Nutrition Security and Sustainable Agriculture (FNSSA). Cooperation should take place in a value-based way, creating linkages, not dependencies. Legal entities established in China are not eligible to participate in Innovation Actions in any capacity. Please refer to the Annex B of the General Annexes of this Work Programme for further details.

The cluster is strongly committed to the UN SDGs which have an important impact on food, bioeconomy, natural resources, agriculture and the environment, notably SDG 2 (Zero hunger), SDG 3 (Good health and well-being), SDG 6 (Clean water and sanitation), SDG 8 (Decent work and economic growth), SDG 9 (Industry, innovation and infrastructure), SDG 11 (Sustainable cities and communities), SDG 12 (Responsible consumption and production), SDG 13 (Climate action), SDG 14 (Life below water) and SDG 15 (Life on land).

Applicants are encouraged to consider, where relevant, their possible contribution to Joint Research Centre (JRC) relevant platforms for capitalizing on the knowledge developed in their projects, and becoming more policy relevant, contributing in terms of data, indicators and knowledge [28]. For instance, they could make reference to: the European Platform on Life Cycle Assessment (LCA) and to the Environmental footprint method when applying LCA; the Raw Materials Information System; the European Soil Observatory; the Integrated Natural

studies, building research and innovation capacities, uptake of advanced technologies and roll-out of innovative solutions from EU R&I Framework Programmes.

[28] Contributions with relevant data, indicators or knowledge to these JRC managed platform do not require having the JRC as a partner (associated partner/beneficiary requesting zero funding) in a project, unless it is explicitly mentioned in a specific topic.

Capital Accounting platform; the EC Knowledge Centre for Biodiversity; the EC Knowledge Centre for Global Food and Nutrition Security, the EC Knowledge Centre for Bioeconomy, the Africa Knowledge Platform; the EC Knowledge Centre on Earth Observation; Innovation in the Built Environment (iBUILT+) and/or the EU Forests Observatory.

Applicants are also encouraged to consider, where relevant, the services offered by the EU-funded European Research Infrastructures, notably those prioritised by the European Strategy Forum on Research Infrastructures (ESFRI)[29], European Research Infrastructure Consortia (ERICs)[30] and the European Open Science Cloud (EOSC)[31].

Specific requirements for multi-actor projects:

Proposals submitted for topics including the eligibility condition to follow the multi-actor approach must meet all of the requirements below. The multi-actor approach is a form of interactive, transdisciplinary and responsible R&I that aims to make the R&I process more co-creative and inclusive, and thereby its outcomes are more co-owned, reliable, demand-driven and relevant to society. It also aims to extensively share these outcomes and to widely use them in practice. This entails more than just widely disseminating the projects' results or listening to the views of a board of stakeholders. A multi-actor project ensures the genuine and sufficient involvement of a targeted array of actors in co-creation, which serves the objectives of the project proposal.

These actors include: i) researchers, ii) farmers / farmers' groups and associations, iii) foresters / foresters' groups and associations, iv) aquaculture producers, v) fishers / fishers' groups and associations, vi) advisors, vii) food and bioeconomy businesses, viii) other businesses, ix) consumer associations, x) local communities, xi) citizens, xii) civil society organisations including NGOs and social economy actors, and xiii) government representatives. The selection of key actors that are relevant to participate depends on the objective(s) of the proposal that respond(s) to the needs of the (end-)users of the project results. The key actors are essentially the (end-)users[32] of the project resultswho arebacked up by any other useful intermediaries and actors who can contribute with further expertise and innovative ideas relevant to the topic's objectives, and support communication and dissemination. The genuine and sufficient involvement of such actors should take place over the whole course of the project: from participation in the development of the project idea, planning and experiments to implementation, communication and dissemination of results and to a possible demonstration phase.

Building blocks for the project proposal are expected to come from science as well as from practice: it is a 'co-creation' process. (End-)users are involved in the project activities not as a study-object, but to use their practical and local knowledge and/or entrepreneurial skills to develop solutions and to create 'co-ownership' of results for (end-) users. This

29 The catalogue of European Strategy Forum on Research Infrastructures (ESFRI) research infrastructures portfolio can be browsed from ESFRI website https://ri-portfolio.esfri.eu/.

30 The ERIC Landscape https://www.eric-forum.eu/the-eric-landscape/.

31 Home | European Open Science Cloud - EU Node.

32 An "(end-) user" of project result is a person who is him/herself using the project results in practice.

should speed and scale up the acceptability and uptake of new ideas, approaches and solutions developed in the project in practice.

Therefore, a multi-actor project proposal must meet the following requirements:

- it must demonstrate how the description of the project concept, including the proposed objectives, activities and planning, are targeting the needs/challenges/opportunities for the (end-)users of the project results;
- it must demonstrate how the composition of the consortium fits into the project concept and reflects a balanced choice of relevant actors who have complementary types of knowledge (scientific, practical, etc.) and skills to achieve the project objective, and to ensure that project results are ready for practice and broadly implemented;
- it must demonstrate how the project intends to use existing practices and tacit knowledge. This should be illustrated in the proposal methodology with a sufficient number of high-quality knowledge exchange activities outlining the precise and active roles of the different, relevant non-scientific actors in the co-creation and sharing of R&I contents. The cross-fertilisation of skills, experiences, competencies and ideas between actors should generate innovative findings and solutions that are more likely to be widely applied in practice;
- it must demonstrate how the project will facilitate the multi-actor engagement process by making use of the most appropriate methods and expertise and what mechanisms the project will set up to maintain engagement of different, relevant actors, in particular non-scientific actors, during the whole project lifecycle;
- it must demonstrate the project's added-value for the (end-)users: how it will complement and advance state-of-the-art, including existing knowledge and best practices;
- it must demonstrate how the project will result in practical and ready to use knowledge, solutions, approaches, tools, products, processes or services that are easily understandable and accessible for (end-)users;
- it must demonstrate how these results ready for practice will be widely and effectively disseminated, and feed into the existing dissemination channels most consulted and trusted by the (end-)users of the project results in countries and regions.

In addition, to ensure Europe-wide communication and dissemination in all areas related to the European Innovation Partnership for Agricultural Productivity and Sustainability (EIP-AGRI)[33] and the common agricultural policy (CAP) specific objectives[34], in particular

[33] For the areas covered by the EIP-AGRI see section 8 (pp.8-9) of the Commission Communication 2012(79) final: eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52012DC0079&from=EN : Increased agricultural productivity, output, and resource efficiency, the bioeconomy, biodiversity,

agriculture, forestry and rural development, the new knowledge and innovation generated by the multi-actor projects must be summarised in an appropriate number of 'practice abstracts' in the common EIP-AGRI format for Horizon[35]. The number of 'practice abstracts' depends on the size of the project and the volume of results which are ready to be applied in practice. The 'practice abstracts' stemming from Horizon Europe projects should be uploaded to the EIP-AGRI project database using a dedicated online form accessible via the EU CAP Network website [36].

For areas falling outside the remit of EIP-AGRI and CAP specific objectives, other similarly effective solutions ensuring dissemination at European level should be sought. Where appropriate, it is strongly recommended to involve interactive innovation groups such as the EIP-AGRI operational groups funded under the CAP.

climate, ecosystem services and soil functionality, products and services for the integrated supply chain, and food quality, food safety and healthy lifestyles.

34 For areas covered by the CAP specific objectives see Article 6 of the Regulation (EU) 2021/2115 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2021.435.01.0001.01.ENG.

35 The EIP common format for "practice abstracts" is available at the following link: Practice abstracts | EU CAP Network)

36 Practice abstracts | EU CAP Network

Calls

Call - Cluster 6 Call 01 - single stage

HORIZON-CL6-2025-01

Overview of this call[37]

Proposals are invited against the following Destinations and topic(s):

Topics	Type of Action	Budgets (EUR million)			Expected EU contribution per project (EUR million)[38]	Indicative number of projects expected to be funded
		2025	2026	2027		
Opening: 06 May 2025 Deadline(s): 17 Sep 2025						
Destination - Biodiversity and ecosystem services						
HORIZON-CL6-2025-01-BIODIV-01: Additional activities for the European Biodiversity Partnership: Biodiversa+	COFUND	20.00	20.00	20.00	Around 60.00	1
HORIZON-CL6-2025-01-BIODIV-02: Strengthening the capacity of citizen science in biodiversity observation	CSA	4.00			Around 4.00	1
HORIZON-CL6-2025-01-BIODIV-03: Strengthening taxonomic approaches for	RIA	24.00			Around 12.00	2

[37] The Director-General responsible for the call may decide to open the call up to one month prior to or after the envisaged date(s) of opening.
The Director-General responsible may delay the deadline(s) by up to two months.
All deadlines are at 17.00.00 Brussels local time.
The budget amounts are subject to the availability of the appropriations provided for in the general budget of the Union for 2025.

[38] Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

biodiversity						
HORIZON-CL6-2025-01-BIODIV-04: Large-scale in situ biodiversity observations for better understanding of biodiversity state, drivers of its decline and impacts of policies	RIA	22.00			Around 11.00	2
HORIZON-CL6-2025-01-BIODIV-05: Assessing and modelling ecosystems' dynamic processes to guide restoration activities and to improve models used for climate	RIA	18.00			Around 6.00	3
HORIZON-CL6-2025-01-BIODIV-06: Assessing and modelling socio-economic impacts of nature restoration	RIA	16.00			5.00 to 6.00	3
HORIZON-CL6-2025-01-BIODIV-07: Integrated and coordinated approaches for coral reefs and associated ecosystems (mangroves and seagrass beds) conservation, restoration, and climate mitigation and adaptation	RIA	12.00			Around 6.00	2
HORIZON-CL6-2025-01-BIODIV-08: Strengthening pathways to alternative socio-economic models for continuous improvement of biodiversity	RIA	14.00			Around 7.00	2
HORIZON-CL6-2025-01-BIODIV-09: Understanding the perceptions of and improving communication on the biodiversity crisis and nature restoration benefits to sustain citizen engagement	RIA	6.00			Around 3.00	2

and democratic governance						
HORIZON-CL6-2025-01-BIODIV-10: Supporting the implementation of nature restoration measures for sustainable farming systems	RIA	11.00			5.00 to 6.00	2
Destination - Circular economy and bioeconomy sectors						
HORIZON-CL6-2025-01-CIRCBIO-01: Novel circular business models to enable the just transition to a sustainable and circular economy	IA	10.00			Around 5.00	2
HORIZON-CL6-2025-01-CIRCBIO-02: Improving ecodesign of products and development of testing methods for products prioritised under the Ecodesign for Sustainable Products Regulation	RIA	8.00			Around 4.00	2
HORIZON-CL6-2025-01-CIRCBIO-03: Product Environmental Footprint (PEF) of policy and market-relevant product groups	RIA	8.00			Around 4.00	2
HORIZON-CL6-2025-01-CIRCBIO-04: Development and testing of Extended Producer Responsibility schemes (EPR) within the priority Circular Economy Action Plan value chains	IA	10.00			Around 5.00	2
HORIZON-CL6-2025-01-CIRCBIO-05: Consumption patterns and environmental awareness as enablers of transition to circular economy	IA	12.00			Around 6.00	2

HORIZON-CL6-2025-01-CIRCBIO-06: Indicators for the transition to sustainable and circular economy	RIA	8.00			Around 4.00	2
HORIZON-CL6-2025-01-CIRCBIO-07: Demonstration, deployment and upscaling of circular systemic solutions in cities and regions (Circular Cities and Regions Initiative)	IA	18.00			Around 9.00	2
HORIZON-CL6-2025-01-CIRCBIO-08: Bioprospecting and optimized production of the terrestrial natural products: new opportunities for bio-based sectors	IA	11.00			Around 5.50	2
HORIZON-CL6-2025-01-CIRCBIO-09: Unleashing the potential and advancing the impact of the digitalization/Artificial Intelligence of the climate-neutral bio-based value chains	IA	10.00			Around 5.00	2
HORIZON-CL6-2025-01-CIRCBIO-10: Support to the EU Biotechnology and Biomanufacturing Initiative: scoping action	CSA	2.00			Around 2.00	1
HORIZON-CL6-2025-01-CIRCBIO-11: Demonstration of reduced energy use and optimised flexible energy supply for industrial bio-based systems	IA	11.00			Around 5.50	2
HORIZON-CL6-2025-01-CIRCBIO-12: Harmonizing and optimising composting	CSA	2.00			Around 2.00	1

plants performances in Europe						
HORIZON-CL6-2025-01-CIRCBIO-13: Reconstructing areas affected by conflicts: the role of the bio-based solutions	RIA	8.00			Around 4.00	2
HORIZON-CL6-2025-01-CIRCBIO-14: Bioprospecting and optimised production of marine/aquatic natural products in the omics & artificial intelligence era	IA	12.00			Around 6.00	2
HORIZON-CL6-2025-01-CIRCBIO-15: European partnership: Forests and Forestry for a Sustainable Future	COFUND	10.00	30.00	30.00	Around 70.00	1
Destination - Clean environment and zero pollution						
HORIZON-CL6-2025-01-ZEROPOLLUTION-01: Innovative and advanced monitoring and modelling systems for revised air quality policies	RIA	10.00			Around 10.00	1
HORIZON-CL6-2025-01-ZEROPOLLUTION-02: Environmental impacts from the production of agricultural crops for bio-based industrial systems	CSA	2.00			Around 2.00	1
HORIZON-CL6-2025-01-ZEROPOLLUTION-03: Environmental biotechnology applications in service of remediation of polluted ecosystems	RIA	8.00			Around 4.00	2

HORIZON-CL6-2025-01-ZEROPOLLUTION-04: Towards a comprehensive European strategy to assess and monitor aquatic litter including plastic and microplastic pollution	RIA	6.00			Around 6.00	1
HORIZON-CL6-2025-01-ZEROPOLLUTION-05: EU-India cooperation on cumulative impacts of marine pollution on marine organisms and ecosystems	RIA	12.00			Around 6.00	2
HORIZON-CL6-2025-01-ZEROPOLLUTION-06: Provide digital solutions tailored to small and medium-sized farms to monitor and sustainably manage agricultural inputs and natural resources	IA	8.00			Around 8.00	1
HORIZON-CL6-2025-01-ZEROPOLLUTION-07: Reducing pollution from the food and drink industries	IA	12.00			Around 6.00	2
Overall indicative budget		345.00	50.00	50.00		

General conditions relating to this call	
Admissibility conditions	The conditions are described in General Annex A.
Eligibility conditions	The conditions are described in General Annex B.
Financial and operational capacity and exclusion	The criteria are described in General Annex C.
Award criteria	The criteria are described in General Annex D.
Documents	The documents are described in General

	Annex E.
Procedure	The procedure is described in General Annex F.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G.

Call - Cluster 6 Call 02 - single stage

HORIZON-CL6-2025-02

Overview of this call[39]

Proposals are invited against the following Destinations and topic(s):

Topics	Type of Action	Budgets (EUR million)			Expected EU contribution per project (EUR million)[40]	Indicative number of projects expected to be funded
		2025	2026	2027		
Opening: 06 May 2025 Deadline(s): 16 Sep 2025						
Destination - Fair, healthy and environment-friendly food systems from primary production to consumption						
HORIZON-CL6-2025-02-FARM2FORK-01: Additional activities for the European partnership on accelerating farming systems transition - agroecology living labs and research	COFUND	30.00	30.00	30.00	Around 90.00	1

[39] The Director-General responsible for the call may decide to open the call up to one month prior to or after the envisaged date(s) of opening.
The Director-General responsible may delay the deadline(s) by up to two months.
All deadlines are at 17.00.00 Brussels local time.
The budget amounts are subject to the availability of the appropriations provided for in the general budget of the Union for 2025.

[40] Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

infrastructures						
HORIZON-CL6-2025-02-FARM2FORK-02: Additional activities for the European partnership on animal health and welfare	COFUND	40.00	40.00	40.00	Around 120.00	1
HORIZON-CL6-2025-02-FARM2FORK-03: Overcoming the barriers for scaling up circular water management in agriculture	IA	12.00			Around 6.00	2
HORIZON-CL6-2025-02-FARM2FORK-04: Enhancing plant protein production to bolster the resilience of agricultural systems and EU self-sufficiency in plant protein used as feed	RIA	11.00			Around 5.50	2
HORIZON-CL6-2025-02-FARM2FORK-05: Developing innovative phytosanitary measures for plant health - focus on systems approach for pest risk management	RIA	12.00			Around 6.00	2
HORIZON-CL6-2025-02-FARM2FORK-06: Improving grassland management in European livestock farming systems	RIA	16.00			Around 8.00	2
HORIZON-CL6-2025-02-FARM2FORK-07: Fostering animal breeding and genetics for climate change adaptation and mitigation, improved	RIA	12.00			Around 6.00	2

robustness and resilience						
HORIZON-CL6-2025-02-FARM2FORK-08: Exploring the potential of controlled environment agriculture (CEA)	RIA	6.00			Around 6.00	1
HORIZON-CL6-2025-02-FARM2FORK-09: Strengthening the EU crop breeding research and innovation ecosystem for competitive, resilient, and sustainable agriculture	CSA	3.00			Around 3.00	1
HORIZON-CL6-2025-02-FARM2FORK-10: Diversifying aquaculture production with emphasis on low-trophic species	IA	12.00			Around 6.00	2
HORIZON-CL6-2025-02-FARM2FORK-11: Towards modern, integrated, and effective fisheries monitoring, control and surveillance (MCS) systems	IA	12.00			Around 6.00	2
HORIZON-CL6-2025-02-FARM2FORK-12: Nutrition and Mental Health	RIA	10.00			Around 5.00	2
HORIZON-CL6-2025-02-FARM2FORK-13: Raising citizen awareness on alternative proteins derived from biotechnology	CSA	2.00			Around 2.00	1
HORIZON-CL6-2025-02-FARM2FORK-14: Nutrients produced by microorganisms utilising	IA	12.00			Around 6.00	2

primarily CO2 from the air, with the support of biotechnology						
HORIZON-CL6-2025-02-FARM2FORK-15: Additional activities of the European partnership on sustainable food systems for people, planet and climate	COFUND	35.00	45.00	50.00	Around 130.00	1
HORIZON-CL6-2025-02-FARM2FORK-16: Developing a joint AU-EU Agricultural Knowledge and Innovation System (AKIS) supporting the Food and Nutrition Security and Sustainable Agriculture (FNSSA) partnership	RIA	6.00			Around 6.00	1
HORIZON-CL6-2025-02-FARM2FORK-17: Nutrition in emergency situations - Ready-to-use Supplementary Food (RUSF) and Ready-to-use Therapeutic Food (RUTF)	RIA	8.00			Around 4.00	2
Destination - Land, ocean and water for climate action						
HORIZON-CL6-2025-02-CLIMATE-01: The ocean-climate-biodiversity nexus and marine carbon dioxide removal (mCDR)	RIA	12.00			Around 6.00	2
HORIZON-CL6-2025-02-CLIMATE-02: The ocean-climate-biodiversity-people nexus: uncovering safe operating space for safeguarding the integrity and health of the global	RIA	19.50			Around 6.50	3

ocean						
HORIZON-CL6-2025-02-CLIMATE-03: Understanding and managing medium and longer-term challenges and opportunities for agriculture stemming from shifting climatic zones and changing agroecological environments	RIA	10.00			Around 5.00	2
HORIZON-CL6-2025-02-CLIMATE-04: Monitoring, reporting, verification and mitigation of non-CO2 greenhouse gas emissions and related air pollutants from agriculture	RIA	12.00			Around 6.00	2
HORIZON-CL6-2025-02-CLIMATE-05: Additional activities for the European Partnership Water Security for the Planet (Water4All)	COFUND	23.00	23.00	24.00	Around 70.00	1
Destination - Resilient, inclusive, healthy and green rural, coastal and urban communities						
HORIZON-CL6-2025-02-COMMUNITIES-01: Adapting to and mitigating demographic trends in rural areas through evidence-based planning and innovative solutions	RIA	13.00			Around 6.50	2
HORIZON-CL6-2025-02-COMMUNITIES-02: Exploring and improving access to housing in rural areas and developing the houses and villages of the	RIA	6.00			Around 6.00	1

future						
HORIZON-CL6-2025-02-COMMUNITIES-03: Innovative solutions for resilient and climate-adapted coastal communities in the Atlantic	IA	6.00			Around 6.00	1
HORIZON-CL6-2025-02-COMMUNITIES-04: Creating urban co-creation spaces for driving sustainable food system transformation	RIA	12.00			Around 6.00	2
Overall indicative budget		352.50	138.00	144.00		

General conditions relating to this call	
Admissibility conditions	The conditions are described in General Annex A.
Eligibility conditions	The conditions are described in General Annex B.
Financial and operational capacity and exclusion	The criteria are described in General Annex C.
Award criteria	The criteria are described in General Annex D.
Documents	The documents are described in General Annex E.
Procedure	The procedure is described in General Annex F.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G.

Call - Cluster 6 Call 03 - single stage

HORIZON-CL6-2025-03

Overview of this call[41]

Proposals are invited against the following Destinations and topic(s):

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)[42]	Indicative number of projects expected to be funded
		2025		
Opening: 06 May 2025 Deadline(s): 24 Sep 2025				
Destination - Innovative governance, environmental observations and digital solutions in support of the Green Deal				
HORIZON-CL6-2025-03-GOVERNANCE-01: Improving analytical capacity and understanding of the bargaining power and interactions of farmers with the operators of the value chains	RIA	6.00	Around 6.00	1
HORIZON-CL6-2025-03-GOVERNANCE-02: Upscaling innovative payments to support farmers in the delivery of agri-environment-climate public goods	IA	12.00	Around 6.00	2
HORIZON-CL6-2025-03-GOVERNANCE-03: Boosting the attractiveness of agriculture and the connection between the farming community and society	RIA	12.00	Around 6.00	2
HORIZON-CL6-2025-03-GOVERNANCE-04: Operationalisation of bioeconomy sustainability principles	RIA	8.00	Around 4.00	2
HORIZON-CL6-2025-03-GOVERNANCE-05: Exploring options to resolve land and sea	RIA	9.00	Around	2

41 The Director-General responsible for the call may decide to open the call up to one month prior to or after the envisaged date(s) of opening.
The Director-General responsible may delay the deadline(s) by up to two months.
All deadlines are at 17.00.00 Brussels local time.
The budget amounts are subject to the availability of the appropriations provided for in the general budget of the Union for 2025.

42 Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

use competition			4.50	
HORIZON-CL6-2025-03-GOVERNANCE-06: Strengthening and connecting bioeconomy networks	CSA	4.40	Around 4.40	1
HORIZON-CL6-2025-03-GOVERNANCE-07: Strengthening the European Research Area by enhancing the bioeconomy research and innovation ecosystem in BIOEAST countries	CSA	4.00	Around 4.00	1
HORIZON-CL6-2025-03-GOVERNANCE-08: Effective environmental observing systems and associated governance	RIA	10.00	Around 5.00	2
HORIZON-CL6-2025-03-GOVERNANCE-09: Delivering Earth Intelligence to accelerate the green and digital transition	IA	15.00	Around 7.50	2
HORIZON-CL6-2025-03-GOVERNANCE-10: Improving and integrating polar observation systems in response to user requirements at local, regional, and international level	RIA	16.00	Around 8.00	2
HORIZON-CL6-2025-03-GOVERNANCE-11: Enhancing sustainability and resilience of agriculture, forestry and rural development through digital twins	RIA	12.00	Around 6.00	2
HORIZON-CL6-2025-03-GOVERNANCE-12: Increasing knowledge flows to practice within Agricultural Knowledge and Innovation Systems (AKIS) via thematic networks	CSA	3.00	Around 3.00	1
HORIZON-CL6-2025-03-GOVERNANCE-13: Strengthening knowledge and skills of advisors and integrating them within Agricultural Knowledge and Innovation Systems (AKIS) via an EU advisory network	CSA	10.00	Around 10.00	1
HORIZON-CL6-2025-03-GOVERNANCE-14: Preparing farmers, their workforce and advisors to the future of agriculture by providing the relevant knowledge, skills and competences at the right time and place	RIA	8.00	Around 8.00	1

Overall indicative budget		129.40		

General conditions relating to this call	
Admissibility conditions	The conditions are described in General Annex A.
Eligibility conditions	The conditions are described in General Annex B.
Financial and operational capacity and exclusion	The criteria are described in General Annex C.
Award criteria	The criteria are described in General Annex D.
Documents	The documents are described in General Annex E.
Procedure	The procedure is described in General Annex F.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G.

Call - Cluster 6 Call 01 - two stage

HORIZON-CL6-2025-01-two-stage

Overview of this call[43]

Proposals are invited against the following Destinations and topic(s):

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)[44]	Indicative number of projects expected to be
		2025		

[43] The Director-General responsible for the call may decide to open the call up to one month prior to or after the envisaged date(s) of opening.
The Director-General responsible may delay the deadline(s) by up to two months.
All deadlines are at 17.00.00 Brussels local time.
The budget amounts are subject to the availability of the appropriations provided for in the general budget of the Union for 2025.

[44] Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

				funded
Opening: 06 May 2025 Deadline(s): 04 Sep 2025 (First Stage), 18 Feb 2026 (Second Stage)				
Destination - Biodiversity and ecosystem services				
HORIZON-CL6-2025-01-BIODIV-01-two-stage: Living labs co-creating innovative solutions for forests and freshwater ecosystems restoration	RIA	14.00	Around 7.00	2
HORIZON-CL6-2025-01-BIODIV-02-two-stage: Breeding for resilience: enhancing multi-stress tolerance in crops	RIA	14.00	Around 7.00	2
Destination - Circular economy and bioeconomy sectors				
HORIZON-CL6-2025-01-CIRCBIO-01-two-stage: Open Topic: Innovative solutions for the sustainable and circular transformation of SMEs	IA	10.00	Around 5.00	2
Destination - Clean environment and zero pollution				
HORIZON-CL6-2025-01-ZEROPOLLUTION-01-two-stage: Substances of concern and emerging pollutants from bio-based industries and products: mapping and replacement	IA	10.00	Around 5.00	2
Overall indicative budget		48.00		

General conditions relating to this call	
Admissibility conditions	The conditions are described in General Annex A.
Eligibility conditions	The conditions are described in General Annex B.
Financial and operational capacity and exclusion	The criteria are described in General Annex C.
Award criteria	The criteria are described in General Annex D.
Documents	The documents are described in General

	Annex E.
Procedure	The procedure is described in General Annex F.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G.

Call - Cluster 6 Call 02 - two stage

HORIZON-CL6-2025-02-two-stage

Overview of this call[45]

Proposals are invited against the following Destinations and topic(s):

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)[46]	Indicative number of projects expected to be funded
		2025		
Opening: 06 May 2025 Deadline(s): 04 Sep 2025 (First Stage), 18 Feb 2026 (Second Stage)				
Destination - Fair, healthy and environment-friendly food systems from primary production to consumption				
HORIZON-CL6-2025-02-FARM2FORK-01-two-stage: Emerging and future risks to plant health	RIA	12.00	Around 6.00	2
HORIZON-CL6-2025-02-FARM2FORK-02-two-stage: Open topic: Innovating for on-farm post-harvest operations, storage and transformation of crops into food and non-food products	IA	12.00	Around 6.00	2

[45] The Director-General responsible for the call may decide to open the call up to one month prior to or after the envisaged date(s) of opening.
The Director-General responsible may delay the deadline(s) by up to two months.
All deadlines are at 17.00.00 Brussels local time.
The budget amounts are subject to the availability of the appropriations provided for in the general budget of the Union for 2025.

[46] Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

HORIZON-CL6-2025-02-FARM2FORK-03-two-stage: Making food systems more resilient to food safety risks through the deployment of technological solutions	IA	12.00	Around 6.00	2
HORIZON-CL6-2025-02-FARM2FORK-04-two-stage: Research and innovation for food waste prevention and reduction at household level through measurement, monitoring and new technologies	RIA	8.00	Around 4.00	2
HORIZON-CL6-2025-02-FARM2FORK-05-two-stage: Developing agroecology living labs and lighthouses for climate action under the Food and Nutrition Security and Sustainable Agriculture (FNSSA) partnership	RIA	12.00	Around 6.00	2
Destination - Land, ocean and water for climate action				
HORIZON-CL6-2025-02-CLIMATE-01-two-stage: Strengthening the resilience of water systems and water sector to climate and global socio-economic change impacts	IA	18.00	Around 6.00	3
Overall indicative budget		74.00		

General conditions relating to this call	
Admissibility conditions	The conditions are described in General Annex A.
Eligibility conditions	The conditions are described in General Annex B.
Financial and operational capacity and exclusion	The criteria are described in General Annex C.
Award criteria	The criteria are described in General Annex D.
Documents	The documents are described in General Annex E.
Procedure	The procedure is described in General Annex F.
Legal and financial set-up of the Grant	The rules are described in General Annex G.

Agreements	

Destinations

Destination - Biodiversity and ecosystem services

Under destination "Biodiversity and ecosystem services", R&I in 2025 provides scientific support to the development and implementation of EU environmental legislation and of European Green Deal initiatives, in line with the new Commission priority "Sustaining our quality of life: food security, water and nature".

This destination is based on the vision developed in the EU biodiversity strategy for 2030 and supports its implementation, pursuing the orientations of the Work Programmes 2021-2022 and 2023-2024, and notably focuses on the EU Nature Restoration Regulation and other new European Green Deal initiatives such as the proposal for an EU soil monitoring and resilience law, the proposal for an EU forest monitoring law and the EU Taxonomy for Sustainable Activities (specifically the Environmental Delegated Act) and the EU action plan: protecting and restoring marine ecosystems for sustainable and resilient fisheries. R&I activities continue to support the environmental objectives of the common agricultural policy and reflect the strong interconnections between the EU biodiversity strategy for 2030 and the European Green Deal objectives for a competitive, resilient and sustainable agri-food system, including the pollinators initiative.

R&I on biodiversity and ecosystems services, if translated into action, contribute to a clean environment for the EU and Associated Countries, including water, soil, air, health, climate adaptation and risk (including disaster risk) reduction, sustainable bioeconomy and blue economy policies.

This destination also contributes to the twin green and digital transition. Where relevant, advantage should be taken of the use of advanced digital technologies and tools such high-performance computing, Artificial Intelligence (AI) and Environmental Observation where appropriate.

This destination supports the EU leadership in the relevant international fora and develops analysis and tools to reach our international biodiversity commitments, such as those taken in the Kunming-Montreal Global Biodiversity Framework (GBF), in line with the new Commission priorities. It will in particular support the monitoring framework of the GBF. Its activities serve the objectives of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), the Intergovernmental Panel on Climate Change (IPCC) and of the potential International/Intergovernmental Panel for Ocean Sustainability (IPOS).

Proposals for topics under this destination should set out a credible pathway contributing to "**putting biodiversity on a path to recovery, and protecting and restoring ecosystems and their services**" of the Strategic Plan 2025-2027, and more specifically to one or more of the following impacts:

- improved knowledge, innovations, methods, pathways and tools are available to protect healthy ecosystems and to restore degraded ones ensuring the provision of ecosystem services, including for adaptation and/or mitigation to climate change;

- the ongoing biodiversity crisis and its consequences, the benefits of ecosystem services and the need to protect and restore them are better understood. Policymakers and all relevant sectors of society are aware and well informed thereof, and fully grasp opportunities of biodiversity protection and restoration. Society is on a path of transformative change;

- farmers, foresters, and land managers test and implement biodiversity-friendly practices while safeguarding food security and the long-term sustainability of farming and forestry;

- progress towards reaching the goals and targets of the Kunming-Montréal Global Biodiversity Framework contributes to reducing the pressure on biodiversity and to ensuring sustainable development worldwide.

R&I under Destination "Biodiversity and ecosystem services" will mostly deliver under Key Strategic Orientation (KSO) 1 of Horizon Europe Strategic Plan 2025-2027: Green transition and to a lesser extent KSO 3: A more resilient, competitive, inclusive and democratic Europe.

Spending under this destination counts 100% against the target for biodiversity expenditure under Horizon Europe. In addition, most of the activities, especially in the area of ecosystem restoration, contribute to the target for climate expenditure in line with the European Climate Law, which acknowledges that the restoration of ecosystems can maintain, manage and enhance natural sinks.

The Work Programme 2025 supports additional activities of the European Biodiversity Partnership Biodiversa+, while ensuring complementarity of actions with other instruments.

Synergies are sought with:

- EU missions, in particular "A Soil Deal for Europe" and "Restoring our ocean and waters by 2030" in topics dealing with nature restoration;

- Horizon Europe partnerships: in addition to Biodiversa +, several co-funded partnerships under Cluster 6 notably Water4All, sustainable blue economy and agroecology;

- JRC activities, notably the EC Knowledge Centre for Biodiversity (KCBD) and its Science Service for Biodiversity (SSBD), the Competence Centre on Participatory and Deliberative Democracy, the European Technical Support Centre for the Global Biodiversity Framework as requested by the Convention on Biological Diversity, European regional centre for biodiversity and the Global Knowledge Support Service for Biodiversity (GKSSB).

To maximise the impacts of R&I under this destination, international cooperation is encouraged in topics as appropriate. International cooperation is sought, in particular in topics that support IPBES, the implementation of the Kunming-Montreal Global Biodiversity Framework, the Sustainable Development Goals, the Paris Agreement and related international agreements such as the Agreement on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ).

Under this destination there is a substantial need for more fundamental research and therefore there is a majority of Research and Innovation Actions (RIAs).

This destination benefits from interdisciplinarity and trans-disciplinarity, including the contribution of social sciences and humanities (SSH), and takes into due account gender and other social categories and their intersections to ensure promotion of democracy and a socially just transition where relevant. Citizens and stakeholders' engagement will be sought including with living labs. The destination is expected to contribute to the new Commission priority "Protecting our democracy, upholding our values" by engaging with civil society. Furthermore, it strives to take full advantage of the potential of nature restoration and nature-based solutions, to deliver multiple social, economic and environmental co-benefits.

Consolidating biodiversity knowledge for nature and society

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-01-BIODIV-01: Additional activities for the European Biodiversity Partnership: Biodiversa+

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 60.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 60.00 million.
Type of Action	Programme Co-fund Action
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used). The proposal must be submitted by the coordinator of the consortium of

	the grant funded under HORIZON-CL6-2021-BIODIV-02-01 and HORIZON-CL6-2023-BIODIV-01-18. This eligibility condition is without prejudice to the possibility to include additional partners.
Procedure	The procedure is described in General Annex F. The following exceptions apply: The evaluation committee will be composed partially by representatives of EU institutions. If the proposal is successful, the next stage of the procedure will be grant agreement amendment preparations. If the outcome of amendment preparations is an award decision, the coordinator of the consortium funded under HORIZON-CL6-2021-BIODIV-02-01: European partnership rescuing biodiversity to safeguard life on Earth will be invited to submit an amendment to the grant agreement, on behalf of the beneficiaries.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: This action is intended to be implemented in the form of an amendment of the grant agreement concluded pursuant to topic HORIZON-CL6-2021-BIODIV-02-01. For the additional activities covered by this action: • The funding rate is 30% of the eligible costs. • Beneficiaries may provide financial support to third parties (FSTP). The support to third parties can only be provided in the form of grants. • Financial support provided by the participants to third parties is one of the primary activities of this action in order to be able to achieve its objectives. The EUR 60 000 threshold provided for in Article 207(a) of the Financial Regulation No 2024/2509 does not apply. • The maximum amount of FSTP to be granted to an individual third party is EUR 7 000 000 for the whole duration of Horizon Europe [47]. This amount is justified since provision of FSTP is one the primary activities of this action and it is based on the extensive experience under predecessors of this partnership. The starting date of grants awarded under this topic may be as of the

[47] However, if the objectives of the action would otherwise be impossible or overly difficult (and duly justified in the proposal) the maximum amount may be higher

	submission date of the application. Applicants must justify the need for a retroactive starting date in their application. Costs incurred from the starting date of the action may be considered eligible (and will be reflected in the entry into force date of the amendment to the grant agreement).
Total indicative budget	The total indicative budget for the topic is EUR 60 million committed in annual instalments over years 2025-2027 (EUR 20 million from the 2025 budget, EUR 20 million from the 2026 budget and EUR 20 million from the 2027 budget).

Expected Outcome: The third instalment of the partnership is expected to further contribute to the expected outcomes specified in topics HORIZON-CL6-2021-BIODIV-02-01 and HORIZON-CL6-2023-BIODIV-01-18, for continuation of the activities in line with already agreed outcomes. In addition, during the third instalment, the partnership is also expected to contribute to the objectives of the EU Nature Restoration Regulation and of the European Climate Law.

Scope: The objective of this action is to continue to provide support to the European Biodiversity Partnership Biodiversa+ identified in the Horizon Europe Strategic Plan 2021-2024 and implemented under the previous topics HORIZON-CL6-2021-BIODIV-02-01 and HORIZON-CL6-2023-BIODIV-01-18, and in particular to fund additional activities (which may also be undertaken by additional partners) in view of its intended scope and duration, and in accordance with Article 24(2) of the Horizon Europe Regulation. It is expected that the partnership's additional activities will contribute to the objectives of the EU Nature Restoration Regulation and of the European Climate Law by developing innovative solutions for the restoration of ecosystems that can maintain and enhance natural carbon sinks and by further developing nature-based solutions and ecosystem-based adaptation measures.

The consortium which applied to and received funding under HORIZON-CL6-2021-BIODIV-02-01 and HORIZON-CL6-2023-BIODIV-01-18 is uniquely placed to submit a proposal to continue the envisioned partnership. Not only did this consortium submit the proposal leading to the identification of the partnership in the Horizon Europe strategic planning 2021-2024, it has also implemented the partnership through co-funded annual calls in years 2021-2024 based on this planning and further to topics HORIZON-CL6-2021-BIODIV-02-01 and HORIZON-CL6-2023-BIODIV-01-18. In this context, the current consortium has particular expertise in relation to the objectives of the Partnership, the activities to be implemented in particular FSTP calls or other calls/scope of calls clearly required/envisioned pursuant to initial proposal/partnership, and other relevant aspects of the action. In practice, another consortium could not continue the activities of the Partnership underway without significant disruption to the ongoing activities, if at all.

The scope of the application for this call on the European Biodiversity Partnership Biodiversa+ should focus on the flagship programmes 2025-27 according to the partnership's co-created strategic research and innovation agenda for seven years, which includes calls for

research projects, biodiversity- and ecosystems monitoring and science-based policy advisory activities, and all horizontal activities to allow the Partnership to operate and to achieve its five specific objectives.

It is expected that the partnership continues to organise joint calls on an annual base and therefore it should factor ample time to run the co-funded projects. It should build on, and widen, the data availability in European Research Infrastructures federated under the European Open Science Cloud.

The partnership should collaborate closely with the EC Knowledge Centre for Biodiversity and the Science Service project BioAgora. The partnership should also seek to collaborate with EU space programmes (Copernicus, Galileo) to foster the use of emerging or operational space technologies for policy development. Moreover, the partnership should describe specific activities foreseen in order to strengthen the complementarities with other related Missions and Partnerships.

While the award of a grant to continue the Partnership in accordance with this call should be based on a proposal submitted by the coordinator of the consortium funded under HORIZON-CL6-2021-BIODIV-02-01 and HORIZON-CL6-2023-BIODIV-01-18, and the additional activities (which may include additional partners) to be funded by the grant should be subject to an evaluation, this evaluation should take into account the existing context and the scope of the initial evaluation as relevant, and related obligations enshrined in the grant agreement.

Taking into account that the present action is a continuation of topic HORIZON-CL6-2021-BIODIV-02-01 and HORIZON-CL6-2023-BIODIV-01-18, and foresees an amendment to an existing grant agreement, the proposal should also present in a separate document the additional activities and any additional partners to be covered by the award in terms of how they would be reflected in the grant agreement.

The partnership should pool the necessary financial resources from the participating national (or regional) research programmes with a view to implementing joint calls for transnational proposals resulting in grants to third parties.

HORIZON-CL6-2025-01-BIODIV-02: Strengthening the capacity of citizen science in biodiversity observation

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 4.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 4.00 million.

Type of Action	Coordination and Support Actions
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [48].

Expected Outcome: In supporting the implementation of the European Green Deal, the EU biodiversity strategy for 2030 and the EU Nature Restoration Regulation, which contributes to the EU's overarching objectives on climate mitigation and adaptation, the successful proposal will deliver on the impact of this Destination on improved knowledge, innovations, methods, pathways and tools to protect healthy ecosystems and to restore degraded ones ensuring the provision of ecosystem services. It will thus contribute to the objectives of the European Climate Law on nature-based solutions and ecosystem-based adaptation.

Project results are expected to contribute to all of the following expected outcomes:

- capacity for citizen engagement in biodiversity observation is enhanced and contributes to the development of climate change mitigation and adaptation measures at local level;
- citizen science initiatives on biodiversity are promoted and coordinated by citizen science experts (taxonomy, genomics, IT, education and communication experts) and their outputs better harmonised;
- citizen science approach is better integrated in taxonomic networks and communities, supporting modern taxonomic research and resolution of pressing ecological challenges;
- systematic biodiversity observation is established (including citizen science and environmental observations), covering also little-known taxonomic groups and going beyond what the current policy is covering. Specifically, the possibilities of using citizen science data for monitoring ecosystem dynamics in time and for modelling the effects of the drivers of biodiversity loss, notably climate change, on species distribution are enhanced.

Scope: Citizen science is key to gather in situ biodiversity data, which complement official/national data collection programmes. The role of European citizens, including young people, in the generation of knowledge on biodiversity, ecosystems and their provision of essential ecosystem services to society needs to be strengthened on the basis of best practices.

[48] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

There are hundreds of citizen science initiatives across the European Union, managed and/or funded by EU, national or regional authorities, NGOs, municipalities and others. Data are not always collected and/or presented in a harmonised way, preventing their best use. Many lesser-known species are overlooked, as well as some opportunities (e.g. collaboration with key stakeholders such as farmers, foresters, fishers, hunters, urban planners). A coordinated approach, at the level of the EU, is necessary to tackle some specific issues such as challenges in nature management, state of plant health, spread of invasive alien species, changes in species distribution or migrations due to climate change or as result of human activity (e.g., transport, agriculture, industrial production).

Activities under this topic are expected to:

- analyse all tools available for citizen science on biodiversity (taxonomy fiches, schoolkits, App, use of e-DNA kits, artificial intelligence, etc), collect best practices and propose/identify, if necessary, new ones in collaboration with taxonomy, genomics, IT, education and communication experts;

- develop strategies, roadmaps and guidelines and test them to scale up citizen engagement in biodiversity observation, including a review of good practices for setting up a system of incentives to attract and retain citizen interest. The development and tests on the ground should be based on tools and protocols for data quality assessment, control and validation, consider data need scenarios (e.g. types of data used by Environmental Authorities and bodies providing scientific advice to policy makers on environmental aspects) and involve potential users (e.g. schools, stakeholders, young citizens, NGOs, civil society organisations as well as hard-to-reach and vulnerable citizens/groups);

- develop outreach activities and materials on the crucial importance of biodiversity and biodiversity observation for climate change mitigation and adaptation;

- identify frameworks for harmonisation and standardisation of citizen science protocols for data collection, validation, storage and sharing, as well as frameworks for interoperability of various digital tools (e.g. smart phone applications) used by citizen scientists. Attention should be paid to metadata and accessibility and transparency with regard to reference documentation, taking into account the multilingual nature of citizen science activities. Cyber security and personal data protection aspects should be considered;

- explore avenues to streamline development of essential resources for setting up and running citizen science initiatives, including kits for collection of biodiversity data, promotion and awareness raising toolkits, training schemes, applications, multilingual protocols and participation certification for diverse target groups including children and young people.

The support and early involvement of citizens and civil society is central to achieving the targeted outcomes. The proposals should focus on all potential groups of stakeholders and citizens including vulnerable groups, such as young people (including those not in education

or employment), elderly people, migrants, ethnic minorities, pregnant women, and persons with disabilities.

It is expected that the proposed activities cover terrestrial, freshwater and marine environments, and that the activities will contribute to the objectives of the EU Nature Restoration Regulation and thereby also to climate change mitigation and adaptation objectives.

The proposal should foresee cooperation with the European Biodiversity Partnership Biodiversa+, the EC Knowledge Centre for Biodiversity and the Science Service project BioAgora. The proposal should also foresee cooperation with the European Alien Species Information Network (EASIN), the upcoming pilot on the EU Biodiversity Observation Coordination Centre (EBOCC), national biodiversity monitoring hubs, and national statistical offices to explore and advance the collection of citizen science observations.

The selected project should coordinate with other projects working on citizen science for biodiversity[49], the European Citizen Science platform[50] and relevant organisations as the European Citizen Science Association (ECSA), to ensure the exhaustive overview of all citizen science initiatives across the EU.

The selected project is also expected to collaborate with the projects selected under the topics HORIZON-CL6-2025-01-BIODIV-03: Strengthening taxonomic approaches for biodiversity and HORIZON-CL6-2025-01-BIODIV-04: Large-scale in situ biodiversity observations for better understanding of biodiversity state, drivers of its decline and impacts of policies.

The use of AI could be considered for the analyses needed under this topic.

HORIZON-CL6-2025-01-BIODIV-03: Strengthening taxonomic approaches for biodiversity

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 12.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 24.00 million.
Type of Action	Research and Innovation Actions

[49] Projects funded under the topics HORIZON-CL6-2021-BIODIV-01-02, HORIZON-CL6-2021-BIODIV-01-03, HORIZON-CL6-2022-BIODIV-01-01. See also relevant EU projects funded under the EU Missions, in particular "Soil Deal for Europe" (e.g. HORIZON-MISS-2022-SOIL-01-09), "Restoring our ocean and waters by 2030" (e.g. HORIZON-MISS-2024-OCEAN-01-04), "Adaptation to Climate Change" and "Climate-neutral and smart cities".

[50] https://eu-citizen.science/.

Procedure	The procedure is described in General Annex F. The following exceptions apply: To ensure a balanced portfolio, grants will be awarded to applications not only in order of ranking but at least also to one project within the area A that is the highest ranked, and one project highest ranked within the area B, provided that the applications attain all thresholds. Proposals must clearly indicate the area they are applying to.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Beneficiaries may provide financial support to third parties. The support to third parties can only be provided in the form of grants. The maximum amount to be granted to each third party is EUR 60 000 [51].

Expected Outcome: In supporting the implementation of the European Green Deal, the EU biodiversity strategy for 2030 and the Kunming-Montréal Global Biodiversity Framework, successful proposals will contribute to the impact of this Destination on improved knowledge, innovations, methods, pathways and tools to protect healthy ecosystems and to restore degraded ones ensuring the provision of ecosystem services, including for adaptation and/or mitigation to climate change, thus contributing to the objectives of the European Climate Law on nature-based solutions and ecosystem-based adaptation.

Project results are expected to contribute to all the following expected outcomes:

- the taxonomic community (experts who identify, name, describe, and classify biodiversity working from the level of molecules, including eDNA and eRNA, genomes and metagenomes, species and populations, to habitats and ecosystems) and its capacity to engage with and support policy and other decision-making on biodiversity, climate change and other environmental issues are strengthened;
- strategic approaches for a systematic reinforcement of expertise and training of the taxonomic community in Europe, including genomics for biodiversity identification and monitoring are developed.

Scope: R&I activities should:

- fill gaps in taxonomic expertise, including in the context of intra-species biodiversity (genetic diversity within and between populations) and habitats/ecosystems;
- establish, pilot and test novel taxonomic approaches on observing and quantifying biodiversity at all levels;

[51] However, if the objectives of the action would otherwise be impossible or overly difficult (and duly justified in the proposal) the maximum amount may be higher

- develop strategies and roadmaps for systematic capacity building and transfer of taxonomic knowledge;

- compile a comprehensive open online catalogue of taxonomic and nomenclatural databases, and encourage the existing databases to align with common standards and FAIR principles, to merge where possible, and to link with or mirror each other. This catalogue should be designed to support the process of taxonomic identification, covering a wide range of databases from genetic information to species classification[52], and support a common European Taxonomy Initiative contributing to the Global Taxonomy Initiative;

- support development of tools to facilitate taxonomic training, such as reference collections, guidelines, standards and schemes for academic certification (e.g. within the European Credit Transfer and Accumulation System ECTS);

- establish an EU network of taxonomy and genomics experts, from taxonomic facilities to universities, including an interconnected network of biodiversity genomics facilities[53];

- ensure representative coverage of biodiversity across terrestrial, freshwater, and marine ecosystems, including lesser-known taxa and ecosystems and with regard to such taxa and ecosystems that act as climate change indicators, recognising the critical role that biodiversity and ecosystem services play in climate change mitigation and adaptation.

Proposals should address either Area A or Area B as follows:

Area A:

- integrate and maximise the impact of taxonomic work across the different stages of biodiversity identification, description, curation, publication, digitalization and management, to the scale needed at national and European level;

- consolidate and underline the taxonomic ground for long-term monitoring efforts based on expert knowledge and activity, and the use of advanced and validated tools.

Proposals may provide financial support to third parties, to cover specific needs/taxa/ecosystems and/or issues. These third party grants should focus on the most pressing and identified knowledge gaps, by reinforcing taxonomy notably in expertise and data lacking areas such as in Central and East European, Mediterranean and outermost regions. Maximum 30% of the requested EU contribution should be allocated to this purpose.

Area B:

[52] Including nomenclatural databases such as the International Plant Names Index (IPNI), Zoobank, Algaebase and Mycobank.

[53] Associated Countries can participate in the network.

- widen participation and accessibility of genomic data, increase geographical coverage and scale of participation, whilst engaging in training and knowledge transfer, including links with non-genomic data ("from molecules to ecosystems approach");

- consolidate and enhance the uptake / use / impact of genomic data as more and better-quality data become available to support environmental management, environmental risk assessment and sustainable use of natural resources;

- establish a comprehensive biodiversity genomics system in Europe, based on latest progresses, particularly in DNA barcoding and whole-genome sequencing through participation in the International Barcode of Life (iBOL) and the Earth BioGenome Project.

Proposals may provide, when relevant, financial support to third parties to cover specific needs/taxa/ecosystems and/or issues related to the use of genomic data. These third party grants should focus on the most pressing and identified knowledge gaps, by reinforcing genomic taxonomy notably in expertise and data lacking areas such as in Central and East European, Mediterranean and outermost regions. Maximum 30% of the requested EU contribution should be allocated to this purpose.

Proposals should foresee cooperation with the EC Knowledge Centre for Biodiversity and the Science Service project BioAgora.

Proposals should use existing platforms and information sharing mechanisms relevant to the topic and build on results from relevant projects including TETTRIs, BGE and EuropaBON[54]. The proposals should foresee close collaboration with the other project selected under this topic and collaboration with the projects selected for topics HORIZON-CL6-2025-01-BIODIV-02: Strengthening the capacity of citizen science in biodiversity observation and HORIZON-CL6-2025-01-BIODIV-04 on large-scale biodiversity observations.

Proposals should coordinate and collaborate with relevant organisations such as the Consortium of European Taxonomic Facilities (CETAF), the Global Biodiversity Information Facility (GBIF) and with the European Alien Species Information Network (EASIN) and the upcoming pilot on the EU Biodiversity Observation Coordination Centre (EBOCC). The proposals should also connect to existing global and European biodiversity data infrastructures including the Catalogue of Life (COL), DiSSCo, LifeWatch ERIC, EMBRC, eLTER and MIRRI-ERIC[55], where relevant. The activities should cover also alien species, thereby contributing to the implementation of the Invasive Alien Species Regulation.

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54 Other relevant projects are BIOCEAN5D, MARBEFES, OBAMA-NEXT, MARCO-BOLO and DiverSea and the project funded under Area A of HORIZON-CL6-2024-BIODIV-01: Digital for Nature.

55 And any other relevant research infrastructure prioritised by the European Strategy Forum on Research Infrastructures (ESFRI). The catalogue of European Strategy Forum on Research Infrastructures (ESFRI) research infrastructures portfolio can be browsed from ESFRI website https://ri-portfolio.esfri.eu/

Concrete efforts should be made to ensure that the data produced in the context of the funded projects is FAIR (Findable, Accessible, Interoperable and Re-usable), particularly in the context of real-time data feeds, exploring workflows that can provide "FAIR-by-design" data, i.e., data that is FAIR from its generation. Possibilities offered by the European Open Science Cloud (EOSC) to store and give access to research data should be considered.

Citizen science approach is encouraged as research methodology at all stages of the research activities in addressing both Area A and Area B. Citizen science activities should follow a R&I approach in line with disciplinary/sectoral standards, including for the data and knowledge generation.

International cooperation is encouraged, in particular with countries and partners that support global efforts such as the Global Taxonomy Initiative, iBOL, GBIF and COL.

The use of AI could be considered for the analyses needed under this topic.

HORIZON-CL6-2025-01-BIODIV-04: Large-scale in situ biodiversity observations for better understanding of biodiversity state, drivers of its decline and impacts of policies

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 11.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 22.00 million.
Type of Action	Research and Innovation Actions
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Beneficiaries may provide financial support to third parties. The support to third parties can only be provided in the form of grants. The maximum amount to be granted to each third party is EUR 60 000.

Expected Outcome: In supporting the implementation of the European Green Deal, and in particular the EU biodiversity strategy for 2030, successful proposals will contribute to the impacts of this destination, notably to a better understanding of the ongoing biodiversity crisis and its consequences, the benefits of ecosystem services and the need to protect and restore them. Successful proposals are expected to support the implementation of the EU Nature Restoration Regulation and of the European Climate Law which requires Member States to promote nature-based solutions and ecosystem-based adaptation.

Project results are expected to contribute to all of the following expected outcomes:

- competent authorities in charge of the design and implementation of biodiversity policies at all levels have more high-quality data and information from in situ biodiversity observations to understand the biodiversity state and trends in the EU and in Associated Countries;

- more high-quality data and information from in situ biodiversity observations is available to evaluate the effectiveness (in terms of biodiversity related objectives) of policies and business activities and for applied research and innovation.

Scope: The EU biodiversity strategy for 2030 sets the following targets for 2030: significant areas of degraded and carbon-rich ecosystems are restored; habitats and species show no deterioration in conservation trend and status, and at least 30% reach favourable conservation status or at least show a positive trend. The EU Nature Restoration Regulation establishes a framework within which Member States shall put in place effective and area-based restoration measures with the aim to jointly cover, as a Union target, throughout the areas and ecosystems within the scope of this Regulation, at least 20 % of land areas and at least 20 % of sea areas by 2030, and all ecosystems in need of restoration by 2050. At global level, the EU has taken commitments reflecting the EU targets with the Kunming-Montréal Global Biodiversity Framework. The European Climate Law requires Member States to promote nature-based solutions and ecosystem-based adaptation when preparing their adaptation strategies and plans, and therefore it is crucial to improve the knowledge of biodiversity status and trend to select the most appropriate adaptation measures at local level.

However, knowledge of the state and trends of biodiversity and ecosystems in the EU is insufficient to enable a robust measurement of progress towards the EU and global commitments and targets. To fill these knowledge gaps, robust data and information on species and habitats have to be generated in different climate zones. Large-scale in situ observations are essential to deliver such data and information with adequate quantity and quality. Besides improved understanding of the state of biodiversity and ecosystems, better in-situ data on species and habitats, coupled with other data sources, will also enable better identification and quantification of the effects of drivers of biodiversity decline, impacts of policy actions to mitigate those effects and overall progress made under the green transition. High-quality in situ data is also essential for building and updating reliable indicators and models, their validation and improvement, as well as the validation of newly developed observation techniques.

R&I activities should:

- prepare harmonised or standardised frameworks for the execution of biodiversity observations and apply state-of-the-art protocols of the utilised sampling techniques, in order to ensure the quality and interoperability and public access of the collected data. Particular attention should be paid to comprehensive and robust metadata. In particular a comprehensive coverage of the territory of EU Member States should be sought;

- undertake systematic large-scale in situ observations of biodiversity in order to a) record occupancy, richness and abundance of species and populations, b) map species, populations and habitats, and c) survey habitat composition and structure. In this regard, the activities should generate data of adequate spatial and temporal granularity spanning multiple geographical scales to capture the variability in biodiversity across different contexts. The activities should cover species and habitats in terrestrial, freshwater and marine ecosystems, including lesser-known taxa, ensuring a comprehensive understanding of biodiversity across diverse ecological and geographical settings;

- define the methodology for applying specific data quality checks;

- ensure that the collected data which is relevant for future projections are properly defined and fit for modelling (in particular in the context of the activities under HORIZON-CL6-2025-01-BIODIV-05);

- based on the undertaken observations:

    - assess the state, geographical distribution, phenology and trends of observed species populations;

    - assess the quality, structure, functions and geographical distribution of observed habitats;

    - fill species and habitat data gaps in terms of geographical coverage in the EU and in Associated Countries, as well as the data gaps in terms of taxonomic coverage.

The use of AI could be considered for the analyses needed under this topic. Concrete efforts should be made to ensure that the data produced in the context of the funded project is FAIR (Findable, Accessible, Interoperable and Re-usable), exploring workflows that can provide "FAIR-by-design" data, i.e., data that is FAIR from its generation. Possibilities offered by the European Open Science Cloud (EOSC) and by relevant European research infrastructures including the Catalogue of Life (COL), DiSSCo, LifeWatch ERIC, EMBRC, eLTER and MIRRI-ERIC[56] to store and give access to research data could be considered where relevant.

Proposals may provide financial support to third parties (FSTP) to, for instance, undertake in-situ observation on specific habitats and species. A maximum of 30% of the EU funding should be allocated to this purpose. Consortia need to define the selection process of organisations, for which financial support may be granted.

Proposals should foresee cooperation with the EC Knowledge Centre for Biodiversity and the Science Service project BioAgora. Proposals should also show how the planned activities could provide timely information for consideration by the Intergovernmental science-policy Platform on Biodiversity and Ecosystem Services (IPBES).

[56] And any other relevant research infrastructure prioritised by the European Strategy Forum on Research Infrastructures (ESFRI). The catalogue of European Strategy Forum on Research Infrastructures (ESFRI) research infrastructures portfolio can be browsed from ESFRI website https://ri-portfolio.esfri.eu/

Projects will be asked to cooperate with projects that will be selected under the following topic under this call: HORIZON-CL6-2025-01-BIODIV-05: Assessing and modelling ecosystems' dynamic processes to guide restoration activities and to improve models used for climate.

Restoring ecosystems for resilient society and economy

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-01-BIODIV-05: Assessing and modelling ecosystems' dynamic processes to guide restoration activities and to improve models used for climate

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 18.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used).
Procedure	The procedure is described in General Annex F. The following exceptions apply: To ensure a balanced portfolio, grants will be awarded to applications not only in order of ranking but at least also to one project within the area A that is the highest ranked, and one project highest ranked within the area B, provided that the applications attain all thresholds. Proposals must clearly indicate the area they are applying to.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the

	Research and Training Programme of the European Atomic Energy Community (2021-2025) [57].

Expected Outcome: Successful proposals will contribute to the impacts of this destination by improving knowledge and developing modelling tools to guide the restoration of degraded ecosystems ensuring the provision of ecosystem services. It will thus contribute to the objectives of the European Climate Law (which requires Member States to promote nature-based solutions and ecosystem-based adaptation) and will improve knowledge to ensure that biodiversity and climate policies and their implementation are coherent, mutually supportive and provide co-benefits for sectoral policies.

Project results are expected to contribute to all the following expected outcomes:

- national competent authorities, decision makers and practitioners having to implement restoration activities benefit from updated knowledge and new tools based on modelling approaches;
- nature restoration is fully taken into account in the modelling frameworks used for climate and land use policies.

Scope: The EU biodiversity strategy for 2030 set the following targets for 2030: significant areas of degraded and carbon-rich ecosystems are restored; habitats and species show no deterioration in conservation trend and status, and at least 30% reach favourable conservation status or at least show a positive trend. The EU Nature Restoration Regulation establishes framework within which Member States shall put in place effective and area-based restoration measures with the aim to jointly cover, as a Union target, at least 20 % of land areas and at least 20 % of sea areas by 2030, and all ecosystems in need of restoration by 2050.

The use of models is expected to support national and EU competent authorities and stakeholders for the implementation of the EU Nature Restoration Regulation, in particular in the following areas:

- determination of the good conditions of habitats as defined in the Habitats directive and the good environmental status defined in the Marine strategic framework directive;
- establishment of threshold values for the favourable reference area for habitats and ecosystems covered by the EU Nature Restoration Regulation;
- estimate of ecological needs of species in terms of quantity and quality of their habitats and better understanding of links between habitats and ecosystems restoration and species conservation;

[57] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

- better understanding of connectivity, functionality, ecological coherence of Natura 2000 network and marine reserve network and competing needs of species;

- analysis of restoration pathways proposed by competent authorities to achieve the short term (2030) and long term (2040-2050) targets of the EU biodiversity strategy for 2030 and the EU Nature Restoration Regulation for all ecosystem types.

Proposals should either address Area A: main focus on terrestrial ecosystems, or Area B: main focus on marine ecosystems. The area (A or B) should be clearly indicated on the application.

For both areas, R&I activities should:

- develop a model as described above capable of simulating dynamic ecosystems processes, including interactions at different scale levels, based on literature review, available datasets or data-basis, realised restoration activities, on-going projects including demonstration cases, and existing guidance. The model should be able to estimate ecological reference values tailored to the specificity of ecosystems in different territories and in given contexts including under climate change, to assess proposed restoration pathways and to contribute to improve/expand other models;

- prioritise ecosystems corresponding to synergies identified between ecosystem restoration and one or several of the following areas: climate change mitigation, climate change adaptation, land degradation neutrality and disaster risk prevention;

- address data gaps with direct observation if needed;

- formulate practical guidelines or advice for practitioners about how to carry out restoration, including when dealing with invasive alien species;

- aim at improving and expanding models used for climate and land-use policies, by coupling modelling functionalities as described above.

Proposals should build on the results of relevant existing projects and envisage enough resources to collaborate with other selected projects under this topic to provide an effective integration of the generated models.

Proposals should build on the knowledge compiled in the assessment reports produced by the Intergovernmental science-policy Platform on Biodiversity and Ecosystem Services (IPBES), including the IPBES scenarios and models assessment, and should show how the planned activities could provide timely information for consideration to future reports.

Concrete efforts should be made to ensure that the data produced in the context of the funded projects is FAIR (Findable, Accessible, Interoperable and Re-usable), particularly in the context of real-time data feeds, exploring workflows that can provide “FAIR-by-design” data, i.e., data that is FAIR from its generation. Possibilities offered by the European Open Science Cloud (EOSC) to store and give access to research data should be considered, including data from in-situ sensors and satellite-based Earth observations.

Citizen Science approach could be appropriate for this action to produce, collect and analyse data.

When dealing with models, actions should promote the highest standards of transparency and openness, as much as possible going well beyond documentation and extending to aspects such as assumptions, protocols, code and data that is managed in compliance with the previously mentioned FAIR principles.

This topic is part of a coordination initiative between ESA and the EC on Earth System Science (ESSI). Projects will be asked to cooperate with projects that will be selected under ESA's Future EO programme as well as under the following topics under this call: HORIZON-CL6-2025-01-BIODIV-04: Large-scale in situ biodiversity observations for better understanding of biodiversity state, drivers of its decline and impacts of policies and HORIZON-CL6-2025-01-BIODIV-06: Assessing and modelling socio-economic impacts of nature restoration. To this end, proposals should plan to allocate sufficient resources for effective coordination, with concrete cooperation activities to be defined at a later stage. Applicants are not expected to contact the ESA or ESA projects to prepare proposals.

Proposals should foresee cooperation with the EC Knowledge Centre for Biodiversity and the Science Service project BioAgora.

HORIZON-CL6-2025-01-BIODIV-06: Assessing and modelling socio-economic impacts of nature restoration

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 5.00 and 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 16.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used).
Legal and financial set-up of the Grant	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the

Agreements	Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025) [58].

Expected Outcome: Successful proposals will contribute to the impacts of this destination by providing tools to assess the socio-economic impacts, including benefits and costs, of measures aiming at restoring degraded ecosystems ensuring the provision of ecosystem services, including for adaptation and/or mitigation to climate change.

Project results are expected to contribute to all the following expected outcomes:

- short, medium, and long-term socio-economic impacts, including benefits and costs, of nature restoration, along with their social and territorial distribution, are better known including by scientists and stakeholders of the public and private sectors;
- policy-makers have at their disposal science-based tools to predict impacts, including benefits and costs, of the implementation of policies aiming at restoring nature;
- stakeholders in charge of financing or implementing nature restoration have tools at their disposal to integrate impacts, including benefits and costs, of nature restoration in their business plans;
- socio-economic benefits and costs are traceable directly to the intervention or the origin of stressor, for instance reduction of pollution input.

Scope: The EU biodiversity strategy for 2030 set the following targets for 2030: significant areas of degraded and carbon-rich ecosystems are restored; habitats and species show no deterioration in conservation trend and status, and at least 30% reach favourable conservation status or at least show a positive trend. The EU Nature Restoration Regulation sets binding targets for 2030 and 2050, with an incremental implementation. The European Climate Law requires that policies on adaptation in the Union and in Member States are coherent, mutually supportive, provide co-benefits for sectoral policies, and work towards better integration of adaptation to climate change in a consistent manner in all policy areas, including relevant socioeconomic and environmental policies and actions.

R&I activities are expected to:

- conduct sector-specific assessments to measure the comprehensive economic and social (including employment) impacts and benefits of nature restoration, including their territorial and social distribution, encompassing both the financial effect of economic activities and the non-market benefits (including climate mitigation and adaptation,

[58] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

health and well-being benefits) derived from ecosystem services including provisioning, regulating and cultural services as well as nature's contribution to people;

- employ a multidisciplinary approach combining at least expertise in economics, ecology, social sciences, geography, sustainability and environmental science as well as system and complexity science to capture the full range of impacts and benefits;
- develop and validate modelling approaches, that can build on existing environmental and socio-economic models, to analyse the economic, social and employment impacts and benefits of nature restoration, including their territorial and social distribution, integrating also biodiversity, ecosystem services and nature's contribution to people good quality of life including food security;
- enable understanding of the incremental progress in nature restoration between the 2030 and 2050 target years to guide public and private stakeholders in their continued actions through quantification of socio-economic benefits and impacts of individual measures;
- improve the understanding of the possibilities and limitations of tools for socio-economic assessments of nature restoration, particularly with regard to the non-market benefits.

Proposals should build on results of past and on-going projects and on the knowledge compiled in the assessment reports produced by the Intergovernmental science-policy Platform on Biodiversity and Ecosystem Services (IPBES), including the IPBES values assessment and the IPBES scenarios and models assessment.

This topic requires the effective contribution of SSH disciplines, including economics, socio-economics, geography and sociology. It is essential to involve SSH experts and institutions, as well as incorporate relevant gender expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.

Concrete efforts should be made to ensure that the data produced in the context of the funded projects is FAIR (Findable, Accessible, Interoperable and Re-usable), particularly in the context of real-time data feeds, exploring workflows that can provide "FAIR-by-design" data, i.e., data that is FAIR from its generation.

Proposals should envisage enough resources to collaborate with other selected projects under this topic to provide an effective integration of the models generated. Projects will be asked to cooperate with projects that will be selected under the following topics under this call: HORIZON-CL6-2025-01-BIODIV-05: Assessing and modelling ecosystems' dynamic processes to guide restoration activities and to improve models used for climate and HORIZON-CL6-2025-01-BIODIV-10: Supporting the implementation of nature restoration measures for sustainable farming systems.

Proposals should foresee cooperation with the EC Knowledge Centre for Biodiversity and the Science Service project BioAgora.

HORIZON-CL6-2025-01-BIODIV-07: Integrated and coordinated approaches for coral reefs and associated ecosystems (mangroves and seagrass beds) conservation, restoration, and climate mitigation and adaptation

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used). The following additional eligibility criteria apply: due to the specific challenge of this topic, in addition to the minimum number of participants set out in the General Annexes, consortia must include, as beneficiaries, at least three independent legal entities, each established in a different Least Developed Country [59] and/or Small Island Developing State [60]. All international organisations are exceptionally eligible for funding.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025) [61].

59 LDCs at a Glance | Department of Economic and Social Affairs (un.org)

60 List of SIDS | Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States

61 This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

Expected Outcome: In line with the EU biodiversity strategy for 2030, the Kunming-Montreal Global Biodiversity Framework and the EU climate adaptation strategy, successful proposals will contribute to the impacts of this Destination, notably to protect healthy ecosystems and to restore degraded ones ensuring the provision of ecosystem services, including for adaptation and/or mitigation to climate change. The research will contribute to the objectives of the European Climate Law, which requires Member States to promote nature-based solutions and ecosystem-based adaptation.

Project results are expected to contribute to all of the following expected outcomes:

- increased protection, restoration, and resilience of coral reefs and associated ecosystems in both protected and non-protected areas, acknowledging the objectives of the EU Nature Restoration Regulation, the climate change mitigation and adaptation strategies;
- effective management and land-sea planning of those associated ecosystems are based on approaches considering them together and integrating field experience with state-of-the-art and indigenous populations & local communities (IPLC) knowledge into hands-on guidelines;
- international initiatives are supported in the effort to coordinate and reduce the fragmentation of the current landscape of interventions and resources for the conservation and management of these ecosystems. The capacity for a durable intervention is built in outermost regions, overseas countries and territories of the EU and in third countries, in particular Least Developed Countries and Small Island Developing States.

Scope: Coral reefs and seagrass beds represent about less than 1% of the ocean's surface and mangrove cover about 1%. They are home to at least 25% of known marine species and supporting up to 40% of fish species of the global ocean through food webs and nutrients cycles. About half of the coral reef ecosystems have disappeared since the 1950's, 29% of the known areal extent of seagrass has disappeared since the initial records from 1879 and about 35% of the original mangrove area was lost by the end of the 20th century, as consequences of direct drivers at play for the past decades (pollution, extraction, overfishing, harmful fishing practices, coastal development, deforestation), invasive alien species and now additionally from increasing climate change impacts (rising sea surface temperature, marine heatwaves, sea level rise, deoxygenation, acidification, etc.). Providing multiple ecosystems services and benefits for people, research, conservation and management efforts have increased in the recent years but often targeted these systems individually, with various duration and focus and long-term observation and management.

Where they co-occur, coral reefs (including mesophotic extensions), mangroves and seagrass beds share tight ecological connections. Recent observations during coral bleaching events suggest that jointly protecting mangroves, seagrasses, and reefs may synergistically increase the success and benefits of conservation due to positive feedback at habitat boundaries. However, an integrated land-sea planning and management remain challenging because of

knowledge gaps in their functional ecology and connectivity, in the spatial extents of their interactions, their seasonal patterns, the socio-political decision-making contexts for local / national planning at sea or on land, and the scarce access to knowledge, experience and to spatial data. Most of past and ongoing interventions are isolated from one another, displaying a fragmented landscape in terms of approaches, of targets, of resources and by limited recognition and inclusion of IPLCs traditional stewardships of these coastal ecosystems. Based on IUCN protected area dataset, only 18% of coastline where mangroves, seagrasses, and reefs interact are protected. Nevertheless, these data set underrepresents areas managed by IPLCs, which manage or have tenure rights over at least ~38 million terrestrial km2 worldwide.

In particular, proposals should:

- where shallow coral reefs (including mesophotic extensions), mangroves, and seagrasses coexist and interact: provide an improved understanding of the functional ecology, their species assemblages' and communities, their connectivity through life cycle stages and food webs structures and complexity in the healthy functioning and co-evolutionary processes of these ecosystems and in the biogeochemistry of sediments and their impact on climate change mitigation and adaptation, in order to design and inform effective management and restoration measures;

- look particularly at functional groups in maintaining the health, as well as the potential of adaptation to changes of corals assemblage, mangrove and sea grass beds, in particular top predators, reef sharks and species controlling algae proliferation and possible IAS and climate change. Proposals may also look at the role of the microbiome, periphyton or symbionts associated to shallow and mesophotic corals ecosystems healthy functioning;

- better understand the consequences of loss of coral reefs (including mesophotic extensions) and associated ecosystems, both in terms of coverage and diversity, on food web locally and cascading on distant communities and of socioeconomic impacts;

- combine different scientific disciplines, and where relevant, possible active restoration measures (coral cuttings or larval propagation on the reef or artificial structures, fishing management, acoustic assisted fish recruitment in restored areas, etc.), for developing approaches for their effective management and restoration, based on functional targets, (departing from usual approach focusing on a single species and coral cover or biomass), so as to support coral reefs and associated ecosystems, mangroves & seagrass beds complexity and connectivity as best asset for their (climate) resilience, co-evolutionary processes and adaptation potentials;

- jointly develop management and restoration guidelines with IPLCs knowledge, state of the art science and integrating lessons learnt and legacy from past and ongoing relevant initiatives from research to aid projects at regional, national, EU (such as the FPI Governance MPA Atlantic & Southeast Asia or the BEST initiative - Biodiversity and Ecosystem Services in Territories of European overseas) or international levels and

consolidate a community of practice in socio-ecological management in networks of protected area managers and locally managed marine areas;

- guidelines should also be going beyond local objectives, considering the trophic and life traits connectivity and with special attention to future climate and abiotic conditions;

- contribute to the coordination and capacity building activities of relevant international initiatives and frameworks, in the design and dissemination of actionable knowledge and guidelines to relevant stakeholders; develop training materials, capacity building and empowerment tools, the access to data and scientific expertise to local actors for ecosystems description and the development of ad hoc localised management measures;

- develop or integrate means and methods (such as sensors, in situ observation devices, remote sensing products developments, citizen science data, etc.) for a cost effective, accessible and lasting monitoring of these functionally associated ecosystems in order to inform on their status, on the effect of measures and to identify necessary management adjustments to changes;

- support natural capital valuation for cost/benefit analysis of measures of conservation and restoration for coral reefs and associated ecosystems and the services and benefits they provide (food, cultural & social values, nature-based solutions for coastal resilience, protection against extreme events, climate adaptation, etc.) and how they affect fishing, shipping, local tourism or other programmes for sustainability, such as offshore wind.

Proposals should envisage clustering activities with projects funded under this topic as well as with other relevant international or Horizon Europe and Horizon 2020 projects working on links between marine biodiversity, functional ecology, ecosystem services, socio-ecological management, cumulated impact of multiple stressors and on observation, mapping, and monitoring for application to the protection and restoration targets. To this end, proposals should foresee dedicated tasks and appropriate resources for coordination measures, joint activities, and deliverables.

Proposals should ensure adequate involvement of researchers, Local Communities and Indigenous People, end-users, MPA managers or governance levels relevant to inform, support and implement measures, actors contributing to practical and ready to use knowledge, tools and freely accessible dissemination and capacity building channels.

Proposals should foresee cooperation with the EC Knowledge Centre for Biodiversity and the Science Service project BioAgora. Proposals should also show how the planned activities could provide timely information for consideration by the Intergovernmental science-policy Platform on Biodiversity and Ecosystem Services (IPBES) and in particular the IPBES assessment on integrated biodiversity-inclusive spatial planning and ecological connectivity expected to be delivered in late 2027.

This topic requires the effective contribution of SSH disciplines and involvement of SSH experts. International cooperation is encouraged.

Transformative change towards a nature positive economy

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-01-BIODIV-08: Strengthening pathways to alternative socio-economic models for continuous improvement of biodiversity

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 7.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 14.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.

Expected Outcome: In line with the European Green Deal priorities providing for a fair and just green transition, in particular the EU biodiversity strategy for 2030 and the EU Nature Restoration Regulation, which contributes to the EU's objectives on climate adaptation and mitigation, as well as the Kunming-Montréal Global Biodiversity Framework (GBF), successful proposals will contribute to the impacts of this Destination, notably to grow understanding of the biodiversity crisis and ecosystem services, leading policymakers and society to recognise the importance of protecting and restoring biodiversity, driving a path towards transformative change.

Project results are expected to contribute to all of the following expected outcomes:

- new knowledge to develop and accelerate pathways towards best available alternative socio-economic models that support biodiversity restoration and protection. These models should include adaptive legislative, governance, education and financing strategies, with potential applications of Generative AI to enhance research;

- decision makers (e.g. policy makers and public/private strategic decision makers) benefit from synthesised, systematised and prioritised knowledge on models that better integrate values of biodiversity and nature. Including valuation methods for assessing the benefits of restoration measures and the socio-economic distribution of impacts, tools and innovative market and governance instruments (e.g. potential incentives/capacity-

building, including possible use of Generative AI-based tools), the application of environmental, social and ethical safeguards, and ensuring that biodiversity is continuously improved (e.g. through the non-deterioration principle) and to enhance community resilience to climate change;

- decision makers will have at their disposal information, tools, assessment strategies and metrics that allow for the continuous improved protection and restoration of biodiversity, alongside climate resilience, especially through enhanced climate adaptation. These should be integrated into socio-economic analytical frameworks, considering the quantitative and qualitative representation of social and economic variables in the short (up to 1 year), medium and long (5+ years) term, of the implications of applying such frameworks.

Scope: The degradation of natural assets due to human activities, including climate change, emissions to air, water, and soil and land use intensification and change in Europe, and the subsequent cascading effects of biodiversity loss, have profound economic and social implications, including for our standards of living and immaterial aspects of quality of life. Biodiversity loss is increasingly recognised as a risk to macroeconomic and financial stability, affecting key institutions, countries and regions. Protecting and restoring ecosystems not only benefits biodiversity but also contributes to broader socio-economic objectives, such as human health and wellbeing, climate resilience, and particularly climate adaptation.

To address these trends, alternative socio-economic models can integrate biodiversity efforts into economic activities. The EU biodiversity strategy, GBF, and SDGs set ambitious biodiversity targets, but achieving them requires overcoming barriers in education, technology, society, economy, and governance. Numerous socio-economic models exist to achieve the necessary ecological, climate, economic, financial and social transition for biodiversity. These models need further analysis and development to be widely accepted and implementable. They play a key role in the transformative change called for by IPBES towards a nature positive society, for example through the deployment of nature-based solutions.

To contribute effectively to transformative change, it is crucial to deepen our understanding of the pathways to alternative socio-economic models. This includes better valuing the economic and social benefits that nature protection and restoration bring, beyond monetary valuation, and assessing the cost of inaction. Where possible, the actions should incorporate both quantitative and qualitative research, and the use of Generative AI could integrate new socio-economic data, aiding in model interpretation and action implementation.

In particular, actions are expected to:

- analyse existing models: evaluate and prioritise existing alternative socio-economic models related to biodiversity protection and restoration, identifying best practices and assessing their impacts across Europe. This analysis should explore pathways for future development and implementation of these models, aiming to generate the most positive

biodiversity outcomes, while also promoting climate resilience, social equity and community well-being;

- analyse barriers: Identify and propose solutions to overcome potential barriers and obstacles in scaling up the best available models. This includes considering the potential of Generative AI to enhance model implementation and effectiveness;

- identify gaps and build capacity: pinpoint gaps in current research, innovation, skills, education, legislation and technology. Propose capacity-building strategies to address these gaps, ensuring that the necessary infrastructure and knowledge are in place to support the widespread adoption of effective and fair socio-economic models;

- advance valuation methods: Build on previous research, notably incentive mechanisms and natural capital valuation methods (both monetary and non-monetary), to make progress towards standardised, widely accepted indicators. These indicators should reflect broader socio-economic, biodiversity and natural capital benefits as well as trade-offs. A reflexive use of valuation methods is encouraged, considering the ethical and social implications of different valuation approaches;

- develop and pilot strategies: using collaborative and participatory approaches, develop and pilot strategies, scenario methods, market and non-market measures, instruments, and approaches to scale-up the implementation of alternative socio-economic model.

- co-design pathways: work with stakeholders, including decision-makers, to co-design pathways towards the implementation of alternative socio-economic models. Develop innovative technologies and tools to support scenarios that capture the specificities of different ecosystems, ensuring that models are adaptable and responsive to the unique challenges faced by various regions and sectors.

- engage stakeholders: actively involve end-users such as policy and decision makers and citizens in the co-creation process. This could include the use of Generative AI-based tools to fully account for diverse views and needs, facilitating broader acceptance and application of the proposed models.

- disseminate knowledge: issue and disseminate recommendations, actionable knowledge and empowerment tools at European and possibly Member State levels. Explore synergies with other European initiatives, policies and strategies particularly those under the EU Green Deal, including various fiscal, financial and economic policies to help reach sustainability. Outcomes and findings should also be disseminated beyond the EU.

- investigate economic models: analyse how traditional economic models contribute to biodiversity loss, climate change and other socio-economic challenges, as well as the interactions between these challenges. Identify pragmatic actions and strategies to address these issues, considering the root causes of unsustainable practises, power imbalances and justice concerns.

Concretely, the project(s) should support the practical implementation of the EU biodiversity strategy and the GBF, providing evidence-based recommendations. Actions should build on synergies across multiple SDGs to deliver both direct and indirect biodiversity benefits, and leverage the knowledge compiled in IPBES assessment reports[62]. Actions should consider ethical implications throughout project lifecycles, ensuring that outcomes align with broader societal values and contribute to equitable and just transitions. Actions should address specific challenges faced by different ecosystems, especially vulnerable ecosystems (e.g. agriculture, forestry) and communities (e.g. rural areas, those facing socio-economic inequalities).

Proposals should create synergies with other relevant initiatives, particularly Horizon 2020 and Horizon Europe projects, and foresee clustering activities, through the dedication of appropriate resources. Proposals should foresee cooperation with the EC Knowledge Centre for Biodiversity and the Science Service project BioAgora.

Proposals should involve contributions from the social sciences (including economics, sociology and educational science) and humanities (SSH) disciplines.

HORIZON-CL6-2025-01-BIODIV-09: Understanding the perceptions of and improving communication on the biodiversity crisis and nature restoration benefits to sustain citizen engagement and democratic governance

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 3.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 6.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.
Legal and financial set-up of the Grant	The rules are described in General Annex G. The following exceptions apply:

[62] Including the IPBES values assessment, the IPBES scenarios and models assessment, the IPBES nexus assessment and the IPBES transformative change assessment.

Agreements	Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [63].

Expected Outcome: Successful proposals will contribute to the expected impacts of this destination notably by identifying mechanisms to raise awareness on the biodiversity crisis and on opportunities of biodiversity protection and restoration including for climate mitigation and adaptation.

Project results are expected to contribute to all of the following expected outcomes:

- policy-makers at all levels better understand how different groups of stakeholders and citizens perceive the biodiversity crisis and its underlying conflicts, as well as the potential impacts of new policies in this area and in climate adaptation and mitigation. This leads to better-informed and more inclusive decision-making and policy implementation, based on the identification of tensions and opportunities;

- policy-makers at all levels are able to implement innovative forms of co-creation and deliberative processes involving citizens throughout the policymaking cycle in order to improve policy-making and eventually contribute to effective mobilisation for collective action in favour of nature restoration and protection, and climate mitigation and adaptation;

- all sectors of society understand the biodiversity crisis and the full extent of its impacts on their lives, including the interplay with climate change and the need for synergies with climate adaptation and mitigation; they understand the critical role of nature restoration in addressing these impacts and are empowered to contribute to it.

Scope: With the EU biodiversity strategy for 2030, the Kunming-Montréal Global Biodiversity Framework, and more recently the adoption of the EU Nature Restoration Regulation, the EU has taken strong commitments to address the challenges of the biodiversity crisis, in addition to the current efforts towards increasing resilience to climate change embedded in the EU climate policy. Strong scientific evidence supports the need to act, given the importance of biodiversity and ecosystems for society, economy and resilience.

However, as the debates for the negotiation of the EU Nature Restoration Regulation showed, there are different levels of understanding and different approaches towards challenges to be addressed among the EU society, which is increasingly polarised with activists and citizens engaged in nature protection (and more generally environment protection) on the one hand

[63] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

and defenders of the status quo on the other hand. This has even led to local conflicts. While the engagement of activists is visible, little is known about how the rest of society values nature and what citizens think should be done for its protection and restoration.

R&I activities are expected to:

- conduct comprehensive research to better understand civil society´s plurality of perceptions and understanding of the biodiversity crisis, its underlying conflicts and links with climate change, identifying key concerns and perspectives. The analysis should identify and quantify the relevance of stakeholder groups and population segments (e.g. based on gender, age, disability, socio-economic status, ethnic and/or cultural origins, etc. and their intersections) sharing similar perceptions and interests. This analysis should build on results of existing research on the relationship between people and nature, including relationship between nature and culture, historical and/or natural heritage, effects of experiences in nature on environmental attitudes and behaviour, etc. and on the report "Methodological assessment regarding the diverse conceptualization of multiple values of nature and its benefits, including biodiversity and ecosystem functions and services"[64] of the Intergovernmental science-policy Platform on Biodiversity and Ecosystem Services (IPBES);

- address various cases such as stakeholders depending on nature and ecosystems for their professional activities, rural communities living in both protected and not protected areas, urban communities having limited contacts with nature, etc.;

- analyse the perception of various stakeholders towards the EU commitment to protect and restore ecosystems. In particular, investigate if the need to protect and restore nature is perceived as a top-down approach or if it is understood as a necessity for the benefit of society. Explore solutions to address such issues;

- drawing on experiences of citizen engagement around the climate transition and biodiversity crisis – such as for instance the Irish Citizen's Assembly on Biodiversity Loss [65] or local co-creation processes on sustainable transport [66] - pilot citizen engagement (case-studies) around ecosystem protection and restoration possibly with nature-based solutions, with the participation of public authorities who have the competence to implement the results of citizen deliberation, thus creating a pathway to implementation as well as a model for best practice;

- develop approaches for each identified group to enhance the communication and dissemination of knowledge regarding the biodiversity crisis and its implications, including on climate. These strategies should aim to improve the groups' understanding of the benefits of nature restoration and empower them to make informed decisions.

64 https://www.ipbes.net/the-values-assessment.
65 https://citizensassembly.ie/citizens-assembly-on-biodiversity-loss/.
66 https://mosaic-mission.eu/pilots/gothenburg.

A multi-disciplinary approach involving relevant biodiversity expertise should be sought. In addition, this topic requires the effective contribution of SSH disciplines, including gender studies, and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.

Proposals should involve public authorities with the legal competence to implement policy in biodiversity and nature restoration in their pilots and in their advisory boards.

Proposals should demonstrate how they will collaborate with or build upon the work of R&I projects from any of the following previous calls and projects: The climate imperative and its impact on democratic governance (HORIZON-CL2-2023-DEMOCRACY-01-05), H2020-SC6-GOVERNANCE-2020, the Green Deal Call – cross-cutting theme on empowering citizens, the projects PHOENIX and REAL DEAL under Horizon Europe Missions.

The possible participation of the JRC in the project could involve the following contributions from the side of the Competence Centre on Participatory and Deliberative Democracy:

- supporting networking activities by invitations to JRC events and the Community of Practice of the Competence Centre on Participatory and Deliberative Democracy;
- capacity building on citizen engagement;
- offering the use of the JRC Makerspace in Ispra, Italy.

Proposals should foresee cooperation with the EC Knowledge Centre for Biodiversity and the Science Service project BioAgora.

International cooperation is encouraged, in particular with Latin American and Caribbean countries.

The use of AI could be considered for the analyses needed under this topic.

Biodiversity friendly practices in agriculture

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-01-BIODIV-10: Supporting the implementation of nature restoration measures for sustainable farming systems

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 5.00 and 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

Indicative budget	The total indicative budget for the topic is EUR 11.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [67].

Expected Outcome: In line with the targets of the European Green Deal, the common agricultural policy, and the EU biodiversity strategy for 2030, a successful proposal will contribute to the expected impact of this Destination by testing and implementing biodiversity-friendly practices while supporting long-term sustainability of farming and safeguarding food security. A successful proposal will contribute to facilitating the implementation of the EU Nature Restoration Regulation, aligning with the Union's overarching objectives of climate change mitigation and adaptation, for national authorities, by assessing and promoting the most suitable agricultural practices that support agrobiodiversity and a wide range of ecosystem services.

Projects are expected to contribute to all of the following expected outcomes:

- synergies between nature restoration/conservation and food security (production and availability) are scientifically demonstrated to farmers, land managers, advisors and policymakers;

- suitable measures and strategies, along with evidence-based recommendations, are identified and developed to assist farmers in the implementation phase, while supporting Member States competent authorities in addressing specific targets of the EU Nature Restoration Regulation in agricultural landscapes;

[67] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

- collaborations and exchanges between farmers, researchers, and policymakers from competent authorities are strengthened to enable the development of integrated and effective policies that restore natural capital, generate sustainable income for farmers, while also ensuring food availability and quality.

Scope: Farmers play a pivotal role in addressing biodiversity loss while ensuring food production and quality, thereby contributing to overall food security. To support biodiversity-friendly agriculture, it is essential to first list demonstrated farming practices and ecosystems that benefit biodiversity. Next, there is a need to assess the socio-economic impact of nature restoration measures on the agricultural sector and the individual farm, as well as develop and improve existing incentives and their interplay. A key element for a wide adoption of such practices by farmers is demonstrating production and labour benefits, or at least maintaining economic competitiveness in the implementation of nature restoration measures. Moreover, specific targets for agricultural ecosystems outlined in the EU Nature Restoration Regulation necessitate that applied research lays the foundation for Member States to effectively comply and design appropriate and successful strategies. Therefore, environmental, economic, and social benefits, as well as potential trade-offs between nature restoration measures and food security and quality (production and availability) should be demonstrated over different time frames. These should be developed with farmers in mind: short-term and immediate impact on production, their businesses, and nature, as well as medium-, and long-term.

Proposals should:

- quantify the costs and benefits of restoration measures on farm productivity (referring to the ratio input/output) over short, medium, and long-term. Additionally, evaluate the impact of taking action versus non-action on the provision of ecosystem services, such as climate, water, soil health, pollination, nutrients, natural pest control, erosion prevention, etc., along with their associated economic impact at farm level;

- develop and assess possible science-based targets for satisfactory levels of restoration for biodiversity in agricultural ecosystems considering Art. 11 of the EU Nature Restoration Regulation, a path for implementation by farmers, land managers and policymakers, and further develop, solidify, and harmonise existing indicators of biodiversity in agricultural landscapes;

- generate evidence to support and improve incentive schemes, including rewarding mechanisms for actions taken and results achieved in nature restoration/conservation on farmland, while considering synergies and trade-offs;

- assess and compare the potential of various farming approaches to contribute to ecosystem restoration. While considering all types and sizes of farming systems (conventional, organic, agroecological, etc.), prioritise those that are clearly defined to ensure compliance with legislation.

Proposals should adopt a transdisciplinary approach, engaging with relevant experts and stakeholders from farming, biodiversity and ecosystems, as well as from social sciences and

humanities (SSH). Proposals must apply the multi-actor approach to ensure adequate involvement of researchers, policymakers, farmers, land managers and agricultural advisors among other relevant stakeholders. Proposals should aim to increase practical, ready to use knowledge and tools, and promote freely accessible dissemination and open capacity building channels.

Proposals should allocate adequate resources to collaborate with topic projects funded under other topics in this work programme, in particular HORIZON-CL6-2025-01-BIODIV-06: Assessing and modelling socio-economic impacts of nature restoration. Moreover, proposals should build on existing knowledge and the results of other relevant projects, as well as ensure cooperation with appropriate Horizon Europe Partnerships, in particular 'Biodiversa+' and 'Agroecology'.

The JRC may contribute by advising and providing relevant information on the effects of farming practices on the environment, biodiversity, and climate. This collaboration aims to enhance the targeting and quantification of proposed restoration interventions, alongside fostering cooperation with stakeholders and facilitating the dissemination of results to policymakers.

Proposals should foresee cooperation with the EC Knowledge Centre for Biodiversity and the Science Service project BioAgora.

Restoring ecosystems for resilient society and economy

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-01-BIODIV-01-two-stage: Living labs co-creating innovative solutions for forests and freshwater ecosystems restoration

Call: Cluster 6 Call 01 - two stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 7.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 14.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.

Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025) [68].

Expected Outcome: Successful proposals will contribute to the impacts of this destination by improving knowledge and developing innovations, methods, pathways and tools to restore degraded ecosystems ensuring the provision of ecosystem services, including for adaptation and/or mitigation to climate change.

Project results are expected to contribute to all the following expected outcomes:

- The capacities of researchers, policymakers, practitioners and other stakeholders are enhanced, facilitating effective collaboration among research, practice, and policy to co-develop, test, refine and scale up solutions, methods and tools for ecosystem restoration and for their non-deterioration;
- Practice-oriented knowledge and tools are available to stakeholders having to restore ecosystems and to ensure their non-deterioration, and to provide advice, such as to public and private land managers, foresters or environmental NGOs;
- Competent authorities in charge of preparing and updating national restoration plans to implement the EU Nature Restoration Law and of national climate adaptation strategies and plans are aware of effective solutions, methods and tools for ecosystem restoration and they are able to propose appropriate restoration measures;
- Collaborations between actors across territories and sectors are strengthened and consideration of effective solutions for ecosystem restoration and for their non-deterioration in regions where living labs are operating is increased, and business models to finance them are developed;
- Social, economic and environmental co-benefits and trade-offs of nature restoration activities are demonstrated, including for climate mitigation and adaptation.

Scope: The EU biodiversity strategy for 2030 set the following targets for 2030: significant areas of degraded and carbon-rich ecosystems are restored; habitats and species show no deterioration in conservation trend and status, and at least 30% reach favourable conservation status or at least show a positive trend. The EU Nature Restoration Regulation establishes a

[68] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

framework within which Member States shall put in place effective and area-based restoration measures with the aim to jointly cover, as a Union target, at least 20 % of land areas and at least 20 % of sea areas by 2030, and all ecosystems in need of restoration by 2050. The European Climate Law requires Member States to adopt and implement national adaptation strategies and plans in which they should promote nature-based solutions and ecosystem-based adaptation. It notably acknowledges that forests are carbon sinks, which contribute to the reduction of greenhouse gases in the atmosphere, while ensuring that forests continue to grow and provide many other services.

Successful proposals are expected to set up living labs which will develop and widely deploy innovative solutions for restoring key ecosystems, which deliver multiple ecosystem functions and services relevant for climate action, including carbon sequestration, regulating water regimes, and other climate adaptation aspects. Proposals under this proposal are expected to combine research on forest and freshwater ecosystems.

Proposals should apply the three main principles of the living labs research concept: (a) co-creating innovative solutions in real-life sites focusing on end-users' needs; (b) co-deciding / co-creating with end-users all along the project; (c) bringing together actors with complementary knowledge in a targeted combination as best suited to achieve the expected outcomes/objectives of the projects.

Living labs should correspond to the definition of the European Network of Living Labs and involve partners from different backgrounds, disciplines and/or sectors that are most relevant to achieve the project objectives and be composed of at least seven experimental sites. By working together in a living lab, the various partners involved in the different sites will be able to co-develop, experiment, test, replicate and benchmark innovative actions and solutions, compare results, exchange good practices, validate methodologies and benefit from cross-fertilisation within a local/regional setting.

More specifically, proposals should:

- set up at least three living labs to work together on ecosystem restoration, covering forests and freshwater ecosystems. The living labs are expected to be located in at least three different EU Member States and/or Associated Countries. Proposals should describe the rationale for cooperation across the various living labs and among the various stakeholders within the living labs;

- establish a detailed work plan of the activities to be undertaken in a transdisciplinary way, ensuring the co-design, co-development, and co-implementation of locally adapted innovative solutions

- conduct participatory and transdisciplinary research and innovation in living labs with the objective of finding practical solutions to ecosystem restoration, while considering relevant drivers of biodiversity loss, in particular climate change and invasive alien species, and related pressures. Challenges with scaling up and transferability of solutions should be addressed. Proposed strategies and solutions should be adapted to the different

environmental, socio-economic and cultural contexts in which the living labs are operating and should consider the cultural and natural heritage. Sites should be selected along a gradient of anthropogenic pressure to evaluate restoration challenges in heterogeneous areas from highly disturbed to relatively intact areas. Action oriented and collaborative approach combining local expertise in economics, ecology and locally created sustainable innovations to capture the full range of knowledge in addition to scientific knowledge should be sought. Gender dimension should be integrated;

- establish for each living lab a satisfactory level for ecosystem condition, in order to allow for an accurate assessment of the conditions and changes and a clear monitoring of progress towards the objectives. Where relevant, the overall objective should be to reach the good conservation status defined in the Habitats or in the Water Framework Directives. Impacts of forestry and forestry practises on freshwater ecosystem health and how changes in forestry practises/management can support the restoration of freshwater ecosystems, including sediments, should be considered;

- monitor and carry out an assessment of the innovative practices for ecosystem restoration and their effectiveness, including the conditions for non-deterioration. This should include a demonstration of the economic viability of the proposed innovative solutions for the end-users and appropriate business models and actions possibly involving local authorities, business communities, SMEs, investors, entrepreneurs should be developed, including with co-funding schemes;

- document the newly developed solutions in an intuitive and accessible way and widely disseminate them in order to facilitate their uptake by practitioners and transmit the acquired knowledge to all relevant actors.

Proposals should foresee cooperation with the EC Knowledge Centre for Biodiversity and the Science Service project BioAgora. Nature-based solutions are relevant to this topic if they concern the restoration of ecosystems.

This topic requires the effective contribution of SSH discipline in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.

Biodiversity friendly practices in agriculture

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-01-BIODIV-02-two-stage: Breeding for resilience: enhancing multi-stress tolerance in crops

Call: Cluster 6 Call 01 - two stage	
Specific conditions	
Expected EU	The Commission estimates that an EU contribution of around EUR

contribution per project	7.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 14.00 million.
Type of Action	Research and Innovation Actions
Admissibility conditions	The conditions are described in General Annex A. The following exceptions apply: Applicants submitting a proposal under the blind evaluation pilot (see General Annex F) must not disclose their organisation names, acronyms, logos nor names of personnel in the proposal abstract and Part B of their first-stage application (see General Annex E).
Procedure	The procedure is described in General Annex F. The following exceptions apply: This topic is part of the blind evaluation pilot under which first stage proposals will be evaluated blindly.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Beneficiaries may provide financial support to third parties. The support to third parties can only be provided in the form of grants. The maximum amount to be granted to each third party is EUR 60 000.

Expected Outcome: In line with the objectives of the European Green Deal, the common agricultural policy, the EU climate policy and the EU biodiversity strategy for 2030, a successful proposal will contribute to the expected impact of this destination by supporting the adaptation of agricultural production to the effects of climate change, increasing biodiversity in agroecosystems, and promoting low-input practices, thereby enhancing the resilience of agricultural systems and safeguarding food security.

Projects are expected to contribute to all of the following expected outcomes:

- deeper knowledge and characterisation of relevant traits for tolerance and resistance to multiple stresses, whether occurring simultaneously or sequentially, are more accessible to researchers and breeders;
- the identification of local varieties with high plasticity to cope with multi-stress conditions is enhanced, along with the development of agro-ecological practices that improve stress tolerance while supporting biodiversity-friendly cropping systems;
- the capacities to evaluate the effects of multiple stresses in crops by researchers and breeders are strengthened;

- information and recommendations on variety performance and practices to cope with multi-stress are available to advisors and farmers.

Scope: Crop production faces significant challenges due to climate change and the need to adopt low-input practices, including efficient water use, to reduce the environmental impact while ensuring food security. Issues such as salinity, extreme weather conditions like droughts, waterlogging, high temperatures, and emerging patterns of pests and diseases severely impact crops, resulting in reduced productivity and yield losses. Crop responses to multiple stresses differ from their responses to single stresses. Therefore, attention should be given to enhancing crop tolerance to combinations of multiple abiotic and biotic stresses, thus better reflecting real-life agricultural conditions.

To address these challenges, it is crucial to evaluate local crop varieties, which are often better adapted to specific environmental conditions and stresses. Identifying local varieties with high plasticity enhances crop resilience and agro-biodiversity. Developing agro-ecological practices to improve stress tolerance will further support these efforts, promoting low-input practices and enhancing the overall adaptability of agricultural systems. Additionally, broad-spectrum strategies for improving stress tolerance in crops should be developed. Smart and future-proof breeding programmes need to systematically consider characteristics that enhance crop resilience and adaptation to these demands.

Proposals should:

- provide insight into the range of mechanisms and traits that underpin crop responses to multiple stresses, whether occurring simultaneously or sequentially, guiding the development of varieties and a crop system better equipped to withstand abiotic and biotic stresses, including reduced agricultural inputs;

- increase understanding of the causality between abiotic and biotic stress factors and propose strategies to improve multi-stress tolerance;

- integrate advanced technologies to assist in evaluating GxExM (Genotype x Environment x Management) interactions in the context of multi-stress, combining multiple "omics" data sources, high-throughput phenotyping, computational modelling and artificial intelligence, to evaluate at different levels (e.g. greenhouses, experimental fields, production fields). This integration should assist breeders in developing local varieties optimised for sustainability and climate change adaptation;

- develop location-specific breeding strategies and agroecological practices, incorporating models and artificial intelligence approaches for prediction of cropping systems output, under multiple stress conditions considering climate change scenarios and climate analogues. These strategies should promote agrobiodiversity, soil health, and ecosystem services;

- deliver robust methodologies for benchmarking and communicating the performance of crop varieties when they are challenged by multiple stresses.

Proposals should provide a clear explanation and justification for the selected crop(s) in alignment with the proposal's objectives and the topic's expected outcomes, considering as well that activities should be carried out in a range of agronomically relevant pedo-climatic conditions. All farming systems and approaches are in scope. If proposals address organic farming, particular attention should be given to aspects related to organic varieties and organic heterogeneous materials.

Proposals may provide financial support to third parties (FSTP) to, for instance, develop, test and demonstrate tools to evaluate GxExM interactions in the context of multi-stress. A maximum of 20% of the EU funding should be allocated to this purpose. Consortia need to define the selection process of organisations, for which financial support may be granted.

Proposals should ensure coherence and complementarities with ongoing relevant Horizon Europe projects, including the agroecology partnership, and capitalise on existing relevant research findings and tools, included those developed under previous research projects. Collaboration with European research infrastructures such as AnaEE-ERIC, EMPHASIS or other relevant research infrastructures[69] is encouraged.

[69] The catalogue of European Strategy Forum on Research Infrastructures (ESFRI) research infrastructures portfolio can be browsed from ESFRI website https://ri-portfolio.esfri.eu/.

Destination - Fair, healthy and environment-friendly food systems from primary production to consumption

Food systems are to be understood as covering, 'from the farm to the fork', all the sectors, actors, stakeholders, organisations and disciplines relevant to and connecting natural resources, primary production from land, fresh water and sea, food processing, food distribution and retailing, food services, food consumption, healthy diets, food safety, nutrition and public health, and the prevention of food waste streams i.e. actors operating in the food supply circuit, working directly 'with' food. It also comprises actors that operate 'around' food at the broader food system level: governance, finance, education, media and culture, research, marketing and advertising, operational services and those representing business and professional interests. The Vision on agriculture and food and the Competitiveness compass will address challenges ensuring the long-term competitiveness and sustainability of the Agri-food sector within planetary boundaries. The EU Green Deal and more specifically its competitive, resilient and sustainable food system goals, the biodiversity strategy, the zero pollution and climate action ambitions, and their follow-up initiatives set ambitious targets and objectives for food systems will continue to guide research and innovation programming under this destination. Food system related policies cover an array of diverse areas. While those policy areas are interconnected, they cover specific sectors and actors along the food system that have distinct research and innovation needs to be addressed through this destination.

Sustainable farming systems provide economic, social (including health), environmental and climate benefits, and are the main prerequisite for food and nutrition security. For farmers, who are the backbone of food systems and principal managers of natural resources, the common agricultural policy (CAP) set ambitious targets and objectives concerning the sustainability and safety of feed, food and non-food production. R&I in line with the strategic approach to EU agricultural research and innovation[70] will be key enablers for achieving these ambitious targets and objectives. More specifically, they will contribute to the following policy priorities: nine specific objectives of the CAP; EU action plan for the development of organic production; food safety regulations; sustainable use of pesticides requirements under the plant protection products framework; animal health and welfare legislations; regulation on feed additives; legislative and non-legislative initiatives to enhance cooperation of primary producers and support their position in the food chain; protein strategy; contingency plan for ensuring food supply and food security and communications on food security and fertilisers.

The **partnerships on 'Accelerating farming systems transition: agroecology living labs and research infrastructures'** will continue to unlock the potential of agroecology to make agri-food systems environmentally friendly and regenerative, climate-neutral, inclusive, competitive and resilient.

Through the **partnership on** '**Animal health and welfare**', farmers and other actors will continue to be better equipped to protect animals against infectious diseases, including

[70] https://ec.europa.eu/programmes/horizon2020/en/news/final-paper-strategic-approach-eu-agricultural research-and-innovation

zoonoses, and to improve animal welfare, while reducing the dependency on antimicrobials, maintaining productivity, improving food safety and quality, and protecting the environment and public health.

Sustainable fisheries and aquaculture, as mentioned in the 2023 common fisheries policy (CFP) communication, contribute to securing a wide variety of food and provide employment in many coastal communities. On top, the goal of the European Green Deal is ensuring a neutral or positive environmental impact of all sectors involved in the food system. The European Oceans Pact will focus on boosting the blue economy and ensuring the good governance and sustainability of our ocean in all of its dimensions. The CFP of the future is a policy that enables and supports: (i) fisheries and aquaculture activities within ecological boundaries, including organic aquaculture; (ii) fishing vessels and aquaculture farms that operate with less impact and fewer resources; (iii) the contribution of seafood to safeguarding food security and reinforcing the resilience and sustainability of food systems in the EU; as well as (iv) fishers and aquaculture farmers who can find fulfilment, recognition and economic well-being in their profession. Additionally, the Control Regulation clearly mentions that traceability is important not only for food safety purposes but also to allow control, ensure the protection of consumers' interests, combat illegal, unreported and unregulated fishing, and contribute to ensuring fair competition. R&I will also support the "strategic guidelines for a more sustainable and competitive EU aquaculture for the period 2021 to 2030", that propose specific actions including access to space and water, human and animal health, environmental performance, climate change, animal welfare, regulatory and administrative framework, and communicating on EU aquaculture. Moreover, R&I in fisheries and aquaculture will contribute to the relevant Food 2030 pathway for action 'food from oceans and freshwater resources'.

Sustainable, healthy and inclusive food systems rely on systemic, cross-sectoral and participatory, multi-actor approaches and on integration between policy areas at all levels of governance. An important driver for transforming food systems should be the integration of sectors, actors and policies[71]. This should occur in order to better understand the multiple interactions between the actors and components of current food systems, the lock-ins and potential leverage points for synergistic changes and the interdependencies of outcomes (linkages between nutritional climate and sustainability outcomes). This can provide solutions that maximise co-benefits with respect to the four priorities of the **Food 2030** R&I initiative: i) nutrition and health, including food safety; ii) climate and environmental sustainability; iii) circularity and resource efficiency; iv) innovation and empowering communities.

This destination will deploy solutions to the 11 Food 2030 pathways for action[72] and will help build innovation ecosystems to bring together relevant public and private sector actors, researchers and society. R&I I activities (including at organisational, social or technological levels) will provide food-related businesses, including those involved in food processing and

[71] Scientific Advice Mechanism, Towards a sustainable food system - Publications Office of the EU (europa.eu)

[72] New Report: Food 2030 Research and Innovation – Pathways for action 2.0 - European Commission (europa.eu)

packaging, retail, distribution, and food services, with opportunities and incentives to stimulate environmentally friendly, healthy, circular and diversified practices, products and processes that are biodiversity-friendly, climate-neutral and less reliant on fossil fuels. It will also help devise tools and approaches that enable the shift to healthy, sustainable diets and responsible consumption for everyone, boosted also by social innovation, technology, behavioural change and marketing standards, and by inclusively engaging with different consumers, citizens and communities. This will support the announced future EU vision for agriculture and food and the multi-disciplinary strategy for European life sciences that should further unlock high-value technologies in support of the green transition, and also contribute to the communication "Building the future with nature: Boosting Biotechnology and Biomanufacturing in the EU" and the forthcoming new EU biotech act.

The partnership on 'Sustainable food systems for people, planet and climate' will continue to accelerate the transition towards healthy and sustainable diets that are safe and sustainably produced in resilient EU and global food systems.

The EU also aims to promote a ***global transition to sustainable food systems***. Its relationship with Africa is a key priority. Targeted R&I activities, in particular under the EU-Africa Partnership on Food and Nutrition Security and Sustainable Agriculture (FNSSA) and global initiatives involving international research consortia, will help achieve this ambition and contribute to the AU-EU High Level Policy Dialogue (HLPD) on Science, Technology and Innovation.

A comprehensive and integrated response to current and future challenges benefiting people, nature and economic growth in Europe and in Africa will be provided. Advances will be made particularly in the following key areas: agroecology, agriculture knowledge and innovation systems and nutrition.

Topic proposals under this destination should set out credible paths to "**ensuring healthy food and nutrition security by making agriculture, fisheries, aquaculture and food systems sustainable, resilient, inclusive and within planetary boundaries**". More specifically, proposed topics should contribute to one or more of the following impacts:

- Agri-food systems contribute to the EU strategic autonomy by fostering food and nutrition security practices and safeguarding long-term sustainability with multi-disciplinary approaches including One Health.

- Farmers and relevant actors in agricultural primary sector are enabled to manage sustainable, efficient, profitable, circular, low greenhouse gas-emitting farming systems contributing to climate-neutrality and climate-resilience. This will be achieved by new knowledge, innovation and the upscaling and replication of existing and new sustainable farming approaches, including organic farming, while making farming a professionally attractive and remunerative life choice.

- Sustainable and resource efficient farming practices contribute to ecosystems´ health, and their related ecosystem services, while minimising pollution, including in surface and groundwaters and the marine environment, and restoring and protecting biodiversity.

- Sustainable fisheries and aquaculture (including organic aquaculture) contribute to fair, healthy, resilient and environment-friendly food systems, promote low-impact and diverse aquatic food production. Healthy aquatic ecosystems with thriving diversity of species and habitats provide ecosystem and climate services for safe and sustainable fisheries and aquaculture and use of coastal zones for leisure activities, thus triggering growth and jobs' creation in coastal, and rural areas. Technological knowledge on the elimination of negative impacts of fishing and aquaculture is improved, in particular through the creation of innovative, more selective, energy and resource efficient and environmentally sustainable techniques.

- The just transition to overall sustainable, healthy and inclusive food systems [73] is consistently developed. Analysis of existing barriers and enablers to change allows to design effective leverages to steer the sustainability transition. Co-benefits for climate change mitigation and adaptation, environmental sustainability and circularity, sustainable healthy diets, malnutrition and hunger reduction are delivered.

- Food environments are transformed so that citizens and communities are empowered to move towards healthy, affordable and sustainable diets; food businesses can flourish; food processing industries' competitiveness is improved, while ensuring sustainability; food safety and food sovereignty as well as human health is preserved and food waste is reduced.

To unlock the full potential of R&I and maximise impacts of the expected outcomes, multi-actor and socially innovative approaches (involving the engagement of researchers, policy makers, technology providers, primary producers, the food, drink and hospitality industry, retailers and social economy actors, SMEs along the value chain, local authorities and communities, NGO and civil society, while considering gender and other socio demographic groups and their intersections etc.), open innovation ecosystems, such as living labs and regional innovation ecosystems such as Regional Innovation Valleys for Bioeconomy and Food Systems[74], will be promoted with a view to co-creating innovative systemic place-based solutions in support of food system sustainability. Activities will benefit from the implementation of unifying approaches through R&I, including the One Health approach where relevant.

To effectively transition innovations into the market, SMEs participation is particularly promoted under this destination. Topics under this destination should be balanced in terms of high as well as low Technological Readiness Levels (TRLs).

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73 Sustainable food systems: Concept and framework (fao.org)

74 Concept of Regional Innovation Valleys for Bioeconomy and Food Systems

R&I actions under this destination are encouraged to seek complementarities with the EU Missions 'A Soil Deal for Europe' and 'Restore our Ocean and Waters by 2030' as well as with the European partnerships on Agroecology, Animal Health and Welfare, Sustainable Blue Economy, Sustainable Food Systems for people, planet and climate, and Agriculture of Data (forthcoming), the Partnership for Research and Innovation in the Mediterranean areas (PRIMA) and importantly the European innovation Partnership for Agriculture productivity and sustainability (EIP-AGRI).

The EU will seek to increase the efforts on innovation actions for food systems sustainability in widening countries, reaching out to EU outermost regions and to countries in Central and Eastern Europe, also in preparation for the next EU enlargement.

To maximise the impacts of R&I under this destination, the topics encourage international cooperation as appropriate. The EU will promote a global transition to sustainable agri-food systems. Hence, targeted R&I activities in 2025, in particular under the EU-Africa Partnership on Food and Nutrition Security and Sustainable Agriculture (FNSSA) as well as other initiatives involving international research consortia and already running international activities, will contribute to this ambition.

Coordination will be ensured with the JRC activities under the EC Knowledge Centre for Bioeconomy, the EU Soil Observatory, the European Platform on Life Cycle Assessment, the EC Knowledge Centre for Earth Observation, the Knowledge Centre for Food Fraud and Quality, and the JRC secretariat for the Scientific, Technical and Economic Committee for Fisheries.

To be more effective in achieving impact, this Destination encourages synergies with relevant EU financial programmes and initiatives including the Knowledge and Innovation Communities (KICs) of the European Institute of Innovation and Technology (EIT), in particular EIT Food, and international cooperation programmes (e.g., DeSIRA).

The multi-actor approach is used in several topics. Relevant topics under this destination also require the integration of Social Sciences and Humanities (SSH) to apply a human-centred approach to R&I, and support social innovation at regional and local level to meet needs and co-create solutions for specific challenges.

Enabling sustainable farming systems

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-02-FARM2FORK-01: Additional activities for the European partnership on accelerating farming systems transition - agroecology living labs and research infrastructures

Call: Cluster 6 Call 02 - single stage
Specific conditions

Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 90.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 90.00 million.
Type of Action	Programme Co-fund Action
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used). The proposal must be submitted by the coordinator of the consortium funded under HORIZON-CL6-2023-FARM2FORK-01-1: European partnership on accelerating farming systems transition – agroecology living labs and research infrastructures, European Horizon Europe - Work Programme 2023-2024 Food, Bioeconomy, Natural Resources, Agriculture and Environment. This eligibility condition is without prejudice to the possibility to include additional partners.
Procedure	The procedure is described in General Annex F. The following exceptions apply: If the proposal is successful, the next stage of the procedure will be grant agreement amendment preparations. If the outcome of amendment preparations is an award decision, the coordinator of the consortium funded under HORIZON-CL6-2023- FARM2FORK-01-1: European partnership on accelerating farming systems transition – agroecology living labs and research infrastructures, will be invited to submit an amendment to the grant agreement, on behalf of the beneficiaries.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: This action is intended to be implemented in the form of an amendment of the grant agreement concluded pursuant to topic HORIZON-CL6-2023-FARM2FORK-01-1. For the additional activities covered by this action: • The funding rate is 50% of the eligible costs. This is justified by the pooling of proposers' in-kind contributions and in-house

	activities and by the nature of activities to be performed. • Beneficiaries may provide financial support to third parties (FSTP). The support to third parties can only be provided in the form of grants. • Financial support provided by the participants to third parties is one of the primary activities of this action in order to be able to achieve its objectives. The EUR 60 000 threshold provided for in Article 207(a) of the Financial Regulation No 2024/2509 does not apply. • The maximum amount of FSTP to be granted to an individual third party is EUR 10 000 000 for the whole duration of Horizon Europe[75]. The starting date of grants awarded under this topic may be as of the submission date of the application. Applicants must justify the need for a retroactive starting date in their application. Costs incurred from the starting date of the action may be considered eligible (and will be reflected in the entry into force date of the amendment to the grant agreement).
Total indicative budget	The total indicative budget for the topic is EUR 90 million committed in annual instalments over the years 2025-2027 (EUR 30 million from the 2025 budget, EUR 30 million from the 2026 budget and EUR 30 million from the 2027 budget). The total indicative budget of the Partnership for the whole duration is EUR 150 million.

Expected Outcome: The successful proposal is expected to further contribute to the expected outcomes specified in topic HORIZON-CL6-2023-FARM2FORK-01-1: European partnership for accelerating farming systems transition - agroecology living labs and research infrastructures, for continuation of the activities in line with already agreed outcomes.

Scope: The objective of this action is to continue to provide support to the European partnership for accelerating farming systems transition - agroecology living labs and research infrastructures identified in the Horizon Europe Strategic Plan 2021-2024 and first implemented under the topic HORIZON-CL6-2023-FARM2FORK-01-1: European partnership for accelerating farming systems transition - agroecology living labs and research infrastructures, and in particular to fund additional activities (which may also be undertaken by additional partners) in view of its intended scope and duration, and in accordance with Article 24(2) of the Horizon Europe Regulation.

[75] However, if the objectives of the action would otherwise be impossible or overly difficult (and duly justified in the proposal) the maximum amount may be higher.

The consortium which applied to and received funding under HORIZON-CL6-2023-FARM2FORK-01-1: European partnership for accelerating farming systems transition - agroecology living labs and research infrastructures, is uniquely placed to submit a proposal to continue the partnership. Not only did this consortium submit the proposal leading to the identification of the partnership in the Horizon Europe strategic planning 2021-2024, it has also been implementing the partnership through two co-funded calls launched in year 2024 and several internal activities based on this planning and further to topic HORIZON-CL6-2023-FARM2FORK-01-1. In this context, the current consortium has particular expertise in relation to the objectives of the partnership, the activities to be implemented in particular financial support to third parties and internal activities clearly required/envisioned pursuant to initial proposal/partnership. In practice, another consortium could not continue the activities of the partnership underway without significant disruption to the ongoing activities, if at all.

The proposal submitted to this call should align with the partnership's co-created strategic research and innovation agenda. Activities should reflect a balanced proportion of financial support to third parties and of internal activities, including calls for research projects, setting-up an EU-wide network of agroecology living labs and research infrastructures, development of indicators, metrics, and tools to monitor the agroecology transition and sustainability performance, and supporting evidence-based policy-making at EU, national and regional level. Through its activities, the partnership should deliver and support the upscaling of concrete, ready-to-use tools, solutions and innovations for farmers in different pedo-climatic conditions and contexts, and ensure a wide-spread uptake of partnership's results by farmers and by all relevant stakeholders. These aspects should be reflected in the successive updates of the partnership's strategic research and innovation agenda.

The partnership should pool the necessary financial resources from the participating national (or regional) research programmes with a view to organising and implementing joint calls for transnational proposals resulting in grants to third parties, for which it should factor ample time to run the co-funded projects.

The partnership should seek to include additional partners, including from Member States and Associated countries not yet in the consortium funded under HORIZON-CL6-2023-FARM2FORK-01-1. Through its activities, and by remaining open to accepting new partners, the partnership should devote efforts to promote agroecological farming also in countries where there is still limited understanding and uptake of the concept. Likewise, in setting up and building an EU-wide network of agroecology living labs, the partnership should ensure a balanced representation of pedo-climatic conditions and bio-geographical regions, with a view to cover a wide range of farming systems that are representative of the European agricultural sector. The partnership should cover issues pertaining to the agroecology transition in all agricultural production systems and approaches, including but not limited to conventional and organic farming. This will among others contribute to supporting the development of the organic farming sector and increasing its sustainability, as well as to ensuring a widespread adoption of agroecological practices across sectors across Europe.

Specific activities to strengthen the complementarities of the European partnership for accelerating farming systems transition - agroecology living labs and research infrastructures, with the related Horizon Europe Missions and Partnerships, identified in the proposal submitted by the coordinator of the consortium funded under HORIZON-CL6-2023-FARM2FORK-01-1, as well as activities to enhance the partnership's collaborations at international level, should also be described.

While the award of a grant to continue the partnership in accordance with this call should be based on a proposal submitted by the coordinator of the consortium funded under HORIZON-CL6-2023-FARM2FORK-01-1 and the additional activities (which may include additional partners) to be funded by the grant should be subject to an evaluation, this evaluation should take into account the existing context and the scope of the initial evaluation as relevant, and related obligations enshrined in the grant agreement.

Taking into account that the present action is a continuation of topic HORIZON-CL6-2023-FARM2FORK-01-1 and foresees an amendment to an existing grant agreement, the proposal should also present in a separate document the additional activities and any additional partners, to be covered by the award in terms of how they would be reflected in the grant agreement.

HORIZON-CL6-2025-02-FARM2FORK-02: Additional activities for the European partnership on animal health and welfare

Call: Cluster 6 Call 02 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 120.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 120.00 million.
Type of Action	Programme Co-fund Action
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used). The proposal must be submitted by the coordinator of the consortium funded under HORIZON-CL6-2023-FARM2FORK-01-2: European partnership on animal health and welfare, European Horizon Europe - Work Programme 2023-2024 Food, Bioeconomy, Natural Resources,

	Agriculture and Environment. This eligibility condition is without prejudice to the possibility to include additional partners.
Procedure	The procedure is described in General Annex F. The following exceptions apply: If the proposal is successful, the next stage of the procedure will be grant agreement amendment preparations. If the outcome of amendment preparations is an award decision, the coordinator of the consortium funded under HORIZON-CL6-2023- FARM2FORK-01-2: European partnership on animal health and welfare will be invited to submit an amendment to the grant agreement, on behalf of the beneficiaries.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: This action is intended to be implemented in the form of an amendment of the grant agreement concluded pursuant to topic HORIZON-CL6-2023-FARM2FORK-01-2. For the additional activities covered by this action: • The funding rate is 50% of the eligible costs. This is justified by the pooling of proposers' in-kind contributions and in-house activities and by the nature of activities to be performed. • Beneficiaries may provide financial support to third parties (FSTP). The support to third parties can only be provided in the form of grants. • Financial support provided by the participants to third parties is one of the primary activities of this action in order to be able to achieve its objectives. The EUR 60 000 threshold provided for in Article 207(a) of the Financial Regulation No 2024/2509 does not apply. • The maximum amount of FSTP to be granted to an individual third party is EUR 10 000 000 for the whole duration of Horizon Europe[76]. The starting date of grants awarded under this topic may be as of the submission date of the application. Applicants must justify the need for a retroactive starting date in their application. Costs incurred from the starting date of the action may be considered eligible (and will be reflected in the entry into force date of the amendment to the grant agreement).

[76] However, if the objectives of the action would otherwise be impossible or overly difficult (and duly justified in the proposal) the maximum amount may be higher.

Total indicative budget	The total indicative budget for the topic is EUR 120 million committed in annual instalments over the years 2025-2027 (EUR 40 million from the 2025 budget, EUR 40 million from the 2026 budget and EUR 40 million from the 2027 budget). The total indicative budget of the Partnership for the whole duration is EUR 180 million.

Expected Outcome: The successful proposal is expected to further contribute to the expected outcomes specified in topic HORIZON-CL6-2023-FARM2FORK-01-2: European partnership on animal health and welfare, for continuation of the activities in line with already agreed outcomes.

Scope: The objective of this action is to continue to provide support to the European partnership on animal health and welfare identified in the Horizon Europe Strategic Plan 2021-2024 and first implemented under the topic HORIZON-CL6-2023-FARM2FORK-01-2: European partnership on animal health and welfare, and in particular to fund additional activities (which may also be undertaken by additional partners) in view of its intended scope and duration, and in accordance with Article 24(2) of the Horizon Europe Regulation.

The consortium which applied to and received funding under HORIZON-CL6-2023-FARM2FORK-01-2: European partnership on animal health and welfare is uniquely placed to submit a proposal to continue the envisioned partnership. Not only did this consortium submit the proposal leading to the identification of the partnership in the Horizon Europe strategic planning 2021-2024, it has also been implementing the partnership through a co-funded call launched in year 2024 and a number of internal activities, including research projects, based on this planning and further to topic HORIZON-CL6-2023-FARM2FORK-01-2. In this context, the current consortium has unique expertise in relation to the objectives of the partnership, the activities to be implemented in particular through financial support to third parties and internal activities clearly required/envisioned pursuant to the initial proposal/partnership. In practice, another consortium could not continue the activities of the partnership underway without significant disruption to the ongoing activities, if at all.

The proposal submitted to this call should align with the partnership's co-created strategic research and innovation agenda. Activities should reflect a balanced proportion of financial support to third parties and of internal activities, including research projects, integrative activities, networking, training or other activities. Through its activities, the partnership should deliver and give rise to ready-to-use tools, solutions and innovations, seek uptake of results by farmers, veterinarians and all relevant stakeholders, and provide science-based policy advisory activities. The proposal should focus on additional priority activities and when duly justified, on continuation of on-going activities.

The partnership should seek to include additional partners, in particular from Member States and Associated countries not yet in the consortium funded under HORIZON-CL6-2023-FARM2FORK-01-2.

The partnership should pool the necessary financial resources from the participating national (or regional) research programmes with a view to organising and implementing joint calls for transnational proposals resulting in grants to third parties, for which it should factor ample time to run the co-funded projects.

Specific additional activities to strengthen the complementarities of the European partnership on animal health and welfare with the related Horizon Europe partnerships, identified in the proposal submitted by the coordinator of the consortium funded under HORIZON-CL6-2023-FARM2FORK-01-2, as well as activities to enhance the partnership's collaborations at international level, should also be described.

While the award of a grant to continue the partnership in accordance with this call should be based on a proposal submitted by the coordinator of the consortium funded under HORIZON-CL6-2023-FARM2FORK-01-2 and the additional activities (which may include additional partners) to be funded by the grant should be subject to an evaluation, this evaluation should take into account the existing context and the scope of the initial evaluation as relevant, and related obligations enshrined in the grant agreement.

Taking into account that the present action is a continuation of topic HORIZON-CL6-2023-FARM2FORK-01-2 and foresees an amendment to an existing grant agreement, the proposal should also present in a separate document the additional activities and any additional partners to be covered by the award in terms of how they would be reflected in the grant agreement.

HORIZON-CL6-2025-02-FARM2FORK-03: Overcoming the barriers for scaling up circular water management in agriculture

Call: Cluster 6 Call 02 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.

	If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used).
Technology Readiness Level	Activities are expected to achieve TRL 6-7 by the end of the project – see General Annex B.

Expected Outcome: In line with the European Green Deal objectives for agriculture, the climate adaptation strategy and the EU water related policies, notably the Water Framework Directive and the Water Reuse Regulation, successful proposals will contribute to increasing the resilience of agriculture to water scarcity with improved circular water management systems and enable farmers and relevant actors to manage farming systems in a long-term sustainable and resource-efficient way, enhancing their ability to adapt to climate change, while lowering the pressure on water bodies, as described for this destination.

Project results are expected to contribute to all of the following expected outcomes:

- sustainable pathways to scale up the use of alternative water sources by farmers in agriculture in different contexts in the EU and Associated Countries (where relevant) are developed;
- enhanced knowledge is available to farmers on the long-term impact of alternative water sources for irrigation and other uses with special attention to emerging contaminants;
- resilience of farming systems to water scarcity is increased, especially in areas where droughts are becoming more frequent, longer and more intense, due to climate change;
- awareness and confidence of farmers and consumers in alternative water use in agriculture is increased.

Scope: According to the European Environmental Agency (EEA), water stress affects 30% of the EU population with an economic damage of up to EUR 9 billion annually. Droughts are increasing in frequency, magnitude and impact, and the affected area is expanding. Agriculture is the main water user in some Member States and Associated Countries.

Alternative water sources and storage systems (e.g., rainwater harvesting, storm water collection, water reuse and reclamation, brackish and sea water desalination, aquifer recharge, etc.) limit abstractions from surface waters and groundwater reducing the environmental footprint of agriculture and food systems, and provide a reliable water source for irrigation and other uses, strengthening its resilience. Some barriers still hinder a broader use of alternative water sources. For example, a lack of knowledge from farmers on the benefits and characteristics of other water supplies, financial models considering production and transport costs, seasonal variations of water quality with nutrient imbalances and salinity, heavy metals or emerging contaminants issues, or long-term impacts.

Proposals should:

- test different strategies and technologies for irrigation or for other agricultural purposes (including drinking water for livestock), using alternative water sources (considering the most feasible sources according to the specific conditions of availability, climate, soil, socio-economics, environment) in the long-term in real-life contexts across the EU and Associated Countries (where relevant) at a larger scale beyond small experimental sites, covering the whole water cycle in agriculture;

- identify and test different business models regarding financial viability and long-term economic sustainability (including cost-benefit analysis or agro-economic modelling) for the adoption of alternative water sources, considering different scenarios, pedo-climatic conditions and socio-economic contexts;

- evaluate the long-term impact of the use of alternative water sources on soil health, including the soil microbiome, crop productivity and quality, food and feed safety (especially for fresh-consumed products) and on freshwater resources and ecosystems (surface and groundwater), considering seasonal variations of water source quality (including persistent chemicals and microplastics' releases) and quantity, such as situations of extreme water scarcity;

- test and document cost-efficient methodologies and techniques to monitor most relevant quality and quantity parameters in real-time and/or to remove contaminants (e.g. using bio-filters) for a safe and efficient management of water from different sources, with particular attention to emerging contaminants especially in reclaimed water;

- identify societal, behavioural and regulatory challenges still hampering upscaling of alternative water sources' uptake for irrigation and development of suitable solutions to increase the uptake in practice;

- develop, test and make recommendations for improved and targeted incentives and policies at regional, national and European level to reduce financial, social and economic barriers for adoption and acceptance of circular water management in agriculture by farmers and consumers;

- enhance the dissemination of existing knowledge, by connecting actors, policies, projects and instruments to speed up adoption of solutions by practitioners, and by providing training and advice for farmers and demonstration activities. Complementarities with European and national AKIS knowledge channels or similar should be explored.

Proposals should benefit various farming systems/approaches, one of which should be organic farming.

Applicants should apply the most efficient, state of the art agricultural practices and technologies (including irrigation, soil and crop management, etc.) to ensure maximum impact.

This topic should involve the effective contribution of social sciences and humanities (SSH) disciplines, especially in the field of societal and behavioural sciences, and of adoption and acceptance processes.

Proposals must implement the multi-actor approach (MAA), involving at least scientists, companies working in the field of water management and agriculture, farmers and consumers, in order to co-create the knowledge and adapted solutions, and enhance the adoption process.

Proposals should include dissemination activities to increase awareness about the potential value for farmers, advisors and society at large and people of the results. In that sense, proposals should develop diverse practice-oriented dissemination materials, e.g., audiovisual materials, brochures, etc. presenting the R&I solutions, while exploring the use of relevant support services offered by the Commission, such as the Horizon Results Booster.

Proposals should ensure complementarities with other relevant activities carried out under Horizon Europe, including with the European Partnership on Agriculture of Data.

Regarding activities involving aquifer recharging, proposals should take into consideration guidelines provided by the Working Group Groundwater (one of the several groups under the umbrella of the Common Implementation Strategy for the Water Framework Directive), such as provided in the Guidance Document on Managed Aquifer Recharge under the Water Framework Directive.

Applicants are encouraged to tap into international expertise (particularly from Africa and the Mediterranean Area) where relevant. Complementarities with the PRIMA and Water4All partnerships should be explored.

The JRC could participate in this topic, applying its tools to support analysis, such as its integrated agro-economic modelling platform (iMAP) for scenario assessments, or specific water-related models.

HORIZON-CL6-2025-02-FARM2FORK-04: Enhancing plant protein production to bolster the resilience of agricultural systems and EU self-sufficiency in plant protein used as feed

Call: Cluster 6 Call 02 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 5.50 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 11.00 million.
Type of Action	Research and Innovation Actions

Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [77].

Expected Outcome: In line with the European Commission's food security communication[78], the successful proposals will support the reduction of the EU's import dependency on key agricultural products and inputs by boosting EU plant proteins production and use for feed while increasing the sustainability and resilience of Europe's agricultural systems.

Successful proposals should support the objectives of the common agricultural policy (CAP), as well as the EU Green Deal strategies, the EU climate action[79], and the communication on boosting biotechnology and biomanufacturing in the EU.

Successful proposals will deliver on the expected impacts of the destination by enabling agri-food systems to contribute to EU strategic autonomy by fostering food and nutrition security and safeguarding long-term sustainability of EU farming systems.

Projects results are expected to contribute to all of the following expected outcomes:

- farmers capacity to sustainably produce and use protein crops for feed in the EU is fostered;
- farmers and advisors understanding about protein crops cultivation and share in animals' diets is improved;
- knowledge and innovation of the diverse actors across the protein crops value chain on preservation and transformation processes of protein crops for feed is increased;

[77] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

[78] COM(2022) 133 final (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52022DC0133)

[79] COM(2022) 133 final (EUR-Lex - 52022DC0133 - EN - EUR-Lex)

- contributions to move towards a more competitive EU protein crop sector are provided, rendering agricultural systems more resilient to climate change, external shocks and supply chain disruptions, while more committed to biodiversity preservation and conservation.

Scope: Currently, protein crops[80] cultivation, such as grain legumes and fodder legumes, only accounts for a small proportion (around 3%) of the EU agricultural area. While there is little shortage in the protein supply for food purposes in the EU, there is a more important shortage in the feed sector[81], resulting in high levels of imports (especially of soya) originating from countries often with different environmental and social standards. It is, therefore, strategical for the EU to expand the domestic production of protein crops, including in mixed crops[82] as a feed source.

Increasing the EU' plant protein autonomy would allow for reducing imports of protein feed from third countries, and thereby, would contribute to the decrease of environmental and climate footprints. Additionally, promoting locally produced protein crops would contribute to the sustainable development of EU rural areas, in line with the EU long-term vision on rural areas, for example through the development of new regional value chains that are self-sustaining. Developments in this area should at the same time be coherent with the new Regulation on deforestation-free products[83] by reducing the impact of plant protein feed needs on deforestation and forest degradation globally.

The benefits of increasing the share of protein crops, in particular nitrogen-fixing leguminous crops, in EU farming systems, are also reflected in the climate and the environment, through the improvement of soil quality (restoring and enhancing biodiversity, increasing soil fertility, cycling nutrients, improving soil structure, increasing water retention capacity, etc.) which in turn improves the sustainability and resilience of farms.

Proposals should:

- improve the knowledge about local production and utilization of various available protein crops used for animal feed across different regions;

- identify gaps, needs, barriers and enablers for taking up and scaling up sustainable protein crops intended for feed use in the EU, from production to processing and trade levels. Draw up a strategic roadmap with research and innovation priorities based on the identified challenges, including for the optimization of manufacturing processes of locally produced plant protein into feed;

- identify, test and showcase biodiversity-friendly management practices in farming systems (crop production and livestock raising) containing protein crops intended for

80 In this topic, protein crops refer to crops with a high content of proteins which can be used for animal feed.

81 EC (2023), EU agricultural outlook for markets, 2023-2035

82 Cereals and grain legumes or grass and fodder legumes are examples of mixed crops used for feed (maize and beans, clover and ryegrass, barley and peas, etc).

83 Regulation - 2023/1115 - http://data.europa.eu/eli/reg/2023/1115/oj

feed use. Prioritise the use of climate and pest resilient protein crops adapted to different EU pedoclimatic conditions;

- assess the social, economic and environmental impacts and trade-offs for up- and downstream actors of the feed value chain, of the increased share of different protein crops in different farming systems;

- generate comprehensive capacity building material, trainings and information tools for farmers, advisors and extension services, including a visualization tailored to different geographical regions and pedoclimatic zones in the EU. Address the most cost-effective production systems with protein crops and combinations of crops, based on local agronomic features as well as on local market data such as demand for feed.

All farming approaches, including organic farming, are in the scope of this topic.

Proposals must implement the 'multi-actor approach' and ensure adequate involvement of the main actors relevant for domestic plant protein feed value chain, such as farmers, other land managers, advisors, feed manufacturers, industry (including small and medium enterprises), policy-makers, etc. Proposals should ensure an effective knowledge, co-creation and exchange between researchers and field actors as well as with the whole feed value chain actors concerning the benefits, challenges and opportunities of producing and integrating local protein crops for feed in the EU. To this end, proposals should develop diverse practice-oriented dissemination materials presenting R&I solutions (e.g. audiovisuals, brochures, fact sheets, etc) and should share all generated data and knowledge through existing digital tools or platforms.

Proposals should include a dedicated task, appropriate resources, and a plan on how they will collaborate with the other project funded under this topic and with relevant activities to be carried out under topic HORIZON-CL6-2024-FARM2FORK-02-5-two-stage [84] and HORIZON-CL6-2025-02-FARM2FORK-06 [85] . Proposals should ensure coherence and complementarity with ongoing relevant Horizon Europe projects and with relevant activities of the Horizon Europe Partnership 'Agroecology'. Likewise, proposals should capitalise on existing relevant research findings and tools, such as those resulting from Horizon 2020 projects.

The possible participation of the JRC in the project could consist of support analysis, applying its tools such as the integrated agro-economic modelling platform (iMAP), for scenario assessment.

[84] HORIZON-CL6-2024-FARM2FORK-02-5-two-stage: 'Animal nutritional requirements and nutritional value of feed under different production management conditions', under wp-9-food-bioeconomy-natural-resources-agriculture-and-environment_horizon-2023-2024_en.pdf (europa.eu).

[85] HORIZON-CL6-2025-02-FARM2FORK-07: 'Improving grassland management in European livestock farming systems', under this work programme.

HORIZON-CL6-2025-02-FARM2FORK-05: Developing innovative phytosanitary measures for plant health - focus on systems approach for pest risk management

Call: Cluster 6 Call 02 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025) [86]. Beneficiaries may provide financial support to third parties (FSTP). The support to third parties can only be provided in the form of grants. The maximum amount to be granted to each third party is EUR 60 000.

Expected Outcome: Successful proposals should contribute to the objectives of the common agricultural policy, as well as to the European Green Deal's objectives for resilient and sustainable agri-food systems, the EU biodiversity strategy for 2030 and support Regulation (EU) 2016/2031[87] on protective measures against pests of plants.

[86] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

[87] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32016R2031

Successful proposals will deliver on the expected impacts of the destination by enabling farmers and relevant actors in the agricultural sector to manage sustainable, efficient, profitable, circular, low greenhouse gas-emitting farming systems contributing to climate-neutrality and climate-resilience.

Project results are expected to contribute to all of the following expected outcomes:

- cost-effective measures using a systems approach, implemented across the entire agri-value chain, are developed and tested, with a thorough assessment of their combined effects and interactions to ensure efficiency and sustainability;
- the capacity of farmers and actors in the agri-value chain to manage pest risks more effectively, in an environmentally friendly and fair manner, across various agricultural and trade contexts is strengthened through collaborative efforts, with particular attention to the challenges posed by climate change;
- scientific support, recommendations and policy advice are provided to enhance plant health policies, fostering international cooperation and strengthening global efforts to combat plant pests.

Scope: Plant health is critical for agriculture, forestry, ecosystems, and biodiversity on a global scale. However, maintaining healthy crops is becoming increasingly challenging due to climate change, biodiversity loss, globalisation, and international trade, which accelerate the spread of pests and diseases. These threats can severely harm crops, native plants, and the environment, jeopardising agricultural sustainability, biodiversity, and food security.

Effective plant health measures play a vital role in protecting sustainable agriculture and enhancing global food security, safeguarding the environment, forests, and biodiversity, and facilitating economic and trade development. A systems approach to plant health is a comprehensive pest risk management strategy that integrates different measures, at least two of which act independently, with cumulative effect and of high efficacy[88]. The systems approach is designed to effectively meet phytosanitary import requirements, allowing for the consideration of measures and procedures that contribute to effective pest risk management throughout the entire value chain, from pre-planting and pre-harvest stages to harvest, post-harvest handling, transport, and distribution. By integrating multiple measures, this approach enhances the ability to manage pest risks comprehensively and sustainably, ensuring the health of plants and the safety of agricultural products across borders. Proposals should target one or more plant pests[89], providing a clear explanation and justification for the selected pest(s) in alignment with the proposal's objectives and the topic's expected outcomes.

Proposals should:

[88] International Standard for Phytosanitary Measures No. 14. The use of integrated measures in a systems approach for pest risk management [https://www.ippc.int/en/publications/607

[89] A pest is defined here as any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products (EU legislation, Regulation 2016/2031)

- develop innovative climate and environmental-friendly measures for a highly efficacious pest risk management to be implemented across the value chain to meet the phytosanitary requirements in a variety of socio-economic contexts;
- evaluate risk reduction, cost-effectiveness, scalability, and sustainability, of each proposed innovative measures;
- design and validate protocols targeting systems approaches, considering the whole value chain;
- assess the combined effect of all measures and their interactions across the value chain, including cost-effectiveness, scalability, and overall sustainability (economic, social and environmental aspects);
- support capacity building and training of the actors within the value chain, enabling the large-scale adoption of safe, innovative, cost-effective measures.

International cooperation is strongly encouraged. Results should benefit diverse farming systems/approaches, such as conventional and organic farming.

Proposals must implement the 'multi-actor approach' including a range of actors to ensure that knowledge and needs from various sectors such as research, plant health services, farming/forestry sectors, advisory services, and other relevant actors of the value chain are brought together. This topic should involve the effective contribution of social sciences and humanities (SSH) disciplines.

Proposals may provide financial support to third parties (FSTP) to, for instance, develop, test and demonstrate innovative measures. A maximum of 10% of the EU funding should be allocated to this purpose. Consortia need to define the selection process of organisations, for which financial support may be granted.

The possible participation of the JRC in the project could involve supporting the analysis to understand the acceptance and adoption of innovative measures across the value chain.

Proposals should ensure coherence and complementarities with ongoing relevant Horizon Europe projects and capitalise on existing relevant research findings and tools, included those developed under previous research projects.

The proposals should include a dedicated task in the workplan and appropriate resources to collaborate with the projects funded under this topic.

HORIZON-CL6-2025-02-FARM2FORK-06: Improving grassland management in European livestock farming systems

Call: Cluster 6 Call 02 - single stage
Specific conditions

Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 8.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 16.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part. If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used).

Expected Outcome: Proposals should contribute to the objectives of the common agricultural policy (CAP), to the EU Green Deal's goals for resilient and sustainable agri-food systems, the EU biodiversity strategy, the Nature Restoration Regulation, the climate policy, and the EU action plan for the development of organic production. Proposals will also contribute to the expected impacts of the destination by enabling farmers and relevant actors in the agricultural sector to manage sustainable, efficient, profitable, circular, low greenhouse gas-emitting farming systems contributing to climate-neutrality and climate-resilience.

Project results are expected to contribute to all the following expected outcomes:

- the availability of data, models and methodologies to measure, monitor, assess and valorise the multifunctionality of grassland farming systems is improved, benefitting all relevant actors involved in grassland management;
- the availability and accessibility for, and use by farmers of sustainable grassland management knowledge, innovative solutions/practices and strategies is increased;
- networking, participatory approaches and knowledge mobilisation among relevant stakeholders for sustainable grassland management is enhanced;
- scientific support and recommendations for the development, implementation and evaluation of EU policies relevant for grasslands, including the CAP, the EU climate policy and the Nature Restoration Regulation is provided.

Scope: Well managed grasslands are key for the sustainability of the EU's and Associated Countries agriculture and for the delivery of multiple ecosystem services, including water purification, erosion and flood prevention, carbon sequestration and food production, and for preserving biodiversity. Grasslands can also play an important role as protein crop supply for feed. They constitute key elements of European socio-cultural landscapes. However, grasslands maintenance and functions in the EU are under threat for reasons that may include sub-optimal input management, intensification, farm concentration, climate change and abandonment.

Ensuring the sustainable management of grasslands and preventing their disappearance is essential for a sustainable farming sector, for healthy nature, and for human wellbeing in the EU and Associated Countries. This calls for increasing scientific evidence on grasslands across Europe, including on their performance, benefits and trade-offs (e.g., climate, environment, biodiversity, socio-economic). There is also a need to further develop and demonstrate approaches that allow assessing the climate change adaptation and mitigation potential of grazing livestock systems, along with other benefits they can deliver. Moreover, farmers need new knowledge, innovative solutions, support and advice to sustainably maintain grasslands, and to restore degraded grassland habitats.

In this context, the role of and coherence among policies is crucial. Research and Innovation have a key role to play in demonstrating that properly managed grasslands systems are viable options for farmers.

This topic focuses on grazing livestock systems and involves both permanent grasslands, as defined in Regulation (EU) 2021/2115[90], and temporary grasslands, understood as arable land with grasses, or grass mixtures with other species, that has been included in the crop rotation before reaching the five years that are necessary to be considered as permanent grassland.

Proposals should address all the following activities and should cover various farming systems/approaches, one of which should be organic farming:

- develop and operationalise methodologies to measure, monitor, benchmark and assess the performance of grassland farming systems in different contexts in terms of the delivery of ecosystem services (e.g., productivity, carbon sequestration, nutrient cycling, resilience to climate change, soil health, forage value), biodiversity restoration, reducing emissions of greenhouse gas (GHG) and air pollutants, and social aspects such as profitability for farmers and co-benefits for other stakeholders. This should include analysis of synergies and trade-offs between the above elements in the short- to medium- and long-terms. The benchmark of the performance of grassland farming systems should also include comparison between different levels of grass-based ruminants' farming systems in similar pedo-climatic contexts;

- develop new knowledge, innovative solutions/practices, and manageable strategies for creating, maintaining and restoring grasslands systems that are productive, cost-

90 http://data.europa.eu/eli/reg/2021/2115/oj

effective, sustainable, environmentally sound, and resilient to a changing climate. These strategies should include assessment of innovations in the social, environmental and economic domains, such as market uptake by value chain actors and consumers through, for instance, standards and labelling;

- develop farm- and landscape level decision tools and strategies to support farmers in managing grasslands sustainably, to improve forage productivity and quality and livestock production, and the delivery of other ecosystem services, based on documented cases or in-situ demonstrators;

- organise activities to mobilise the sharing of knowledge (scientific, practical and traditional), and networking among relevant actors. Proposals should develop practice-oriented dissemination materials, e.g. audiovisual materials, brochures, etc., presenting solutions, and make them publicly available;

- assess relevant public policies at various levels and provide policy recommendations to improve their impact and coherence in supporting sustainable grassland systems;

- perform economic cost-benefit analysis of applying the R&I solutions developed during the project and explore the potential of financing or incentive tools specific to the sustainable management of grassland farming systems, including lower-polluting and lower-GHG-emitting grazing livestock systems, and where relevant, restoration of degraded grasslands habitats.

Proposals must implement the 'multi-actor approach' and ensure adequate involvement of the main stakeholders involved in grassland management in Europe, e.g., farmers (including farmers managing protected grassland habitats), shepherds and related organisations notably in the ruminants' sectors, advisors, policy-makers, landscape and territorial planners, industry including small and medium enterprises, social economy actors, consumers, environmental Non-Governmental Organisations, etc.

Proposals should capitalise on research findings and tools, included those developed under previous research projects. Proposals should cover a variety of grasslands systems in different pedo-climatic conditions and biogeographical regions across the EU and consider marginal areas at risk of abandonment or with other constraints, and areas in intensification trends towards arable crop farming. Activities should allow for the comparison of performance and sustainability between grasslands systems presenting mixtures of plant species, including legumes, compared to mono-species grasslands. The possible contribution of the JRC could involve connecting with spatial datasets on livestock grazing density and grassland management intensity available in its portfolio. Furthermore, Eurostat[91] related data should also be considered.

Proposals should include a dedicated task, appropriate resources and a plan on how they will collaborate with other projects funded under this topic. Proposals should, where relevant, consider the use of Earth Observation data. Proposals should ensure complementarities with

[91] https://ec.europa.eu/eurostat/web/experimental-statistics/geospatial-data-agricultural-census

other relevant activities carried out under other initiatives in Horizon Europe, including those funded under the topics HORIZON-CL6-2025-02-CLIMATE-04, HORIZON-CL6-2025-02-FARM2FORK-04, as well as with relevant activities of the Horizon Europe Partnership 'Agroecology' and other relevant future Horizon Europe Partnerships and R&I projects.

In order to enhance the societal and long-term impact of the activities beyond the life cycle of the project, proposals should apply social innovation and citizen engagement and include a strong involvement of citizens/civil society, together with academia/research, industry/SMEs/start-ups and government/public authorities.

This topic should involve the effective contribution of social sciences and humanities (SSH) disciplines. To achieve the objectives of this topic, international cooperation is encouraged.

HORIZON-CL6-2025-02-FARM2FORK-07: Fostering animal breeding and genetics for climate change adaptation and mitigation, improved robustness and resilience

Call: Cluster 6 Call 02 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.
Technology Readiness Level	Specified activities are expected to achieve TRL 7 by the end of the project – see General Annex B. Activities may start at any TRL.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the

	Research and Training Programme of the European Atomic Energy Community (2021-2025) [92].

Expected Outcome: Successful proposals will contribute to more sustainable and environmentally responsible land-based agricultural production systems, which are among the objectives of the EU Green Deal, including the methane strategy, the action plan for the development of organic production and the common agricultural policy (CAP) among others. The proposals will help tackle the issues linked to emissions from livestock and will support the EU Members States and Associated Countries in implementing cost-effective mitigation efforts and better quantifying their expected impacts. Successful proposals will also contribute to the expected impacts of the destination by enabling farmers and relevant actors in the agricultural sector to manage sustainable, efficient, profitable, low greenhouse gas emitting farming systems contributing to climate-neutrality and climate-resilience.

Project results are expected to contribute to all the following expected outcomes:

- the understanding by all relevant actors involved in livestock breeding practices and programmes of interactions between management, genotype and environment is enhanced, with the aim of improving es the sustainable management of livestock population and achieving efficient animal/feed recoupling from farm to landscape scale;

- genomic and phenotypic characteristics that could be applied in breeding schemes for the selection and use of animals having desirable traits for lower greenhouse gas emissions and other climate-change and environmental related challenges for the livestock sector are widely known and considered by breeders;

- contribution of breeding and genetics in livestock to sustainability and production efficiency, including trade-offs among other breeding objectives are known by all relevant actors involved in livestock breeding practices and programmes, where improvement paths are undertaken and options to overcome obstacles to their adoption are provided;

- scientific support and recommendations/policy advice for the development, implementation and evaluation of EU policies and strategies, including the CAP and other policies relevant for sustainable livestock production, is provided.

Scope: Breeding and genetic improvements are among the tools with potential to help livestock to increase production efficiency and sustainability, to adapt to the changing environment (e.g., harsh climates, health hazard, changes in feed quality or availability) as well as to help to mitigate emissions. By selecting specific traits that are important for adaptation and mitigation purposes, and integrating them in breeding programmes, livestock farmers and breeders can contribute to more sustainable livestock farming systems. Balancing

[92] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

multiple breeding objectives, including reduction of methane emissions and other environmental considerations, is complex and requires careful consideration of trade-offs, including with animal health and welfare. Proposals should enhance animal breeding programmes by identifying, validating and upscaling easily accessible and low-cost protocols, which can be used at farm level in diverse environments and production systems, for measuring and selecting existing and new traits with low environmental and climate footprint.

The aim is to optimise the selection of animals with genotypes that are best suited to thrive in different production systems and environmental conditions, with different diets and rumen/gut microbiota by incorporating adaptation and mitigation objectives into breeding and sustainable management decisions.

Proposals should address all the following activities and should cover various terrestrial livestock farming systems/approaches, one of which should be organic farming:

- identify new traits, including proxy indicators from -omic or meta-omic data, that consider genotype-environment interactions on the whole animal lifespans to renew breeding goal, i.e. desirable traits for lower greenhouse gas emissions and other climate-change related challenges, validate and integrate them into indexes used to benchmark farm performance;

- develop tools/systems/methods to measure genotype-environment interaction and traits of interest, predicting the breeding value at animal and population levels in diverse farming conditions, while maintaining genetic diversity;

- demonstrate in an operational environment breeding programs and management practices for improving robustness, lifetime efficiency and resilience, including the contribution of livestock to climate change mitigation efforts and the adaptation to climate change conditions (TRL 7) while considering trade-offs including with animal health and welfare and demonstrating gender-responsive strategies where relevant;

- analyse the cost effectiveness of the identified breeding programmes and assess private and/or public incentives or rewarding schemes for the use of certain mitigation-related traits currently used in some European regions or countries, with their advantages, limits, and ways to overcome them.

Proposals must implement the 'multi-actor approach’ and ensure adequate involvement of the main stakeholders involved in livestock breeding in Europe, including farmers, breeders, advisors, private sector/industry, and policy-makers.

The proposal should include a dedicated task, appropriate resources, and a plan on how it will collaborate with other projects funded under this topic, and ensure coherence and complementarities with ongoing relevant Horizon 2020 and Horizon Europe research projects, including relevant infrastructures. Proposals should interact with relevant structures or organizations at European level and beyond such as FAO, Livestock Environmental

Assessment and Performance Partnership (LEAP, FAO)[93], Global Research Alliance on Agricultural Greenhouse Gases[94].

To better address the requirements of the topic, international cooperation is encouraged.

HORIZON-CL6-2025-02-FARM2FORK-08: Exploring the potential of controlled environment agriculture (CEA)

Call: Cluster 6 Call 02 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 6.00 million.
Type of Action	Research and Innovation Actions
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025) [95]. Beneficiaries may provide financial support to third parties (FSTP). The support to third parties can only be provided in the form of grants. The maximum amount to be granted to each third party is EUR 60 000.

Expected Outcome: By exploring the potential of controlled environment agriculture (CEA) as a transformative contribution to global food security and sustainability challenges, the successful proposal will support the common agricultural policy (CAP), the European Green Deal's goals for resilient and sustainable agri-food systems and the EU Climate Law. It will also deliver on the expected impact of the destination by enabling farmers and relevant actors in the agricultural primary sector to manage sustainable, efficient, profitable, circular and low emissions farming systems contributing to climate-neutrality and climate-resilience. This will be achieved by new knowledge, innovation and the upscaling and replication of existing and

93 https://www.fao.org/partnerships/leap/en/
94 https://globalresearchalliance.org/research/livestock/networks/
95 This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

new sustainable farming approaches while making farming a professionally attractive and remunerative life choice.

Project results are expected to contribute to all the following expected outcomes:

- a holistic understanding of CEA is provided, comprising technological needs, trade-offs, sustainability, societal and environmental impacts and policy implications;
- the knowledge of CEA sustainability is advanced, in its economic, environmental and societal dimensions (profitability, energy efficiency, greenhouse gas emissions (GHG), environmental sustainability and circularity, social dimension, etc.);
- novel and diverse crop varieties with potential in CEA are identified, and next generation of CEA systems are explored;
- adoption, expansion and uptake of CEA best practices are enhanced.

Scope: Controlled Environment Agriculture (CEA) refers to any form of agriculture that controls and optimises environmental conditions such as temperature, humidity, carbon dioxide, light or nutrient concentration. Examples of CEA include greenhouses, vertical farms, grow rooms, building-integrated agriculture, hydroponics, aquaponics, aeroponics and other practices where technological advancements enable precise regulation of growing conditions farming. Optimising CEA offers advantages in terms of resource efficiency, environmental sustainability and crop quality, providing a promising alternative to traditional agriculture for meeting the growing global demand for food, especially in the face of climate change and urbanisation. More research on CEA is essential to address its challenges, from addressing technological gaps to expanding crop diversity and reducing environmental impacts, so to unlock its full potential as a sustainable solution for future food production.

Proposals should:

- assess the state-of-the-art technologies and innovations in CEA, evaluating their effectiveness, assessing resource efficiency (including energy and water demands) and identifying opportunities for optimisation through technological innovations and management practices;
- analyse the socio- economic feasibility and viability of implementing CEA systems at different scales and evaluating their cost-effectiveness compared to conventional agriculture. Analysing the economic viability of sustainable CEA practices.
- investigate the environmental sustainability and environmental footprint [96] of CEA systems (including GHG emissions);

[96] Commission Recommendation (EU) 2021/2279 on the use of the Environmental Footprint methods to measure and communicate the life cycle environmental performance of products and organisations

- assess the current state of crop varieties grown in CEA systems, identifying gaps and opportunities for the development of novel crop varieties, including innovation in plant variety testing, and challenges hindering the adoption of novel crop varieties in CEA;

- provide insights into the future trajectory of CEA, examining emerging trends, investigating technological innovations (like IoT, artificial intelligence, robotics, biotechnologies, etc.), and their implications for sustainable food production in the coming decades and the farming profession therein. Identify key challenges hindering CEA adoption and provide strategies for enhancing the expansion of best practices in CEA.

The involvement of SMEs is essential for this topic. Proposals may involve financial support to third parties, particularly for SMEs providing and/or developing testing, or validating the proposed innovative technologies/solutions. A maximum 30% of EU funding should be allocated to this purpose.

Proposals should capitalise on relevant research findings and tools, included those developed under previous research projects.

HORIZON-CL6-2025-02-FARM2FORK-09: Strengthening the EU crop breeding research and innovation ecosystem for competitive, resilient, and sustainable agriculture

Call: Cluster 6 Call 02 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 3.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 3.00 million.
Type of Action	Coordination and Support Actions
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [97].

[97] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link:

Expected Outcome: Successful proposals should contribute to the objectives of the common agricultural policy, the European Green Deal's goals for resilient and sustainable agri-food systems and ensure the long-term competitiveness and sustainability of the farming sector within planetary boundaries. Proposals should also support the Commission communication on: Building the future with nature: Boosting Biotechnology and Biomanufacturing in the EU[98] and should contribute to the expected impacts of the destination by enabling farmers and relevant actors in the agri-food sector to manage sustainable, efficient, profitable, circular, low greenhouse gas-emitting farming systems contributing to climate-neutrality and climate-resilience.

Projects are expected to contribute to all the following expected outcomes:

- enhanced critical understanding and applicability of funding landscapes and financing models at national, regional and EU levels for plant breeding, is achieved, leading to more efficient coordination and streamlining of research and innovation actions among public and private actors;
- a co-creative environment is established, enabling stakeholders to collaboratively identify and prioritise shared research gaps and infrastructure needs for crop breeding, ensuring coordinated research efforts at national, regional, and EU levels;
- trans-national R&I cooperation between the public and private breeding sector and the research community is supported, focusing on shared research priorities, critical and emerging technologies, and aligning efforts to address key challenges in crop breeding;
- market access processes of new, improved varieties are facilitated, addressing identified gaps and development needs.

Scope: Crop production faces growing challenges, including the urgent need to adapt to climate change, enhance water and nutrient efficiency, protect biodiversity, improve soil health, reduce environmental impacts, and ensure food security and resilience. Tackling these complex issues demands innovative solutions and the conservation and sustainable use of plant genetic resources to develop resilient and adaptable crops. Prioritising diversification, resilience, and ecological approaches—including organic farming—will strengthen sustainable farming systems and boost the overall resilience of agriculture.

Support for smart, future-oriented plant breeding programs that prioritise traits enhancing crop resilience, sustainability, and adaptability, is a key objective for the coming years, aimed at strengthening food security. To achieve these goals, it is essential to ensure that companies, particularly small and medium-sized enterprises (SMEs) in the breeding sector, have access to cutting-edge scientific expertise, modern breeding technologies, and a highly skilled workforce. This will drive innovation and ensure that the latest advances benefit both farmers and the entire breeding community. Additionally, market access process for new varieties,

https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

[98] COM (2024)137 final.

including variety testing and registration, are critical in realising these benefits, and the research and development needs in relation to prioritised traits and values for cultivation should be identified.

Better coordination of research activities is crucial to overcome the current fragmentation of public and private research efforts. Strengthening collaboration across international, regional, and national levels will help integrate the needs of farmers, breeders, researchers, industry stakeholders, and society at large. A more connected and cohesive approach has the potential to enhance the efficiency of the research and breeding ecosystem, streamline innovation processes, align them with the needs of all stakeholders, and support the competitiveness of the agri-food value chain.

Proposals should:

- conduct a comprehensive mapping of the relevant plant breeding needs of farmers, breeders, industry and society, and related activities within the EU;
- evaluate the infrastructure available, including state-of-the-art infrastructure and demonstration facilities, and identify gaps that need to be addressed and the opportunities presented to support cutting-edge research and breeding activities, suitable to cover the needs of different agricultural sectors, including market access;
- provide evidence and insights on how current funding sources and financial models at EU, regional, and national levels are mobilised to support research and innovation in the plant breeding public and private sectors;
- assess adoption and implementation of participatory approaches for breeding activities and provide insights on integrating these methods, highlighting pathways for involving farmers, end-users, and other stakeholders to ensure that breeding outcomes meet diverse agricultural, environmental and societal needs;
- establish a structured framework for an EU-wide network that promotes close cooperation among research and innovation actors, including funders, research institutions, and infrastructure providers, alongside the public and private plant breeding sectors. This framework could be developed by coordinating and integrating existing networks and initiatives, creating a unified platform to facilitate collaboration, knowledge exchange, and joint initiatives;
- develop a strategic R&I roadmap that outlines priorities for plant breeding research and innovation at the EU level. Prepare the groundwork for potential action aimed at fostering cooperation, aligning efforts, and advancing the public and private plant breeding sectors.

Particular attention should be paid to minor, underutilised and permanent crops. All farming systems and approaches, including organic farming, are within scope. Specific considerations should be made for organic varieties and organic heterogeneous materials to ensure their unique needs are adequately addressed.

Proposals should consider the perspectives and needs of the different 27 EU Member States to ensure a high level of representation, while also considering relevant global initiatives, such as the Kunming-Montreal Global Biodiversity Framework (GBF)[99].

Proposals should ensure coherence and complementarity with ongoing relevant Horizon Europe projects, including the Agroecology partnership, and capitalise on existing relevant research findings and tools, such as those resulting from the Horizon 2020 and Horizon Europe projects. Collaboration with European research infrastructures such as AnaEE-ERIC, EMPHASIS or other relevant research infrastructures[100] is encouraged.

Enabling sustainable fisheries and aquaculture

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-02-FARM2FORK-10: Diversifying aquaculture production with emphasis on low-trophic species

Call: Cluster 6 Call 02 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Innovation Actions
Technology Readiness Level	Activities are expected to achieve TRL 6-8 by the end of the project – see General Annex B. Activities may start at any TRL.

Expected Outcome: In the frame of the EU's farm to fork strategy, the EU strategic guidelines for sustainable aquaculture for the period 2021 to 2030, the EU algae initiative and the food 2030 R&I policy framework, successful proposals will contribute to the impact of this Destination on sustainable fisheries and aquaculture.

Project results are expected to contribute to all of the following expected outcomes:

- consumers have access to a variety of edible aquatic species produced in the EU and in Horizon Europe Associated Countries[101];

99 Notably its target 13 on fair and equitable sharing of benefits that arise from the utilization of genetic resources.

100 The catalogue of European Strategy Forum on Research Infrastructures (ESFRI) research infrastructures portfolio can be browsed from ESFRI website https://ri-portfolio.esfri.eu/.

101 https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/list-3rd-country-participation_horizon-euratom_en.pdf

- aquaculture industry has access to new and improved technologies to enhance the competitiveness and profitability of the sector;
- reduced environmental impact of the sector, becoming resilient and climate-adaptive and contributing to climate change mitigation;
- increased information available to consumers to enhance their literacy in relation to the nutritional and environmental benefits of food produced in aquatic ecosystems;
- economic growth and creation of jobs in coastal and rural areas.

Scope: Aquaculture is booming globally but in the EU is almost stagnating. The "Strategic Guidelines for a more sustainable and competitive EU aquaculture for the period 2021 to 2030" (COM(2021)236 final) identify diversification as a key area for further work in conjunction with supporting the farming of existing species. The guidelines underline that the EU aquaculture sector has great scope for further diversification, not only in the farming of promising new species (notably diversification into non-fed and low-trophic species with a lower environmental footprint), but also in production methods such as integrated multi-trophic aquaculture (IMTA) and organic aquaculture. The guidelines therefore promote the development of IMTA, organic aquaculture and the diversification to lower-trophic species alongside supporting the existing production of finfish and shellfish species.

Algae and shellfish have a huge market potential but are not always well-known to the consumers. EU imports more than 60% of the seafood consumed, with algae imports alone worth 0,5 billion EUR.

The scope of this topic includes all possible edible aquatic organisms with preference for low-trophic species which, in the frame of this topic, are photosynthetic or herbivorous or un-fed species. There is also preference for fish farming that relies on feed ingredients low in fish meal and oil and/or produced in the region where the farm is situated or in neighbouring to the farm regions, as well as feed ingredients derived from circular practices, such as, the use of wastes or by-products.

Aspects of sustainability, including circularity and zero waste, in particular in relation to the achievement of good environmental status, should also be addressed following a life cycle approach and potentially applying Environmental Footprint methods as described in Recommendation (EU) 2021/2279. Issues of fair pricing as well as regional particularities should also be addressed. Research could include aspects of feeding, breeding but also health and welfare issues as well as economic issues and issues of consumers' acceptance. Regulatory aspects and legal barriers regarding the approval of novel feed ingredients or the licencing of new aquaculture farms should also be considered. Collaboration with European research infrastructures such as EMBRC ERIC and with accredited laboratories is encouraged.

Proposals should take into account, when applicable, the work done under the DIVERSIFY[102] FP7 project, the Horizon 2020 AquaVitae and ASTRAL projects as well as the IMPRESS, NOVAFOODIES, INNOAQUA, ULTFARMS, OLAMUR, AlgaePro BANOS, LOCALITY, VeriFish, Mr.Goodfish3.0 and EUAqua.Org Horizon Europe projects and relevant national and regional projects.

This topic should involve the effective contribution of Social Sciences and Humanities (SSH) disciplines. International cooperation is encouraged for win-win outcomes and mutual benefits.

HORIZON-CL6-2025-02-FARM2FORK-11: Towards modern, integrated, and effective fisheries monitoring, control and surveillance (MCS) systems

Call: Cluster 6 Call 02 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding.
Technology Readiness Level	Activities are expected to achieve TRL 6-8 by the end of the project – see General Annex B. Activities may start at any TRL.

Expected Outcome: In line with the common fisheries policy and in particular the Data Collection Framework (DCF)[103], the revised Control Regulation[104], the farm to fork strategy goals, the food 2030 R&I policy framework, the EU biodiversity strategy and in particular its target 15, the EU Marine Strategy Framework Directive and the EU action plan on protecting and restoring marine ecosystems for sustainable and resilient fisheries, successful proposals will contribute to the impact of this Destination on sustainable fisheries and aquaculture.

Project results are expected to contribute to all of the following expected outcomes:

102 https://cordis.europa.eu/project/id/603121
103 Regulation EU 2017/1004, http://data.europa.eu/eli/reg/2017/1004/oj.
104 Regulation EU 2023/2842, https://eur-lex.europa.eu/eli/reg/2023/2842/oj.

- improve data collection (including position and catch data) for small scale fisheries (SSF)[105], recreational fisheries[106] and long-distance fisheries, i.e. EU fleets operating beyond EU waters[107], while reducing the costs of data collection and analysis;

- improve efficiency, save costs, and advance fisheries monitoring, surveillance, control and enforcement technologies to fight illegal, unreported and unregulated (IUU) practices in SSF, recreational fisheries and long-distance fisheries;

- provide effective and, where possible, real-time tools for monitoring fishing operations, including for the implementation of technical measures, for mitigation requirements for target and bycatch species, as well as for sensitive species and for comparing and matching logbook and/or landing declaration data with data collected and reported by observers on board;

- increase and enhance data collection resolution while exploring the potential of interconnecting vessel tracking and e-logbooks to improve interoperability and expand their usage in SSF and long-distance fisheries;

- contribute to the standardisation on how data are collected and the harmonisation of implementing procedures and quality control for collecting and processing data with a view to using these data in fisheries management and improving the reliability of scientific advice;

- improve the mechanisms for sharing fisheries dependent data among fisheries management authorities and institutions formally charged with provision of scientific advice;

- improve the digital readiness of SSF, recreational fisheries and long distance fisheries by identifying solutions such as business models that encourage and enhance fishers' adoption of digital technology as well as data sharing, through distribution of incentives and risks among stakeholders (i.e. fishers, policy makers, scientists).

The funded projects should contribute to the achievements of the United Nations 2030 Agenda and its Sustainable Development Goals and global biodiversity framework COP-15 goals and targets for marine ecosystems and fishing areas.

Scope: The implementation of the revised Fisheries Control Regulation (EU Regulation 2023/2842) and relevant implementing and delegating acts require tools to identify patterns, anomalies, trends and detect inconsistencies in electronic reporting (validation and cross-checking of data) at high spatial and temporal resolution, supporting more effective fisheries

105 Vessels of less than 12 metres in length overall, according to the Regulation (EU) 2023/2842 of the European Parliament and of the Council.

106 Non-commercial fishing activities exploiting marine biological resources for recreation, tourism or sport, according to the Regulation (EU) 2023/2842 of the European Parliament and of the Council.

107 E.g., in international waters, including in particular those under the purview of Regional Fisheries Management Organisations and in waters subject to the sovereignty or jurisdiction of third countries, including in particular in the context of Sustainable Fisheries Partnership Agreements.

monitoring, control and surveillance. Moreover, it requires secure, tamper-resistant, accurate and innovative vessel tracking systems tailored for the specificities of different types of fisheries such as, small-scale fisheries. These systems need to ensure reliable monitoring, be cost-effective and easily deployed and maintained. In addition, monitoring and controlling the catch reporting by millions of recreational fishers in European waters and estimating the ecological impact of recreational fisheries requires new and effective strategies and tools.

The new European fisheries control system also calls for innovative remote sensing technology and satellite imaging systems equipped with automatic detection abilities. These tools are needed to monitor and control fishing operations, complement and cross check data from fisheries observers, and verify compliance with regulations. Such tools will also help to identify and combat IUU fishing activities (e.g., detecting illegal transhipments, illegal discards, unauthorised gear use, and unlicensed fishing) in EU waters and beyond and improve the European maritime situational awareness.

Funded projects should firstly focus on extending data collection to encompass SSF, recreational fisheries and long-distance fisheries, enhancing MCS capabilities. Secondly, funded projects should develop, and test user-friendly technologies tailored for these sectors, while striving to reduce associated costs. Thirdly, funded projects should devise innovative MCS methods to improve efficiency alongside advancements in remote monitoring and surveillance technologies to support the effective implementation of relevant fisheries regulations and combat IUU fishing practices in these sectors. Fourthly, funded projects should emphasise the development of technology for automatic real-time data collection, including the vessel monitoring systems (VMS) and other vessel tracking technologies, and explore opportunities for interconnecting vessel tracking position, electronic monitoring systems and e-logbooks to enhance data resolution and expand their usage in SSF and long-distance fisheries. Finally, funded projects should focus on applications of artificial intelligence technologies for mining information and data deriving from various monitoring technologies in a timely and cost-efficient manner, for the purpose of supporting effective data collection and cross verification, as well as, monitoring of compliance with applicable fisheries rules and regulations.

Funded projects should also include solutions to directly gather data from fishing activities, including data required under the DCF and for the meaningful application of the Ecosystem Approach to Fisheries management, such as data on biological, environmental, economic, social aspects of the fisheries and basic information on the fishers, vessels, and gear.

Successful proposals are expected to contribute to increase the number of datasets in fisheries dependent data, also including non-commercial species and discards, while ensuring data collection standardisation as well as harmonisation of process and methods on how data are handled to support small scale fisheries data collection.

Successful proposals are expected to take an integrated approach, encompassing the development of new fisheries monitoring and data collection and analysis for SSF, recreational fisheries and long-distance fisheries. Funded projects should showcase the expected outcomes through four case studies covering the following:

- EU SSF in European Seas (Mediterranean Sea or Baltic Sea or Black Sea or North East Atlantic);
- EU SSF in EU Outermost Regions[108];
- recreational fisheries in EU waters;
- EU long-distance fisheries in the Indian Ocean or the Pacific Ocean.

Additional case studies can be included.

Proposals should include, in all stages (from conceptual development until the implementation of the outcomes) the involvement of fishers, other relevant actors, including citizens, and end users.

Proposals are encouraged to cooperate with actors such as the European Commission's Joint Research Centre (JRC). The possible participation of the JRC in the project would consist in providing and/or analysing fisheries data.

Proposals should consider the 2024 recommendations provided by the Strategic Working group on Fisheries and Aquaculture Research (SCAR-Fish[109]). Proposals are expected to allocate specific tasks and resources to link with relevant Horizon Europe projects, such as Fish-X, EveryFish, and OptiFish, and projects on the Digital Twin Ocean such as SURIMI and SEADITO as well as projects focusing on observing and mapping biodiversity coastal and marine ecosystems, such as OBAMA-NEXT, MARCO-BOLO and DiverSea and other biodiversity projects such as B-USEFUL.

Particular efforts should be made to ensure that the data produced in the context of this topic is FAIR (Findable, Accessible, Interoperable and Re-usable). When possible, data should become available through the European Marine Observation and Data network, ensuring their further availability for the development of fisheries management related applications through the EU Digital Twin Ocean core infrastructure (EDITO). Proposals should leverage the data and services available through European Research Infrastructures federated under the European Open Science Cloud, as well as data from relevant data spaces.

Transforming food systems for health, sustainability and inclusion

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-02-FARM2FORK-12: Nutrition and Mental Health

Call: Cluster 6 Call 02 - single stage
Specific conditions

108 https://ec.europa.eu/regional_policy/policy/themes/outermost-regions_en
109 https://scar-europe.org/fish-documents

Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 5.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 10.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: the proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [110].

Expected Outcome: The successful proposals will contribute to one of the challenges highlighted in the updated Food 2030 report, particularly under the Food 2030 pathway 7 "Nutrition and Sustainable Healthy Diets"[111], on how inadequate intakes, malnutrition and unhealthy diet affects people's mental health and well-being.

They will contribute to the Commission communication on a comprehensive approach to mental health published in 2023[112] and to the Healthier together - the EU non-communicable diseases (NCD) initiative presented in June 2022[113].

Project results are expected to contribute to all the following expected outcomes:

- healthy diet is improved and the effects of unhealthy diets on mental health in children (above 36 months), adults (above 18 years old) and older population (above 65 years

110 This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

111 https://research-and-innovation.ec.europa.eu/news/all-research-and-innovation-news/new-report-food-2030-research-and-innovation-pathways-action-20-2023-12-04_en

112 COM (2023) 298 final.

113 https://health.ec.europa.eu/non-communicable-diseases/healthier-together-eu-non-communicable-diseases-initiative_en

old) under different social and economic context for a European comprehensive overview are better monitored;

- science-based communication to policymakers and various professionals is improved and the understanding of the interlink between a healthy diet, nutrition and mental health wellbeing, in the children, adult and older population, is facilitated;
- mechanisms are identified to help to understand the effects of nutrition (i.e. food groups, beverages, macro- and micronutrients) on mental health disorders and also to prevent or exacerbate the development of any mental health disease also by taking into account, as far as possible, differential gender-specific dietary patterns;
- new and improved evidence support decision makers, public authorities, health and nutritional public and private institutes, and stakeholders in the assessment of those effects;
- sound data are identified for developing standardised/validated metrics and analysis approaches (including the use of Omics approaches) on the function/role of the gut microbiome and its interplay with host metabolism;
- knowledge is enhanced to improve nutrition in individuals with mental health disorders to ensure better health and longevity conditions;
- indicators are used to measure the beneficial or detrimental effect of food groups, beverages and, macro and micronutrients present in a daily diet and/or dietary behaviour on preventing mental health disorders.

Scope: Mental health has become a major issue of public health, and economic and social concern across Europe. A healthy dietary pattern can affect mental health and well-being through anti-inflammatory, antioxidant, neurogenesis, microbiome- and immune-modifying mechanisms, as well as through epigenetic modifications[114]. A good nutritional status is important for maintaining normal body function and adequate growth and development and preventing or mitigating the dysfunction induced by internal or external factors. Environmental psychology has demonstrated the positive impact of healthy nutrition on self-perception, self-efficacy, and successful relationships, as well as on several psychological constructs.

Moreover, alteration of the microbiome could also have an impact on neurodevelopment and neurodegenerative disorders as microbiome has been linked to several mental illness such as depression, bipolar disorders, schizophrenia[115].

The proposals should address all the following activities:

[114] Maurizio Muscaritoli, The Impact of nutrients on mental health and well-being: insights from the literature. Frontiers in Nutrition, mini review 8 March 2021.

[115] Hayley A Young, Nutrition research reviews (2023) 36, 471-483.

- establish the specific food groups, beverages, macro and micronutrients needed in a daily diet (from food sources or to be integrated to the daily diet) to prevent the development of mental health disorders in Europe and explore the need to characterise and supplement a healthy diet with specific macro and micronutrients in children, adults, and older population affected by specific diseases related to mental health disorders through interviews and literature review;

- establish, through a mapping of the most recent research and innovation projects, the 3-axis 'diet-gut microbiome-host-health' interplay to elucidate some molecular mechanisms and the causal relationship between changes in the gut microbiome and some mental health disorders (including the establishment of possible relevant biomarkers as necessary);

- provide recommendations and develop specific communication materials for prevention campaigns, in line with international and national health and dietary advice and related policies, for national authorities and for nutritional professionals, to communicate the link between healthy diets and mental health, as well as the need to supplement a healthy diet with macro- and micronutrients and/or adapt dietary patterns to prevent mental health disorders to patients;

- provide recommendations on how established deficiencies or excess intake of macro and micronutrients could be addressed, in line with international and national health and dietary advice and related policies, including means to increase or decrease nutrients in the diet, in particular in vulnerable groups.

The information is collected for different ranges of the population in Member States and Associated Countries. Experts, which make the link between the role of food groups, beverages, macro- and micronutrients to mental health, should work closely in identifying the main food groups, beverages, macro- and micronutrients needed or to be limited in a daily diet and which are linked to specific mental health disorders and the possible development of mental disease.

The involvement of citizens and civil society, including Citizen Science approach is encouraged as an appropriate research methodology/approach for this topic. Particular efforts should be made to ensure that the data produced in the context of this topic is FAIR (Findable, Accessible, Interoperable and Re-usable).

The proposals should include a dedicated task in the workplan and appropriate resources to collaborate with the projects funded under this topic.

The proposals must implement the 'multi-actor approach' and ensure adequate involvement of all relevant stakeholders and value chain actors including industry, nutritionists, healthcare professionals, scientists, patients, consumers associations. The active participation and engagement of different stakeholders should span the entire project development and implementation to ensure performance and sustainability and maximise the final impact.

The proposals should involve the effective contribution of SSH disciplines.

Where relevant, the proposals could consider complementarities and avoid duplication with other related funded projects. In particular ERA4Health partnership and the Nutribrain call topic [116] and JPND's ERA-NET Cofund (JPcofund2) and the project 'EURO-FINGERS multimodal precision prevention toolbox for dementia in Alzheimer's disease', which included nutritional guidance [117] (Call - Better Health and care, economic growth and sustainable health systems (H2020-SC1-BHC-2018-2020) [118].

HORIZON-CL6-2025-02-FARM2FORK-13: Raising citizen awareness on alternative proteins derived from biotechnology

Call: Cluster 6 Call 02 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 2.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 2.00 million.
Type of Action	Coordination and Support Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: the proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [119].

116 https://era4health.eu/nutribrain-2024/
117 https://www.neurodegenerationresearch.eu/wp-content/uploads/2020/06/PROJECT-EU-Fingers.pdf
118 https://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-health_en.pdf
119 This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

Expected Outcome: In line with Food 2030 R&I initiative [120] and the Commission communication on Building the future with nature: Boosting Biotechnology and Biomanufacturing in the EU [121], the successful proposal will empower citizens to make informed decisions regarding alternative proteins sources derived from biotechnology[122] and increase the awareness of the impact of such dietary shift (sustainability and health-related impacts). The successful proposal will also strengthen education, communication awareness and access to information on alternative proteins and contribute to an informed understanding and acceptance of the public of the use of biotechnologies in the food sector.

Project results are expected to contribute to all the following expected outcomes:

- scientific knowledge is improved at national, regional and local levels on the use of different biotechnology applications for food and food ingredients;
- communication and understanding of the social and economic aspects as well as of the environmental impact of the use of alternative protein sources derived from biotechnology are improved;
- citizens' awareness on the characteristics of alternative proteins, derived from biotechnology (such as precision fermentation) is enhanced through different communication tools at national, regional and local level;

policy inconsistencies (e.g. public funds directed towards unsustainable production of unhealthy foods despite Green Deal objectives) or regulatory issues limiting market uptake with a negative impact to the public are identified.

Scope: The proposal is expected to help public understanding and awareness of the use of alternative proteins produced through biotechnology and to contribute to counteracting misinformation in this area. It should support, as appropriate, educational interventions and information dissemination on the transition towards diets based on alternative protein sources, in particular those derived from biotechnology. The proposal should also address which (new) food products offer market opportunities and where the potential of their production is and which accompanying measures (hygienic conditions, dissemination campaign, etc.) are necessary so that consumers are aware and open to include alternative proteins produced through biotechnology in their diets.

The proposal should address all the following activities:

120 New Report: Food 2030 Research and Innovation – Pathways for action 2.0 - European Commission (europa.eu). See Pathway 4"Alternative Proteins for Dietary Shift".

121 COM (2024) 137 final.

122 According to the OECD, biotechnology is defined as the application of science and technology to living organisms, as well as parts, products and models of them, to alter living or non-living materials for the production of knowledge, goods and services. Advanced biotechnologies are geared towards various application areas, being the main ones medical and pharmaceutical ("red" biotechnology), agri-food ("green" biotechnology), and industrial and environmental ("white" biotechnology), with the marine biotechnology (so-called "blue") gaining increased attention.

- establish a collaborative science-based information programme to enable citizens understanding of the dietary shift towards alternative proteins produced from biotechnology by launching a survey on citizens consumption patterns and dietary choices;

- improve the transfer of scientific knowledge at different levels (different actors and different territorial/geographical areas and socio-economic groups) with a collection of data on the perception, behaviours and understanding of citizens of alternative protein sources derived from different biotechnological applications;

- produce technical and dissemination material based on scientific evidence and knowledge, encompassing the technical and hygienic processing conditions for the production of alternative proteins through biotechnology and eventual consumption;

- provide recommendations for updating and improving educational curricula in schools and in other educational institutes as appropriate and in accordance with any applicable national, regional and local obligations;

- include the use of diverse communication media (e.g., social media, radio, TV, newspapers) to effectively disseminate information and engage with a broad audience.

The proposal should take into account the preliminary results developed by the project B-Trust [123] funded under Horizon Europe and take advantage of and connect to European research infrastructures in the area of biotechnology such as EU-IBISBA.

Particular efforts should be made to ensure that the data produced in the context of this topic is FAIR (Findable, Accessible, Interoperable and Re-usable).

The proposal should involve the effective contribution of SSH disciplines.

The proposal must implement the 'multi-actor approach' and ensure adequate involvement of all relevant stakeholders including citizens, civil society organisations, authorities, public and private institutes/institutions, value chain actors to ensure acceptability, awareness and deployment. The active participation and engagement of different stakeholders should span the entire project development and implementation to ensure performance and sustainability and maximise the final impact.

To maximise the impacts of R&I, the collaboration with international partners, in particular with those established in the United States, is encouraged.

HORIZON-CL6-2025-02-FARM2FORK-14: Nutrients produced by microorganisms utilising primarily CO2 from the air, with the support of biotechnology

Call: Cluster 6 Call 02 - single stage

123 Co-creation methodology for biotechnology trust-building measures for improved innovation uptake in the bio-based innovation system | B-TRUST | Project | Fact sheet | HORIZON | CORDIS | European Commission (europa.eu)

Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: the proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.
Technology Readiness Level	Activities are expected to start from TRL 5 in order to achieve TRL 7 by the end of the project – see General Annex B.

Expected Outcome: In line with Food 2030 R&I initiative [124] and the Commission communication on: Building the future with nature: Boosting Biotechnology and Biomanufacturing in the EU[125], the successful proposal will address the application of the precision fermentation through genetically engineered microorganisms and will contribute to safer food systems. It will also promote innovation through the creation of new start-ups companies in the field of food production via biotechnology. The outcomes will foster EU strategic autonomy and leadership in delivering innovative nutrient production processes through business models for food applications in industrial plants and SMEs.

Project results are expected to contribute to all the following expected outcomes:

- the costs and resource-efficiency of bioreactors and upstream and downstream processing is delivered by industry or by other industry related actors (e.g., association, consultants, or engineering experts);
- the environmental and climate impacts resulting from the reduction of CO_2 in the air are better understood;
- food producing companies support the set-up of new or existing living laboratory facilities and pre-commercialisation infrastructure or shared infrastructure solutions to test the implementation of biotechnologies;

124 New Report: Food 2030 Research and Innovation – Pathways for action 2.0 - European Commission (europa.eu). See pathway 6 ‘The Microbiome World”.

125 COM (2024)137 final.

- innovative technologies are identified for the use of microorganisms that have been genetically engineered transforming CO_2 into nutrients for food purposes and scaled up by SMEs and innovative start-ups;

- existing pilot plants in Europe are improved to scale up the production by identifying and removing barriers that slow down the scaling up of the production of nutrients for food and food ingredients.

Scope: Innovations using microorganisms have the potential to deliver benefits in several fields, such as agriculture, food and feed, industries, environment, marine/aquatic and biodiversity. The use of microorganisms genetically engineered for precision fermentation is an innovative approach that could significantly contribute to safer food systems[126]. This biotechnology leverages the capabilities of microorganisms to produce nutrients including enzymes, fats, and other valuable compounds with high efficiency and specificity. Therefore, it represents a key area for investments and research, promising to revolutionise the food system and to contribute to a healthier planet.

The proposals should address all the following activities:

- analyse and provide the costs and investments needed for the use of the biotechnology for scaling up production of nutrients through the use of genetically engineered microorganisms that capture CO_2 from the air and/or from on-site plant emissions;

- establish an open space database or platform for companies to create their own business models for precision fermentation using genetically engineered microorganisms and perform a pre-commercialisation testing alongside business model strategies development as well as also in situ application;

- establish business models for industry and for in-situ application, considering also gases other than CO_2;

- evaluate the sustainability, efficiency, and resilience of European companies that use precision fermentation with genetically engineered microorganisms and their contribution to reducing the presence of CO_2 in the air. Climate-related aspects should also be considered as far as possible;

- provide a scale-up feasibility analysis for the developed biotechnologies which should take into consideration in the design process the feasibility for up-scaling, already from the early stages.

The proposals must implement the 'multi-actor approach' and ensure adequate involvement of existing private companies in Europe, specifically the participation of SMEs and start-ups.

The proposals should include a dedicated task in the workplan and appropriate resources to collaborate with the projects funded under this topic.

126 https://link.springer.com/article/10.1007/s11367-022-02087-0

The proposals are expected to establish links with Regional Innovation Valleys for the bioeconomy and food systems (RIV4BFS)[127] to encourage the deployment of technologies related to biotechnological processes across the EU regions.

If possible, cross-articulation with data spaces, and notably with the European Open Science Cloud (EOSC) should be foreseen, exploiting synergies and complementarities of the different approaches. Proposals are also encouraged to consider, where relevant, the services offered by European research infrastructures such as IBISBA or other relevant research infrastructures[128] as well as the services offered by the existing technology infrastructures.

To maximise the impacts of R&I, collaboration with international partners, in particular with those established in the United States, is encouraged.

HORIZON-CL6-2025-02-FARM2FORK-15: Additional activities of the European partnership on sustainable food systems for people, planet and climate

Call: Cluster 6 Call 02 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 130.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 130.00 million.
Type of Action	Programme Co-fund Action
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The proposal must be submitted by the coordinator of the consortium under HORIZON-CL6-2023-FARM2FORK-01-9: European partnership on sustainable food systems for people, planet and climate. This eligibility condition is without prejudice to the possibility to include additional partners.
Procedure	The procedure is described in General Annex F. The following exceptions apply: The evaluation committee will be composed partially by representatives of EU institutions. If the proposal is successful, the next stage of the

127 RIV4BFS is a thematic RIV's use case. RIV4BFS can involve actors from across the quadruple helix, meaning promoting a model of cooperation between industry, academia, civil society, and public authorities, with a strong emphasis on citizens and their needs. The New European Innovation Agenda - European Commission (europa.eu).

128 The catalogue of European Strategy Forum on Research Infrastructures (ESFRI) research infrastructures portfolio can be browsed from ESFRI website https://ri-portfolio.esfri.eu/

	procedure will be grant agreement amendment preparations. If the outcome of amendment preparations is an award decision, the coordinator of the consortium funded under HORIZON-CL6-2023-FARM2FORK-01-9: European partnership on sustainable food systems for people, planet and climate will be invited to submit an amendment to the grant agreement, on behalf of the beneficiaries.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: This action is intended to be implemented in the form of an amendment of the grant agreement concluded pursuant to topic HORIZON-CL6-2023-FARM2FORK-01-9. For the additional activities covered by this action: • The funding rate is 30% of the eligible costs. • Beneficiaries may provide financial support to third parties (FSTP). The support to third parties can only be provided in the form of grants. • Financial support provided by the participants to third parties is one of the primary activities of this action in order to be able to achieve its objectives. The EUR 60 000 threshold provided for in Article 207(a) of the Financial Regulation No 2024/2509 does not apply. • The maximum amount of FSTP to be granted to an individual third party is EUR 10 000 000 for the whole duration of Horizon Europe[129]. This amount is justified since provision of FSTP is one the primary activities of this action and it is based on the extensive experience under predecessors of this partnership. The starting date of grants awarded under this topic may be as of the submission date of the application. Applicants must justify the need for a retroactive starting date in their application. Costs incurred from the starting date of the action may be considered eligible (and will be reflected in the entry into force date of the amendment to the grant agreement).
Total indicative budget	The total indicative budget for this topic is EUR 130 million committed in annual instalments over years 2025-2027 (EUR 35 million from the 2025 budget, EUR 45 million from the 2026 budget and EUR 50 million from the 2027 budget). The total indicative budget for the duration of the

[129] However, if the objectives of the action would otherwise be impossible or overly difficult (and duly justified in the proposal) the maximum amount may be higher.

	partnership is EUR 175 million.

Expected Outcome: The second and final instalment of the partnership is expected in continuation to contribute to expected outcomes specified in topic HORIZON-CL6-2023-FARM2FORK-01-9: European partnership on sustainable food systems for people, planet and climate, for continuation of the activities and the continuation of already agreed outcomes.

Scope: The objective of this action is to continue to provide support to the European Partnership identified in the Horizon Europe Strategic Plan 2021-2024 and that will be implemented under the topic HORIZON-CL6-2023-FARM2FORK-01-9: European partnership on sustainable food systems for people, planet and climate, and in particular to fund additional activities (which may also be undertaken by additional partners) in view of its intended scope and duration, and in accordance with Article 24(2) of the Horizon Europe Regulation.

The consortium which applied to and is under grant agreement preparations under HORIZON-CL6-2023-FARM2FORK-01-9: European partnership on sustainable food systems for people, planet and climate is uniquely placed to submit a proposal to continue the envisioned partnership. The foreseen consortium has expertise in relation to the objectives of the Partnership and the activities to be implemented by calls and internal activities. In practice, another consortium could not continue the activities of the Partnership underway without significant disruption to the ongoing activities, if at all.

The scope of the application for this call on the European partnership on sustainable food systems for people, planet and climate should focus on the partnership's co-created strategic research and innovation agenda for seven to ten years which includes inspiration for calls for research projects and horizontal activities to allow the Partnership to operate and to achieve its specific objectives. The application should also consider new and upcoming priorities, and this should be reflected in their upcoming work.

The partnership should seek to include additional partners, in particular from Member States and Associated countries not yet in the consortium funded under HORIZON-CL6-2023-FARM2FORK-01-9.

It is expected that the partnership organises joint calls on an annual base and therefore it should factor ample time to run the co-funded projects. The partnership should collaborate closely with relevant partnerships in Horizon Europe Cluster 6 and beyond, the partnership should describe specific activities foreseen to strengthen the synergies with other related Missions and Partnerships.

While the award of a grant to continue the Partnership in accordance with this call should be based on a proposal submitted by the coordinator of the consortium funded under HORIZON-CL6-FARM2FORK-01-9: European partnership on sustainable food systems for people, planet and climate and the additional activities (which may include additional partners) to be funded by the grant should be subject to an evaluation, this evaluation should take into

account the existing context and the scope of the initial evaluation as relevant, and related obligations enshrined in the grant agreement.

Taking into account that the present action is a continuation of topic HORIZON-CL6-2023-FARM2FORK-01-9: European partnership on sustainable food systems for people, planet and climate and foresees an amendment to an existing grant agreement, the proposal should also present in a separate document the additional activities and any additional partners, to be covered by the award in terms of how they would be reflected in the grant agreement.

Targeted international cooperation

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-02-FARM2FORK-16: Developing a joint AU-EU Agricultural Knowledge and Innovation System (AKIS) supporting the Food and Nutrition Security and Sustainable Agriculture (FNSSA) partnership

Call: Cluster 6 Call 02 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 6.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. The following additional eligibility criteria apply: the proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part. The following additional eligibility criteria apply: due to the specific challenge of this topic, in addition to the minimum number of participants set out in the General Annexes, consortia must include at least three independent legal entities established in an African Union member state*. International organisations with headquarters in a Member State or Associated Country are exceptionally eligible for funding. Due to the scope of this topic, legal entities established in all African

	Union member states* are exceptionally eligible for Union funding. * "African Union member states" includes countries whose membership has been temporarily suspended.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025) [130].

Expected Outcome: A successful proposal should support the European Green Deal priorities, contribute to the African Union-EU High Level Policy Dialogue on Science, Technology and Innovation and to the respective R&I partnerships on Food and Nutrition Security and Sustainable Agriculture (FNSSA) and on Climate Change and Sustainable Energy. Proposals should contribute to the climate objectives of the African Union and the EU, and to the commitments of the Kunming-Montréal Global Biodiversity Framework. Projects will therefore contribute to the expected impacts of this Destination by developing innovative tools and approaches to improve the resilience, adaptation to climate change and sustainability of agriculture and food systems in Africa.

Project results are expected to contribute to all the following expected outcomes:

- the understanding, sharing of experiences and science-policy interfaces are strengthened for agri-food system actors to improve knowledge flows and development of an effective AU-EU AKIS, in view of achieving the Sustainable Development Goals and in line with the FNSSA roadmap;
- R&I actors in AU and EU, including farmers, advisors, other business and service providers, and consumers, are better informed and integrated within a well-functioning joint AU-EU AKIS supporting the climate transition implementation of agroecological approaches both in Africa and in the EU;
- better experience sharing among AKIS actors in the EU and AU is achieved.

Scope: AKIS is defined as the combined organisation and knowledge flows between persons, organisations and institutions who use and produce knowledge for agriculture and interrelated fields. Technological, non-technological and social innovation should be considered in an AKIS. In the context of the FNSSA, developing an effective AKIS in close cooperation with the International Research Consortium on FNSSA will strengthen long-term sustainability and

[130] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

foster the co-creation and flows of knowledge and innovation aimed at ensuring food and nutrition security and improving sustainability of agriculture through the agroecological transition and the adaptation to climate change.

Proposals should:

- identify, map and study the main AKIS actors and AKIS structures at different levels (local, national, regional) and their relationships in a set of countries in the African context to support the agroecological transition, in close cooperation with the FNSSA International Research Consortium;
- explore how to effectively and efficiently enhanced cooperation and knowledge flows between AKIS actors through activities at various geographical levels;
- develop relevant models and formulate operational recommendations for a joint AU-EU AKIS to improve resilience and sustainability of agrifood systems both in Africa and Europe;
- pilot and animate a joint AU-EU Agricultural Knowledge and Innovation System (AKIS) as a bi-continental networking and knowledge sharing platform linking African and European AKIS actors to exchange experiences and best practices on how to enhance co-creation and flows of knowledge and innovation aimed at food and nutrition security.

Proposal should contribute to the implementation of the short-term and medium-term actions outlined in the AU-EU Innovation Agenda in the priority area of Green Transition, particularly in the priority area of Green Transition (notably actions (4) and (5) among short-term actions and (1) and (3) for medium-term actions), and aim to translate R&I efforts into tangible business, products, services, development and employment opportunities in Africa and Europe. Proposals should be in line with the conclusions of the 2023 AU-EU Agriculture Ministerial Conference[131] and support the African Free Trade Area. To leverage opportunities for furthering impact and outreach, proposals should frame an active collaboration with the project resulting from the call "HORIZON-CL6-2025-02-FARM2FORK-05-two-stage: Developing agroecology living labs and lighthouses for climate action under the Food and Nutrition Security and Sustainable Agriculture (FNSSA) partnership".

Proposals should also contribute to the implementation of the Union for the Mediterranean (UfM) adopted R&I roadmaps by researchers, farmers and policymakers pertaining to climate change, particularly in the areas impact of water scarcity and drought in rural areas, sustainable agriculture production, biodiversity and changing climate.

Proposals must implement the 'multi-actor approach' to ensure the adequate involvement of the public authorities, advisory services and farmer organisations.

[131] https://agriculture.ec.europa.eu/events/5th-african-union-au-european-union-eu-agriculture-ministerial-conference-2023-06-30_en

Proposals should adopt an inclusive approach that respects and integrates local knowledge and practices alongside technological and scientific expertise, where indigenous insights are enriched by innovative approaches and new technologies through mutual learning.

The JRC may contribute to foster synergies with the PANAP[132] community, engagement with stakeholders, dissemination of results, notably to policy-makers, and through cooperation with the EC Knowledge Centre for Global Food and Nutrition Security.

HORIZON-CL6-2025-02-FARM2FORK-17: Nutrition in emergency situations - Ready-to-use Supplementary Food (RUSF) and Ready-to-use Therapeutic Food (RUTF)

Call: Cluster 6 Call 02 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 4.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 8.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. The following additional eligibility criteria apply: the proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part. The following additional eligibility criteria apply: due to the specific challenge of this topic, in addition to the minimum number of participants set out in the General Annexes, consortia must include at least three independent legal entities established in an African Union member state*. The places of establishment of at least two of these legal entities must be in the same region, as defined by the African Union: see https://au.int/en/member_states/countryprofiles2. International organisations with headquarters in a Member State or Associated Country are exceptionally eligible for funding. Due to the scope of this topic, legal entities established in all African Union member states* are exceptionally eligible for Union funding. * "African

132 DataM - PANAP official website - European Commission (europa.eu)

	Union member states" includes countries whose membership has been temporarily suspended.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025) [133]. Beneficiaries may provide financial support to third parties (FSTP). The support to third parties can only be provided in the form of grants. The maximum amount to be granted to each third party is EUR 60 000.

Expected Outcome: Ready-to-use Supplementary Food (RUSF) and Ready-to-use Therapeutic Food (RUTF) rely often on imported components while local resources are not exploited A sustainable and healthy food systems approach is needed for corrective action. Research and Innovation will increase the use of locally available sources of protein, micronutrients and fatty acids (plant-, marine-, and other locally available ingredients) in the local production and food processing of RUSF and RUTF, the latter in line with Codex Guidelines CXG 95-2022 in Africa. Identify options that allow for the safe use of new, locally produced, alternative supplementary foods to be certified by WHO and used, based on the health status of the child and the local conditions, as alternatives to the current 'all RUTF' approach. An approach that is more and more challenged by the increasing production and transportation costs, lack of access to beneficiaries, mainly in fragile and conflict affected countries and with a large carbon footprint.

The topic follows the Food 2030 approach, in particular its co-benefits on nutrition, climate, circularity and innovation and implements the FNSSA roadmap of the AU-EU research and innovation partnership. It is also part of a humanitarian-development-peace (HDP) nexus action.

Project results are expected to contribute to all the following expected outcomes:

- scaling up locally produced RUSF and RUTF will help improving access to the life saving nutrition products for more children in need;
- sustainable and locally produced RUSF and RUTFs will enable national governments to develop versions of these products that are best suited to the local context, having higher acceptability, and provide the regulatory frameworks to manufacturers for national

[133] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

production in line with the relevant Codex Alimentarius Guidelines, such as CXG 95-2022;

- supporting African countries' governments in their effort of local production of energy, protein and micronutrient supplements contributing to the objectives of climate change adaptation and mitigation, sustainable and efficient management of natural resources, resilience and disaster risk reduction as well as protection and restoration of biodiversity.

In parallel research could be developed around new safe and efficacious, science based recipes that could complement and replace under specific circumstances, in collaboration with the Nutrition Technical Advisory Board and after the validation by WHO, the exclusive use of RUTF for persons not affected by severe acute malnutrition, while making sure that relevant quality criteria, information practices and use criteria are established (based on the child health status and local circumstances).

Scope: Research and innovation collaboration between Europe and Africa will help the African countries (health specialists, producers, seed companies, SMEs and food industries) to develop/ scale up the relevant and sustainable local production of RUSF and RUTF or any other types of supplements and related ingredients, using varieties adapted to local climate and agro-ecological conditions, thereby protecting and restoring biodiversity. Thereby contributing to reduce the climate footprint of production and transport in line with the objectives of climate change adaptation and mitigation and sustainable and efficient management of natural resources. Implement the multi-actor approach by involving a wide range of food systems actors and conducting inter-disciplinary research. Link up for clustering to other projects of the AU-EU research and innovation priorities, in particular linked to Food Systems transition projects and the wider range of projects in Food and Nutrition Security and Sustainable Agriculture (FNSSA), Climate Change and Sustainable Energy (CCSE) and the AU-EU Innovation Union using the network linkages to the CEA-First project and the International Research Consortium on FNSSA.

Innovation: Proposals should foresee a space for mentoring and accelerating innovative business concepts, including social innovation and upscaling in view of African or European food business entrepreneurs and start-ups with special consideration of women and the diaspora using cascading funding opportunities. Proposals should involve financial support to third parties e.g. to academic researchers, health institutes, start-ups, SMEs and other multidisciplinary actors, to, for instance, develop, test or validate developed assessment approaches or collect or prepare data sets or provide other contributions to achieve the project objectives. Consortia need to define the selection process of organisations, for which financial support will be granted. Maximum 20% of the EU funding can be allocated to this purpose. Proposals should involve contributions from the social sciences and humanities (SSH) disciplines.

Enabling sustainable farming systems

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-02-FARM2FORK-01-two-stage: Emerging and future risks to plant health

Call: Cluster 6 Call 02 - two stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Research and Innovation Actions
Admissibility conditions	The conditions are described in General Annex A. The following exceptions apply: Applicants submitting a proposal under the blind evaluation pilot (see General Annex F) must not disclose their organisation names, acronyms, logos nor names of personnel in the proposal abstract and Part B of their first-stage application (see General Annex E).
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.
Procedure	The procedure is described in General Annex F. The following exceptions apply: This topic is part of the blind evaluation pilot under which first stage proposals will be evaluated blindly.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025) [134].

[134] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

	Beneficiaries may provide financial support to third parties. The support to third parties can only be provided in the form of grants. The maximum amount to be granted to each third party is EUR 60 000.

Expected Outcome: Successful proposals should contribute to the objectives of the common agricultural policy, as well as to the European Green Deal's goals for resilient and sustainable agri-food systems, the EU biodiversity strategy for 2030, and support Regulation 2016/2031[135] on protective measures against pests of plants.

Successful proposals will deliver on the expected impacts of the destination by enabling agri-food systems to enhance the EU's strategic autonomy through promoting food security and long-term sustainability with multidisciplinary approaches, including One Health. They will also empower farmers and key actors in the agricultural sector to manage sustainable, efficient, profitable, and circular farming systems with low greenhouse gas emissions, contributing to climate-neutrality and resilience.

Project results are expected to contribute to all of the following expected outcomes:

- the understanding of drivers of plant pest emergence, including the influence of climate change, ecosystem degradation and globalisation, is increased;
- cost-effective preventive and/or curative measures to new and/or emerging plant pests are developed;
- economic, social, and environmentally sound solutions for effective pest management in farming and/or forestry in line with the principles of integrated pest management are developed;
- scientific support, recommendations, and policy advice are provided to strengthen plant health policies.

Scope: Plant health is crucial for agriculture, forestry, ecosystems, ecosystem services and biodiversity on a global scale. The current EU plant health legislative framework plays a vital role in protecting the EU from the introduction of new plant pests and as well as tackling existing plant pests more effectively. Maintaining healthy crops is increasingly challenging due to factors like climate change, biodiversity loss, globalisation, and international trade which accelerate the spread of pests and diseases. These threats can severely damage crops, native plants, and the environment, jeopardising agricultural sustainability, biodiversity, and food security.

To address these issues, proposals should target one or more new or emerging plant pests[136] (regulated, non-regulated, introduced or native) that are causing or likely to cause, significant socio-economic and/or environmental impact to agriculture and/or forestry in the EU and/or

135 https://eur-lex.europa.eu/eli/reg/2016/2031/oj

136 A pest is defined here as any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products (EU legislation, Regulation 2016/2031).

Associated Countries, well as the impact on trade and the wider environment, including soil and water, considering potential exacerbation under climate change[137]. Within the scope of this topic are pests exhibiting an altered and higher probability of entry, establishment and spread in a new area that might be the result of changes in their biology or changes in agriculture or forestry pest management practice or rapid spread in new areas.

Proposals should:

- enhance understanding of pest(s) biology, introduction pathways, interaction with crop-soil ecosystems (if relevant), and mechanisms of spread, especially considering the challenges posed by climate change, biodiversity crisis, land use, and globalisation, thereby reducing uncertainties and lack of data in pest risk assessments;
- develop rapid and cost-effective tools and methods for preventing pest(s) entry, spread, and establishment; this includes early detection, surveillance, treatment [138], and (bio)control measures (including innovative agro-ecological practices), in line with sustainable and integrated pest management;
- assess the social, economic, and environmental impacts of plant pest(s) establishment and spread on farmers and/or forest owners and develop strategies to mitigate these impacts effectively;
- contribute to the identification of resistant and/or tolerant traits and explore agro-ecological processes as tools for pests regulation, enhancing the resilience and long-term sustainability of the sector;
- foster a holistic understanding and management of plant pests following a One Health approach, recognising the interconnection between people, animals, plants and their shared environment.

International cooperation with countries affected or threatened by the same pest(s) is strongly encouraged.

Proposals must implement the 'multi-actor approach' including a range of actors to ensure that knowledge and needs from various sectors such as research, plant health services, farming/forestry sectors, advisory services, and industry are brought together.

Results should benefit diverse farming systems/approaches, including conventional and organic farming.

Proposals may provide financial support to third parties (FSTP) to, for instance, develop, test and demonstrate tools and methods for early detection, surveillance, treatment, and (bio)control measures. A maximum of 10% of the EU funding should be allocated to this

[137] Applicants are expected to explain and justify the choice of pest(s) in alignment with the proposal's objectives and the topic's expected outcomes.

[138] See IPPC Secretariat. 2024. Glossary of phytosanitary terms. International Standard for Phytosanitary Measures No. 5. Rome. FAO on behalf of the Secretariat of the International Plant Protection Convention.

purpose. Consortia need to define the selection process of organisations, for which financial support may be granted.

Proposals are encouraged to consider, where relevant, the services offered by European research infrastructures and accredited laboratories [139].

Proposals should ensure coherence and complementarities with ongoing relevant Horizon Europe projects and capitalise on existing relevant research findings and tools, included those developed under previous research projects.

The proposals should include a dedicated task in the workplan and appropriate resources to collaborate with the projects funded under this topic.

HORIZON-CL6-2025-02-FARM2FORK-02-two-stage: Open topic: Innovating for on-farm post-harvest operations, storage and transformation of crops into food and non-food products

Call: Cluster 6 Call 02 - two stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Innovation Actions
Admissibility conditions	The conditions are described in General Annex A. The following exceptions apply: Applicants submitting a proposal under the blind evaluation pilot (see General Annex F) must not disclose their organisation names, acronyms, logos nor names of personnel in the proposal abstract and Part B of their first-stage application (see General Annex E).
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.
Technology	Activities are expected to achieve TRL 6-7 by the end of the project –

[139] The catalogue of European Strategy Forum on Research Infrastructures (ESFRI) research infrastructures portfolio can be browsed from ESFRI website https://ri-portfolio.esfri.eu/.

Readiness Level	see General Annex B.
Procedure	The procedure is described in General Annex F. The following exceptions apply: This topic is part of the blind evaluation pilot under which first stage proposals will be evaluated blindly.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Beneficiaries may provide financial support to third parties. The support to third parties can only be provided in the form of grants. The maximum amount to be granted to each third party is EUR 60 000.

Expected Outcome: Successful proposals will support the European Green Deal goals for competitive, resilient and sustainable agri-food systems objectives, the common agricultural policy, the EU Climate Law, the EU bioeconomy strategy, and the successful implementation of the unfair trading practices directive as well as the EU's action plan for the development of organic production.

Project results are expected to contribute to all of the following expected outcomes:

- Farmers employ a wide range of innovative solutions to improve post-harvest handling, processing and storage of crops that contribute to environment and climate objectives;
- Farmers improve their position in the value chains and add value to their food and non-food products at farm level and thereby enhance their competitiveness;
- Farmers and SMEs benefit from new business models and increase their opportunities to engage in sustainable food and non-food value chains.

Scope: Under this topic, proposals should test, develop and pilot innovative solutions to support farmers to improve their position in the value chains, profit from leveraging the use of their agricultural produce and improve financial viabilities. Proposals should improve the climate and environmental performance of the resulting farmer's activities and businesses. Proposals should also foster new SME-led sustainable business models and increase the opportunities for farmers to benefit from on-farm transformation and/or storage of agricultural outputs for food and/or non-food purposes. If they relate to some of the topics covered by Horizon 2020 Calls 'Healthy and safe foods and diets for all' 2016-2017 or/and 'Empowerment of rural areas, support to policies and rural innovation' 2018-2020 or/and Horizon Europe calls "Fair, healthy and environmentally-friendly food systems from primary production to consumption" 2021-2022 and 2023-2024, the proposals should convincingly explain how they will build on and not duplicate them.

Innovations proposed should have a positive impact on environment as well as climate change mitigation and adaptation. Proposals should demonstrate practical applicability and be tailored to the needs of farmers and adapted to the seasonal character of raw material production.

Successful proposals should assess the impact of the proposed innovations on the overall sustainability (environmental, social, economic) of the farmers and business activities. The climate change mitigation and carbon footprint reduction potential of the proposed innovations should be analysed. Successful proposals should address the requirements from relevant EU regulatory frameworks, including where relevant needs for pre-market authorisation.

Proposals should perform economic cost-benefit analysis of the practical implementation of the innovations developed within the project. Proposals should describe an exploitation pathway tailor-made for the developed innovations through the different necessary steps (e.g. market research, manufacturing, regulatory approvals and licensing, IP management etc.) in order to accelerate exploitation of the results.

Proposed activities must apply the concept of the 'multi-actor approach' and allow for adequate involvement of relevant actors including farmers and SMEs. Proposals should benefit various farming systems/approaches, one of which should be organic farming. Proposals should develop publicly available diverse practice-oriented dissemination materials, e.g., audiovisual materials, brochures, presenting the innovations.

SME participation is expected. Proposals may involve financial support to third parties, particularly for farmers and/or SMEs providing and/or developing, testing, or validating the proposed innovative technologies/solutions. A maximum 30% of EU funding should be allocated to this purpose. Consortia need to define the selection process of third parties, for which financial support may be granted.

Transforming food systems for health, sustainability and inclusion

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-02-FARM2FORK-03-two-stage: Making food systems more resilient to food safety risks through the deployment of technological solutions

Call: Cluster 6 Call 02 - two stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.

Type of Action	Innovation Actions
Admissibility conditions	The conditions are described in General Annex A. The following exceptions apply: Applicants submitting a proposal under the blind evaluation pilot (see General Annex F) must not disclose their organisation names, acronyms, logos nor names of personnel in the proposal abstract and Part B of their first-stage application (see General Annex E).
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.
Technology Readiness Level	Activities are expected to achieve TRL 8 by the end of the project – see General Annex B.
Procedure	The procedure is described in General Annex F. The following exceptions apply: This topic is part of the blind evaluation pilot under which first stage proposals will be evaluated blindly.

Expected Outcome: The successful proposal will be in line with the European Green Deal priorities and the farm to fork strategy for a fair healthy and environmentally friendly food system. This topic is also in line with the overall challenges highlighted in the updated Food 2030 pathways for action 2.0 report, particularly on the food safety systems of the future pathway, this report was published in December 2023 by the European Commission.

Project results are expected to contribute to all the following expected outcomes:

- a new level of ambition and creativity is implemented to tackle innovation creation, enhancing the deployment of solutions in the field of food safety and/or food fraud using existing knowledge, available technologies (such as molecular methods, genomic strategies, photonics, biotechnology, etc.) and the results achieved by European framework programmes projects. The EU's strong knowledge base is translated into marketable results addressing the "innovation paradox" (i.e. the fact that knowledge does not always translate to marketable products and services);

- food systems become more resilient to food safety risks through the use and exploitation of available knowledge and technologies;

- increased food chain and food systems competitiveness creating close to the market impactful applications that will benefit and connect solutions for food systems actors (i.e., farming, raw materials and ingredients suppliers, food industry, etc.);

- increased complementarities and results uptake in the field of food safety and/or food fraud with past and existing European framework programmes projects, and synergies with programmes and their associated project results from the European Research Council (ERC) and the European Innovation Council (EIC);

- contribute to EU climate action: deployment of clean technologies in the food industry, to boost food manufacturing efficiency and reduce carbon footprint.

Scope: Proposals should contribute to all of the following aspects:

- in the areas of food safety and food fraud a lot of efforts have been invested in European framework programme projects generating knowledge and potential applications. Proposals should contribute to further develop existing knowledge and technological results in the areas to reach higher TRLs aligned with user's needs and estimating the potential impact on cost for the consumers;

- support innovation to foster advances along the food system implementing digital and technological solutions in high TRL´s covering existing food safety and/or food fraud gaps. Proposals should develop and implement innovative solutions close to the market. This should be based on an initial food chain needs and technology gap analysis in the area of food safety hazards (including climate-related ones when applicable) and/or food fraud justifying the followed decision-making process. When selecting the food safety and/or food fraud technologies the most innovative clean technologies should be favoured in scenarios of equal conditions to reduce GHG emissions. The exploitation plan should include preliminary plans for commercialisation and deployment (feasibility study, business plan) indicating the possible funding sources to be potentially used;

- identify existing regulations and give recommendations about which technologies could use sandboxes to foster future commercialisation;

Activities are expected to achieve TRL 8 by the end of the project. Proposals should clearly define the TRL starting point for each involved technology and the plan to reach more advanced TRL.

Applicants should seek complementarities and leverage on the results of past and ongoing research and innovation projects (including projects under the same topic) in the areas of food safety and/or food fraud (i.e. HORIZON-CL6-2023-FARM2FORK-01-12, HORIZON-CL6-2024-FARM2FORK-01-3, HORIZON-CL6-2024-FARM2FORK-01-4 among others). Therefore, proposals should include a dedicated task, appropriate resources, and a plan on how they should collaborate with other ongoing projects under this theme. In the case of already finished projects applicants will define the best way to engage relevant stakeholders of such projects and the cooperation agreements (also in terms of technology transfer and intellectual property) that are needed.

Governmental and food safety regulatory authorities (i.e. EFSA) should, alongside with other stakeholders (startups, SMEs, investors, etc.) be involved. The multi-actor approach applies to this topic.

Proposals are encouraged to consider, where relevant, the services offered by European research infrastructures such as METROFOOD-RI (the infrastructure for promoting metrology in food and nutrition) or other relevant research infrastructures.

Proposals are also encouraged to consider citizens and societal engagement in their activities for the implementation of technological results better aligned with consumer's needs.

To achieve the expected outcomes, international cooperation is encouraged.

HORIZON-CL6-2025-02-FARM2FORK-04-two-stage: Research and innovation for food waste prevention and reduction at household level through measurement, monitoring and new technologies

Call: Cluster 6 Call 02 - two stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 4.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 8.00 million.
Type of Action	Research and Innovation Actions
Admissibility conditions	The conditions are described in General Annex A. The following exceptions apply: Applicants submitting a proposal under the blind evaluation pilot (see General Annex F) must not disclose their organisation names, acronyms, logos nor names of personnel in the proposal abstract and Part B of their first-stage application (see General Annex E).
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.
Procedure	The procedure is described in General Annex F. The following exceptions apply: This topic is part of the blind evaluation pilot under which first stage proposals will be evaluated blindly.

Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025) [140].

Expected Outcome: Successful proposals will be in line with the European Green Deal priorities, the revised Waste Framework Directive and the EU's climate targets for 2030 and 2050. Actions will also be in line with the overall challenges highlighted in the updated Food 2030 pathways for action report published in December 2023[141] on food waste and resource efficient food systems.

Project results are expected to contribute to all of the following expected outcomes:

- successful implementation of the harmonisation of food waste measurement across Europe, supported by the development of new tools, and testing of existing ones, producing reliable and comparable data on food and waste at household level;
- alleviate the burden of reporting of household food waste data for Member States, by making use of technological innovations;
- understand the underlying causes of food waste at household level to help policymakers and stakeholders develop more efficient interventions;
- contribute to Members States' reporting on their national food waste levels, in line with targets set by the Waste Framework Directive revision, with positive impacts on the reduction of food waste at household level, thereby reducing greenhouse gas emissions and pressure on natural resources.

Scope: In the EU, over 59 million tonnes of food waste (132 kg/inhabitant) are generated annually[142], with an associated market value estimated at 132 billion euros.

Eurostat roughly estimates that around 10% of food made available to EU consumers (at retail, food services and households) may be wasted. At the same time, in 2023, 9.5% of the

140 This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

141 European Commission, Directorate-General for Research and Innovation, Bizzo, G., Fabbri, K., Gajdzinska, M. et al., *Food 2030 – Pathways for action 2.0 – R&I policy as a driver for sustainable, healthy, climate resilient and inclusive food systems*, Publications Office of the European Union, 2023, https://data.europa.eu/doi/10.2777/365011

142 Eurostat (2024), *Food waste and food waste prevention – estimates*, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Food_waste_and_food_waste_prevention_-_estimates

EU population could not afford a meal with meat, chicken, fish or vegetarian equivalent every second day[143]. In the EU, households generate more than half of the total food waste (54%).

Wasting food is not only an ethical and economic issue but it also depletes the environment of limited natural resources. Food waste has a huge environmental impact, accounting for about 16% of the total greenhouse gas emissions from the EU food system. Therefore, by reducing food waste we can also support the fight against climate change.

Proposals should contribute to all of the following aspects:

- develop and validate new tools and methods, and/or further test existing methods (including those developed by previous EU-funded projects), to measure and estimate food waste at household level, including the food waste discarded as or with wastewaters and that would help distinguish between amounts of avoidable (edible) fraction of food waste and non-avoidable (inedible) food waste. The potential of AI and other technologies (including ones that are currently available) to simplify the collection of data and the reporting (by being integrated in advanced monitoring solutions) should be considered. Interoperable metadata standards accompanying indicators coming from these new tools and methods should be provided. The metadata standards for edible and inedible food waste indicators should allow data to be federated through the European Open Science Cloud (EOSC) infrastructure;

- these new tools and methods should be applied across a large enough sample of diverse type of products and target groups (in terms of gender, age, socio-economic status, ethnic and/or cultural origins, etc.), allowing for a more precise assessment of food waste fractions (edible and inedible), across several years and in a significant number of Member States, and potentially in Associated Countries. This should generate robust measurement/estimation of food waste at household level for different target groups, at national level. The potential for extensive uptake of the proposed solution should be clearly highlighted;

- in addition to measurement, the direct and indirect drivers and root causes of food waste at household level should be thoroughly investigated. Particular attention should be paid to the identification of consumer behaviours (food consumption and disposal patterns) and other factors that influence food waste at household level, to assess the potential for a reduction strategy based on change in consumer behaviours.

In addition, proposals could explore eco-friendly, low-input and efficient technological solutions to prevent edible food from being discarded in households, e.g. by preventing product degradation.

The required multi-actor approach must be implemented by conducting inter- and trans-disciplinary research and involving a wide diversity of food system actors, with special attention paid to consumers and civil society organisations.

143 Eurostat (2024), *Inability to afford a meal with meat, chicken, fish (or vegetarian equivalent) every second day*, https://ec.europa.eu/eurostat/databrowser/view/ilc_mdes03/default/table?lang=en

Proposals are encouraged to build on past or ongoing EU-funded research (in particular, the EU-funded CHORIZO and WASTELESS projects, expected to be finalised in 2025) and on the work carried out by the European Consumer Food Waste Forum[144], and create synergies with relevant initiatives including the EU Platform on Food Losses and Food Waste.

This topic should involve the effective contribution of SSH disciplines. Citizen science is encouraged at all stages of the research activities for this topic and should be integrated in the research methodology. Proposals should take into account and address inequalities (e.g. by addressing the risk of AI bias in terms of gender, disability, ethnicity, etc.).

Targeted international cooperation

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-02-FARM2FORK-05-two-stage: Developing agroecology living labs and lighthouses for climate action under the Food and Nutrition Security and Sustainable Agriculture (FNSSA) partnership

Call: Cluster 6 Call 02 - two stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part. The following additional eligibility criteria apply: The following additional eligibility criteria apply: due to the specific challenge of this topic, in addition to the minimum number of participants set out in the General Annexes, consortia must include at least three independent legal entities established in an African Union member state*. The places of

144 https://knowledge4policy.ec.europa.eu/projects-activities/european-consumer-food-waste-forum_en

	establishment of at least two of these legal entities must be in the same region, as defined by the African Union: see https://au.int/en/member_states/countryprofiles2. International organisations with headquarters in a Member State or Associated Country are exceptionally eligible for funding. Due to the scope of this topic, legal entities established in all African Union member states* are exceptionally eligible for Union funding. * "African Union member states" includes countries whose membership has been temporarily suspended.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025) [145]. Beneficiaries may provide financial support to third parties (FSTP). The support to third parties can only be provided in the form of grants. The maximum amount to be granted to each third party is EUR 60 000.

Expected Outcome: A successful proposal should support the European Green Deal priorities, contribute to the African Union-EU High Level Policy Dialogue on Science, Technology and Innovation and to the respective R&I partnerships on Food and Nutrition Security and Sustainable Agriculture (FNSSA) and on Climate Change and Sustainable Energy. Proposals should contribute to the climate objectives of the African Union and the EU, and to the commitments of the Kunming-Montréal Global Biodiversity Framework. Projects will therefore contribute to the expected impacts of this Destination by developing innovative tools and approaches to improve the resilience, adaptation to climate change and sustainability of agriculture and food systems in Africa.

Project results are expected to contribute to all the following expected outcomes:

- the availability, accessibility and adoption by farmers, advisors and policymakers of fair and inclusive approaches and strategies that improve agricultural productivity and sustainability in Africa, while addressing climate challenges is accelerated, optimising the use of ecological processes with co-benefits for biodiversity;

[145] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

- the coordination and experience sharing among researchers and agricultural actors in Africa is strengthened, in view of achieving the Sustainable Development Goals and in line with the FNSSA roadmap[146];

- agri-food stakeholders benefit from enhanced climatic, environmental and socio-economic performance of African agroecological farming practices.

Scope: Agroecology is a holistic approach that relies on and optimises the use of ecological processes to support agricultural production. By working more with nature and ecosystem services, it has the potential to increase farms' circularity, diversification and autonomy, address climate challenges while preserving and enhancing biodiversity, and drive a full transformation of farming systems and agricultural value chains, from input substitution and beyond. Agroecological farming systems therefore have great potential to enhance the sustainability performance of agriculture and agricultural value chains that contribute to the objectives of the EU Green deal for agriculture and to the FNSSA partnership.

Living labs under this topic are intended as open innovation ecosystems in real-life sites using iterative feedback processes throughout a lifecycle approach of an innovation to create inclusive and sustainable impact.

While living labs are collaborative initiatives to co-create knowledge and innovations, lighthouses are sites for demonstration of exemplary and replicable solutions, training, peer-to-peer learning, and communications related to promoting agroecological approaches.

Proposals should:

- set up living labs and light houses as places for testing and demonstrating agroecological approaches in different pedoclimatic conditions in Africa;

- carry out participatory and transdisciplinary research and innovation activities in living labs with agricultural actors (e.g. researchers, farmers, advisors, policymakers), including on socio-economic aspects to support sustainability transitions and upscaling, to seek practical agroecological solutions to the climatic and biodiversity challenges/opportunities identified;

- identify sites that demonstrate high performance in terms of their actions and results on agroecology and that may be converted into lighthouses;

- strengthen interactions between existing living and new labs, light houses and like-minded arrangements on agroecology to share lessons and facilitate science policy interfaces using where relevant existing network arrangements, such as those under the Horizon Europe CEA-First project.

[146] https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/europe-world/international-cooperation/regional-dialogues-and-international-organisations/eu-africa-cooperation/partnership-food-and-nutrition-security-and-sustainable-agriculture-fnssa_en

Proposals should contribute to the implementation of the short- and medium-term actions of the joint AU-EU Innovation Agenda, particularly in the area of Green (notably actions (4) and (5) among short-term actions and (1) and (3) for medium-term actions), and aim to translate R&I efforts into tangible business, products, services, development and quality employment opportunities and social economy enterprises in Africa and Europe. Proposals should be in line with the conclusions of the 2023 AU-EU Agriculture Ministerial Conference[147] and support the African Free Trade Area.

Proposals should contribute to the implementation of the Union for the Mediterranean (UfM) adopted R&I roadmaps[148] pertaining to climate change, particularly in the areas impact of water scarcity and drought in rural areas, sustainable agriculture production and biodiversity in changing climate.

Proposals should build on the experience gained with relevant former and on-going FNSSA projects on agroecological approaches under Horizon 2020 and the Horizon Europe Work Programmes, as well as with activities of the DeSIRA[149] initiative part of the EU International Partnerships. At the same time, proposals should create synergies with any relevant activities carried out under the European Partnership "Agroecology" ('Accelerating farming systems transition – agroecology living labs and research infrastructures') and targeted EU-Africa cooperation activities under the EU Mission "A soil deal for Europe". Proposals should include a dedicated task and appropriate resources to create those synergies. To leverage opportunities for furthering impact and outreach, proposals should create synergies with the project resulting from the call "HORIZON-CL6-2025-02-FARM2FORK-16: Developing a joint AU-EU Agricultural Knowledge and Innovation System (AKIS) supporting the Food and Nutrition Security and Sustainable Agriculture (FNSSA) partnership".

Proposals should adopt an inclusive approach that respects and integrates local knowledge and practices alongside technological and scientific expertise, where indigenous insights are enriched by innovative approaches and new technologies through mutual learning.

Proposals must implement the 'multi-actor approach' to ensure the adequate involvement of the farming sector, civils society and relevant policy actors.

Participation of Mediterranean countries other than from EU and AU is encouraged.

The possible contribution of the JRC could involve exploring possible pathways for a sustainable transition of agriculture and food systems, defining scenarios for the agro-ecological transition, assessing the impacts of such transition, engaging with stakeholders, disseminating results notably to policymakers and through cooperation with the EC Knowledge Centre for Global Food and Nutrition Security.

147 https://agriculture.ec.europa.eu/events/5th-african-union-au-european-union-eu-agriculture-ministerial-conference-2023-06-30_en

148 https://ufmsecretariat.org/ministerial-conference-research-innovation-2022/

149 https://international-partnerships.ec.europa.eu/policies/programming/programmes/desira-development-smart-innovation-through-research-agriculture_en

Proposals should ensure that gender dimension and social categories (e.g. disability, age, socioeconomic status, ethnic and/or cultural origins, sexual orientation) and their intersections, are duly considered.

Proposals may involve financial support to third parties to researchers, farmers, advisors and other multidisciplinary actors contributing to the setting up of living labs and/or lighthouses. A maximum 30% of EU funding should be allocated to this purpose. The provision of training (including technical guidelines and ad-hoc materials) and support services to farmers may be considered as a criterion to grant financial support to third parties.

Destination - Circular economy and bioeconomy sectors

Under Destination "Circular economy and bioeconomy sectors', R&I in 2025 provides scientific and technological support to the European Green Deal, in line with the new Commission priority on "A new plan for Europe's sustainable prosperity and competitiveness".

Actions focus on the implementation of a wide range of EU initiatives such as the circular economy action plan and the upcoming Circular Economy Act, the EU bioeconomy strategy and its upcoming update, the forest strategy for 2030, and the Common Agriculture Policy. In addition, this Destination contributes to the industrial strategy, the chemicals strategy for sustainability, the European Climate Law, the SME strategy, the communication on safe and sustainable by design framework, the sustainable blue economy and its offshoot initiatives, the EU biodiversity strategy for 2030, the EU Nature Restoration Regulation, the proposals for an EU forest monitoring regulation and a directive on EU soil monitoring and resilience.

The Destination also upholds the upcoming working plan for the implementation of Ecodesign for Sustainable Products Regulation and research needs identified in the Global Resources Outlook 2024. In addition, it supports the EU social economy action plan and the Council Recommendation on developing social economy framework conditions which includes social economy entities in the circular economy.

Furthermore, it will support the EU biotechnology and biomanufacturing initiative, covering and underpinning sustainable bio-based innovation systems, as well as the Commission communication "A Competitive Compass for the EU", the upcoming strategy for European life sciences and the EU biotech act. Also, it will support the capacity of bio-based systems to enable a sustainable carbon management and allow the better understanding of the carbon removal potential of circular bio-based economies. Through innovative circular and bio-based materials, products, processes and value chains for consumers and industry, the awareness and importance of agriculture and forestry in the EU will be strengthened. The destination will align with the Global Biodiversity Framework, the future science-policy panel to further contribute to the sound management of chemicals and waste and to prevent pollution and promote the new approach for the sustainable blue economy in the EU, which stresses that marine/aquatic biotechnology offers solutions for materials, enzymes, food supplements and pharmaceuticals.

R&I activities under this Destination will help establishing healthy, biodiverse and resilient forests that are sustainably managed and able of providing a wide range of key ecosystem services, including climate mitigation through carbon removals and continuing supplying materials and services for the development of a sustainable forest bioeconomy in line with the EU forest strategy for 2030.

Proposals for topics under this destination should set out a credible pathway contributing to "achieving healthy soils and forests, as well as clean air, fresh and marine water, whilst ensuring water resilience and the transition to a clean, competitive and circular economy and sustainable bioeconomy", and more specifically to one or more of the following impacts:

- innovative circular and bio-based materials, products, processes and value chains are developed for the consumers and industry, replacing unsustainable alternatives and leading to new and more sustainable approaches for managing waste materials and by-products, aiming at pollution prevention and remediation, and the promotion of new forms of cooperation between diverse economic and societal actors across sectors and territories;

- industry and consumers benefit from new opportunities both through sustainable novel products in line with ecodesign principles, and novel circular business models that have a mitigating impact on resource use and greenhouse gas emissions;

- innovative business and governance models, are advanced to foster safe and sustainable product design. This includes durability, reliability, reusability, upgradability, reparability, recyclability, recycled content, and circularity with a comprehensive approach addressing environmental impacts also at a territorial level and involving civil society in fostering a circular economy;

- large-scale diffusion of social and technological innovation across circular and bioeconomy sectors within planetary boundaries thanks to innovative, socially fair, climate-neutral, circular, bio-based and nature-based solutions;

- the full potential of marine and freshwater biological resources and blue biotechnology is leveraged to deliver societal benefits, such as more environment-friendly industrial products and processes, support public health and environmental conservation;

- actors in the forest sector foster the multi-functionality of forests based on the three pillars of sustainability (economic, environmental and social), enhancing a sustainable and circular bioeconomy including support to business development; restoring and protecting biodiversity and ecosystems, ensuring that ecosystem services continue to be delivered including mitigating and adapting to climate change; and delivering societal expectations including well-being of different actors.

R&I fostering circular economy and other sectors under this Destination aimed at impacting or involving civil society will take into account the participation of disadvantaged groups based on gender and other social categories as appropriate.

The Horizon Europe work programme for 2025 will play a critical role in implementing the Ecodesign for Sustainable Product Regulation (ESPR). More sustainable and circular products will contribute to the resilience and competitiveness of the EU economy. Changes in consumer behaviour and availability of attractive service solutions will lead to waste prevention and tangible reduction in material and energy consumption and greenhouse gas emissions. R&I can link various EU policies, namely those with measures to create market demand for secondary materials related to the green and digital transitions, resilience and competitiveness.

Outcomes will ensure synergies with Cluster 4 – 'Digital, industry and Space', its partnerships and with Cluster 5 – 'Climate, Energy and Mobility'. Full synergy and complementarity will be ensured with the fully operational EU partnership on 'Circular Bio-based Europe' (CBE Joint Undertaking), the EU partnership for a climate neutral, sustainable and productive blue economy and with the EU mission 'Restore our Ocean and Waters by 2030', as well as with the Soil mission. Furthermore, to maximise the local impact under this destination, synergies and complementarities with the Circular Cities and Regions Initiative (CCRI) and the New European Bauhaus (NEB) Facility are encouraged as appropriate. Coordination will be ensured with the long-standing EC Knowledge Centre for Bioeconomy. Possible synergies should be sought with other JRC activities. The destination will ensure synergies and complementarities with the future European Partnership "Forests and forestry for a sustainable future". To maximise the impacts of R&I under this Destination, international cooperation is encouraged.

Enabling a circular economy transition

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-01-CIRCBIO-01: Novel circular business models to enable the just transition to a sustainable and circular economy

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 5.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 10.00 million.
Type of Action	Innovation Actions
Technology Readiness Level	Activities are expected to achieve TRL 6-8 by the end of the project – see General Annex B. Activities may start at any TRL.

Expected Outcome: In supporting the implementation of the European Green Deal, and in particular the 2020 circular economy action plan (CEAP), the Waste Framework Directive and the Ecodesign for Sustainable Products Regulation (ESPR), successful proposals will contribute to the expected impacts of this Destination, notably to benefits for industry and consumers from new opportunities both through sustainable novel products in line with ecodesign principles, and to novel circular business models that have a mitigating impact on resource use and greenhouse gas emissions and contribute to increasing Europe's sustainable competitiveness.

Project results are expected to contribute to all of the following expected outcomes:

- consumers obtain access to new circular products and services, such as reuse, repair and sharing, that encourage sustainable consumption and thus reduce the environmental footprint, greenhouse gas emissions, and the pressure on biodiversity;

- economic operators that want to introduce circular business models are provided with proved successful examples and recommendations how to do it;

- (re-)skilling programmes and new job opportunities emerge in the areas of re-use, preparing for reuse, repair, upgrade, refurbishment, repurpose, and remanufacture.

Scope: The green transition and moving to a circular economy will require changes not only in the way materials are used and products are designed, but also in the way companies operate and business models are set up. The majority of current business models and the global economic and trading system are based on linear and unsustainable use of materials and products. This results in ever-increasing consumption, depletion of resources, increase in CO2 emissions and environmental deterioration, and undesirable generation of waste. The transition to a sustainable and competitive and circular economy necessitates transformative changes in material usage and corporate operations, with innovative business models able to trigger sustainable consumer behaviours and purchasing preferences. These models are pivotal in steering both industries and consumers towards sustainable practices, aligning with the comprehensive environmental objectives of the European Green Deal and the EU biodiversity strategy for 2030. The transition to a circular economy is key to reducing pressures on natural resources. It is also a prerequisite to achieve the EU's 2050 climate neutrality target and to halt biodiversity loss.

Novel circular business models can affect business-internal practices as well as interactions with other businesses or civil society. Proposals should develop and demonstrate at large scale innovative business models to facilitate product reliability/durability, reusability, reparability, refurbishment, repurpose and remanufacture, including the preparation stage, as well as product-as-a-service business models.

Proposals should assess and quantify, including monetisation, when possible, the environmental, social and economic impacts of these novel business models on relevant stakeholders, i.e., consumers, social partners, private companies with a focus on SMEs, municipalities and regions. The assessment of environmental impacts should be done from a lifecycle perspective and build on rules set in the Environmental Footprint methods wherever possible. Impacts of the business models on the overall resource efficiency and material use should also be assessed, as far as possible. Proposals should analyse the 'pull' factors that shift consumer choices in the direction of products/services offered by circular business models, as well as what can encourage more to do so. Ecodesign requirements laid down in the ESPR and EU Ecolabel aspects, and the verification of green claims should be considered where relevant.

Proposals should contribute to the development of innovative business models, including social economy entities and social enterprises, to enable the transition towards a circular and sustainable ecosystem and to stimulate the uptake of sustainable consumption patterns.

Proposals should address the opportunities of developing new business models in the context of the circular economy R-strategies (refuse, rethink, reduce, reuse, repair, refurbish, repurpose, remanufacture) as well as upgrade and product-as-a-service business models.

Proposals should include social innovation and explore understanding behaviours to identify routes towards an increase of demand for sustainable products and even towards an overall reduction of consumption and product/materials use, which includes products as a service. Proposals should also explore self-sufficiency approaches and promote regenerative practices aimed at restoring biodiversity, mitigating climate change, and strengthening local communities and social justice.

The proposals should address the different perspectives of all relevant actors in a proposed project, which could be actors involved in raw material sourcing, material processing and manufacturing, intermediate production, end-product manufacturing, as well as brand owners, retailers, enterprises, re-use and repair organisations, civil society/consumers, etc. Proposals should also reflect on how access to finance can be facilitated and how economic viability can be ensured, and how governance can promote the establishment of these new business models. Critical issues of change management, scaling and diffusion of solutions should be addressed.

Proposals should target specific social groups and their purchasing power while developing novel business models, in order to keep a fair transition to climate neutrality in mind. This includes possible questions of gender equality, diversity and inclusion. Also, proposals should assess the potential of and prerequisites for new job opportunities in the areas of reuse, preparing for reuse, repair, upgrade, refurbishment, repurpose and remanufacture, contributing qualitative and quantitative data to the reskilling programmes of the green transition.

For the development of novel business models, projects should include elements of fair and affordable pricing of services/labour within various R-strategies as well as upgrade and products-as-a-service models. In this context, projects should also analyse barriers to such models and possible regulatory, governance and economic solutions. Projects should also address possible unintended or rebound effects, both positive and negative, particularly for consumers and the environment, of such novel business models.

Proposals should explore the territorial and geographical dimensions of the establishment and success of new business models and aim at synergies with the New European Bauhaus and the Circular Cities and Regions Initiative (CCRI). Projects are strongly encouraged to organise joint activities, ensure synergies and undertake clustering activities with CCRI projects and the CCRI Coordination and Support Office. To avoid double-funding and to create added value, projects should seek synergies with projects to be performed under the LIFE-2024-SAP-ENV Call[150].

[150] https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/life/wp-call/2021-2024/call-fiche_life-2024-sap-env_en.pdf

This topic requires the effective contribution of SSH disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.

HORIZON-CL6-2025-01-CIRCBIO-02: Improving ecodesign of products and development of testing methods for products prioritised under the Ecodesign for Sustainable Products Regulation

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 4.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 8.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025) [151].

Expected Outcome: In supporting the implementation of the European Green Deal, and in particular the circular economy action plan (CEAP), the Ecodesign for Sustainable Products Regulation (ESPR), and the Right to Repair initiative, successful proposals will help reach the Green Deal objectives of lower resource consumption and less environmental impact. They will contribute to the expected impacts of this Destination, notably to innovative business and governance models that foster safe and sustainable product design.

[151] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

Project results are expected to contribute to all of the following expected outcomes:

- material and product manufacturers apply the ecodesign principles in developing and manufacturing products and are equipped with methods to assess the performance and potential compliance of their products with the ecodesign requirements to be developed under ESPR, as well to drive sustainability innovations;
- market surveillance authorities and notified bodies are equipped with methods for the verification of compliance of products with the ecodesign requirements;
- consumers have access to reliable and verified information about the ecodesign performance of products;
- consumers benefit from more sustainable and circular products, i.e. durable, reliable, reparable, reusable, upgradable, recyclable products including increased recycled content.

Scope: The Regulation on Ecodesign for Sustainable Products (ESPR) [152] lays down requirements for products placed on the EU market to improve their environmental sustainability. First, the Commission adopts a working plan prioritising product groups, based on the prioritisation criteria laid down in the text of the regulation. Second, the Commission will develop targeted performance and information requirements known as 'ecodesign requirements' for prioritized products. This will be done on a product-specific basis or horizontally (for several product groups with similar technical characteristics which would allow requirements to be defined horizontally) through "preparatory studies". The ecodesign requirements will need to address the environmental impacts of the product(s) in question in a meaningful way, making reference to the methodologies prescribed in the ESPR. The projects are expected to generate knowledge and data which will serve as a scientific basis for and feed into the consequent "preparatory studies".

Each applicant should choose at least one of the following product groups[153]: detergents, paints, chemicals, non-ferrous metals, home/interior textiles, footwear or toys. For the analysed product groups, proposals should include in the scope representative sub-categories of the product groups on the EU market making reference to relevant European, international and national classification systems and standards, where existing.

Projects are expected to:

- assess how product parameters (as per Annex I of the ESPR) relevant for circularity can be determined for the given product group and explore potential new parameters with the aim of improving the circularity performance of the product;

[152] Regulation (EU) 2024/1781 of 13 June 2024 establishing a framework for the setting of ecodesign requirements for sustainable products, amending Directive (EU) 2020/1828 and Regulation (EU) 2023/1542 and repealing Directive 2009/125/EC, text here.

[153] Products and product groups which have been prioritized by JRC in the study Ecodesign for Sustainable Products Regulation: Study on new product priorities https://circulareconomy.europa.eu/platform/sites/default/files/2024-12/JRC138903_01.pdf

- assess the performance of products in relation to the specific product parameters (following or building on the methods used in ESPR) and explore pathways to their improvement;

- focus on those product parameters having impact on product aspects contributing to circularity, i.e., durability, reliability, reusability, upgradability, reparability, possibility of maintenance and refurbishment, presence of substances of concern, resource use and resource efficiency, recycled content, possibility of remanufacturing and recycling, possibility of recovery of materials, expected generation of waste materials, and premature obsolescence, as well as social sustainability requirements, which are currently not covered by ESPR;

- develop, test and validate product-specific testing methods for the determination and verification of product performance in relation to the said specific parameters;

- provide analyses and recommendations for additional mechanisms and incentives to reward design for circularity and product durability – such as extended guarantees, VAT reduction, and others – and which best mitigate potential trade-offs;

- map the material flows relevant for the given product group and assess the impacts of potential requirements on these flows within and across value chains (requirement on e.g. recycled content in one value chain can impact availability of secondary raw material in another value chain, etc.);

- develop quantitative and qualitative data on relevant aspects of consumer behaviour in relation to the product parameters for the given product groups.

Proposals should take into account all provisions of the ESPR. The ESPR provisions aim at improving the overall sustainability of the product(s) in question, and by improving the product aspects set out in that regulation (see Art. 5; Annex I). In addition, the revised version of the MEErP methodology by JRC [154], and the Ecodesign for Sustainable Products Regulation: Study on new product priorities [155] published in 2024 should all be reference points. The series of standards on material efficiency for energy-related products EN455XX must be considered as well. In relation to the presence of substances of concern, building on the relevant provisions in the ESPR, the proposals should take into account the principles of Safe and Sustainable by Design (SSbD)[156] applied to chemicals and materials.

For the individual products within the product groups, the proposals should assess the existing methods for the setting of the ecodesign requirements in relation to the specific parameters (as set out in Annex I of the ESPR) with the objective to improve the product aspects (as set out in Article 5 of the ESPR) and, as appropriate, develop them further based on the nature of the product, its most relevant aspects and its impacts over its life cycle. In doing so, the projects

154 Review of the MEErP - Publications Office of the EU (europa.eu)

155 Ecodesign for Sustainable Products Regulation: Study on new product priorities https://circulareconomy.europa.eu/platform/sites/default/files/2024-12/JRC138903_01.pdf

156 JRC Publications Repository - Safe and Sustainable by Design chemicals and materials - Methodological Guidance (europa.eu)

should make use of the work already done in assessing the setting of requirements under Directive 2009/125/EC and the continuing efforts to develop and improve science-based assessment tools, such as the updated Methodology for Ecodesign of Energy-related Products (MEErP).

Also, proposals should take into account: relevant technical information in particular of Regulation (EC) No 66/2010 on the EU Ecolabel, Directive 2010/75/EU on Industrial emissions (integrated pollution prevention and control), technical screening criteria adopted pursuant to Regulation (EU) 2020/852 on the establishment of a framework to facilitate sustainable investment, the "do no significant harm" principles and green public procurement criteria.

The development of a product specific testing method should include not only the development of the method from the theoretical point of view, but also its proper testing and validation to evaluate its suitability, repeatability, and reproducibility in practice. Projects should demonstrate advances in the development and/or application of related digital/AI computational tools, methods or technologies in the area of assessing ecodesign requirements and developing methods for the verification of performance and involve relevant Member States Authorities responsible for enforcement.

As part of the project, proposals should address the knowledge gap in capacity and skills, especially for SMEs, potentially limiting the understanding of upcoming ecodesign requirements especially if trickling down from upstream in their product value chains as well as when conducting the assessments of compliance with ecodesign requirements. Learning and training materials should be developed for dissemination and training purposes within the relevant companies and value chains.

Successful proposals are encouraged to cooperate with the JRC to foster coordination with on-going JRC science for policy activities to foster the implementation of the European Sustainable Product Regulation.

HORIZON-CL6-2025-01-CIRCBIO-03: Product Environmental Footprint (PEF) of policy and market-relevant product groups

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 4.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 8.00 million.
Type of Action	Research and Innovation Actions

Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025) [157].

Expected Outcome: In supporting the implementation of the European Green Deal, and in particular the circular economy action plan (CEAP) and the Ecodesign for Sustainable Products Regulation (ESPR), successful proposals will contribute to the expected impacts of this Destination, notably addressing environmental impacts at a territorial level and involving civil society in fostering a circular economy.

Project results are expected to contribute to all of the following expected outcomes:

- improved knowledge for stakeholders on the value of a circular economy approach in addressing environmental pollution on air, soil and water and the pressures on biodiversity and ecosystems through the analysis of the environmental impacts of specific products;
- the development of sector-specific methods, data, tools and guidance documents for the assessment, communication and comparison of environmental impacts of targeted product groups, relying on Environmental Footprint (EF) methods;
- reduction of environmental impacts for a significant number of relevant products;
- engagement of stakeholders, including industry, public procurers, SMEs and NGOs, to enhance consistency, reliability and use of developed sustainability metrics and tools across sectors.

Scope: The circular economy action plan (CEAP) aims to stimulate the development of sustainable products, in the EU and beyond, contributing to the EU's 2050 climate neutrality target and to halt biodiversity loss. To achieve this, it establishes a sustainable product policy regulation that broadens the scope of the Ecodesign Directive both in terms of products (covering a very broad range of products, beyond energy-related products only) and new kinds of requirements. It will be key to achieve a sustainable, resilient and competitive circular economy.

Life cycle assessment (LCA) is a key source of information on environmental impacts of products, services or systems. The Commission proposed the Product Environmental

[157] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

Footprint (PEF)[158] as a common way of measuring environmental performance. The PEF methodology, grounded on the LCA standard methodology, allows manufacturers and consumers to obtain reliable and comparable information about the performance of products with respect to various environmental impact categories. A calculation based on the general PEF methods gives quantitative information on the impacts of products, taking into consideration the entire value chain.

R&I activities in the proposal should:

- review existing knowledge on LCA/PEF, identify and fill knowledge gaps and then develop and test PEF category rules for selected product groups of policy and market relevance;
- assess the added value and cost-benefit of these rules compared to other methods or criteria;
- perform in-depth full life cycle assessment studies (also addressing end-of-life aspects) based on PEF for those products groups to identify, quantify, interpret and communicate environmental impacts;
- develop appropriate datasets tailored to the assessed product groups identifying and filling data gaps, as much as possible based on industry and other representative data, and create tools which will be made publicly available to enable and ease PEF-compliant assessments and communications among stakeholders, as well as their verification;
- develop and apply approaches and methods to derive and support potential ecodesign requirements[159] from PEF-compliant assessments, i.e. how decisions for design with a lower environmental footprint can be motivated, and further assess their socio-economic impacts;
- develop and apply approaches and methods: a) to identify and check sustainability requirements used or proposed in legislation, labels and standards relevant for the products in study; b) to analyse how to enhance consistency, synergies and harmonisation between such requirements and ecodesign requirements;
- develop guidance, training and dissemination strategies and material to support the wider use of PEF in the selected sector(s).

Proposals should focus on at least one of the following product groups: home/interior textiles; final products made of metals, or plastics; detergents; lubricants, paints and varnishes; polymers; selected groups of other chemicals; ICT products.

158 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021H2279; https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:L_202401781. The current recommendation for PEF is the recommendation 2021/2279 which is now being revised with the target of having a new recommendation for 2025.

159 Ibid.

For the analysed product groups, proposals should target a sufficiently broad and granular scope, targeting comprehensive representative sub-categories and products on the market. In doing that, proposals should refer to relevant European, international, and national classification systems and standards where possible. Projects should adhere to the most recent EU rules and data[160] established for the PEF methods and bring together all relevant expert groups and different stakeholders active along the value chains of the selected product groups (industry members, researchers, SMEs and NGOs).

Proposals should develop appropriate and comparable datasets for assessing the analysed products as well as tools and digital solutions to facilitate the sharing and processing of information along the value chain as well as the assessment, communication and verification of environmental characteristics of products based on the PEF method.

As part of the project, proposals should also address the knowledge gap in capacity and skills, especially for SMEs, potentially limiting the understanding, conducting and implementing of PEF-based assessments. Learning and training materials should be developed for dissemination and training purposes within and across companies and value chains.

The data produced in this topic should be open access in line with FAIR principles (Findable, Accessible, Interoperable and Re-usable). Furthermore, different tasks, outputs, interactions with stakeholders, and communication, dissemination and exploitation activities should be conceived in a logical sequence along the lifetime of the project.

HORIZON-CL6-2025-01-CIRCBIO-04: Development and testing of Extended Producer Responsibility schemes (EPR) within the priority Circular Economy Action Plan value chains

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 5.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 10.00 million.
Type of Action	Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding.

160 Ibid.

Technology Readiness Level	Activities are expected to achieve TRL 6-7 by the end of the project – see General Annex B. Activities may start at any TRL.

Expected Outcome: In supporting the implementation of the European Green Deal, the 2020 circular economy action plan, the upcoming Circular Economy Act, the Waste Framework Directive and the Ecodesign for Sustainable Products Regulation, successful proposals will contribute to achieving improved circularity in selected product value chains and improving the efficiency of separate collection and waste management systems. They will contribute to the expected impacts of this Destination, notably improving the durability, reliability, reusability, repairability, recyclability and circularity of consumer products.

Project results are expected to contribute to all of the following expected outcomes:

- demonstrated innovative solutions for large scale uptake and implementation of Extended Producer Responsibility (EPR) schemes, providing for their application by producers, producer organisations and relevant actors across the EU and Associated Countries, including cross-border cooperation.

- improved knowledge of economic operators (including SMEs) and consumers regarding EPR schemes and eco-modulation of EPR fees, and how these contribute to increasing circularity, minimising the demand for primary resources, reducing GHG emissions, preventing environmental pollution and reducing the pressure on biodiversity and ecosystems.

- optimal functioning and increased uptake of EPR schemes in specific priority product value chains within the EU and Associated Countries, i.e.: construction products, ICT products, furniture, mattresses, and carpets.

Scope: The 2020 circular economy action plan introduces measures that aim at making sustainable products the norm, contributing to the EU's 2050 climate neutrality target and to halt biodiversity loss. It focuses on resource-intensive sectors with the highest circularity potential such as textiles, plastics, packaging, electronics including ICT products, furniture and construction products.

EPR schemes can contribute to improve circularity gaps in key product value chains with high circularity potential, given its full lifecycle approach. They make producers responsible for the entire lifecycle of the products made available on the market, from the design-phase up to their end of life, including waste collection and recycling. These schemes can be a lever for producers, including SMEs, to design their products for circularity considering sustainability criteria and have been proven successful in improving the management of waste in products such as packaging and batteries.

R&I activities in proposals should:

- develop, test and demonstrate operational solutions for large scale implementation of EPR schemes that consider the eco-modulation of EPR fees for one or more of the

following product value chains: construction products, ICT products, furniture, mattresses, and carpets;

- develop and test novel circular business models and solutions linked to EPR schemes for the above-mentioned product value chains, supported by ecodesign requirements[161] ;
- assess the economic, environmental and social cost-benefits of the implementation of EPR schemes for the relevant stakeholders, especially for consumer and producers (with a focus on SMEs);
- develop and test the application of dedicated digital technologies, such as the digital product passport (pre-consumer) and tracking applications (post-consumer), to collect evidence within those product value chains and facilitate producers' registration and the exchange of information between national EPR schemes;
- provide policy recommendations for specific elements of an EPR scheme that incentivises waste prevention and/or minimisation (e.g., ecodesign, reuse, preparation for reuse, repair and refurbishment, remanufacturing and recycling) and facilitate cross-border cooperation.

Proposals should consider the global perspective within the national EPR schemes, as frequently the value chains mentioned above are established at a global scale and producers may be situated outside of the EU. This may apply to new products made available on the EU-market or waste from post-consumer products managed outside the EU. They should also include the case of online platforms, given the increase of online sales and the associated potential risks of free-riding economic operators, as well as cross-border cooperation mechanisms.

Projects should bring together all relevant stakeholders active in the selected product value chains (industry members, local authorities, waste management operators, SMEs, economic operators, producer responsible organisations (PROs), consumer organisations, researchers, and NGOs).

This topic requires the effective contribution of SSH disciplines, namely economics and sociology, and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.

The JRC may provide expertise in circular economy policy and foster coordination with on-going related activities and participate, potentially, in the projects Scientific Advisory Board.

HORIZON-CL6-2025-01-CIRCBIO-05: Consumption patterns and environmental awareness as enablers of transition to circular economy

Call: Cluster 6 Call 01 - single stage

[161] https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:L_202401781

Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding.

Expected Outcome: In supporting the implementation of the European Green Deal, and in particular the 2020 circular economy action plan (CEAP), the Waste Framework Directive, the upcoming Green Claims Directive, the EU Ecolabel and the Ecodesign for Sustainable Products Regulation (ESPR), successful proposals will contribute to the expected impacts of this Destination, notably to benefits for industry and consumers from new opportunities both through sustainable novel products in line with ecodesign principles, and novel circular business models that have a mitigating impact on resource use and greenhouse gas emissions.

Project results are expected to contribute to all of the following expected outcomes:

- increased awareness of consumers of the importance of their choices, and of available sustainable and circular purchasing and use options, and demonstrated willingness to change their consumption behaviour accordingly; value of making circular purchasing decisions has been demonstrated to consumers;
- guidance is made available to public authorities and civil society organisations on how awareness about sustainable and circular consumption decisions can be increased and how decisions for consumption with a lower environmental footprint and lower greenhouse gas emissions can be motivated;
- circularity-related knowledge and skills of economic operators including product designers are strengthened, with the intention to make sustainable circular products and services more attractive to consumers, in view of their benefits in terms of reduced pollutant and GHG emissions and reduced pressure on biodiversity and ecosystems. .

Scope: The transition to a circular economy is key to reducing pressures on natural resources. It is also a prerequisite to achieve the EU's 2050 climate neutrality target and to halt biodiversity loss. Sustainable consumption and production are key elements in the societal transition to a competitive circular and sustainable economy. Decoupling economic activities and human well-being from natural resource use and environmental impacts is essential and necessary. As part of the transition, with the emergence of circular and sustainable products,

consumers will play an even more important role in making sustainable choices. Consumer empowerment encourages sustainable choices, which in return contribute to pollution reduction and climate neutrality.

Proposals should address the gaps in public awareness about the environmental impacts of the mainstream consumption patterns and between prevalent consumer knowledge/awareness and actual behaviour. Proposals should make use of social innovation and should analyse and identify the economic, social, behavioural, psychological, technical and legal barriers and levers for the uptake of circular and sustainable products, solutions and services. The analysis should address relevant aspects of fairness, equality, diversity, inclusion, and gender.

Proposals should first assess the patterns and underlying motivations of consumption habits through experimentation within various cultural, geographical, social, demographic, and economic groups. Based on this assessment, projects should draw and evaluate possible pathways to behavioural change of various economic actors (municipalities, companies including retailers and service providers, end-users) to enable the transition to circular and sustainable economy. These pathways should show how to change the demand for products and services with high environmental impacts and resource intensity, towards more circular and sustainable ones, including used and second-hand products, sharing services, repairability and durability. Possible environmental impacts in this context should be seen from a lifecycle perspective, including and valuing in monetary terms environmental externalities and building on rules set in Environmental Footprint methods wherever possible. The pathways should include policy, governance and business recommendations in all relevant areas (economic, behavioural, educational, technical, legal, cultural, etc.).

Power imbalances between industry and civil society should be addressed, and the impact and potential of Ecodesign, Ecolabel, green claims, and of digital infrastructures and Digital Product Passports should be explored with a view to changing vantage points and consumer behaviour.

Convincing narratives, framing strategies and storytelling tactics should be developed, improving knowledge of selling points, i.e., which features and qualities make a product or service attractive for consumers.

Proposals should explore the territorial and geographical dimensions of consumption patterns, and aim at synergies with the New European Bauhaus and the Circular Cities and Regions Initiative (CCRI). Proposals are strongly encouraged to organise joint activities, ensure synergies and undertake clustering activities with CCRI projects and the CCRI CSO.

For this topic, the engagement of citizens and civil society in the project activities is central to achieving the targeted outcomes. This topic also requires the effective contribution of SSH disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.

Proposals are encouraged to consider, where relevant, the services offered by European research infrastructures such as ESS ERIC or other relevant research infrastructures[162].

The JRC may provide expertise in circular economy policy and foster coordination with on-going related activities and participate, potentially, in the projects Scientific Advisory Board.

HORIZON-CL6-2025-01-CIRCBIO-06: Indicators for the transition to sustainable and circular economy

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 4.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 8.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding.
Technology Readiness Level	Activities are expected to achieve TRL 4-6 by the end of the project – see General Annex B. Activities may start at any TRL.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [163].

Expected Outcome: In supporting the implementation of the European Green Deal, and in particular the 2020 circular economy action plan (CEAP), successful proposals will contribute

[162] The catalogue of European Strategy Forum on Research Infrastructures (ESFRI) research infrastructures portfolio can be browsed from ESFRI website https://ri-portfolio.esfri.eu/

[163] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

to the expected impacts of this Destination, notably to innovative business and governance models and innovative circular materials, products, processes and value chains.

Project results are expected to contribute to all of the following expected outcomes:

- increased knowledge about suitable indicators for measuring the progress and level of circularity in local communities, households, or in value chains at different company levels, as well as associated impacts, including on greenhouse gas emissions, and using Environmental Footprint methods and the derived Consumption Footprint;
- recommendations are made available on how to develop these indicators further, including for the collection of necessary data;
- guidance and recommendations are made available to local public authorities, social economy entities and financial institutions on how to use these indicators in their circularity-supporting activities.

Scope: The EU circular economy monitoring framework has been developed to monitor the progress of the EU and Member States in the circular economy transition. It uses aggregated macroeconomic indicators suitable for understanding how the whole economy changes. At the microeconomic level, i.e., at the level of individual economic agents such as companies, households or investors, or at the level of small territorial units such as cities or regions, no formal monitoring system exists besides the criteria set under the Taxonomy Regulation for Sustainable Activities that are set at activity level. However, more and more economic agents start to use CE indicators either for their internal decisions or for communication with their business partners, clients or the public. The European Commission's Joint Research Centre and the European Environment Agency[11] are currently doing research into circularity indicators in specific areas. The European Commission also launched a stocktaking exercise in the form of a contract for the development and testing of indicators and methods for measuring transition to climate-neutral circularity, its benefits, challenges and trade-offs under the Horizon Europe work programme for 2021.

A number of different indicators are currently used for this purpose, often with low information value or outright erroneous and misleading. Several organisations attempted to develop more robust indicator systems and offer them to their members or clients. While this effort is useful, none of these organisations has the authority to propose a monitoring system that would be accepted by a majority of economic actors and stop the proliferation of micro-level CE indicators. The European Commission is in the unique position to convene relevant stakeholders and facilitate the process of development of harmonised CE micro-economic monitoring indicators. Financial institutions are turning to the European Investment Bank (EIB) to organise a similar process to harmonise the monitoring indicators suitable for financial institutions.

Projects should develop and test a set or several sets of simple and meaningful indicators for monitoring of progress towards circular economy at the level of individual economic agents, i.e., in cities and regions, in households, or at different company levels. These indicators

should allow circularity monitoring for the addressed entities, but also help public administration and financial institutions in their decision-finding in support of circularity transition measures. Proposals should test the operability of these indicators in the public/private investor environment, or in municipal/regional governance.

If within a project several separate sets of indicators are developed for different users, these should be compatible and possibly have a common set of core indicators.

Proposals should also thematise reasons for and benefits from the use of these circularity indicators and present convincing arguments. Proposals should take a lifecycle perspective and consider available instruments such as the consumption footprint indicator.

Project results will be of relevance for the Circular Cities and Regions Initiative (CCRI). Projects are therefore strongly encouraged to organise joint activities, ensure synergies and undertake clustering activities with CCRI projects and the CCRI CSO.

The JRC may provide expertise in circular economy policy and foster coordination with on-going related activities and participate, potentially, in the projects Scientific Advisory Board.

HORIZON-CL6-2025-01-CIRCBIO-07: Demonstration, deployment and upscaling of circular systemic solutions in cities and regions (Circular Cities and Regions Initiative)

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 9.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 18.00 million.
Type of Action	Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: at least 3 different demonstration and 6 replication cities/regions must be part of the consortium as beneficiaries.
Technology Readiness Level	Activities are expected to achieve TRL 6-8 by the end of the project – see General Annex B. Activities may start at any TRL.

Expected Outcome: In supporting the implementation of the European Green Deal, and in particular the 2020 circular economy action plan (CEAP), a successful proposal will contribute to various expected impacts of this Destination, notably by supporting the development of innovative circular solutions as well as innovative business and governance

models, and fostering social, technological and non-technological innovation across sectors and value chains at local and regional level.

Project results are expected to contribute to all of the following expected outcomes:

- increased circularity and reduced GHG emissions in the economic sectors, services and product value chains at local and/or regional scale, and efficient valorisation of local resources, with positive effects on air quality and biodiversity;
- widespread deployment and easier replication, scalability and visibility of circular systemic solutions for a multiplication of their economic, social and environmental benefits;
- enhanced collaboration and knowledge transfer between the cities, regions and their partners, and increased uptake and stakeholder engagement in their circular and climate-neutral practices.

Scope: Proposals are expected to implement and demonstrate circular systemic solutions for the deployment and upscaling of the circular economy in cities and regions. The main objective is to stimulate social innovation through new circular innovative technologies, novel governance and business models in order to contribute to climate mitigation and help reduce pressures on natural resources, whilst increasing Europe's competitiveness.

This CCRI-related topic does not target specific technologies or industrial sectors, but supports the implementation of a systemic approach. This means that the implemented circular systemic solutions should involve relevant circular economy stakeholders in the targeted cities/regions, and address several (at least two) sectors and value chains – as set out in the 2020 circular economy action plan[164].

Proposals should select their circular systemic solutions and related economic sectors (e.g. construction and buildings, transport and mobility, bioeconomy, land use and spatial planning) based on a detailed analysis of the cities' and regions' socio-economic and environmental needs, as well as their local circular potentials.

Proposals should monitor and evaluate the implementation and the impacts of their circular systemic solutions through the project lifespan. This should include the identification, analysis, and when feasible, quantification of the economic, social and environmental benefits and other results. By doing so, proposals could take into consideration various social variables (e.g. gender, age, socio-economic status). In this case, proposals should involve the effective contribution of SSH disciplines.

Proposals should facilitate knowledge and experience transfer for further outreach and replication across EU Member States and Associated Countries. They should therefore clearly identify the lessons learned from the demonstration projects, specifying the enabling

[164] The CEAP focuses on the sectors and value chains that use most resources and where the potential for circularity is high such as: electronics and ICT, batteries and vehicles, packaging, plastics, textiles, construction and buildings, food, water and nutrients.

framework, the main (regulatory and/or market) barriers and the enablers, the business case as well as any other relevant factors for successful replication and upscaling in other cities and/or regions. In that respect, proposals should include a clear action plan to communicate experiences and results to 'replicators'. This is essential for ensuring that circular systemic solutions demonstrated in specific areas are replicated in others, and where feasible, at larger scale.

Proposals should define financing strategies for their circular systemic solutions as part of their exploitation plan. Proposals should also foresee financing follow-up, for instance by linking with the Circular Cities and Regions Initiative financial advisory services (including the Horizon Europe funded Project Development Assistance Projects[165] and the European Investment Bank's Circular City Centre[166]).

Selected proposals will support the implementation of the European Commission's Circular Cities and Regions Initiative (CCRI).

This topic targets public local and regional authorities or their groupings in EU Member States and Associated Countries. Proposals should support the inclusive engagement and active participation of all relevant circular economy stakeholders in the targeted cities and regions, such as policymakers (at all governance levels), research bodies and academia, the civil society, the private sector (industry, entrepreneurs, start-ups, small and medium enterprises etc.), social economy entities and financial intermediaries. Moreover, proposals should ideally consider different typologies (urban/peri-urban/rural), sizes (towns/cities) and/or geographical areas. Multi-actor Approach (MAA) and social innovation are encouraged.

Proposals should clearly specify how they will ensure synergies and complementarities with other relevant circular economy projects and initiatives, including those recognised as CCRI Projects[167] and CCRI Associated Partners[168]. In that sense, proposals should include a dedicated task, appropriate resources and a plan on how they will collaborate with the CCRI office, projects and partners.

In particular, proposals are expected to organise joint activities and undertake clustering activities (e.g. thematic working groups, joint events, joint R&I gap analysis and policy briefs) with CCRI projects sharing a common theme and/or addressing similar issues. The proposals are also expected to ensure that their dissemination plan includes dedicated (possibly joint) actions for promotion of their results and lessons learned on the official CCRI website[169] of the European Commission and through other CCRI-related channels. Both clustering and dissemination activities will be facilitated and supported by the CCRI

165 https://circular-cities-and-regions.ec.europa.eu/ccri-projects?f%5B0%5D=type_of_action%3A183
166 https://advisory.eib.org/about/circular-city-centre.htm
167 List of CCRI Projects from Horizon 2020 and Horizon Europe: https://circular-cities-and-regions.ec.europa.eu/ccri-projectshttps://circular-cities-and-regions.ec.europa.eu/ccri-projects.
168 List of CCRI Associated Partners: https://circular-cities-and-regions.ec.europa.eu/associated-partners.
169 Official CCRI website: https://circular-cities-and-regions.ec.europa.eu/

Coordination and Support Office[170] and aim to ease knowledge exchange, foster solution replication and up-taking as well as maximise impact.

Linkages with relevant initiatives such as the Hubs for Circularity[171], the Regional Innovation Valleys[172], the New European Bauhaus and the Climate-Neutral and Smart Cities Mission should be explored – whenever relevant.

Innovating for sustainable bio-based systems, biotechnology and the bioeconomy

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-01-CIRCBIO-08: Bioprospecting and optimized production of the terrestrial natural products: new opportunities for bio-based sectors

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 5.50 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 11.00 million.
Type of Action	Innovation Actions
Technology Readiness Level	Activities are expected to achieve TRL 6-7 by the end of the project – see General Annex B. Activities may start at any TRL.

Expected Outcome: Successful proposals should contribute to a clean, competitive and circular economy and sustainable bioeconomy, through the integration of bioprospecting/biodiscovery, biotechnology and biomanufacturing, enabling the deployment of innovative circular and climate-neutral bio-based materials, processes and value chains with higher resource efficiency and market value.

Project results are expected to contribute to all of the following expected outcomes:

- demonstrating the broadened range of more sustainable and more accessible natural bio-based products from terrestrial ecosystems with high value market applications;
- demonstrating advances in the development and/or application of related computational tools and methods or technologies, such as AI etc. in the biodiscovery pipeline;

170 About – CCRI office | Circular Cities and Regions Initiative.
171 Hubs4Circularity (h4c-community.eu).
172 Selected Regional Innovation Valleys | Research and Innovation.

- increased commitment to biodiversity preservation and conservation through enabling bioproduction routes (biosynthesis, fermentation, culturing) of natural products, ensuring that the biodiscovery of new compounds does not lead to unsustainable harvesting from the wild, to ensure a sustainable use of genetic diversity;

- awareness raising and creation of a better framework for biotechnology and bio-based innovation and uptake through broad stakeholder engagement, supporting the EU biotechnology and biomanufacturing initiative.

Scope: The action covers modern biodiscovery approaches, including full integration of digital-driven, '-omics' and associated bioinformatic tools[173], which make possible the identification and further upscaling (optimized production) of bioactive natural compounds with potential high-value application in various bio-based sectors including pharmaceuticals, nutraceuticals, cosmetics, food/feed additives, agrochemicals, cleaning etc. In the context of this topic, the natural products are understood as biologically active products such as secondary metabolites as well as enzymes derived from terrestrial organisms. New products should be safe and sustainable following the SSbD approach.[174]

The scope covers immense diversity of terrestrial micro- and macro-organisms and their communities, which represents a rich and largely unexplored reservoir of natural products and their base ingredients (e.g. plants, fungi, microorganisms etc are in scope. The biochemical interplay between interspecies communities, e.g. symbiotic or defence mechanisms may offer attractive leads and is also in scope). For the coverage of aquatic bioprospecting see parallel topic HORIZON-CL6-2025-01-CIRCBIO-14: Bioprospecting of marine natural products in the -omics & artificial intelligence era.

The aim of this action is to broaden the range of novel compounds, lowering the production costs, quicken the development pipeline, and enable more innovation for the industrial operators, with clear-cut benefits for the final users (consumers and industries). The biodiscovery pipeline may cover in silico prospecting, genomic characterisation, creation of natural product libraries, bioactivity screening, chemical structure elucidation, natural products isolation and purification, and/or optimized production pathways via biotechnology and biomanufacturing approaches (including via gene editing) in suitable industrial facilities (bioreactors/biorefineries, e.g. microbial production), or synthetic biology approaches.

Targeted terrestrial biological resources can be sourced from their natural environment (in-situ) and/or from public and private collections and gene-banks (ex-situ).

The integration of digital approaches and tools (AI, computer algorithms such as machine learning, modelling, data science, digital twins etc) on optimizing the biodiscovery processes such as identification of biosynthetic gene clusters and metabolic pathways, enzyme selection, combinatorial assembly and annotation of high-throughput DNA sequencing data, bioactivity prediction, elucidation of the structure of compounds, experimental design etc is in scope (see

[173] Related to e.g. statistics, algorithms, AI, data science, modelling etc.

[174] Commission Recommendation (EU) 2022/2510 of 8 December 2022 establishing a European assessment framework for 'safe and sustainable by design' chemicals and materials.

the parallel topic HORIZON-CL6-2025-01-CIRCBIO-09: Unleashing the potential and advancing the impact of the digitalization/AI of the bio-based value chains).

Safety to the end-users, and operators needs to be assessed and guaranteed.

The action needs to avoid overlaps to past or ongoing topics (e.g. projects funded under the topic HORIZON-CL6-2022-CIRCBIO-02-05-two-stage - Life sciences and their convergence with digital technologies for prospecting, understanding and sustainably using biological resources, or the topic HORIZON-CL6-2023-CIRCBIO-01 - Broadening the spectrum of robust enzymes and microbial hosts in industrial biotechnology), consider synergies to parallel actions (e.g. HORIZON-CL6-2025-01-CIRCBIO-14 - Bioprospecting of marine natural products in the omics and artificial intelligence era), as well as funded under topic HORIZON-2020-FNR-11-2020: Prospecting aquatic and terrestrial natural biological resources for biologically active compounds[175]. Also, links to the actions under the Circular Bio-based Europe Joint Undertaking (CBE JU) may be established, as relevant.

Proposals should take into account the findings of the Global Resources Outlook 2024 of the International Resource Panel.

Projects will have a strong industry/SME focus and include demonstration activities to proof the techno/economic viability of the production of the proposed terrestrial natural product(s) and/or the biodiscovery platform tools combining digital approaches and tools and biotechnologies.

The action needs to guarantee biodiversity preservation. This can be addressed, inter alia, by covering propagation of biological material, including by in vitro cultivation, as well as by biotechnological approaches. The aim is to decrease of pressure on wild resources and ensure higher overall sustainability, with policy dialogue with competent authorities; projects need to comply with applicable EU regulations and international rules on access to biological resources, such as UN Convention on Biological Diversity and its Nagoya Protocol, their sustainable use and the fair and equitable sharing of benefits from their utilisation. A sustainability assessment should be carried out to evaluate the environmental, economic and social performance of the developed product(s). Proposals should contribute to understanding of potential trade-offs inherent in the exploitation of ecosystems, and their potential to deliver ecosystem services. Any risks to the ecosystems should be assessed and minimised, along the application of the Do-No-Significant-Harm (DNSH) principle.

Proposals should include a task dedicated to sharing methodologies and findings with projects funded under this topic and with similar recent or ongoing projects.

International cooperation is encouraged, for win-win outcomes and mutual benefits.

175 https://cordis.europa.eu/programme/id/H2020_FNR-11-2020/en.

HORIZON-CL6-2025-01-CIRCBIO-09: Unleashing the potential and advancing the impact of the digitalization/Artificial Intelligence of the climate-neutral bio-based value chains

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 5.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 10.00 million.
Type of Action	Innovation Actions
Technology Readiness Level	Activities are expected to achieve TRL 7 by the end of the project – see General Annex B. Activities may start at any TRL.

Expected Outcome: Successful proposals should contribute to a clean, competitive and circular economy and sustainable bioeconomy, through the integration of digital solutions/AI, enabling the deployment of innovative circular and climate-neutral bio-based materials, processes and value chains with higher resource efficiency.

Project results are expected to contribute to all of the following expected outcomes:

- the sustainability, resilience and the strategic autonomy of the European bio-based industry is improved due to the unleashing the full potential of Artificial Intelligence (AI), digitalisation and IT solutions, supporting the bio-based innovation;
- the opportunities on more sustainable feedstocks, more productive and efficient industrial processes and operations, and products, including via increased circularity, biodegradability, and due to better understanding of the carbon removal potential of bio-based systems, are advanced and demonstrated;
- improved understanding of risks and benefits based on new inclusive assessment methods, taking on board advances on technical and social innovation level.

Scope: There is an unprecedented amount of data available in the bio-based sector today, among others, from the ever-growing '-omics' technologies and integration of sensors and the Internet of Things (IoT) devices. Big data and analytics solutions allow bio-based actors, in particular, the bio-based industry, but also other R&I and civil society stakeholders, to tap into this wealth of data to drive innovation and sustainability. Operators already use the bioinformatics solutions but there is still much potential to explore undiscovered bio-based systems, improve processes and develop cleaner solutions (e.g. see parallel topics HORIZON-CL6-2025-01-CIRCBIO-14: Bioprospecting of marine natural products in the omics &

artificial intelligence era, and HORIZON-CL6-2025-01-CIRCBIO-08: Bioprospecting and optimized production of the terrestrial natural products: new opportunities for bio-based sectors).

AI enables also the bio-based operators to automate a wide range of processes, helping them scale up their operations. Using AI image analysis or leveraging deep learning can be used to analyse microbiomes, screen phenotypes, and develop rapid diagnostics in a vast range of applications. Use of AI to predict best metabolic pathways for biosynthesis, optimize/engineer enzymatic activities, and virtually test several variables can speed up bioprocesses' development, while helping to reduce costs and deliver novel molecules for the market. Also, streamlining biorefineries with AI can led to several levels of productivity gains. Moreover, systemic and integrated modelling approaches can optimise the rational deployment of bio-based value chains.

The action will first, explore the potential of AI and other digital technologies and tools in the bio-based sector and, next, focus on developing new capacities, high-quality tools and algorithms of AI and other digital technologies and tools to be demonstrated for the most promising (in terms of impact on environmental sustainability and competitiveness) applications of this sector. In this context, the concept of a 'digital twin'[176] could be explored. Generative artificial intelligence is in scope, if relevant to the proposed concept.

In line with the current definition of the EU bioeconomy strategy, health biotechnology sector is not in scope.

The scope covers all relevant aspects of the contribution of AI/digital methodologies and tools capable of delivering the high sustainability gains (resource efficiency, circularity, climate neutrality etc), as well as enhance the European industrial competitiveness (in particular in regard to improved quality of bio-based products, strategic autonomy, resilience and role of innovative SMEs). The proposals should demonstrate the upscaling from the current potential, align it to parallel actions on AI and other digital technologies and tools (e.g. database development, predictive capacities, EU-level initiatives (e.g. EU AI Act, Biotechnology and Biomanufacturing Initiative), and incorporate the systematic assessment of the risks and opportunities for the sector.

Multi-actor Approach (MAA) and social innovation are encouraged, especially to address the societal concerns and perceptions on the role of AI in the bio-based innovation and broader bioeconomy (e.g., impacts on skills and job opportunities/risks). All relevant stakeholders and value chain actors are in scope. Links to the Circular Bio-based Europe Joint Undertaking (CBE JU) operations are strongly encouraged. Proposals should also consider citizens engagement and dialogue, for seeking wider input and support, and encourage social innovation approaches.

[176] A digital twin is a digital representation of a physical object, person, or process, contextualized in a digital version of its environment. Digital twins can help an organization simulate real situations and their outcomes, ultimately allowing it to make better decisions.

Proposals should take into account the findings of the Global Resources Outlook 2024 of the International Resource Panel. Any risks to the ecosystems should be assessed and minimised, along the application of the Do-No-Significant-Harm (DNSH) principle.

The action will serve to develop guidelines for the policy makers, industry and civil society, in an inclusive co-creation process.

Proposals should include a task dedicated to sharing methodologies and findings with projects funded under this topic and with similar recent or ongoing projects.

Proposals should leverage the data and services available through European Research Infrastructures federated under the European Open Science Cloud, as well as data from relevant Data Spaces. Proposals are encouraged to consider, where relevant, the services offered by European research infrastructures such as IBISBA or other relevant research infrastructures[177].

International cooperation is encouraged, e.g. with countries mentioned in the EU biotechnology and biomanufacturing initiative communication, such as United States of America, Japan, South Korea, and India, for win-win outcomes and mutual benefits.

HORIZON-CL6-2025-01-CIRCBIO-10: Support to the EU Biotechnology and Biomanufacturing Initiative: scoping action

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 2.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 2.00 million.
Type of Action	Coordination and Support Actions
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the

[177] The catalogue of European Strategy Forum on Research Infrastructures (ESFRI) research infrastructures portfolio can be browsed from ESFRI website https://ri-portfolio.esfri.eu/

	Research and Training Programme of the European Atomic Energy Community (2021-2025). [178].

Expected Outcome: Successful proposals should contribute to a clean, competitive, safe, fair and circular economy and sustainable bioeconomy, through the integration of biotechnology and biomanufacturing, supporting the innovative, circular and climate-neutral bio-based sector.

Project results are expected to contribute to all of the following expected outcomes:

- improved uptake of the solutions in the context of the EU biotechnology and biomanufacturing initiative[179], as related to the bio-based sector (e.g. by SMEs, and start-ups) and broader bioeconomy including by ensuring consumers' rights and needs (e.g., increased transparency, co-creating solutions that have high potential for uptake by consumers and stakeholders);

- higher environmental sustainability, including of biomass uses for the development of new bio-based materials and products, replacing fossil- or less environmentally - friendly bio-based ones, and overall innovation capacity, enabled by the technical solutions and stakeholder engagement. This will focus on sharing best practice and inclusive participation across the EU and society;

- improved awareness on the level of EU, national and regional policy making, based on scientific excellence and inclusive co-creation process with relevant stakeholders;

- development of an EU vision and strategic research and innovation agenda to foster biotechnology and biomanufacturing solutions to address EU economic security risks and global challenges like climate change or biodiversity protection.

Scope: The action will first take stock of the large number of funded actions on biotechnology and biomanufacturing (EU – including European Partnerships (in particular, under Circular Bio-based Europe Joint Undertaking (CBE JU)), EU Missions, and European research infrastructures programmes in the area of biotechnology such as EU-IBISBA, as well as others on the national, regional, and international level), related to industrial, environmental, marine and agri-food biotechnology (note: in line with the current definition of the EU bioeconomy strategy, health biotechnology is not in scope), as well as parallel broader scientific advances on the same topics.

Areas of interest could cover CRISPR-Cas gene editing, synthetic biology, digital technologies, including as advanced under the EU-funded projects, e.g. project GENEBECON, funded under topic HORIZON-CL6-2021-ZEROPOLLUTION-01-08: New

[178] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

[179] Nature-based solutions - European Commission (europa.eu) COM(2024) 137 Building the future with nature: Boosting Biotechnology and Biomanufacturing in the EU

genomic techniques (NGT): understanding benefits and risks – focus on bio-based innovation, projects DETECTIVE and DARWIN, under topic HORIZON-CL6-2023-FARM2FORK-01-11: New detection methods on products derived from new genomic techniques for traceability, transparency and innovation in the food system etc., as well as social developments (trust-building measures, evidence-based policy making, social innovation (e.g. project B-TRUST, funded under topic HORIZON-CL6-2023-GOVERNANCE-01-6: Co-creation and trust-building measures for biotechnology and bio-based innovation systems). Also, the action may take into consideration the outputs from the parallel topics, such as HORIZON-CL6-2025-01-ZEROPOLLUTION-02: Environmental impacts from the production of agricultural crops for bio-based industrial systems, or HORIZON-CL6-2025-02-FARM2FORK-13: Raising citizen awareness on alternative proteins, including those derived from biotechnology**,** as well the results of the European Commission study on "Supporting the green transition via the EU Industrial Strategy: opportunities and challenges for bioeconomy, through bio-based industrial systems and biotechnology in the EU"**.**

The action will then provide scientifically robust assessment of the social, economic and environmental benefits and risks of biotechnologies and biomanufacturing and deliver recommendations in form of a consolidated EU vision and research and innovation agenda, on future trends and main innovation avenues. This action will contribute to the implementation of the EU biotechnology and biomanufacturing Initiative, in particular by developing guidance to stakeholders, such as SMEs, start-ups or civil society.

It should also explore the role of biotechnology and biomanufacturing in terms of knowledge needs around the potential positive impacts and potential risks of biotechnology, including on biodiversity and ecosystems, e.g., resource efficiency, sustainable biomass management, impacts on air, water and soil quality or capacity of bio-based systems to enable a sustainable carbon management and better understanding of the carbon removal potential of bio-based economies.

Furthermore, the action should inform the policy makers on national level, as an input to new or updated national bioeconomy strategies or roadmaps. Given that biotechnology has been identified as a critical technology from the economic security perspective[180] , due to its cross-cutting nature, and also as one of the technologies prioritised in the Strategic Technologies for Europe Platform (STEP) Regulation[181], such aspects should be covered by the present action.

Proposals should take into account the findings of the Global Resources Outlook 2024 of the International Resource Panel. The proposals under the topic should ensure best use of outcomes from previous projects on biotechnology (some of which are already referenced in the topic), for building consumer trust regardless of regulatory status of the products. To promote this, mapping use cases from past projects should be included. Furthermore,

[180] Commission Recommendation (EU) 2023/2113 of 3 October 2023 on critical technology areas for the EU's economic security for further risk assessment with Member States.

[181] Proposal for a Regulation of the European Parliament and the Council establishing the Strategic Technologies for Europe Platform ('STEP') and amending Directive 2003/87/EC, Regulations (EU) 2021/1058, (EU) 2021/1056, (EU) 2021/1057, (EU) No 1303/2013, (EU) No 223/2014, (EU) 2021/1060, (EU) 2021/523, (EU) 2021/695, (EU) 2021/697 and (EU) 2021/24, COM/2023/335 final.

synergies with projects on biotechnology/biomanufacturing pilot infrastructure, such as projects Pilots4U and Copilot (under BBI-JU and CBE-JU, respectively) is encouraged, given they may enable the accessibility to pilot infrastructure to bring biotech/biomanufacturing initiatives to the market.

International cooperation is encouraged, e.g. with countries mentioned in the communication on the EU biotechnology and biomanufacturing initiative, such as the United States of America, Japan, South Korea, and India, for win-win outcomes and mutual benefits.

This topic should involve the effective contribution of SSH disciplines.

HORIZON-CL6-2025-01-CIRCBIO-11: Demonstration of reduced energy use and optimised flexible energy supply for industrial bio-based systems

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 5.50 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 11.00 million.
Type of Action	Innovation Actions
Technology Readiness Level	Activities are expected to achieve TRL 7 by the end of the project – see General Annex B. Activities may start at any TRL.

Expected Outcome: Successful proposals should contribute to a clean, competitive and circular bioeconomy, through the development of innovative and climate-neutral bio-based processes.

Project results are expected to contribute to all the following expected outcomes:

- bio-based industries' operators increase the uptake of innovative low-energy bio-based processes and the use of renewable energy in the processes and utilities of the industrial assets to progress towards climate neutrality and reduction of emission of air pollutants related to energy consumption;
- industrial bio-based systems improve their resilience against energy provision issues.

Scope: Key elements of circular economy applicable to industrial bio-based processes and technologies include increasing their energy and resource efficiency. In fact, on one side, industrial bio-based systems may be affected by a higher energy consumption; on the other side, energy supplies may experience shortage and/or price fluctuations that make the most

energy-intensive sectors more vulnerable. Industrial bio-based systems within the scope of this topic do not include food/feed, biofuels, bioenergy and cultural/recreation sectors.

Proposals should select one or more case-studies of bio-based industrial systems, within the scope of the topic, in the EU and Associated Countries and:

- describe how to improve energy efficiency, developing and implementing, for example: energy efficient (thermal) separation technologies (e.g., membrane distillation); fast and energy efficient drying processes of biomass (e.g., for wood residues, algae residues, and other residual streams); optimized catalysts, enzymatic processes and reactors to save energy, etc.. analyse the rebound effect of energy saving measures and how to address them;

- analyse the nexus water-energy in the processes of the selected bio-based industrial systems and how the reduction of water consumption contributes to energy saving, e.g., in separation and purification processes, as well as how to address the water-energy integration within the factory by considering the whole processes and all the utilities;

- describe how to enable energy consumption flexibility through the optimization of processes with faster response rate to be flexible to variable energy supply, (e.g., by slowing production when less energy available, and prices are high, or increasing the production and/or storing energy and energy carriers onsite when surplus of energy is available, and prices are low);

- analyse the implementation of renewable energy use in the selected bio-based industrial systems, including shifting from fossil-based to renewable resources and/or shifting to electrification;

- include a task in the project to demonstrate the solutions analysed under the previous four bullet points, to i) improve energy efficiency; ii) integrate water-energy nexus; iii) enable energy consumption flexibility; iv) use renewable energy. Such solutions should be demonstrated on one or more of the selected case-studies, and should be optimized, also through the applications of digital tools including based on artificial intelligence. Assess the contribution to climate neutrality of the selected solutions.

For increased resource efficiency (water and energy use) and circular economy (e.g. minimisation of waste generation or raw materials use) in large industrial installations, please refer to the Innovation Centre for Industrial Transformation and Emissions (INCITE) (https://innovation-centre-for-industrial-transformation.ec.europa.eu/).

The multi-actor approach is encouraged.

In this topic the integration of the gender dimension (sex and gender analysis) in research and innovation content is not a mandatory requirement.

HORIZON-CL6-2025-01-CIRCBIO-12: Harmonizing and optimising composting plants performances in Europe

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 2.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 2.00 million.
Type of Action	Coordination and Support Actions
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [182].

Expected Outcome: Successful proposals should contribute to a clean, competitive and circular economy and sustainable bioeconomy, through the involvement of waste management operators, enabling the deployment of innovative circular bio-based materials and more sustainable approaches for managing waste materials.

Project results are expected to contribute to all the following expected outcomes:

- local authorities and operators responsible for the waste management improve the territorial deployment of individual or centralised composting plants;
- waste management operators in the EU and Associated Countries share best practices on harmonized performances of composting plants and the optimization of their environmental performances reducing the impacts on air/water/soil.

Scope: From 31 December 2023, EU Member States must collect bio-waste separately. The Waste Framework Directive allows waste which complies with relevant standards for packaging recoverable through composting and biodegradation, to be collected together with bio-waste. For example, the collection of bio-waste with industrially compostable plastic bags

[182] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

is encouraged (Communication on "EU policy framework on biobased, biodegradable and compostable plastics" COM(2022)). However, industrial composting facilities in the EU are often unable to biodegrade such packaging due to different performances of composting processes than those required for the biodegradation of compostable packaging compliant with the standard EN 13432. Harmonization of the performances of industrial composting plants in the EU would help meeting the targets for bio-waste collection and the quality of resulting compost.

Proposals should:

- analyse the technical performances of industrial composting plants, with a special focus on the treatment of compostable packaging, at EU and at global scale. Compostable packaging in the EU is compliant with the standard EN 13432. The analysis should address the environmental impacts of composting plants, including emissions of pollutants to air/water/soil, emissions of odours and energy consumption, and the quality and safety of the product (e.g., control of pathogens in compost), also monitoring potential changes in the microbial communities in presence of compostable materials;

- include a task for the project to select ad hoc performance parameters to define the best practices of industrial composting plants, ensuring the full biodegradation of compostable packaging;

- describe how the project will deliver a collection and assessment of the best practices of industrial composting, at EU and global level, ensuring the full biodegradation of compostable packaging, and will individuate promising innovation, e.g., microbial bioaugmentation strategies to improve composting performances in a range of conditions, to generate high quality compost, and/or to biodegrade pollutants commonly present in compost waste (i.e., microplastics);

- include a task for the project to provide recommendations towards the harmonization of EU industrial compositing processes and conditions, ensuring the full biodegradation of compostable packaging sustainably and safely and delivering safe and sustainable compost, as well as recommendations on improving the environmental performances of such plants, in terms of emissions of pollutants to air/water/soil and of odours.

International cooperation and multi-actor approach, including the involvement of waste managers in municipalities, are encouraged.

HORIZON-CL6-2025-01-CIRCBIO-13: Reconstructing areas affected by conflicts: the role of the bio-based solutions

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per	The Commission estimates that an EU contribution of around EUR 4.00 million would allow these outcomes to be addressed appropriately.

project	Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 8.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding.
Technology Readiness Level	Activities are expected to achieve TRL 3-5 by the end of the project – see General Annex B. Activities may start at any TRL.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [183].

Expected Outcome: In line with EU policies, in particular the European Green Deal, the bioeconomy strategy and the climate adaptation strategy, successful proposals will support bio-based and nature-based solutions to deliver on EU international commitments and outreach, including actions directed at future EU enlargement, EU international partnership and humanitarian aid, contributing to the EU global commitments on biodiversity and climate change.

Project results are expected to contribute to all of the following expected outcomes:

- advanced mapping and assessment of local problems and needs and the opportunities and synergies of both bio-based innovation and of nature-based solutions, for the reconstruction of areas affected by conflict;
- enhanced and more rapidly accessible uptake and community co-creation of more sustainable bio-based solutions, aimed at restoration efforts;
- promotion of the ‘build back better and greener’ concept, at all government levels and by different stakeholders, contributing to climate adaptation;

[183] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under ‘Simplified costs decisions’ or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

- enhanced understanding and engagement of the policymakers and society stakeholders of the role of bio-based innovation, at relief efforts, underpinned by principles of scientific excellence, sustainability, circularity and inclusiveness.

Scope: The recent wars, some of which are taking place at or near the EU borders, in particular the unprovoked and unjustified war of aggression of Russia on Ukraine, and the humanitarian catastrophe in Gaza, are causing not only tragic loss of human life and human suffering, but also serious environmental degradation, across ecosystems, terrestrial and aquatic, and in consequence biodiversity loss. Beyond the EU's borders, conflicts and fragility also persist where communities are affected by recurring or endemic conflicts with no real efforts to reconstruct, much less to build back better and greener. In this context, the options for the reconstruction process offered by the innovative bio-based solutions should be explored and seized. There is also a clear urgency to assess the resilience of solutions, map and deploy the remedies arising from both bio-based innovation and from nature-based solutions to address the reconstruction of such areas, both rural, coastal and urban, to promote the 'build back better and greener' concept, thus contributing to adaptation to climate change.

The action covers the development of practical solutions to achieve reconstruction efforts and strategies for restoring and 'renaturing' destroyed areas, made possible by bio-based innovation (including, i.e. the role of biotechnology, digital solutions, or bio-based construction materials), taking into account the circular and cascading use of biomass principles, local valorisation of underutilised biological residues, using nature-based solutions for their potential for bringing back biodiversity and restoring areas degraded or destroyed by conflicts, and overall, more sustainable and more environmentally-friendly management of biological resources. The aspect of the disaster risk reduction can be also included, if relevant. Covering the potential use of the bio-based innovation and nature-based solutions and their interplay in the humanitarian relief sphere and preparing for the deployment of concrete and human-centric applications is strongly encouraged. The higher sustainability of circular bio-based materials should be confirmed by the LCA approach, as much as possible.

Synergies with ongoing projects are encouraged, e.g. those funded under topics HORIZON-CL6-2023-CIRCBIO-01-06: Bio-based solutions for humanitarian applications or HORIZON-CL6-2023-GOVERNANCE-01-05: Revitalisation of European local (rural/peri-urban) communities with innovative bio-based business models and social innovation, upcoming topics (e.g. HORIZON-CL6-2025-01-ZEROPOLLUTION-03: Environmental biotechnology applications in service of restoration of polluted ecosystems, as well as with the actions supported under the New European Bauhaus (NEB) Facility. In addition, synergies with the EU Mission on Climate-neutral and Smart Cities, and with LIFE projects, are encouraged, notably the ones which contributed to the Ukraine Green Recovery Conference [184].

Proposals should include a task dedicated to sharing methodologies and findings with projects funded under this topic and with similar recent or ongoing projects (some of which are referenced in the topic).

184 Ukraine Green Recovery Conference - European Commission (europa.eu)

Proposals should take into account the findings of the Global Resources Outlook 2024 of the International Resource Panel.

Social Sciences and Humanities aspects, including gender dimension, social innovation are to be covered, to ensure an inclusive engagement of all key stakeholders. The multi-actor approach (MAA) is encouraged.

The action will provide recommendations to policymakers and EU and international relief organisations, to develop any replication actions, including in the context of the possible EU accession process, if relevant. International cooperation is strongly encouraged.

The JRC may provide support in research activities related the application of circular and bio-based materials in the rapid rebuilding of conflict-affected regions.

Innovating for blue bioeconomy and biotechnology value chains

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-01-CIRCBIO-14: Bioprospecting and optimised production of marine/aquatic natural products in the omics & artificial intelligence era

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Innovation Actions
Technology Readiness Level	Activities are expected to achieve TRL 6-7 by the end of the project – see General Annex B. Activities may start at any TRL.

Expected Outcome: Successful proposals should contribute to reaching the impacts of this destination, and European policies, in particular the European Green Deal, the bioeconomy strategy, the new approach for a blue economy. They should help harnessing the full potential of marine and freshwater biological resources and blue biotechnology is leveraged to deliver societal benefits, such as greener more environmentally friendly industrial products and processes, support public health and environmental conservation.

Project results are expected to contribute to all of the following expected outcomes:

- demonstrating the broadened range of more sustainable and more accessible marine/aquatic natural products with high value applications;

- demonstrating advances in the development and/or application related computational tools such as AI etc. in the biodiscovery pipeline;
- increased commitment to biodiversity preservation and conservation through enabling bioproduction routes (biosynthesis, fermentation, culturing) of natural products, ensuring that the biodiscovery of new compounds does not lead to unsustainable harvesting from the wild and a sustainable use of genetic diversity;
- awareness raised and creation of a better framework for blue biotechnology innovation and uptake through broad stakeholder engagement, supporting the EU biotechnology and biomanufacturing initiative.

Scope: The immense diversity of marine/aquatic micro- and macro-organisms and their communities represents a rich and largely unexplored reservoir of natural products and their base ingredients. To survive in habitats ranging from deep-sea sediments to polar regions or shallow waters, marine organisms have developed a broad spectrum of structures, defense mechanisms and metabolic pathways resulting in natural products with vast chemical diversity and wide range of biological activities. The biological interplay between interspecies communities, e.g. symbiotic or defence mechanisms, may offer attractive leads and is also in scope. For the coverage of terrestrial bioprospecting see parallel topic HORIZON-CL6-2025-01-CIRCBIO-08: Bioprospecting and optimized production of the terrestrial natural products: new opportunities for bio-based sectors.

The action covers modern biodiscovery approaches including, *in-silico* bioprospecting and the full integration of digital methods (e.g., statistics, algorithms, AI, data science, modelling, digital twins) with bioinformatics and biotechnological tools, which make possible the identification and production of bioactive natural compounds with potential high-value application in sectors such as pharmaceuticals, nutraceuticals, cosmetics, food/feed additives, agrochemicals, etc. In the context of this topic, natural products are understood as biologically active products such as secondary metabolites as well as enzymes derived from marine/aquatic organisms.

Targeted marine/aquatic biological resources can be sourced from their natural environment (in-situ) and/or from open access and public/private collections and gene-banks (ex-situ).

The aim is to broaden the range of novel compounds, lowering the production costs, quicken the development pipeline, and enable more innovation for the industrial operators, with clear-cut benefits for the final users. Projects should have a strong industry drive and include demonstration activities to proof the techno/economic viability of the production of the proposed marine/aquatic natural product(s) and/or the biodiscovery platform tools combining digital and biotechnologies.

The scope covers relevant steps of the biodiscovery process such as isolation and characterization of microbial strains and consortia, genomic characterisation, creation of natural product libraries, bioactivity screening, natural products isolation and purification, chemical structure elucidation or optimized production pathways via biotechnology and

biomanufacturing approaches in suitable industrial facilities (bioreactors/biorefineries, e.g. for microbial production), synthetic biology or gene editing. The integration of digital approaches (AI, computer algorithms such as machine learning, modelling, data science etc) on optimizing the biodiscovery processes such as identification of biosynthetic gene clusters and metabolic pathways, enzyme selection, combinatorial assembly and annotation of high-throughput DNA sequencing data, bioactivity prediction, elucidation of the structure of compounds, experimental design etc is in scope. Safety to the end-users and operators needs to be assessed and guaranteed.

Proposals should avoid overlaps with past or ongoing topics (e.g. projects funded under the topic HORIZON-CL6-2022-CIRCBIO-02-05-two-stage: Life sciences and their convergence with digital technologies for prospecting, understanding and sustainably using biological resources, topic HORIZON-CL6-2023-CIRCBIO-01: Broadening the spectrum of robust enzymes and microbial hosts in industrial biotechnology), consider synergies to parallel actions (e.g. HORIZON-CL6-2025-01-CIRCBIO-08: Bioprospecting and optimized production of the terrestrial natural products: new opportunities for bio-based sectors as well as funded under the topic HORIZON-2020-FNR-11-2020 - Prospecting aquatic and terrestrial natural biological resources for biologically active compounds [185]). The action is expected to establish links with relevant projects funded under the EU Mission Restore our Ocean and Waters.

The action needs to guarantee biodiversity preservation. This can be addressed, inter alia, by covering propagation of biological material, including by in vitro cultivation, as well as by biotechnology approaches. The action needs to comply with applicable EU regulations and international rules on access to biological resources, their sustainable use and the fair and equitable sharing of benefits from their utilisation, including the Nagoya protocol, the Kunming-Montreal Global Biodiversity Framework (KM-GBF), and the agreement on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ). A life-cycle assessment should be carried out to evaluate the environmental, economic, and social impact of the developed product(s). Proposals should contribute to the understanding of potential trade-offs inherent in the exploitation of ecosystems, their potential to deliver ecosystem services and ideally provide solution approaches to address these trade-offs. Potential risks to the environment, ecosystems, and society as well as benefits should also be assessed under this topic.

Proposals are encouraged to consider, where relevant, the services offered by European research infrastructures such as EU-OPENSCREEN, ELIXIR, EMBRC ERIC, IBISBA or other relevant research infrastructures[138].

Safeguarding and sustainably innovating the multiple functions of EU forests

Proposals are invited against the following topic(s):

185 https://cordis.europa.eu/programme/id/H2020_FNR-11-2020/en

HORIZON-CL6-2025-01-CIRCBIO-15: European partnership: Forests and Forestry for a Sustainable Future

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 70.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 70.00 million.
Type of Action	Programme Co-fund Action
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: The funding rate is 30% of the eligible costs. Beneficiaries may provide financial support to third parties. The support to third parties can only be provided in the form of grants. As financial support provided by the participants to third parties is one of the primary activities of the action in order to be able to achieve its objectives, the EUR 60 000 threshold provided for in Article 207(a) of the Financial Regulation No 2024/2509 does not apply. The maximum amount to be granted to each third party is EUR 10 000 000 for the whole duration of Horizon Europe [186].
Total indicative budget	The total indicative budget for the topic is EUR 70 million committed in annual installments over years 2025-2027 (EUR 10 million from the 2025 budget, EUR 30 million from the 2026 budget and EUR 30 million from the 2027 budget). The total indicative budget for the duration of the partnership is EUR 70 million.

Expected Outcome: In line with the European Green Deal and its vision for a climate-neutral, prosperous economy by 2050, and the EU forest strategy for 2030, this partnership will mobilise research and innovation to accelerate the transition to a sustainable forest bioeconomy to enhance forest sector value, biodiversity, and climate resilience.

The partnership will deliver knowledge and solutions that will support the implementation of several other European Green Deal strategies and initiatives, notably: the EU's 2050 climate neutrality target, the EU forest strategy for 2030, the EU biodiversity strategy for 2030, the EU bioeconomy strategy, the European industrial strategy, circular economy action plan, the

[186] However, if the objectives of the action would otherwise be impossible or overly difficult (and duly justified in the proposal) the maximum amount may be higher.

Land Use, Land Use Change and Forestry Regulation (LULUCF), the EU Nature Restoration Regulation and the proposal for a Regulation on a forest monitoring framework.

The expected outcomes of the topic will contribute to impacts of various Destinations under Cluster 6 of Horizon Europe, notably Destination 'Circular economy and bioeconomy sectors'.

The partnership is expected to contribute to all the following expected outcomes:

- a robust European R&I system for forests and forestry, co-created through complementary forest research agendas across the EU Member States and Associated Countries, leading to strengthened collaborations, enhanced understanding of forest ecosystem resilience, and reinforced role of the EU in the international forest agenda;
- strong consistency between social, environmental and economic dimensions of forests and forestry, and improved knowledge of their interplay is established;
- increased knowledge of the functioning and the role of forests in climate action and ecosystems protection and restoration and improved guidelines on innovative and adaptive forestry regimes for different European regions in order to reach climate mitigation and adaptation, biodiversity, and bioeconomy objectives;
- better understanding of the role of forests in achieving climate and biodiversity objectives in times of accelerating climate change. New knowledge and tools for the timely, consistent, and comprehensive monitoring of forest condition, biodiversity, resilience, and productivity;
- new knowledge, methods, and processes to support major transitions (including increased carbon removals and the restoration of forest ecosystems) and innovations in the sustainable forest-based bioeconomy are developed towards higher added value;
- better understanding of the trends and bottlenecks in the new green forestry business models, including carbon farming, ecotourism and payments for environmental services.

Scope: As the main instrument for public organisations in EU Member States and Associated Countries to collaborate in the forest-based sectors, the partnership will facilitate concerted research and innovation actions on Europe's diverse forestry challenges, with the participation of a wide range of stakeholders, thus reducing fragmentation of related R&I.

The partnership should mobilise key partners and stakeholders, including ministries in charge of research, forest-related areas, and environment, funding agencies, research performing organisations, research infrastructures, foresters, industry, NGOs, international networks, etc.

The partnership should align with transnational research and innovation activities, as defined in its Strategic Research and Innovation Agenda (SRIA) and address all the following:

- identify R&I priorities to strengthen alignment of European and national research, development and innovation programmes and to increase their policy relevance;

- develop new knowledge and innovative solutions for a systemic and inclusive approach to forest and forestry challenges, looking for synergies in complementary actions and trade-offs between competing actions;

- reinforce the European collaboration on improving the understanding of resilience of forest ecosystems and forest-based sectors, and their underlying constituents to multiple hazards, driven by ongoing climate change and other human made impacts as a basis for adaptation and mitigation measures;

- strike an optimal balance in a range of forest functions and related societal values, including views of different stakeholders, thus responding to societal expectations while supporting the forest industry in a transition towards a greener and circular bioeconomy;

- focus on the multifunctional role and the sustainable management of forests as well as the interplay between forestry biomes, regimes and the continuous provision of biodiversity and ecosystem services, and resilience to climate change (drought, fire, pests and diseases, compound and cascading risks etc.) as well as climate adaptation;

- consider the cascading use of forest products and higher added value, supporting business and social enterprise development (creating employment and quality job opportunities and diversified revenue for foresters) in rural areas and industrial development in crucial sectors such as sustainable forest-based industries (traditional and emerging branches), construction, transport, and energy;

- stronger focus on the processes that lead to transformations toward sustainability in the forest-based and bioeconomy sector at European level, which will also be key to the forest industry´s long-term competitiveness, in Europe and globally;

- ensure forests and forest management monitoring to ultimately anticipate future developments, provide early alerts on disturbances (e.g., pest outbreaks and climate change driven impacts), and assess the impact of forestry practices on forest and forest soil health and conservation and local communities;

- increase and strengthen international cooperation to develop a critical mass in relation to the global challenges faced including climate mitigation and imported deforestation.

The partnership is open to all EU Member States, as well as to Countries Associated to Horizon Europe. Specific action should be taken to integrate Ukraine in the Partnership to strengthen European sustainable forest management. Partners are expected to provide financial and/or in-kind contribution, in line with the level of ambition of the proposed activities. The partnership should be open to include new partners over its lifetime. Its governance should allow for engaging a broad range of stakeholders, together with the full members of the partnership. Guidelines, standards, and legislation in the field should be taken into consideration, to facilitate the marketing of the methods and products developed in the partnership.

The partnership should allocate resources to cooperate with existing projects, initiatives, platforms, science-policy interfaces, and/or institutional processes at European level, and at other levels where relevant to the partnership's goals.

To ensure that all work streams are coherent and complementary, and to leverage knowledge and innovation investment potential, the partnership is expected to foster close cooperation and synergies with the Horizon Mission 'A Soil Deal for Europe', 'Adaptation to Climate Change', and 'Climate-neutral and Smart Cities', with the existing European Partnerships Circular Bio-based Europe Joint Undertaking (CBE JU), Biodiversa+, Water4All, Agroecology, Built4People, Sustainable Food Systems, and with other relevant future partnerships, in particular the project that may follow from the topic "HORIZON-CL6-2024-GOVERNANCE-02-01: European Partnership of Agriculture of Data". Where relevant, creating links and using the information and data of the European Earth observation programme Copernicus are encouraged.

Cooperation with the JRC may be envisaged, in particular for actions related to forest monitoring and forest management.

Proposals should pool the necessary financial resources from the participating national (or regional) research programmes to implement joint calls for transnational proposals resulting in grants to third parties. The partnership will provide financial support to third parties as one of the means to achieve its objectives. To explore the full range of financing options available under Horizon Europe, the general annexes of the main Work Programme setting out the general conditions applicable to calls and topics for grants should be considered.

To achieve the international cooperation objectives, and given the global dimension of forests, collaboration with strategic third country partners with proven added value in the field of forests and forestry is strongly encouraged. In particular, the participation of legal entities from international countries and/or regions, including those not automatically eligible for funding, is encouraged in the transnational co-funded calls and/or in other activities of the partnership. Cooperation with international organisations may be considered.

Applicants are expected to describe in detail how they would carry out this collaborative work in practice.

Efforts should be made to ensure that the data produced in the context of this topic is FAIR (Findable, Accessible, Interoperable and Re-usable).

This topic should involve the effective contribution of social sciences and humanities disciplines.

In order to enhance the societal impact of the activities, the approach should empower citizens to contribute to the co-design/co-creation/co-assessment of research and innovation agendas/contents/outcomes.

Cross-articulation with data spaces, and notably with the European Open Science Cloud should be foreseen, exploiting synergies and complementarities of the different approaches.

The Commission envisages to include new actions in future work programme(s) to continue providing support to the partnership for the duration of Horizon Europe.

The expected duration of the partnership is seven to ten years.

Enabling a circular economy transition

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-01-CIRCBIO-01-two-stage: Open Topic: Innovative solutions for the sustainable and circular transformation of SMEs

Call: Cluster 6 Call 01 - two stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 5.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 10.00 million.
Type of Action	Innovation Actions
Admissibility conditions	The conditions are described in General Annex A. The following exceptions apply: Applicants submitting a proposal under the blind evaluation pilot (see General Annex F) must not disclose their organisation names, acronyms, logos nor names of personnel in the proposal abstract and Part B of their first-stage application (see General Annex E).
Technology Readiness Level	Activities are expected to achieve TRL 6-8 by the end of the project – see General Annex B. Activities may start at any TRL.
Procedure	The procedure is described in General Annex F. The following exceptions apply: This topic is part of the blind evaluation pilot under which first stage proposals will be evaluated blindly.

Expected Outcome: In line with the EU 2050 climate neutrality objective, the circular economy action plan (CEAP), zero pollution action plan, the EU biodiversity strategy and the EU industrial strategy, a successful proposal will contribute to the expected impacts of this Destination related to innovative circular and bio-based materials, products, processes and value chains and to innovative business and governance models to reduce resource consumption environmental impact.

Project results are expected to contribute to all of the following expected outcomes:

- SMEs are equipped to overcome key barriers and challenges in the green transition and to implement requirements of relevant EU policies to mitigate climate change, reduce pollution emissions to air, water and soil, to protect, restore biodiversity and sustainably use ecosystem services or to reduce environmental degradation;

- significantly more SMEs are engaged in sustainable business practices and management practices, have improved their environmental performance and offer innovative circular and bio-based materials, products, processes, or services enhancing industrial competitiveness, resilience, and resource independence;

- sustainable circular business practices are taken up and diffused.

Scope: Under this open topic, proposals should address common but also new, upcoming, or unforeseen challenges to the green transition of SMEs through innovative, disruptive and sustainable solutions. Proposals should identify and analyse key barriers for the sustainable and circular transition of SMEs and develop and demonstrate innovative solutions. If they relate to some of the topics covered by Horizon Europe Calls 'Circular economy and bioeconomy sectors' 2021-2022 or 2023-2024, the proposals should convincingly explain how they will build on and not duplicate them.

Solutions can be innovative products, processes, services, or also plans and arrangements. These solutions can include but are not limited to the following examples: new business models (e.g. regenerative), collaborative governance and organisational approaches, development of tailored transformation plans, the identification, development and communication of meaningful set of metrics and indicators, environmental management and reporting tools or others. Proposals can also include the use of digital solutions e.g. digital product passports (DPP), Artificial Intelligence (AI) or digital assistants enabled by Generative Artificial Intelligence. Proposals should analyse the required skills and include skill development activities for current and future employees of the SMEs.

Proposals should demonstrate the feasibility (e.g. economic, technical), environmental performance and utility and transferability of the developed and demonstrated solutions, notably to address climate change mitigation, biodiversity or environmental remediation aspects related to the sustainable and circular transformation of SMEs. The demonstrations of the innovative solutions should be done in a large-scale operational environment with strong involvement of SMEs. The first deployment of the solutions and the validation of their utility can be demonstrated at territorial, sectoral or value chain context. Nevertheless, the solution should be transferable, and the proposal should include the effectively replication in other contexts.

Successful proposals should address the requirements of EU policies relevant to the green transformation of SMEs, if suitable also national or regional strategies, and consider demands from business partners, as customers, to advance their related commitments. Proposed solutions should be concrete and user-friendly to lower the administrative burden for SMEs. This includes adopted, and planned legislation such as the Corporate Sustainability Reporting Directive (CSRD), Ecodesign for Sustainable Products Regulation (ESPR), Green Claims

Directive, the Eco-Management and Audit Scheme (EMAS), EU taxonomy, best available techniques standards and technology developments like digital product passports (DPP). Proposals should also include the development of policy recommendations that support the widespread adoption of the validated solution and use of new knowledge in the development and revision of regulatory frameworks.

Successful proposal should build on the publicly available achievements and findings of related previous national or EU-funded projects as well as collaborate with existing public organisations, e.g. the Enterprise Europe Network, Innovation Centre for Industrial Transformation and Emissions (INCITE) or the EU pact for skills initiative. It is expected that SMEs or SME associations are participating in the consortia, to ensure applicability and dissemination of the results. The engagement of non-governmental organisations, small-scale initiatives and suitable industry or industry associations is encouraged.

Destination - Clean environment and zero pollution

This destination serves the zero-pollution ambition for a toxic-free environment, as set out in the European Green Deal, towards the 2030 zero pollution targets for air, water and soils. The objectives of the EU's chemicals strategy for sustainability, including the focus on PFAS (the 'forever chemicals'). R&I under this destination will contribute to reach the 2030 targets for pollution reduction, by pursuing the precautionary principle and an effective 'zero pollution hierarchy'[1], prioritising preventive measures.

Proposed activities related to ocean and seas will be aimed at the implementation of the zero-pollution action plan within the scope of the Marine Strategy Framework Directive and the EU water legislation as well as the European Ocean Pact.

The destination will also support the implementation of the revised legislation on industrial emissions and air quality, by promoting innovative monitoring and modelling systems. It will support sustainable solutions to prevent and reduce pollution from agriculture ensuring long-term competitiveness and sustainability of the farming sector within planetary boundaries, and address pollution stemming from food and drink industries, in line with the objectives of the common agricultural policy, the announced future EU Vision for agriculture and food, and the Food 2030 initiative.

The development of innovative solutions and clean technologies in bio-based industrial sectors towards a zero-pollution and clean industrial approach is also in scope of this destination, in line with the industrial carbon management strategy and the European Climate Law, and the upcoming update of the bioeconomy strategy, underpinned by the principles of the circular economy and enabled by innovative approaches, to support the Commission communication "A Competitive Compass for the EU", the announced strategy for European life sciences and the EU biotech act.

R&I initiatives within this destination will contribute to the objectives of the EU biodiversity strategy for 2030 and the Nature Restoration Regulation, by addressing pollution as one of the main drivers of biodiversity loss as well as for the protection of the EU natural capital.

Proposals for topics under this destination should set out a credible pathway to "**achieve a clean environment, ensure water resilience, and enable the transformative change necessary to reduce air, water and soil pollution to levels no longer considered harmful to health and natural ecosystems, while respecting planetary boundaries**". More specifically, they should contribute to one or several of the following impacts:

- enhanced scientific capacity and innovative solutions for detecting and characterising pollution sources, pathways, distribution, and cumulative impacts, including pollutants of great and emerging concern, assisted by AI domain and improved environmental observation and modelling systems, resulting in cleaner air and healthier ocean, seas, waters and soils;

- safe and sustainable by design bio-based (Commission Recommendation (EU) 2022/2510) solutions are developed for and by the bio-based industries, also through

innovative biotechnology and biomanufacturing techniques, to contribute to climate neutrality and replace harmful chemicals in industrial bio-based processes and products;

- sustainable bio-based and nature-based solutions will be developed and tested to remediate polluted environments;
- food systems adopt the zero pollution ambition, preventing and reducing pollution in water, air, and soil;
- farmers are empowered to make informed management decisions on water, carbon, nutrients and greenhouse gas balances for environmental, social and economic sustainability, preventing and reducing pollution from agriculture.

The expected impacts from actions under Destination 4 will be maximised by the complementarities and synergies with other instruments within Horizon Europe and other programmes, like co-funded partnerships Water security for the planet (Water4All), Sustainable food systems for people, planet and climate, Sustainable Blue Economy, Agroecology and Biodiversa+; and the Horizon Europe Missions 'A Soil Deal for Europe', 'Restore our Ocean and Waters by 2030' and 'Climate-Neutral Smart Cities'. Collaboration with the institutionalized partnership Circular Bio-based Europe Joint Undertaking will help industrial bio-based systems to replace harmful processes and substances, while fostering the use of sustainable natural resources.

Complementarities with Destinations 1 and 5 will enhance understanding of ecosystem adaptation and resource management under climate change, while addressing freshwater and groundwater challenges and strengthening water resilience.

To maximise the impacts of R&I under this Destination, international cooperation is encouraged.

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-01-ZEROPOLLUTION-01: Innovative and advanced monitoring and modelling systems for revised air quality policies

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 10.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 10.00 million.
Type of Action	Research and Innovation Actions

Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used). The Joint Research Centre (JRC) may participate as member of the consortium selected for funding.

Expected Outcome: In the context of the European Green Deal and the zero pollution action plan, a successful proposal will contribute to the impact of this Destination related to enhanced scientific capacity and innovative solutions for detecting and characterising pollution, thus contributing to the zero pollution objective for cleaner air.

Project results are expected to contribute to all the following expected outcomes:

- public authorities and other relevant stakeholders (e.g., researchers, NGOs and patient organisations and providers of care especially to vulnerable groups) have access to better and cost-effective solutions to detect, measure, monitor and assess air pollution, including its sources and impacts, as well as pathways for their integration into operational atmospheric monitoring services and networks;
- enhanced and more rapidly accessible air quality data and information support science-based decision-making, and policy development at local and national levels, ultimately leading to more effective air quality measures aligned with the revised EU air policy, as well as to more efficient use of EU, public and private funding for improving air quality;
- increased public awareness and more accurate information of local air quality issues lead to healthier behaviours of citizens, particularly vulnerable groups and sensitive populations (e.g., during air pollution peak periods), including by supporting better evidence-based access to justice related to negative effects of air pollution.

Scope: The revised Ambient Air Quality Directive (AAQD) complements the European Green Deal and is a key action in the Commission's zero pollution action plan. It seeks to align EU air quality standards more closely with WHO recommendations and to better support national and local authorities in achieving cleaner air through strengthening air quality monitoring and modelling and improving air quality plans. For these objectives, several challenges will need to be overcome in the coming years, particularly when it comes to the improvement of accuracy, comparability and real-time nature of monitoring and modelling to assess air quality in Member States and Associated Countries referring to already regulated air pollutants facing stricter limit values (main pollutants include PM10, PM2.5, NO2, SO2, benzene, and O3) and to air pollutants of emerging concern (such as ultra-fine particles – including nano-particles of all kinds, black carbon, volatile organic compounds, ammonia, oxidative potential for particulate matter) and their source apportionment. The proposals are expected to:

- develop or improve cost-effective monitoring and modelling tools, approaches and methods for different types of well-known and emerging air pollutants and pollution sources, addressing the most urgent needs in measurement accuracy (including temporal aspects such as real-time monitoring and modelling) and dispersion mapping, in support of the implementation of the revised AAQD;

- develop methodologies and recommendations for designing optimal monitoring networks, considering relevant aspects of different spatial locations (hotspots as well as urban and rural background locations), combining traditional reference measurements and innovative measurement techniques, including Artificial Intelligence (AI) and the use of innovative low-cost sensors. Recommendations should consider also funding challenges and opportunities;

- improve the processing and integration of in situ, ground-based remote sensing and satellite (e.g. Sentinels) observations, and air quality numerical models utilising various methods, like for example AI algorithms and finite elements modelling.

Where relevant, activities should build and expand on the results of past and ongoing research projects and initiatives with a relevant air quality monitoring and/or modelling component to share experiences, reach synergies and avoid duplication. These could include, but are not limited to, Horizon 2020 and Horizon Europe projects (potentially those funded under HORIZON-CL6-2024-GOVERNANCE-01-6), research infrastructures (for example, ACTRIS ERIC), as well as relevant LIFE integrated projects for clean air. Proposed activities should, where possible, build on results of and cooperate with AQUILA and FAIRMODE [187] communities. Furthermore, this topic is part of a coordination initiative between ESA and the European Commission on Earth System Science. The proposals should articulate how they will coordinate with current and future actions funded by ESA's Future EO programme within ESA atmospheric science cluster.

The integration of the gender dimension (sex and gender analysis) in research and innovation content is not a mandatory requirement.

HORIZON-CL6-2025-01-ZEROPOLLUTION-02: Environmental impacts from the production of agricultural crops for bio-based industrial systems

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 2.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

[187] https://fairmode.jrc.ec.europa.eu/

Indicative budget	The total indicative budget for the topic is EUR 2.00 million.
Type of Action	Coordination and Support Actions
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [188].

Expected Outcome: In line with the industrial carbon management strategy, successful proposals will support the deployment of safe and sustainable by design bio-based solutions, including the supply of sustainable biogenic carbon, thus contributing to the zero pollution objectives.

Project results are expected to contribute to all the following expected outcomes:

- bio-based industries and stakeholders along the supply chain improve their knowledge of the environmental impacts on air/water/soil quality, biodiversity and climate from the production of primary biological resources for industrial bio-based systems;
- public authorities, farmers, advisors and economic actors in the bio-based industrial value chains have access to best practices to produce crops for industrial uses sustainably.

Scope: The assessment of environmental sustainability of biological resources production and trades in the bio-based industrial systems is still a challenge. There is a lack of information and environmental assessment, including the indirect land use change (ILUC) effects and possible impacts on the ecosystems, related to primary biomass grown for bio-based value chains. Industrial bio-based systems within the scope of this topic include those for the production of bio-based chemicals/materials/products excluding food/feed, biofuels/bioenergy. The scope of the topic focusses on the environmental impacts from biomass production, not covering the full life cycle of the uses of such biomass, nor the valorisation of waste and residues.

Proposals should:

- identify the types of primary agricultural crops currently produced for bio-based products within the scope of this topic at EU and Associated Countries scale;

[188] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

- include a task for the project to collect data and figures on volumes and geographical distribution of the identified primary agricultural crops traded within the EU and Associated Countries, and from outside the EU towards the EU and Associated Countries. In the cases of primary agricultural crops grown in the EU and Associated Countries, collect data on type of land used and of pedo-climatic zones, cultivation systems and agronomic practices (crop diversification, intercropping, cultivation of catch-crops, etc);

- analyse the environmental impacts of the identified primary agricultural crops produced for industrial purposes and identified under the first bullet of this scope. The analysis should be based on literature data and potentially applying Environmental Footprint methods as described in Recommendation (EU) 2021/2279;

- include a task for the project to assess quantitatively such environmental impacts and trade-offs addressing, but not limiting to, the following environmental categories: i) GHG emissions/savings and carbon footprint, including temporary carbon removals; ii) emissions to air/water/soil from nitrogen and phosphorous based fertilisers; iii) land use and land use change and its related impact on land carbon sink capacity; iv) water use; v) biodiversity and ecosystem services; vi) energy consumption, vii) any other aspects of air/water/soil environmental quality. The quantitative assessment should consider the range of climatic and land conditions, for each primary agricultural crop, due to the geographical distribution. It should be based on data from literature and stakeholders' consultations and potentially applying Environmental Footprint methods as described in Recommendation (EU) 2021/2279. Based on such assessment, individuate best practices and the means to share them among concerned stakeholders.

Proposals should include a task dedicated to sharing methodologies and findings with similar recent or ongoing projects, e.g., MIDAS and MarginUp funded under the topic HORIZON-CL6-2022-CIRCBIO-01-02-Marginal lands and climate-resilient and biodiversity-friendly crops for sustainable industrial feedstocks and related value chains.

Multi-actor approach and international cooperation, especially with Latin–America and the Caribbean, are encouraged.

HORIZON-CL6-2025-01-ZEROPOLLUTION-03: Environmental biotechnology applications in service of remediation of polluted ecosystems

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 4.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

Indicative budget	The total indicative budget for the topic is EUR 8.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding.
Technology Readiness Level	Activities are expected to achieve TRL 5 by the end of the project – see General Annex B. Activities may start at any TRL.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [189].

Expected Outcome: In line with the zero pollution action plan, successful proposals will address the remediation of polluted ecosystems through bio-based and nature-based solutions and ecosystem-based adaptation to climate change, in accordance with the European Climate Law.

Project results are expected to contribute to all the following expected outcomes:

- engage public authorities, scientists and operators in the protection and restoration of ecosystems through bio-based and nature-based solutions;
- integrate in local, regional and national plans and strategies for ecosystems restoration, bio-based and nature-based solutions able to remediate degraded soil, sediment, surface water and groundwater affected by pollutants and threats such as salinization, and improve their resilience to climate change and/or their capacity to reduce greenhouse gases emissions/increase carbon removals;
- take advantage of innovative tools enabled by digital innovation, including AI, for the remediation of pollution in emergency conditions.

Scope: Degradation of soil, sediment and water due to anthropogenic causes may result from continuous exposure to pollution and/or unsustainable exploitation, but also from sudden accidents. Degradation may be exacerbated by negative effects of climate change or other

[189] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

threats (e.g., heat waves, fires, floods and landslides, soil/coastal erosion, ocean acidification, etc.). Moreover, in case both the exposure of soil, sediment and water to degrading factors and their vulnerability are high, whereas their resilience is low, the degradation may take the dimension of a disaster. The scope of this topic is the remediation of contaminated soil, sediment and water from pollutants, such as hazardous chemicals, pharmaceutical and waste, including litter and plastics, and their further restoration, including in case of accidents and disasters driven by anthropogenic activities and extreme climate and environmental events. The results from projects funded under this topic will contribute to one of the restoration measures included in the Nature Restoration Regulation to (Annex VII, point (32) *Stop, reduce or remediate pollution from pharmaceuticals, hazardous chemicals, urban and industrial wastewater, and other waste including litter and plastics as well as light in all ecosystems*). Project results will also help Member States to implement national adaptation strategies that promote nature-based solutions and ecosystem-based adaptation to climate change, in accordance with the European Climate Law.

Proposals should:

- select and analyse a set of case-studies of degraded soil, sediment and water affected by pollution and contaminants in the EU and Associated Countries. This could include cases where the degradation is exacerbated by climate change or biodiversity loss or other natural events or anthropogenic forcings;

- include a task in the project to develop bio-based solutions for the environmental remediation of the degraded soil, sediment and water in the selected case-studies, driven by biotechnology applications, and the integration of such bio-based solutions with nature-based solutions. The task should include the assessment of the alignment with the precautionary principle, environmental sustainability and efficiency of the developed solutions in remediating soil, sediment and water, also addressing biodiversity loss and the functional state of the ecosystems. Moreover, it should evaluate the improvement of resilience to the impacts of climate change on the affected ecosystems, due to the applications of the developed solutions;

- include a task in the project on the development of models enabled by digital innovation, including based on artificial intelligence, for the optimization of remediation approaches, also in case of emergency facing disaster sand extreme climate and environmental events like fires, droughts, floods, etc.;

- identify and assess the economic, social and safety risks and benefits of the remediation activities in the selected case-studies, in particular in terms of circular economy and of the reduction of the risks for human health resulting from exposure to the contaminants (e.g., vulnerable populations, integrating the gender dimension). The risk reduction should take into consideration the bioavailability and mobility of the contaminants, including heavy metals, other metals (e.g., the ones used in electronic devices, Li, REE, etc.), plastics and organic chemicals (i.e., PFAS, PAHs, pesticides, etc.);

- include a task in the project to deliver the overall environmental, economic, social and safety risk assessment for the developed integrated bio-based and nature-based solutions.

Proposals should include a task dedicated to sharing methodologies and findings with all projects funded under this topic and with similar recent or ongoing projects, e.g., those funded under the topic HORIZON-CL6-2021-ZEROPOLLUTION-01-10: Environmental services: improved bioremediation and revitalization strategies for soil, sediments and water, or under the topic HORIZON-CL6-2023-ZEROPOLLUTION-01-6: Biosensors and user-friendly diagnostic tools for environmental services.

Integrating Citizen Science in research approach is encouraged to contribute to the selection and analysis of case-studies of degraded ecosystems. This topic requires the effective contribution of SSH disciplines, including citizen social science approach and gender studies, especially for the risk assessment on human health. Multi-actor approach and international cooperation are encouraged.

The JRC may contribute with its expertise related to chemical pollutants in the environment and bio-based approaches, as well as to the interface between the research activities and regulatory aspects.

HORIZON-CL6-2025-01-ZEROPOLLUTION-04: Towards a comprehensive European strategy to assess and monitor aquatic litter including plastic and microplastic pollution

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 6.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the

	Research and Training Programme of the European Atomic Energy Community (2021-2025). [190].

Expected Outcome: In line with the European Green Deal, notably the EU zero pollution action plan, a successful proposal will contribute to the impacts of this Destination related to addressing pollution for a healthier ocean, seas and waters.

Project results are expected to contribute to all of the following expected outcomes:

- harmonised and coordinated approaches across the EU for monitoring aquatic litter in European freshwater and marine environments;
- improved knowledge and FAIR data enabling a comprehensive assessment of litter sources, pathways, degradation, spatial distribution including on the seabed and sediment, hotspots and areas of accumulation as well as the resulting risks for aquatic biodiversity at EU scale and at basin level;
- implementation of optimised, validated, harmonised, cost-effective, and pan-European monitoring strategies for freshwater, coastal and marine environments, which are taken up by relevant environmental authorities in the EU;
- strengthened cooperation between scientific institutions and relevant environmental authorities responsible for monitoring pollution in freshwater and marine environments at EU and national level, fostering competence in monitoring aquatic litter in the EU;
- implementation of related EU policies, in particular baselines, threshold-setting and identification of changes in levels of plastic litter and microplastics in freshwaters as well as all coastal and marine compartments under the MSFD.

Scope: The monitoring and assessment of litter including plastic, microplastic and nanoplastic pollution in Europe's marine and freshwater environment remains fragmented and diverse, although progress has been made under the Marine Strategy Framework Directive (MSFD) for monitoring quantities and impacts of marine litter and harmonised guidance for monitoring has been produced[191]. However, large discrepancies between countries, marine regions, litter types and environmental compartments can still be observed and large data and knowledge gaps persist on the sources, pathways, distribution and concentrations of litter in marine and freshwater, which are impeding comprehensive assessments of the extent of litter pollution including microplastics in EU waters. Different approaches for assessing and monitoring litter pollution in freshwater and marine environments are further hindering such assessments.

190 This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

191 JRC Publications Repository - Guidance on the monitoring of marine litter in European seas (europa.eu).

Despite the large amount of literature and recent scientific advancements to develop reliable and harmonised analytical research methodologies, guidance, protocols and reference materials, pan-European approaches and strategies that set out what to measure, where to measure, when to measure and how to measure are missing.

Actions should in particular inform monitoring and assessments, including threshold setting, under the Marine Strategy Framework Directive and more broadly support its implementation, the implementation of the Water Framework Directive, the zero pollution action plan, the evaluation and possible revision of the Single Use Plastics Directive as well as EU initiatives on microplastics (such as under REACH and reduction of plastic pellets releases). Actions will also contribute to the planned Global Agreement to End Plastic Pollution and the UN Decade of Ocean Science for Sustainable Development.

Proposals should demonstrate how they will contribute significantly at EU level to all of the following:

- enhance data acquisition, quality assurance and quality control approaches, and effective use of available data from source-to-sea including lake, riverine, groundwater, coastline, sea surface and seabed monitoring of (plastic) litter including (different types of) microplastics, making use of diverse data sources (incl. data collected by citizen science initiatives) and new technologies to improve quantitative knowledge on pollution sources, pathways, spatial distribution and accumulation zones, including on the seabed, leakage and transport at EU scale and at basin level;

- develop scientific approaches as well as environmentally relevant reference materials and matrices needed to design harmonised methods for detecting, identifying, classifying, and quantifying plastic and microplastic pollution in realistic conditions, which will enable a comprehensive assessment of the exposure of aquatic biodiversity to litter;

- improve tools and methodologies for efficient and where possible autonomous sampling, developing rapid and reliable analytical methods and imaging techniques for seabed macro litter and monitoring of microplastic pollution to address policy needs;

- develop analytical methods for detecting, characterising and monitoring nanoplastic particles in aquatic environments;

- develop, improve and implement fit-for-purpose, optimised, validated, harmonised and cost-effective monitoring strategies for freshwater, coastal and marine environments and collaborative data collection across borders, which need to be implemented on a sufficient scale to assess the problem;

- enable the uptake of monitoring data in large scale databases (e.g. the European Marine Observation and Data Network (EMODnet) and the European Digital Twin of the Ocean) following FAIR principles, to ensure public data accessibility and use and foster a comprehensive assessments of litter pollution at European level.

The action is expected to build on the work and engage with the Technical Group on Marine Litter under the Marine Strategy Framework Directive, which is co-led by the JRC. It should build on the outcomes and establish links with relevant projects, including projects funded under the EU Mission Restore our Ocean and Waters and its Mediterranean lighthouse (e.g. the projects PlasticPirates – Go Europe! [192], UPSTREAM [193], INSPIRE [194] and topic HORIZON-MISS-2025-03-OCEAN-02: A toolbox for public authorities to address marine plastics and litter from river-to-ocean), the EUROqCHARM [195] project and JPI Oceans microplastics projects.

The action should also contribute to regional and global efforts on monitoring plastic pollution in the ocean and waters, by building links with activities of relevant regional seas conventions, the International Council for the Exploration of the Sea (ICES) and contributing to the UN Decade of Ocean Science for Sustainable Development. Proposals should also build on and contribute to the GEO Blue Planet initiative and the Integrated Marine Debris Observing System (IMDOS) in cooperation with GOOS and UNEP. Proposals are encouraged to liaise with and consider the services offered by, where relevant, European research infrastructures[196].

International cooperation is encouraged, including with All-Atlantic Ocean Research and Innovation Alliance partner countries. This topic is part of a coordination initiative between ESA and the European Commission on Earth System Science. The EC-ESA Earth System Science Initiative enables EC and ESA to support complementary collaborative projects funded on the EC side through Horizon Europe and on the ESA side through the FutureEO programme.

HORIZON-CL6-2025-01-ZEROPOLLUTION-05: EU-India cooperation on cumulative impacts of marine pollution on marine organisms and ecosystems

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Research and Innovation Actions

192 https://cordis.europa.eu/project/id/101088822
193 https://cordis.europa.eu/project/id/101112877
194 https://cordis.europa.eu/project/id/101112879
195 https://cordis.europa.eu/project/id/101003805
196 The catalogue of European Strategy Forum on Research Infrastructures (ESFRI) research infrastructures portfolio can be browsed from ESFRI website https://ri-portfolio.esfri.eu/

Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: Due to the scope of this topic, consortia must include as associated partner(s) at least one legal entity established in India; Legal entities established in India can only participate as associated partners.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [197].

Expected Outcome: In line with the European Green Deal, notably the EU zero pollution action plan, a successful proposal will contribute to the impacts of this Destination related to addressing pollution for a healthier ocean, seas and waters.

Project results are expected to contribute to all of the following expected outcomes:

- improved scientific understanding of the interplay of different pollutants, their 'cocktail effect' and degradation pathways, on marine organisms and ecosystems;
- improved understanding of the risks and cumulative impacts of different forms of pollutants for the health of marine organisms and ecosystems and ultimately human health;
- policy-makers gain a better understanding of the interplay of the triple planetary crises of climate change, biodiversity loss and pollution on marine life;
- reinforced cooperation between EU and Indian research and innovation communities on marine litter and its effects, including cumulative effects with other forms of pollution.

Scope: Marine pollutants cause harmful effects on marine species and wildlife, serious negative impacts on the structure and functioning of ecosystems, the goods and services they provide, and ultimately on human health, wellbeing and prosperity.

While there have been significant advances in understanding the effects of individual pollutants on marine life, the cumulative effects of different marine pollutants, including persistent organic pollutants (POPs), pharmaceuticals, per- and polyfluoroalkyl substances (PFAS), heavy metals and trace elements, micro- and nano plastics, nanomaterials,

[197] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

biodegradable products, microbiological contaminants, pesticides, fertilisers and nutrients, and the associated risks for marine life are not fully understood. The interplay of climate change (and the resulting effects of a warming and more acidic ocean) with pollutants including actual and predicted changes in their bioavailability, toxicity and water quality, need to be further examined including (gender-specific) implications for human health following a 'One-Health'[198] approach.

R&I in this area is therefore expected to support the implementation of the Marine Strategy Framework Directive, in particular the assessments of the adverse effects of pollutants, including cumulative effects, on the health of species and habitats in line with Commission Decision (EU) 2017/848, the Water Framework Directive, the zero pollution action plan, the objectives of protecting and restoring ecosystems of the EU biodiversity strategy for 2030 and of the EU Nature Restoration Regulation, the evaluation and possible revision of the Single Use Plastics Directive, the planned Global Agreement to End Plastic Pollution and contribute to the UN Decade of Ocean Science for Sustainable Development.

Marine litter and marine plastic pollution is a particularly pervasive global problem, with particularly high concentrations observed in European seas as well in Southeast Asia. R&I in this area have thus been identified as a priority by the EU-India Trade and Technology Council's Working Group on Green and Clean Energy Technology to reinforce bilateral cooperation.

Proposals should demonstrate how they will contribute significantly to:

- develop new analytical tools, methods and sensors for the screening, detection, identification and monitoring of different pollutants in the marine environment such as persistent organic pollutants (POPs), pharmaceuticals, per- and polyfluoroalkyl substances (PFAS), heavy metals and micro- and nano plastics including their degradation products, microbiological contaminants, pesticides, fertilisers and nutrients;

- advance assessments of the risks in real conditions, accumulation, exposure (incl. low-level) and ecotoxicological effects (e.g., on endocrine systems, fertility, metabolism, neurological development and behaviour, growth as well as genetic and physiological changes) of these pollutants on marine organisms and (vulnerable) populations including seabed habitats, benthic communities, endangered species and species for human consumption, incl. risks associated with effects such as harmful algal blooms;

- analyse the cumulative impacts of a combination of different pollutants ('cocktail effect'), their degradation pathways in ecosystems and organisms, and their interplay with climate change such as changes in bioavailability, toxicity and water quality on marine organisms and populations;

- assess bioaccumulation and biomagnification processes of pollutants in the marine food chain including in seafood and implications for human health including and variations in effects on e.g., different sexes or age groups.

198 One Health - European Commission (europa.eu)

Proposals should build on the outcomes and establish links with relevant projects, including those funded under the EU Mission Restore our Ocean and Waters and its Mediterranean lighthouse, and the topic HORIZON-CL6-2025-02-CLIMATE-02: The ocean-climate-biodiversity-people nexus: uncovering safe operating space for safeguarding the integrity and health of the global ocean and relevant JPI Oceans projects. Proposals are encouraged to liaise with and consider the services offered by, where relevant, European research infrastructures[199].

This topic is within the scope of the EU-India Strategic Partnership and the EU-India Trade and Technology Council in relation to marine litter. For the purposes of this topic, the Ministry of Earth Sciences of the Government of India has made the required co-funding available for associated partners in selected projects.

HORIZON-CL6-2025-01-ZEROPOLLUTION-06: Provide digital solutions tailored to small and medium-sized farms to monitor and sustainably manage agricultural inputs and natural resources

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 8.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 8.00 million.
Type of Action	Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part. If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used).
Technology Readiness Level	Activities are expected to achieve TRL 7-8 by the end of the project – see General Annex B.
Legal and financial	The rules are described in General Annex G. The following

[199] The catalogue of European Strategy Forum on Research Infrastructures (ESFRI) research infrastructures portfolio can be browsed from ESFRI website https://ri-portfolio.esfri.eu/

set-up of the Grant Agreements	exceptions apply: Beneficiaries may provide financial support to third parties. The support to third parties can only be provided in the form of grants. The maximum amount to be granted to each third party is EUR 60 000[200].

Expected Outcome: In line with the common agricultural policy objectives, the European Green Deal and the headline ambitions of a digital age and economy that work for people, leaving no one behind, more specifically the zero pollution action plan for air, water and soil, the EU biodiversity strategy for 2030, the Climate Law and the climate adaptation strategy, the successful proposal will improve the capacities of small- and medium-sized farms to manage agricultural inputs and natural resources through the uptake of tailored digital tools making use of data technologies, including generative AI. In that way, the proposal should encourage farming systems to prevent and reduce pollution in water, air and soil, increase the use efficiency of natural resources, reduce the impact of climate change, and empower farmers to take informed decisions on agricultural inputs and natural resources for environmental and economic sustainability, as described for this destination.

Project results are expected to contribute to all of the following expected outcomes:

- small- and medium-sized farmers are empowered with innovative digital and data-driven solutions tailored to their specific needs, allowing for the sustainable management of water, nutrients, other inputs and natural resources in conventional and other types of agriculture, including organic farming systems;
- the digital divide between farms with differing capacities and characteristics is reduced.

Scope: A key challenge for the agricultural sector is to provide food in a context of increasing global population, climate change and price volatility while reducing pollution and preserving natural resources and biodiversity for future generations. Farmers should be able to adopt innovative solutions to increase the efficiency and competitiveness of the farming sector while lowering its environmental footprint. However, still many farmers, particularly small- and medium-sized ones, do not have easy access to monitoring and decision support systems and tools fed with data reflecting local conditions and farm characteristics.

Digital and data technologies offer solutions to monitor environmental parameters (e.g. soil conditions, water and air quality, nutrients content and availability) in a cost-efficient manner while supporting decision-making of natural resources and inputs management.

Proposals should:

- critically analyse the potential and limitations of R&I results from relevant past and ongoing projects, and the requirements of further development to meet farmers' needs

[200] However, if the objectives of the action would otherwise be impossible or overly difficult (and duly justified in the proposal) the maximum amount may be higher

(including a cost-benefit analysis), made available to industrial partners (including SMEs) that provide technological solutions to farmers to monitor and manage natural resources and agricultural inputs. This should be in the form of a structured catalogue of these results relevant to the topic such as new sensors, software, databases, applications, methodologies, algorithms, etc. (non-exhaustive list), and covering different farming systems/approaches, including organic farming;

- identify barriers and enablers for translation of R&I results into practical and commercial tools for small- and medium-sized farmers, and for the uptake by these end-users, as well as characterise remaining knowledge, training and/or advice gaps, and needs for policy feedback;

- design and set up an accessible and searchable web-based database with technical descriptions and relevant information of all the available results from the catalogue in a structured way, making concrete efforts to follow the FAIR principles;

- set up a central brokerage and support service point aimed at matching innovation ideas from industrial partners that want to improve or create new products or services with the needs of small- and medium-sized farmers. These developments include, for example, increasing the number of measured parameters on existing devices, improving precision, automation, integration of systems and decision-making tools considering the diverse pedo-climatic, cropping and social conditions across the EU and Associated Countries while checking also the transferability to other regions with similar characteristics. The service should be free of charge for the industrial partners;

- establish a network of research and innovation providers and intermediaries with capacity to support the industrial partners to identify and develop the newly adapted solutions;

- provide innovations based on digital and data-based solutions (e.g. IoT, remote sensing, sensors, (generative) artificial intelligence, data visualization techniques) and tailored to the needs of small- and medium-sized farmers, carefully considering the specific barriers and enablers for adoption in each context (e.g. skills of end users, access to and understanding of digital tools, availability of local data, investment need, connectivity, gender role perceptions and expectations, diverse pedo-climatic and socio-economic conditions across the EU and Associated Countries, etc.) and proposing how to overcome these difficulties and foster the enablers;

- develop prototypes of the innovations and test them in an operational environment;

- set up a community of practice to facilitate science-business exchanges and to share experiences across the EU and Associated Countries. Complementarities with European and national AKIS knowledge channels or similar should be explored;

- propose a clear strategy to disseminate and exploit results, innovations and best practices during and beyond the project lifetime;

- monitor progress of the different innovations delivered by the supported third parties, taking stock of good practices and contribution to the achievement of the objectives of the topic.

Proposals should implement the multi-actor approach, involving at least scientists, private companies, innovators, advisors and farmers to ensure a functional and effective product which is tailored to the farmers' needs.

Proposals should provide financial support to third parties to help private partners to develop those innovative products primarily building on the technologies identified in the catalogue. It is expected that minimum 50% and maximum 65% of the EU funding should be allocated to this purpose. Consortia need to define a selection process for the industrial partners for which financial support may be granted. The provision of training (including technical guidelines and ad-hoc materials) and support services to farmers and advisers should be considered as a criterion to grant financial support to these third parties.

This topic should involve the effective contribution of social sciences and humanities (SSH) disciplines, especially in the field of behavioural sciences and adoption of technologies.

HORIZON-CL6-2025-01-ZEROPOLLUTION-07: Reducing pollution from the food and drink industries

Call: Cluster 6 Call 01 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.
Technology Readiness Level	Activities are expected to achieve TRL 6-7 by the end of the project – see General Annex B. Activities may start at any TRL.

Expected Outcome: In line with the European Green Deal priorities, the zero pollution action plan, chemical strategy for sustainability, farm to fork strategy for a fair, healthy and environment-friendly food system, the biodiversity strategy for 2030, notably its objective of

reducing pollution, and the EU's climate ambition for 2030 and 2050, the successful proposal will support R&I to reduce pollution coming from food systems (and eventually stop it). This will contribute to the transformation of food systems to deliver co-benefits for climate (mitigation and adaptation), biodiversity, environmental sustainability and circularity, sustainable healthy nutrition and safe food, food poverty reduction, empowerment of communities, and thriving businesses.

Project results are expected to contribute to all of the following expected outcomes:

- better understanding of the pollution coming from the food and drink industry;
- all food and drink industries have methods at their disposal to measure their pollutants emissions and to reduce them from the source;
- contribution to the food 2030 priorities: nutrition for sustainable healthy diets, climate, biodiversity and environment, circularity and resource efficiency, innovation and empowering communities.

Scope: Food systems, on the one hand, are a source of pollution and, on the other hand, suffer from the consequences of pollution. Moving towards zero pollution food systems can therefore contribute to building the resilience of food systems and the natural ecosystems on which they depend. Contaminants have been accumulating in food products, whether due to food being in contact with specific materials at various stages of the food supply chain, such as food processing plants, packaging, or in agriculture with contaminated soils, air and water.

In the context of the Industrial and Livestock Rearing Emissions Directive and the relevant Best Available Techniques (BAT) conclusions for the food, drink and milk industries, some data are already available. However, there are currently several knowledge gaps when it comes to emerging and/or less known pollutants, and their cocktail effects on the environment and human health.

Some activities of the food and drink industries can lead to soil, water and air pollution, which can, in turn, adversely affect food safety, biodiversity and human health. This pollution can take many forms: plastics (including micro- and nano-plastics), food packaging, persistent chemicals, light, noise, odour, etc. There are significant regional differences in the impact of environmental pollution, depending on the type of pollutant. While European and national strategies remain important to reducing pollution, international cooperation is key to ensure that efficient and impactful measures are put in place to protect our oceans and inland waters, ecosystems, biodiversity and health.

The proposals are expected to:

- focus on food and drink industries' processes and on pollutants (including emerging pollutants) typically coming from these industries;
- develop analytical methods, e.g. using the Environmental Footprint method, to measure pollutants and studying/mapping the pollutants coming from food and drink industries

that are not covered in the Best Available Techniques (BAT) conclusions for the food, drink and milk industries and how they interact with each other (mixture of pollutants);

- propose monitoring/tracking methods for pollutants coming from food and drink industries, focusing on less-known and emerging pollutants specific for food and drink industries and taking into account the diversity of these industries;
- identify the most effective methods/best available technologies to reduce food-system-related pollution (in soil, water and air) from food and drink industries, focusing on the most relevant/prominent pollutants (the ultimate objective being to eventually stop pollution);
- develop activities for empowering consumers (e.g. communication, awareness raising);
- develop activities for ensuring adequate involvement of researchers, national agencies/authorities and laboratories, as well as food and drink industry (incl. strategic innovation platforms and federations).

This topic contributes to the European Green Deal priorities, the zero pollution action plan, chemical strategy for sustainability, farm to fork strategy for a fair, healthy and environment-friendly food system, the biodiversity strategy for 2030, notably its objective of reducing pollution, and the EU's climate ambition for 2030 and 2050. The successful proposal will contribute to the transformation of food systems to deliver co-benefits for climate (mitigation and adaptation), biodiversity, environmental sustainability and circularity, sustainable healthy nutrition and safe food, food poverty reduction, empowerment of communities, and thriving businesses.

For any activities on depollution to achieve zero pollution in large industrial installations and contribute to the climate ambition, please refer to the Innovation Centre for Industrial Transformation and Emissions (INCITE) (https://innovation-centre-for-industrial-transformation.ec.europa.eu/).

Proposals must implement the multi-actor approach by involving a wide range of food system actors and conducting multi-disciplinary research (including on environmental science and biodiversity). International cooperation is strongly encouraged.

Where relevant, activities should build and expand on the results of past and ongoing research projects. Projects should have a clear plan as to how they will collaborate with other projects selected under this topic and any other relevant topic or relevant EU partnerships. They should participate in joint activities, workshops, focus groups or social labs, and common communication and dissemination activities, and show potential for upscaling. Applicants should plan the necessary budget to cover these activities.

HORIZON-CL6-2025-01-ZEROPOLLUTION-01-two-stage: Substances of concern and emerging pollutants from bio-based industries and products: mapping and replacement

Call: Cluster 6 Call 01 - two stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 5.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 10.00 million.
Type of Action	Innovation Actions
Admissibility conditions	The conditions are described in General Annex A. The following exceptions apply: Applicants submitting a proposal under the blind evaluation pilot (see General Annex F) must not disclose their organisation names, acronyms, logos nor names of personnel in the proposal abstract and Part B of their first-stage application (see General Annex E).
Technology Readiness Level	Activities are expected to achieve TRL 6-7 by the end of the project – see General Annex B. Activities may start at any TRL.
Procedure	The procedure is described in General Annex F. The following exceptions apply: This topic is part of the blind evaluation pilot under which first stage proposals will be evaluated blindly.

Expected Outcome: In line with the chemical strategy for sustainability and the revision of the Industrial Emissions Directive, successful proposals will support the deployment of safe and sustainable by design bio-based industries and products, contributing to the de-fossilization and to the climate neutrality of EU industrial systems in a sustainable way.

Project results are expected to contribute to all of the following expected outcomes:

- stakeholders of bio-based value chains, including in public procurement, researcher centres, industries, public administrations, final consumers, etc., gain awareness on the releases of hazardous substances, emerging pollutants and substances which are persistent and liable to bio-accumulate in ecosystems from bio-based industrial processes and from bio-based products;

- bio-based industries operators and customers improve their knowledge and use of safe and sustainable bio-based alternatives replacing hazardous substances, to achieve healthier air, water and soil.

Scope: Preventing hazardous emissions at source is key to reach the 2030 pollution reduction targets, including substances of concern, very high concern and emerging pollutants (e.g., PFAS and endocrine disrupting chemicals) as defined in relevant pieces of legislation (e.g., REACH, ESPR, Batteries regulation). Bio-based innovative solutions, also in line with the recent initiative on biotechnology and biomanufacturing and the industrial carbon management strategy, should be designed to provide the solutions to replace hazardous substances in industrial assets and in final products and materials. Bio-based materials and products within the scope of this topic do not include food/feed, biofuels and bioenergy.

The proposals should:

- track presence of substances of very high concern and of concern, emerging pollutants and substances which are persistent and liable to bio-accumulate in ecosystems emitted from a selection of bio-based materials and products. This includes substances released in all the life phases of bio-based materials and products, during their use and their end-of-life. Evaluate the exposure of targeted end users to the substances, including integrating the gender dimension (sex and gender analysis) and vulnerable groups;

- include a task for the project to perform a full risk assessment of the substances emitted from the selected bio-based materials and products, also assessing the impacts on affected ecosystems and the risk for biodiversity loss;

- track presence of substances of very high concern and of concern, emerging pollutants and substances which are persistent and liable to bio-accumulate in ecosystems, emitted from a selection of industrial bio-based systems;

- include a task for the project to identify and improve a set of bio-based safe and sustainable by design (Commission Recommendation (EU) 2022/25) and circular solutions, to replace hazardous substances and to increase the resources efficiency, both at the level of industrial processes and in final materials and products selected under the first and the third bullet points of this scope. The number of bio-based solutions provided is not pre-defined. The task should include the assessment of the reduction of substances of concern and emerging pollutants, derived from the substitution;

- describe the collection of recommendations and best practices to replace substances of concern with safe and sustainable by design bio-based alternatives.

Proposals should include a task dedicated to sharing methodologies and findings with all projects funded within this topic. Moreover, the projects should collect and analyse the outcomes from past and ongoing projects under EU programmes, including the Circular Bio-based Europe Joint Undertaking, addressing the challenges in the scope of this topic.

For depollution to achieve zero pollution in large industrial installations, please refer to the Innovation Centre for Industrial Transformation and Emissions (INCITE) (https://innovation-centre-for-industrial-transformation.ec.europa.eu/).

Citizen Science is encouraged as a research approach for this topic. Citizen science activities should be conducted with the guidance and in close co-operation with researchers. This topic requires the effective contribution of SSH disciplines, including citizen social science and gender studies, especially in the task on risk assessment.

Multi-actor approach and international cooperation are encouraged.

Destination - Land, ocean and water for climate action

R&I under Destination "Land, ocean and water for climate action" will deliver mainly under Key Strategic Orientation (KSO) 1 of Horizon Europe Strategic Plan 2025-2027: Green transition. It will also deliver under KSO 2: Digital Transition and KSO 3: A more resilient, competitive, inclusive and democratic Europe.

This Destination is expected to support the implementation of the European Ocean Pact, foster mitigation of and adaptation to climate change on land, in the ocean and water, and therefore helps Cluster 6 to support the ambition of Europe becoming the first climate-neutral and climate-resilient continent by 2050, in line with the European Green Deal and the new Commission priority on "Sustaining our quality of life: food security, water and nature". Actions under this Destination will support the implementation of the European Climate Law, the amended Regulation on land use, land use change and forestry (LULUCF) and the amended Effort Sharing Regulation, which establishes binding annual greenhouse gas emission targets for Member States in sectors which include agriculture.

In continuation with the orientations of previous Cluster 6 Work Programmes, and in line with the Horizon Europe Strategic Plan 2025-2027, R&I actions under this Destination for Work Programme 2025 will be aligned with the Communications on sustainable carbon cycles and with the EU 2040 climate target. They will also support the implementation of the proposed Regulation establishing a Union certification framework for carbon removals and will deliver on climate adaptation in line with the EU strategy on adaptation to climate change. R&I activities in the areas of agriculture and forestry under this Destination will contribute to the implementation of the EU methane strategy, the EU forest strategy for 2030 as well as the proposal for an EU Forest Monitoring Law and will be in line with the EU Marine Strategy Framework Directive when they affect the marine environment.

R&I actions under this Destination will encourage international cooperation and help achieve international commitments concerning land, water and ocean, notably the goals of the Paris Agreement on climate change, the Kunming-Montreal Global Biodiversity Framework and the High Seas Treaty (BBNJ). The destination will support the implementation of the European Ocean Pact and the objectives of the joint communication on the EU Arctic policy, by fostering regional and international initiatives.

Strengthening the climate-ocean-cryosphere-polar science nexus will continue to be a priority for the EU, as well as the integrity and resilience of the ocean and polar regions as vulnerable parts of the Earth system. R&I will support and close key knowledge gaps through research that contributes substantially to the implementation of key international treaties and the work of various international bodies, assessments and other initiatives (such as BBNJ, the Intergovernmental Panel on Climate Change (IPCC), World Ocean Assessment (WOA), UNFCCC Ocean-Climate Dialogue, United Nations Decade of Ocean Science for Sustainable Development and the United Nations Decade for Ecosystem Restoration, the potential International/Intergovernmental Panel for Ocean Sustainability (IPOS), the WMO Greenhouse Gas Watch (G3W), and the work of the Arctic Council).

The Destination will also support the water related targets of the European Green Deal and ensure water resilience with a view of reinforcing society's ability to sustainably secure the availability and affordability of clean water despite the current uncertainty on long-term trends and the increased variability of water availability. This requires adapting our water facilities, our water use and water management to changing economic, societal and environmental factors including climate change. R&I will be necessary to ensure in particular that key innovative approaches, solutions and technologies developed by EU funded projects, are successfully and fairly taken up by policy makers, water managers and water consuming economic sectors. The announced European water resilience strategy and European climate adaptation plan will be supported.

Proposals for topics under this destination should set out a credible pathway contributing to "**fostering mitigation of and adaptation to climate change in areas and sectors covered by Cluster 6"**, and more specifically to one or more of the following impacts:

- better understood short-, medium- and long-term ocean health and integrity at different emission scenarios, under the pressure of current and emerging threats, including ocean climate interventions, and the passing of planetary boundaries for ocean acidification;
- medium and longer-term risks and opportunities for agriculture and forestry from climate change, in particular from shifting climatic zones, are better understood and managed at relevant scales within Europe and in the international context, mitigating hazardous changes where possible;
- greenhouse gas emissions in the agriculture, forestry and land-use sectors are further reduced, while monitoring, reporting and verification of the emissions is improved;
- adaptation and mitigation of water systems in the context of climate change are fostered to help build a water resilient society and environment.

To maximise the impacts of R&I under this Destination, a systemic multidisciplinary approach, strong international cooperation as well as the integration of indigenous and local knowledge need to be ensured. Social innovation also needs to be encouraged to involve all stakeholders, with a view to triggering the ownership of new practices and the uptake of solutions.

R&I under the destination will be complementary with activities of the Mission "Adaptation to climate change", the Mission "Restore our ocean and waters by 2030" (in particular with the establishment of the Digital Twin of the Ocean) and the Mission "A Soil Deal for Europe". Synergies will also be established with European partnerships (e.g., Sustainable Blue Economy Partnership, Agroecology and the upcoming European Partnership on Agriculture of Data), PRIMA (amended EC proposal extending the duration of the partnership by three years, i.e., 2025-2027), and with Destination Earth and its Digital Twins (Climate Adaptation, Extremes). Synergies and complementarities with Cluster 5 (Climate, Energy and Mobility) on climate science will also be ensured. Digital technologies, such as AI, robotics,

5G, cloud computing as well as Earth Observation, will be exploited in the activities given their enabling role and potential contribution to the objectives of the cluster.

The Destination will ensure a balance in terms of lower and higher Technological Readiness Levels (TRLs). R&I actions will take advantage of, contribute to, coordinate with, and involve relevant Copernicus services.

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-02-CLIMATE-01: The ocean-climate-biodiversity nexus and marine carbon dioxide removal (mCDR)

Call: Cluster 6 Call 02 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: All international organisations are exceptionally eligible for funding. If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used).
Procedure	The procedure is described in General Annex F. The following exceptions apply: The evaluation committee will be composed partially by representatives of EU institutions. To ensure a balanced portfolio covering the topic, grants will be awarded to applications not only in order of ranking but at least also to those that are the highest ranked within each of the two options (A, B) set under ‘scope’, provided that the proposals attain all thresholds.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions

	under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025) [201].

Expected Outcome: In line with the European and global biodiversity and climate objectives, successful proposals should further the European efforts in achieving both climate–neutrality and ocean sustainability by improving the scientific understanding of ocean climate interventions and their short, medium and long term effects, impacts and risks, and developing monitoring and response measures guided by the precautionary principle and supporting decision-making at regional, European and global levels.

Project results are expected to contribute to several of the following expected outcomes:

- advanced knowledge on scientific aspects, environmental, legal, socio-political and governance considerations for Ocean Alkalinity Enhancement (OAE);
- advanced modelling, monitoring and simulation capabilities (including AI methods and tools) needed for the monitoring, reporting and verification of marine carbon dioxide removal (mCDR) and further improved Earth System Models (ESMs), including the Carbon Dioxide Removal Model Intercomparison Project (CDRMIP);
- enabled evidence-based European and global decision–making on mCDR, sustained European leadership in ocean–climate–biodiversity science nexus, and significant contribution to global scientific assessments.

Scope: Environmentally safe, socially acceptable, and economically viable carbon dioxide removal (CDR) is needed to support the realisation of European and worldwide climate policies. There is considerable uncertainty regarding scalability and the short, medium and long-term effectiveness and impacts on marine ecosystems and human health. Mindful of the precautionary approach, legitimate, responsible, multi and trans-disciplinary, transparent, and inclusive scientific research to evaluate mCDR techniques is urgently needed.

The London Protocol also calls for certain activities other than legitimate scientific research to be deferred (LC 45/LP 18[202]). The Convention on Biological Diversity (CBD[203]) recognizes the importance of biodiversity in the context of climate-related geoengineering. Decision X/33 of the CBD[204] emphasizes the need for a cautious approach, specifying that no climate-related geoengineering activities that may affect biodiversity should take place until there is an adequate scientific basis to justify such activities and that small-scale scientific research

201 This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

202 45th Consultative Meeting of Contracting Parties to the London Convention and the 18th Meeting of Contracting Parties to the London Protocol (LC 45/LP 18) (imo.org)

203 XI/20. Climate-related geoengineering (cbd.int)

204 Microsoft Word - COP 10 Decision X (cdrlaw.org)

studies are allowed if conducted in controlled settings and justified by the need for specific scientific data. The CBD also requests the compilation of scientific information on the impacts of geoengineering on biodiversity and the study of gaps in existing mechanisms.

Whether the ocean has a potential to help achieve the required extent of additional carbon dioxide removal (beyond the ocean sink driven by increasing atmospheric CO2 concentrations), while maintaining its integrity and health, requires further research.

Among the greatest challenges associated with mCDR technologies is the ability to measure, monitor and verify the amount of additional carbon removed over time, and to assess the environmental effects of the mCDR technology. This is particularly challenging in the ocean environment, an open system with high inertia, globally connected food-webs and high difference in life traits of species in marine life assemblages, for which safety margins need to be considered, and when considering scale up of these technologies would likely require significant additions in hydrodynamically optimum sites, potentially leading to overlaps with repeated, cumulative and/or transboundary exposures and impacts.

Principled ocean CDR research must be precautionary, inclusive, and well-planned, conducted with a view to ensure these technologies are effective, without harming the environment and people. The research conducted under the topic is to be grounded in the Guide to Best Practices in Ocean Alkalinity Enhancement Research[205].

The topic is guided by a focus on integrated climate stabilization and biosphere stewardship for the resilience of the entire Earth system. From this perspective, a comprehensive approach to climate and biosphere stewardship is needed, as well as considering all the sustainability dimensions to guide future decisions.

Actions should aim at developing innovative approaches to address only one of the following options:

Option A: Ocean Alkalinity Enhancement (OAE): biogeochemical and physiological responses and impacts on marine ecosystems

The project is expected to:

- elucidate many unknowns that remain about the efficacy, effectiveness, feasibility, covering both technological readiness and lead time until full potential effectiveness, effectiveness to increase net carbon uptake, effectiveness to reduce ocean warming, ocean acidification, scalability, duration of effects, termination effects, Energy Return on Energy Invested (EROEI), environmental and ecological risk (intended, unintended, undesirable consequences at scale), co-benefits, disbenefits, risks, cost effectiveness, externalities, trade-offs, and competing interests, weighing the impact on reducing climate change by OAE against its negative environmental effects, etc. The actions should use a Life Cycle Assessment (LCA) methodology and consider all the

[205] Oschlies, A., Stevenson, A., Bach, L. T., Fennel, K., Rickaby, R. E. M., Satterfield, T., Webb, R., and Gattuso, J.-P. (Eds.): Guide to Best Practices in Ocean Alkalinity Enhancement Research, Copernicus Publications, State Planet, 2-oae2023, https://doi.org/10.5194/sp-2-oae2023, 2023

sustainability dimensions (in particular SDGs 3, 6, 9, 12, 13, 14, 15, 16 and 17), across different temporal and spatial scales;

- cover the desirability, ethical considerations, social and political considerations and governability from an international perspective, conducting comprehensive and responsible research to inform decision making under climate inertia about OAE and its potential application;

- carry out comprehensive assessment of the Ocean Alkalinity Enhancement (OAE) and its short, medium and long term impacts on ocean biogeochemistry (including acidification), on pelagic, coastal and deep ocean ecosystems, their assemblages and trophic webs, on marine organisms that are not able to concentrate carbon within their cells under conditions of increased alkalinity, potentially strong fluctuations in pH and seawater pCO2 impacting plankton and microbiome populations dynamics, species competition and assemblages of connected trophic webs, and calcium hydroxide precipitation threatening coral reefs, plants, periphyton and cyanobacteria due to sensitivity to high levels of turbidity, on primary and second production, on seasonal changes in biogeochemistry and plankton dynamics;

- conduct an assessment and evaluation of the rate and severity of the local impacts and compare multiple datasets to deliver a greater holistic understanding of OAE's biological and ecological impacts regionally and globally, on human wellbeing linked to the degree to which the overall changes in primary and secondary production may result in change of species assemblage on which coastal livelihoods depend; the increased accumulation of contaminants within food chains via the release of minerals such as cadmium, nickel, chromium, iron and silicon, with potential implications for human health; the environmental impacts associated with extensive calcium carbonate mining operations, mineral distribution, the energy-intensive oxy-calcination process, dispersion operations, impact on resource scarcity due to high electric consumption, assessment and evaluation of additional resources needed;

- numerical modelling should be used to assess the scale of the consequences under various scenarios, experimental work in-situ like in mesocosms and benthocosms and ex-situ like in large flow through experimental chambers can help to improve parametrization of geo-biochemical processes. Field experiments are out of scope. The action should improve the precision of predictions and inform ESMs, IAMs and the Carbon Dioxide Removal Model Intercomparison Project (CDRMIP);

- advance the knowledge related to cost and challenges of carbon accounting, cost of environmental monitoring and the need to track impacts beyond carbon cycle on marine ecosystems.

Option B: Monitoring the global ocean for safe, verifiable and sustainable potential marine carbon dioxide removal (mCDR)

The project is expected to:

- establish building blocks and capabilities towards realistic, long-term, sustainable, rigorous, standardized monitoring of potential marine carbon dioxide removal and sequestration, including operational system requirements, and cover aspects of detection, attribution and determination;

- advance empirical approaches and new data needed for data-based ocean modelling (vs. numerical simulations) and develop ocean simulation capabilities based on integrated physical, biogeochemical and ecological oceanic components;

- develop the monitoring capability for quantifying the effectiveness and durability of carbon sequestration, especially in the offshore mesopelagic water column, and identify environmental and ecological short-, medium- and long-term impacts (days to 100s of years) on the ocean and marine ecosystems functioning and the ecosystem services they naturally provide (e.g., biological carbon pump), accounting for climate inertia;

- enable monitoring the multiple components of the carbonate system and, especially in coastal zones, at appropriate spatial and temporal resolution, and considering existing monitoring schemes and databases, such as the Copernicus Marine Environment Monitoring Service (CMEMS), Global Ocean Data Analysis Project (GLODAP) or the Surface Ocean CO2 Atlas (SOCAT);

- utilise enhanced data from observing/modelling to advance scientific knowledge of the ocean-climate-biodiversity nexus and potential impacts of deliberate perturbations (i.e. mCDR). in the ocean, particularly the deep-sea and coastal environments (speed and magnitude of change, thresholds and tipping points), marine ecosystems functioning and the ecosystem services they provide, including carbon and nutrients cycling, climate regulation and fisheries, for future ocean sustainability and decision-making about active climate remediation, trade-offs and policy needs for decision-making under climate inertia.

For both options A&B, the actions funded under this topic should have a strong collaboration mechanism. Proposals should include a dedicated task, appropriate resources, and a plan on how they will collaborate and ensure synergies with relevant activities carried out under other initiatives.

The actions should build on existing observing platforms, e.g. in the context of the Copernicus programme, and strengthen and expand the current capacities in an inter and multidisciplinary and ecosystem-based approach.

The research carried out should also include SSH perspectives and gender, and the research on desirability, benefits and disbenefits should also be done in relation to desirability for whom, benefits and disbenefits for whom, adding a comprehensive justice perspective on the call, including intergenerational aspects. International cooperation is essential.

A strong linkage should be ensured with the activities under the UN Decade of Ocean Science and ongoing Horizon projects, the Copernicus marine service (CMEMS), GOOS, the Ocean

Biogeographic Information System (OBIS), MBON of GEOBON, ICOS, GCOS, and other relevant international Ocean Observing Initiatives. All in-situ data collected should follow INSPIRE principles and be available through open access repositories supported by the European Commission (Copernicus, and EMODnet). Synergies with the Horizon Europe Mission Restore our Ocean and waters is encouraged. The projects outputs may contribute to the European Digital Twin of the Ocean and the Destination Earth initiative and outline specific plans to this effect.

This topic is part of a coordination initiative between ESA and the European Commission on Earth System Science and should towards this end include sufficient means and resources for effective coordination. Projects should leverage the data and services available through European Research Infrastructures federated under the European Open Science Cloud, Copernicus, as well as data from relevant data spaces in the data-driven analyses. Projects could additionally benefit from access to infrastructure and relevant FAIR data by collaborating with projects funded under the topics HORIZON-INFRA-2022-EOSC-01-03: FAIR and open data sharing in support of healthy oceans, seas, coastal and inland waters and HORIZON-INFRA-2024- EOSC-01-01: FAIR and open data sharing in support of the mission adaptation to climate change. Collaboration with the relevant existing European Research Infrastructures such as those prioritised by the European Strategy Forum on Research Infrastructures (ESFRI)[206] is encouraged.

HORIZON-CL6-2025-02-CLIMATE-02: The ocean-climate-biodiversity-people nexus: uncovering safe operating space for safeguarding the integrity and health of the global ocean

Call: Cluster 6 Call 02 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.50 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 19.50 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: All international organisations are exceptionally eligible for funding. If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of

[206] The catalogue of European Strategy Forum on Research Infrastructures (ESFRI) research infrastructures portfolio can be browsed from ESFRI website https://ri-portfolio.esfri.eu/.

	Copernicus and/or Galileo/EGNOS (other data and services may additionally be used).
Procedure	The procedure is described in General Annex F. The following exceptions apply: To ensure a balanced portfolio covering the topic, grants will be awarded to applications not only in order of ranking but at least also to those that are the highest ranked within each of the three options (A, B, C) set under 'scope', provided that the proposals attain all thresholds.

Expected Outcome: In line with the European and global biodiversity and climate objectives, successful proposals should further the European efforts in achieving both climate–neutrality and ocean sustainability, by improving the scientific understanding of the short-, medium- and long-term ocean health and integrity at different emission scenarios, under the cumulative and cascading pressures of current and emerging threats, including ocean climate interventions, tipping points and passing of planetary boundaries, risks and impacts, speed and magnitude of change in deep-sea biodiversity and response measures guided by the precautionary principle and supporting decision-making at regional, European and global levels.

Project results are expected to contribute to several of the following expected outcomes:

- further improved understanding of the limits to ocean integrity at different emission scenarios; ocean changes and near term (~2030), mid-term (2050–2060) and long-term (after ~2060) climate actions and policy making under climate inertia, guided by the precautionary approach;
- further advanced science regarding ocean existing and emerging threats and the associated risks and impacts for the next 5–10 years; 10-20 ys; 50-100 ys and more; and uncovering possible response measures guided by the precautionary principle;
- improved understanding of trends, variability, drivers, and social and ecological impacts of ocean acidification (as an integral part of a multi-stressor and cascading problem, alongside ocean warming, deoxygenation, eutrophication, stratification, etc.); more harmonised and tailored ocean acidification monitoring (both chemical and biological), modelling, observation, data integration and prediction capabilities and mitigation activities;
- important contributions made to key ocean monitoring indicators, Essential Climate Variables (ECVs from GCOS), Essential Ocean Variables (EOVs from GOOS) in compliance with international programmes (IPCC, WOA, IPBES, CMIP, CLIVAR, Ocean Health Index, UN Decade, ARGO) that support international global assessments and foster the development of a regional approach to ocean climate monitoring and reporting, overcoming current limitations and gaps;
- further improved Earth System Models (ESMs) representing key physical, biogeochemical, and biological processes in the ocean with reduced uncertainty of

climate change projections at regional scales, and reduced biases (i.e., in the WCRP Coupled Model Intercomparison Project (CMIP7) models for ocean and polar regions);

- enabled evidence-based regional, European, and global decision–making on ocean governance; sustained European leadership in ocean–climate–biodiversity science nexus supporting EU programmes; significant contribution to global scientific assessments, such as the IPCC, IPBES and WOA, as well as to the UNFCCC Ocean and Climate Change Dialogue, UN Decade of Ocean Science and UN SDGs 13 and 14.

Scope: Actions should aim at developing innovative approaches to address only one of the following options:

A. Ocean integrity at different emission scenarios: extreme events, slow onset events, cascading and tipping elements and ocean inertia

The project is expected to:

- advance the science on ocean tipping elements at different GHG emission scenarios, lag times, opportunities and impacts at multi-decadal to multi-centennial timeframes, including the risk of irreversible changes in the carbon cycle and the risks under various overshoot pathways;

- advance the science on ocean changes and near term (~2030), mid-term (2050–2060) and long-term (after ~2060) climate actions;

- contribute to integrated prediction systems that combine Earth System, Ecosystem and Social System models; fully Integrated Assessment Models (IAMs) and Earth System Models (ESMs) with Essential Ocean Variables (EOVs) (ocean biochemistry, ecology, and biology); ability and/or sensitivity of global Earth System Models (ESM) to simulate tipping point crossings; integrated prediction systems that combine Earth System, Ecosystem and Social System models;

- elaborate on the policy implications of inertia (climate inertia and its thermal, ocean, ice sheet, carbon cycle feedbacks and marine ecological components) and develop recommendations for European policy making.

B. Ocean integrity and health: current and emerging anthropogenic threats

The project is expected to:

- advance the science of ocean emerging threats - identify emerging threats that are likely to have a significant impact on the health and functioning of the ocean over the next 5–10 years; 10-20 ys; 50-100 ys and more;

- exploratory research into short-, medium- and long-term impacts on ocean health and marine biodiversity arising from existing and emerging anthropogenic threats, such as (the list is purely informative): mining for critical materials, technologically enhanced ocean carbon uptake, ocean climate interventions, emerging marine renewable energy

(wave, tidal, ocean current, offshore wind power, offshore solar energy, ocean floor geothermal energy), new hydrogen economy and leakages, ocean crops, marine engineering and oil drilling, untapped potential of marine collagens and their impacts on marine ecosystems, exploring marine genetic resources, impacts of expanding trade for fish swim bladders on target and non-target species, impacts of fishing for mesopelagic species on the biological ocean carbon pump, colocation of marine activities, floating marine cities, trace-element contamination compounded by the global transition to green technologies, emerging NIS (invasive species) and pathogens, novel and emerging chemical problems, nutrient and pesticide runoff from industrial agriculture, nanomaterials and micro and nanoplastics, potentially toxic effects of new biodegradable materials intended to replace plastics, emerging contaminants of concern, emerging applications of seaweeds, entanglement of marine mammals in mooring lines, cables and anchors, microalgae for biofuels, marine hydrates, seaweeds supply for human consumption and also raw materials for feeds, nutraceuticals and pharmaceuticals;

- support improved risk assessment and management actions that can contribute to mitigate the impacts of these current and emerging stressors and inform public and policymakers to mitigate potentially negative impacts through precautionary principles before those effects become realized.

C. Ocean integrity and health: Ocean Acidification (OA), Planetary Boundaries and SDG14.3.1

Making appropriate use of the Guide to best practices for ocean acidification research and data reporting[207], the project is expected to:

- improve our understanding of trends, variability, drivers, and impacts (ecological, ecosystem services and human) of ocean acidification, in a context of multiple ocean stressors;

- better incorporate complex interactions between natural systems (e.g., climate-ocean coupling, shifting food webs), social systems (e.g., anthropogenic activities, marine pollution, overfishing), and their social, economic, and ecological impacts;

- fill gaps in space and time for ocean CO_2 and ancillary physical and biogeochemical observations at the ocean surface and interior to reduce the biases and uncertainties in the variability and trends for air–sea fluxes and inventory changes, particularly for the Arctic and the Southern Ocean;

- improve our understanding of changes in water mass ventilation associated with climate change and variability to gain further insights into future trends in ocean acidification and deoxygenation in the ocean interior;

[207] European Commission, Directorate-General for Research and Innovation, Hansson, L., Fabry, V., Gattuso, J. et al., *Guide to best practices for ocean acidification research and data reporting*, Hansson, L.(editor), Fabry, V.(editor), Gattuso, J.(editor), Riebesell, U.(editor), Publications Office, 2010, https://data.europa.eu/doi/10.2777/58454

- better understand aerosol pH, including more direct measurements, and the process controlling the lability of iron, phosphorus, and other trace metals in atmospheric deposition, as well as the need for more direct measurements of the atmospheric deposition of these nutrients to the ocean, particularly in remote ocean regions such as the Southern Ocean;

- improve observations for the interplay between carbonate chemistry and a variety of biogeochemical and physical processes to increase the robustness of future assessments of ocean acidification; ensure better harmonised and tailored monitoring and data integration, improved models (both in term of spatial resolution and representation of the biological processes), and further integrate observations and model products;

- identify and monitor indicators of biological/ecosystem responses to ocean acidification coupled to support the assessment of ecosystem risk and consequences, and better inform management strategies at temporal and spatial scales relevant for organisms and their habitats;

- use models, forecasts, and predictions as tools to facilitate management strategies and design decision-support tools for prioritising the development of climate adaptation strategies, develop innovative tools to monitor and mitigate changing ocean chemistry locally, explore the potential opportunities and risks associated with the research findings, aligned with policy governance, including the different spatial-temporal scales that are ecologically and socio-economically relevant and politically applicable, propose actionable innovative solutions and policy recommendations.

For all three options (A, B & C), actions funded under this topic should have a strong collaboration mechanism and should include a dedicated task, appropriate resources, and a plan on how they will collaborate with one another.

The actions should build on existing observing platforms, e.g. in the context of the Copernicus programme, and strengthen and expand the current capacities in an inter and multidisciplinary and ecosystem-based approach. The research carried out should also include SSH perspectives and gender, and the research on desirability, benefits and disbenefits should also be done in relation to desirability for whom, benefits and disbenefits for whom, adding a comprehensive justice perspective on the call, including intergenerational.

International cooperation is encouraged, especially with AAORIA partner countries. A strong linkage should be ensured with the ongoing activities under the UN Decade of Ocean Science, including where relevant the Decade Programme of the Global Ocean Acidification Observing Network GOA-ON.

Actions under this topic will build upon and link with sister Horizon projects, the Copernicus marine service (CMEMS), GOOS, the Ocean Biogeographic Information System (OBIS), MBON of GEOBON, ICOS, GCOS, and other relevant international Ocean Observing Initiatives. All in-situ data collected through actions funded from this call should follow INSPIRE principles and be available through open access repositories supported by the

European Commission (Copernicus, and EMODnet). Synergies with the Horizon Europe Mission Restore our Ocean and waters is encouraged; the projects outputs may contribute to the European Digital Twin of the Ocean and the Destination Earth initiative and outline specific plans to this effect.

This topic is part of a coordination initiative between ESA and the European Commission on Earth System Science and should towards this end include sufficient means and resources for effective coordination. Projects should leverage the data and services available through European Research Infrastructures federated under the European Open Science Cloud, Copernicus, as well as data from relevant data spaces in the data-driven analyses. Projects could additionally benefit from access to infrastructure and relevant FAIR data by collaborating with projects funded under the topics HORIZON-INFRA-2022-EOSC-01-03: FAIR and open data sharing in support of healthy oceans, seas, coastal and inland waters and HORIZON-INFRA-2024- EOSC-01-01: FAIR and open data sharing in support of the mission adaptation to climate change. Collaboration with the relevant existing European Research Infrastructures such as those prioritised by the European Strategy Forum on Research Infrastructures (ESFRI)[208] is encouraged.

HORIZON-CL6-2025-02-CLIMATE-03: Understanding and managing medium and longer-term challenges and opportunities for agriculture stemming from shifting climatic zones and changing agroecological environments

Call: Cluster 6 Call 02 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 5.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 10.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used).

[208] The catalogue of European Strategy Forum on Research Infrastructures (ESFRI) research infrastructures portfolio can be browsed from ESFRI website https://ri-portfolio.esfri.eu/.

Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [209].

Expected Outcome: In line with the EU adaptation strategy, the common agricultural policy's key objective of contributing to climate change mitigation and adaptation, and the EU biodiversity strategy for 2030, the successful proposals are expected to contribute to better understanding and managing medium and longer-term challenges and opportunities for agriculture stemming from shifting climatic zones and changing agroecological environments.

Project results are expected to contribute to all of the following expected outcomes:

- the complex links between changes in climate conditions, ecosystems and their services, and agriculture productivity and sustainability are better understood and managed by relevant actors in the sector and in policy-making;
- the suitability of agriculture land areas for different agricultural uses is better understood, and regionally specific adaptation strategies are widely applied, taking into account different climate change scenarios;
- farmers and other owners and managers of agricultural land are more knowledgeable and better equipped to address the challenges and seize the opportunities resulting from shifting climatic zones and changing agroecological conditions.

Scope: While average global temperatures have risen by about 1.5° C globally since pre-industrial times, temperatures in Europe – the fastest warming continent – are rising at about twice that speed.[210] As temperatures rise, previously stable climatic zones (i.e., long-term patterns of temperature, precipitation and their seasonal variations) are shifting towards higher latitudes (towards the poles) and towards higher altitudes (where possible). Arid and semi-arid zones are expanding, while polar and sub-polar zones are shrinking. Precipitation patterns and regimes are also changing across different climatic zones. These changes affect natural as well as managed ecosystems and the services provided by them, altering the distribution and abundance of many plant species and their lifecycles, with consequences for cropping and other forms of agricultural land use, including animal husbandry. Studies show that agro-climatic zones have already moved in the EU over the past 40 years due to climate change,

209 This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

210 European Environment Agency, European climate risk assessment: executive summary, EEA Report 01/2024

with the fastest shifts observed in Eastern Europe.[211] Recent studies also point towards additional risks resulting from changing ocean currents that might drastically affect weather patterns in parts of Europe in various ways.[212]

Proposals should address the following:

- by using current and novel evidence, observations and approaches, develop, test and validate dynamic models of the impacts of climate change – also in relation to possible tipping points – on agriculture, taking into account diverse agroecological systems and pedoclimatic conditions and covering the most important expected impacts (including changes in growing season and crop phenology, water demand and availability/quality, soil health and fertility, crop, grassland and livestock productivity, pests/diseases and parasites, etc.).

- characterise the geo-distribution of cropping systems – also including permanent crops as well as permanent grasslands and other land uses for livestock farming systems, and including currently grown crops as well as others that could be grown under future conditions – in Europe, propose indicators for sustainability, productivity and resilience, and assess production uncertainties, incorporating climate change projections.

- provide tools for decision-making and business strategies at different levels of action, for evidence-based agricultural land use and management strategies based on climate change trends and quantitative projections, enabling farmers and other practitioners to develop and apply tailored, innovative pathways towards adaptation and, where relevant, restoration in agricultural systems.

Proposals should include a dedicated task and resources for cooperation with the other project(s) funded under this topic and for collaborative actions with other related projects under Horizon Europe, including the Mission on Adaptation to Climate Change, and under the Agroecology Partnership.[213]

The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. The role of JRC would be to explore how extremes such as drought and heatwaves will reshape land suitability to crop production under different scenarios exploiting advanced AI techniques. Furthermore, JRC would explore suitability under different tipping point scenarios, linked for instance to a possible collapse of the Atlantic Meridional Overturning Circulation (AMOC).

This topic should involve the effective contribution of social sciences and humanities (SSH). The integration of existing Earth observation data space ecosystems and the usage of Destination Earth's Climate Adaptation Digital Twin data is encouraged.

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211 European Environment Agency, Climate change adaptation in the agriculture sector in Europe, EEA Report 4/2019

212 E.g., Rahmstorf, S. 2024. Is the Atlantic overturning circulation approaching a tipping point? *Oceanography*, https://doi.org/10.5670/oceanog.2024.501

213 https://www.agroecologypartnership.eu/

HORIZON-CL6-2025-02-CLIMATE-04: Monitoring, reporting, verification and mitigation of non-CO2 greenhouse gas emissions and related air pollutants from agriculture

Call: Cluster 6 Call 02 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used).
Technology Readiness Level	Activities are expected to achieve TRL 4 by the end of the project – see General Annex B.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [214].

Expected Outcome: To help meeting the ambitions of EU climate and agriculture policies, including implementation of the Regulation on Carbon Removals and Carbon Farming[215], the successful proposals will provide for activities that ultimately lead to a reduction of

[214] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

[215] https://climate.ec.europa.eu/eu-action/carbon-removals-and-carbon-farming_en

greenhouse gas emissions (in particular gases other than CO_2) from the agricultural sector and to improved monitoring, reporting and verification of the emissions.

Project results are expected to contribute to all of the following expected outcomes:

- monitoring, reporting and verification (MRV), in particular at farm level, of direct and indirect non-CO_2 greenhouse gas (GHG) emissions and related air pollutants is improved;
- improved MRV and insights from practical experience are comprehensively integrated in relevant models and used in agricultural policy development;
- knowledge on the responses of non-CO_2 GHG and air pollutant emissions to different agricultural practices and to climate change and its impacts is enhanced;
- new and better knowledge and approaches for mitigating non-CO_2 emissions are available, widely shared and applied in agricultural practice, in particular by farmers, advisors, and other stakeholders.

Scope: In 2021, the EU agricultural sector accounted for approximately 11% of the total GHG emissions in the EU. The bulk of emissions can be attributed to methane and nitrous oxide, stemming from livestock and release from agricultural soils, in particular due to fertiliser application and manure management. Additional efforts are needed in the sector to help meet the EU's climate targets, in particular climate neutrality by 2050. To promote the uptake of mitigation practices at farm level, better data on their impact and effectiveness are needed. There is also a need for new practical solutions to help farmers monitor and reduce non-CO_2 GHG emissions.

Proposals should:

- focusing on methane (CH_4) and nitrous oxide (N_2O) and including indirect sources of N_2O (soil nitrification/denitrification, ammonia volatilisation, nitrogen leaching), address agricultural practices in manure management, livestock feeding and grazing, soil tillage, fertiliser use and liming in all relevant types of farming systems, including animal husbandry, with a view to developing harmonised metrics and effective mitigation measures;
- through analysis, field experiments, and demonstration activities, assess and improve the accuracy, effectiveness, efficiency and user-friendliness of MRV tools for the above GHGs, reducing uncertainties via established and novel methods and enabling use of higher tiers for reporting under the UN Framework Convention on Climate Change. Regarding emissions related to fertilisation, this should include a life-cycle perspective addressing also direct and indirect emissions related to the production of different types of fertilisers, notably comparing organic to mineral/chemical fertilisers;
- improve understanding of linkages between direct non-CO_2 GHG emissions, notably of N_2O, and other pollutant emissions from agricultural practices (including ammonia), and

assess and develop options for reducing trade-offs between mitigation measures for both types of emissions;

- consolidate and improve knowledge on mitigation measures for agricultural non-CO_2 GHG emissions, and assess the effects of elevated atmospheric CO_2 concentration and climate change impacts on those emissions and on options for their mitigation;

- through dedicated training and outreach activities, build capacity among farmers, farm advisors and other relevant actors for widespread utilisation of improved MRV tools and GHG mitigation measures.

Proposals should include a dedicated task and resources for cooperation with the other project(s) funded under this topic and with other relevant ongoing and forthcoming Horizon Europe project(s) in different Destinations of this Cluster (notably HORIZON-CL6-2025-02-FARM2FORK-07: "Improving grassland management in European livestock farming systems") and under the EU Mission "A Soil Deal for Europe" (notably HORIZON-MISS-2024-SOIL-01-04: "Systems to quantify nitrogen fluxes and uncertainties in European landscapes"). Proposals should address various farming systems/approaches, one of which should be organic farming, and cover a range of different pedo-climatic zones.

The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. The role of the JRC would be to model trade-offs between CO_2 and non-CO_2 emissions for different farming activities, using MRV tools to support the implementation and further development of the Carbon Removals and Carbon Farming (CRCF) certification framework.[216]

Due to the scope of this topic, international cooperation is strongly encouraged, in particular with China under the EU-China Food, Agriculture and Biosolutions (FAB) flagship initiative.

HORIZON-CL6-2025-02-CLIMATE-05: Additional activities for the European Partnership Water Security for the Planet (Water4All)

Call: Cluster 6 Call 02 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 70.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 70.00 million.

[216] https://climate.ec.europa.eu/eu-action/carbon-removals-and-carbon-farming_en. The JRC provides support to the implementation of the framework, by providing regional baselines as well as analysis of linkages between CRCF and Common Agricultural Policy emission mitigation potential, and the uptake in the UNFCCC greenhouse gas emission inventories.

Type of Action	Programme Co-fund Action
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The proposal must be submitted by the coordinator of the consortium of the grant funded under HORIZON-CL6-2021-CLIMATE-01-02 and HORIZON-CL6-2023-CLIMATE-01-01: European Partnership Water Security for the Planet (Water4All). This eligibility condition is without prejudice to the possibility to include additional partners. If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used).
Procedure	The procedure is described in General Annex F. The following exceptions apply: The evaluation committee will be composed partially by representatives of EU institutions. If the proposal is successful, the next stage of the procedure will be grant agreement amendment preparations. If the outcome of amendment preparations is an award decision, the coordinator of the consortium funded under HORIZON-CL6-2021-CLIMATE-01-02: European Partnership Water Security for the Planet (Water4All) will be invited to submit an amendment to the grant agreement, on behalf of the beneficiaries.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: This action is intended to be implemented in the form of an amendment of the grant agreement concluded pursuant to topic HORIZON-CL6-2021-CLIMATE-01-02. For the additional activities covered by this action: • The funding rate is 30% of eligible costs. • Beneficiaries may provide financial support to third parties (FSTP). The support to third parties can only be provided in the form of grants. • Financial support provided by the participants to third parties is one of the primary activities of this action in order to be able to achieve its objectives. The 60 000 EUR threshold provided for in Article 207 (a) of the Financial Regulation No 2024/2509 does not apply. • The maximum amount of FSTP to be granted to an individual

	third party is EUR 7 000 000 for the whole duration of Horizon Europe[217]. This amount is justified since provision of FSTP is one of the primary activities of this action and it is based on the extensive experience under predecessors of this partnership. The starting date of grants awarded under this topic may be as of the submission date of the application. Applicants must justify the need for a retroactive starting date in their application. Costs incurred from the starting date of the action may be considered eligible (and will be reflected in the entry into force date of the amendment to the grant agreement).
Total indicative budget	The total indicative budget for the topic is EUR 70 million committed in annual instalments over years 2025-2027 (EUR 23 million from the 2025 budget, EUR 23 million from the 2026 budget and EUR 24 million from the 2027 budget).

Expected Outcome: This topic is for the continuation of the European Partnership Water Security for the Planet (Water4All), i.e. EU contribution in WP 2025. The third instalment of the partnership is expected to contribute to expected outcomes specified in topic HORIZON-CL6-2021-CLIMATE-01-02: European Partnership Water Security for the Planet (Water4All), for continuation and new development of activities.

Scope: The objective of this action is to continue to provide support to the European Partnership Water4All identified in the Horizon Europe Strategic Plan 2021-2024 and first implemented under the topic HORIZON-CL6-2021-CLIMATE-01-02: European Partnership Water Security for the Planet, and in particular to fund additional activities (which may also be undertaken by additional partners) in view of its intended scope and duration, and in accordance with Article 24(2) of the Horizon Europe Regulation.

The consortium which applied to and received funding under HORIZON-CL6-2021-CLIMATE-01-02: European Partnership Water Security for the Planet is uniquely placed to submit a proposal to continue the envisioned partnership. Not only did this consortium submit the proposal leading to the identification of the partnership in the Horizon Europe strategic planning 2021-2024, it has also implemented the partnership through co-funded calls between 2021 and 2024 based on this planning and further to topic HORIZON-CL6-2021-CLIMATE-01-02. In this context, the current consortium has particular expertise in relation to the objectives of the Partnership, the activities to be implemented, in particular FSTP calls or other calls/scope of calls clearly required/envisioned pursuant to the initial proposal, and other relevant aspects of the action. In practice, another consortium could not continue the activities of the Partnership underway without significant disruption to the ongoing activities, if at all.

[217] However, if the objectives of the action would otherwise be impossible or overly difficult (and duly justified in the proposal) the maximum amount may be higher.

The scope of the application for this call on the European Partnership Water Security for the Planet should focus on the 2023-27 programmes according to the partnership's co-created strategic research and innovation agenda for seven years, which includes joint calls for research projects, activities to fostering the uptake of R&I results from various stakeholders, living labs and demonstration sites activities to demonstrate the efficiency of innovative solutions, activities to enhance international collaborations and support the achievement of the water related UN SDGs and transfer of in foreign contexts, where specific challenges can be encountered. Actions to ensure coordination and alignment of EU, national and regional programmes, to strengthen the research/policy interface and all horizontal activities to allow the Partnership to operate and to achieve its specific objectives should be also addressed. Emphasis should also be put on activities contributing to the recently adopted Nature Restoration Regulation, the announced European water resilience strategy and climate adaptation plan.

It is expected that the partnership continues to organise joint calls on an annual base and therefore it should factor ample time to run the co-funded projects.

Specific activities to strengthen the complementarities of Water4All partnership with the related Missions, specifically the Missions Adaptation to Climate Change, Restore our Ocean and Waters by 2030, and a Soil Deal for Europe and Partnerships (Sustainable Blue Economy, Biodiversa+, Driving Urban Transition and others), identified in the proposal submitted by the coordinator of the consortium funded under both HORIZON-CL6-2021-CLIMATE-01-02 and HORIZON-CL6-2023-CLIMATE-01-01 should be also described.

While the award of a grant to continue the Partnership in accordance with this call should be based on a proposal submitted by the coordinator of the consortium funded under HORIZONCL6-2021-CLIMATE-01-02: European Partnership Water Security for the Planet (Water4All) and the additional activities (which may include additional partners) to be funded by the grant should be subject to an evaluation, this evaluation should take into account the existing context and the scope of the two first evaluations as relevant, and related obligations enshrined in the grant agreement.

Taking into account that the present action is a continuation of the topics HORIZON-CL6-2021-CLIMATE-01-02 and HORIZON-CL6-2023-CLIMATE-01-01 and foresees an amendment to an existing grant agreement, the proposal should also present in a separate document the additional activities and any additional partners to be covered by the award in terms of how they would be reflected in the grant agreement.

The partnership should pool the necessary financial resources from the participating national (or regional) research programmes with a view to implementing joints call for transnational proposals resulting in grants to third parties. Synergies with the European Regional Development Fund are encouraged.

HORIZON-CL6-2025-02-CLIMATE-01-two-stage: Strengthening the resilience of water systems and water sector to climate and global socio-economic change impacts

Call: Cluster 6 Call 02 - two stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 18.00 million.
Type of Action	Innovation Actions
Admissibility conditions	The conditions are described in General Annex A. The following exceptions apply: Applicants submitting a proposal under the blind evaluation pilot (see General Annex F) must not disclose their organisation names, acronyms, logos nor names of personnel in the proposal abstract and Part B of their first-stage application (see General Annex E).
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used).
Technology Readiness Level	Activities are expected to achieve TRL 6-7 by the end of the project – see General Annex B.
Procedure	The procedure is described in General Annex F. The following exceptions apply: This topic is part of the blind evaluation pilot under which first stage proposals will be evaluated blindly.

Expected Outcome: In line with the European Green Deal, notably the EU climate adaptation strategy, the Nature Restoration Regulation, EU water legislation and the upcoming European water resilience strategy, successful proposals will contribute to the impact of this Destination on adaptation and mitigation of water systems in the context of climate change, supporting also biodiversity protection and restoration.

Project results are expected to contribute to all of the following expected outcomes:

- assessing and managing better the changing hydrological cycle, also at fine spatial scales, to reduce water risks amplified by climate change, including floods and droughts, by fostering further development of innovative observing systems to monitor trends in the atmospheric hydrological cycle; by fostering water resilient land use, management and planning and natural water cycle restoration, also contributing to support biodiversity protection/restoration; and by enhancing cross-sectoral and transboundary catchment cooperation between various water use sectors and complementarity between water related policies;

- increasing water use efficiency in all sectors at basin level, balancing better water demand and supply, helping to transform the economics and restructuring the governance of water;

- helping policy makers to prepare for better water infrastructure management and planning allowing among others fair access to drinking water and other essential uses.

Scope: We face a triple interrelated planetary crisis of climate change, biodiversity loss and pollution. Water is at the heart of these challenges. We can no longer ignore the world's crisis of water. The global hydrological cycle is changing. During the last three consecutive years, we have also witnessed not only worrying droughts in many regions of the EU, reaching eastern and northern countries which have been so far preserved, but also catastrophic pollution incidents and deadly floods across Europe. These events are no longer exceptional events. As scientists revealed very recently, human-caused climate change has made these episodes at least 20 times more likely. Moreover, groundwater levels sink steadily in Europe and globally, and the EU water balance is greatly perturbed. This increases tensions in agriculture, energy production and water supply and it is threatening drinking water, food and energy security, the health of ecosystems and the services they deliver, and our way of living.

These issues are highly interlinked, and they must be addressed together, under the remit of the water, energy, food, and ecosystem (WEFE) nexus. Moreover, recent JRC research shows that reduced freshwater flow of rivers into the sea can have severe impacts on coastal and marine ecosystem and their services, for example wild capture fisheries. This emphasizes the need to adopt the "from the source to the sea" approach when tackling water resilience with a support to biodiversity protection/restoration.

According to the EC communication "Managing climate risks – protecting people and prosperity", "protecting and restoring the water cycle, promoting a water-smart EU economy and safeguarding good quality, affordable and accessible freshwater supplies to all is crucial to ensure a water-resilient Europe. [...] Water needs to be managed, and human demand needs to be adjusted to the new and more scarce supply".

The objective of this topic is to compare and demonstrate the potential of available state of the art tools to forecast the availability of water resources at the regional and local scale, building

also on JRC and other available tools developed for the European scale[218]. It should take into consideration both the global water cycle (blue and green water) and sectoral water demands for both seasonal and long-term horizon, with an integrated water management approach. It should consider water allocation tools for different uses integrating the quality needed for each use, as well as tools for resilient urban planning and water infrastructure management allowing among others run-off control, reducing flood and drought risks, ensuring safety of citizens and infrastructures and support to biodiversity protection/restoration.

Demonstrations should take place in diverse European regions on a suitable scale e.g., river basin, and should bring together a wide range of relevant stakeholders, including relevant water sectors, water managers and authorities, urban and rural planners, policy makers and the civil society. Solutions aiming at fostering and restoring natural retention measures to keep water in the landscape, mitigating drainage losses, enhancing water retention in watersheds to mitigate extreme events, including both drought and flood, should be explored. Proper attention should be given to actions aiming at overcoming the fragmentation of water monitoring and observation data by strengthening the complementarity between satellites, in situ data, participatory research and integrated assessment models. This should foster the consolidation for better-quality and higher frequency data, reducing uncertainty and increasing trust and making them responsive to end-users' needs.

Appropriate climate change adaptation and mitigation strategies and tools, such as, tools for resilient urban and rural planning to manage runoff, reduce flood risk and ensure the safety of citizens and water infrastructures, should then be developed to strengthen the resilience of the water sector. These strategies should in particular assess the following:

- strategies and technical cost-efficient and sustainable solutions for alternative water resources production adapted to the anticipated use;
- the governance of water resource management to better consider the interlinkages of various water related policies to ensure reliable allocation of water for different uses and cross-sectoral coordination;
- the suitability of current indicators to appropriately define water efficiency in various sectors and provide a harmonised methodology to increase water efficiency;
- strategies to anticipate the consequences of recurrent extreme events, including land use analysis (e.g. floods and droughts) and reduce the associated risks;
- water resilience by exploring water transfer effects for seasonal, annual and pluriannual time-horizon on ecosystems, populations, agriculture, industrial consumption;
- the suitability of solutions to support biodiversity protection/restoration with attention given to avoiding spread of invasive alien species and to ensuring enough water for entire ecosystems (all species and their populations in healthy state).

218 https://publications.jrc.ec.europa.eu/repository/handle/JRC124342

Moreover, the economic foundation of the current water management systems, including water pricing and trade policies, in the context of changing climate should be reviewed to provide elements for a new economic framework helping to better structure the cost of building/operating/monitoring the water infrastructures, increase demand for innovative solutions and strengthen private investments for large scale deployment of these solutions in the water sector.

Proposals should avoid duplication with related ongoing work of the JRC and other EU funded projects, while strengthening complementarities with relevant EU Missions and Partnerships (e.g. Water4All, Biodiversa+). Proposals should build on the assessment reports of the Intergovernmental science-policy Platform on Biodiversity and Ecosystem Services (IPBES), particularly the forthcoming IPBES nexus assessment. Where relevant, proposals should build on or further enhance existing hydrological modelling tools and water relevant tools and datasets of the Copernicus Emergency Management Service, Climate Change and Land Monitoring Services and leverage products and services offered by the from Destination Earth initiatives. Proposals should build synergies and complementarities with other related Horizon Europe projects. To this end, proposals should plan the necessary budget to cover related cluster activities.

This action should bring together a wide range of relevant stakeholders, i.e, researchers, technology providers, water utilities, business representatives, investors, policy makers and other water users and citizens to maximise impact. When engaging stakeholders, gender and other social categories (disability, age, socioeconomic status, ethnic and / or cultural origins, sexual orientation, etc.), and their intersections, need to be considered. The possible participation of the JRC would ensure that the assessment of available state of the art tools to forecast the availability of water adequately integrates the existing JRC related work.

Due to the strong socio-economic dimension of water management, the integration of SSH, including gender studies, and Citizen Social Science approach expertise are also needed to ensure the proposed climate change adaptation and mitigation strategies are socially accepted and no one is left behind.

Destination - Resilient, inclusive, healthy and green rural, coastal and urban communities

R&I under destination "Resilient, inclusive, healthy and green rural, coastal and urban communities" will contribute to the implementation of the Horizon Europe Strategic Plan 2025-2027. In particular, it will deliver under the Key Strategic Orientation (KSO) 3: a more resilient, competitive, inclusive and democratic Europe and to a lesser extent to KSO 1: the green transition, and KSO 2: the digital transition.

Places and people, as well as their culture, matter to the achievement of a more sustainable Europe. The European Green Deal's ecological and digital transitions, along with the resulting spatial, socio-economic, behavioural, and cultural implications present unique challenges and opportunities for different regions and populations. Rural (including mountains) and coastal areas play a key role in managing and protecting the environment, as well as natural and cultural heritage. The provision of both private and public goods from these territories depends on the resilience and attractiveness of rural and coastal areas and the capacity of people who live and work there to attain an adequate level of well-being.

This destination will make a key contribution to the action plan flagship initiative "R&I for rural communities" and to the four areas of work of the long-term vision for EU's rural areas (LTVRA): stronger, connected, resilient, and prosperous.

This destination will as well contribute to sustaining our quality of life, achieve a circular and resilient economy, support people to access affordable housing, the EU territorial agenda for 2030 promoting a future for all places, the ambitions of the food 2030 R&I initiative as well as the EU bioeconomy strategy.

On social related research and innovation, this destination contributes to the implementation of the pillar of social rights and its action plan and to develop a Union of equality.

On an international level, the relevant topics under this destination will support the objectives of the joint communication on the EU Arctic policy, and the all- Atlantic Ocean research and innovation alliance (AAORIA) which has recently prioritised the need to bring science and innovation solutions to coastal communities facing climate threats and to enhance the coastal resilience of cities, regions and islands. The destination will contribute to the aim of the Commission to step up work on climate resilience and preparedness, including work on the priorities of the European Ocean Pact.

Proposals for topics under this destination should set out a credible pathway to contributing to **sustainably developing rural, urban and coastal areas**, and more specifically one or several of the following expected impacts:

- rural, coastal and urban communities are empowered to act for a transformative change to become sustainable and resilient, through better access to knowledge and services, and are better prepared to adapt to climate change and to achieve climate neutrality and environmental objectives.

- rural communities are prepared to manage demographic trends and to mitigate their social, economic and environmental impacts through enhanced territorial governance and innovative inclusive solutions.

- urban and peri-urban communities can access affordable, healthier, nutritious and environmental-friendly food, and benefit from synergies and a systemic approach across the urban-rural interface as well as from enhanced local and regional governance and public services.

- people and the environment will benefit from climate change adaptation. Coastal communities will have better knowledge and become more resilient and better equipped to tackle extreme weather events thanks to deployment of latest scientific research results and innovative solutions, including nature-based solutions.

- communities have access to ocean knowledge, data, tools, training and can develop skills that support them to take evidence-based decisions to respond to climate change with socially acceptable measures in their territories.

Under destination "Resilient, inclusive, healthy and green rural, coastal and urban communities", the Work Programme 2025 will fill the knowledge gaps in domains that were not tackled in Horizon 2020 or Horizon Work Programmes 2021-2022 and 2023-2024, as indicated in the Strategic Plan 2025-2027. The destination places emphasis on actions that will exploit knowledge created under previous Work Programmes and research, and will deliver impact as well as increase sustainability, resilience, inclusiveness, and competitiveness. The focus is on tackling the impacts of demographic changes and environmental extreme events which cause uncertainty, by engaging communities in decision-making processes, improving policy instruments for policy responses that are evidence based and considering local needs. This Work Programme also contributes to improving access to services, job opportunities, good environmental conditions, and energy-efficient housing in rural areas.

The multi-actor approach may be used in a significant number of topics. Relevant topics under this destination should include social sciences and humanities (SSH), including gender studies, to apply a human-centered approach, as well as make use of social innovation to meet local needs by co-creating place-based solutions.

Coordination will be ensured with the use of the EC knowledge centre for bioeconomy, the EU rural observatory, the EU soil observatory, and the EU Missions "A Soil Deal for Europe", "Restore our Oceans and Waters" and "Adaptation to Climate Change", as well as with the New European Bauhaus (NEB) Facility.

To maximise the impacts of R&I under this destination, international cooperation is encouraged when appropriate.

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-02-COMMUNITIES-01: Adapting to and mitigating demographic trends in rural areas through evidence-based planning and innovative solutions

Call: Cluster 6 Call 02 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.50 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 13.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: the proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Beneficiaries may provide financial support to third parties. The support to third parties can only be provided in the form of grants. The maximum amount to be granted to each third party is EUR 60 000.

Expected Outcome: The successful proposals will support the implementation of the long-term vision for EU's rural areas, contribute to empower rural communities for transformative change to become sustainable and resilient, as well as to manage and adapt to a changing population.

Project results are expected to contribute to all of the following expected outcomes:

- improved understanding by all relevant actors of the causes and of the social, economic and environmental impacts of demographic trends in rural areas;
- rural communities are prepared to respond to the challenges of demographic trends thanks to evidence-based planning, appropriate actions, and through the inclusive engagement of stakeholders;
- the well-being of rural communities and the attractiveness of rural areas is improved thanks to sustainable and innovative solutions.

Scope: Rural areas cover more than 80% of the EU territory and host approximately 30% of its population. Rural communities and areas provide essential ecosystem services for the whole society, such as food production, energy provision, management of natural resources as well as access to nature and cultural heritage. They play an essential role in the green and digital transitions. However, almost 9 out of 10 predominantly rural regions reported negative crude rates of natural population change during the period 2015–2020. In particular, the number of people aged 65 years or over increased by 1.8% each year in predominately rural regions. By contrast, the number of working-age people (20-64 years old) living in predominantly rural regions fell, on average, by 0.6% each year (EUROSTAT)[219].

Many rural areas also face high variation of their populations, such as seasonal peaks that challenge the local infrastructures and services which are often calibrated only on permanent inhabitants. While some are affected more than others by negative demographic trends.

Proposals should address all of the following:

- advance the understanding of the causes and social (including but not limiting to gender and intersectional differentiations), economic and environmental impacts (including but not limiting to consequences related to land abandonment or land use changes also considering the green transition) of demographic trends;
- focus on how to support rural communities through evidence-based strategies that includes planning, monitoring of fluctuations, and propose appropriate actions to respond to population changes;
- find innovative solutions to mitigate and adapt to a changing population in rural areas. Particular attention should be paid to rural areas that are highly exposed to climate change effects.

The funded consortium should work on collecting evidence for better planning and develop sustainable and comprehensive long-term strategies for managing a changing population by considering the needs of rural communities. These needs should be identified by using an inclusive multi-actor approach. Consideration of gender and other social categories (disability, age, socioeconomic status, ethnic and/or cultural origins, sexual orientation, etc.), and their intersections, must be ensured.

Proposals should test, develop and pilot innovative sustainable solutions that improve the well-being of rural communities based on their needs. In particular, they should focus on providing or co-creating with local communities innovative services that respond to the changing population, foster the sustainable development of strategic sectors, and support job creation in rural areas.

Financial support may be provided by the participants to third parties in the form of grants, in particular for the development, testing and piloting of sustainable solutions. If proposals

219 https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Urban-rural_Europe_-_demographic_developments_in_rural_regions_and_areas

decide to use this option, the consortium should also coordinate activities funded under the financial support to third parties and take stock of results for recommending appropriate policy measures.

Proposals should also focus on the sustainability and replicability of strategies and solutions. Moreover, proposals should develop an accessible tool, also making use of digital technologies, to support local and regional decision-makers to assess demographic impacts and plan for the future with evidence-based strategies in the framework of the just, fair and green transition.

Proposals must implement the multi-actor approach to involve relevant stakeholders, in particular for the development of innovative solutions, which may include public authorities, rural communities, as well as SMEs, organisations, and social economy actors.

Proposals should build on research done by the EU rural observatory, and by relevant projects funded under Horizon Europe.

Moreover, proposals should link with the demographic toolbox[220].

This topic must involve the effective contribution of social sciences and humanities (SSH), including gender studies. Proposals are encouraged to consider, where relevant, the services offered by European research infrastructures such as the European social survey (ESS ERIC).

HORIZON-CL6-2025-02-COMMUNITIES-02: Exploring and improving access to housing in rural areas and developing the houses and villages of the future

Call: Cluster 6 Call 02 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 6.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: the proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.

[220] Communication "Demographic change in Europe: a toolbox for action, https://commission.europa.eu/publications/communication-demographic-change-europe-toolbox-action_en

Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [221].

Expected Outcome: The successful proposal will support the implementation of the long-term vision for EU's rural areas, and of the European pillar of social rights and its action plan, as well as to social fairness. Moreover, the successful proposal will contribute to empowering rural communities for transformative change, enabling them to become sustainable and resilient, in line with the Green Deal objectives and the Commission's priority to support people, strengthen our societies and our social model.

Project results are expected to contribute to all of the following expected outcomes:

- policymakers have better understanding of the real estate and rental markets (including short-term and long-term rentals) in rural areas as well as their social impacts on rural communities;
- new solutions and strategies that improve access to affordable, quality housing and social housing for rural communities are available and widely shared among relevant stakeholders;
- affordable, sustainable and replicable solutions for sustainable, greenhouse gases nearly non-emitting, climate-resilient and climate smart houses and villages of the future are in place to benefit rural communities.

Scope: At European level, there is a lack of research on the rural real estate issues and different rural areas are affected differently by demographic trends and migration flows. Covid 19, and the new teleworking possibilities also strongly impacted the real estate market in rural areas. Some rural areas are experiencing gentrification processes, others are faced with seasonal touristic flows, while others are affected by depopulation. Affordable and adequate housing, as well as adequate access to services and infrastructure, are not only an essential part of quality of life, but they are also a prerequisite to ensure the attractiveness of a place and therefore the accessibility of labour workforce for strategic sectors for the rural economy.

Proposals should address all of the following:

[221] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

- analyse the real estate and rental markets (including short-term and long-term rentals) in rural areas and evaluate housing quality and housing poverty; the analysis should include an evaluation of the demand and supply side and an identification of the stakeholders;

- contribute to increase data availability, making use also of digital technologies, in relation to type of settlement structures and buildings and include and in-depth analysis of the abandoned or in state of collapse units, showcasing best practise to recover and reuse buildings when socially, economically and environmentally sustainable;

- increase the understanding of the access to affordable, quality housing and social housing in rural areas considering also financial aspects such as access to finance and price affordability, as well as social aspects such as gender, age, ethnicity, or disability;

- provide recommendations to policy makers on how to regulate the real estate and rental markets and to promote sustainable, nearly-zero emitting housing renovation or construction where needed to benefit rural communities, including people in a vulnerable situation, and ensure affordable and accessible housing;

- run participatory processes involving rural stakeholders to design sustainable houses and villages of the future, paying particular attention to affordability and replicability of innovative solutions (including intergenerational, multiuse, and reuse approaches) as well as to the adaptation to and mitigation of climate change. Solutions should include innovations in terms of improved renovations, insulation, energy and water efficiency and use and reuse of local materials, circularity of materials, as well as of reducing pollution (including air pollution) and soil sealing in rural areas.

Proposals must use the multi-actor approach and involve relevant actors in particular to develop houses and villages of the future.

Proposals should build on research done by the EU rural observatory, and by relevant projects funded under Horizon Europe.

Collaboration and complementarity with the New European Bauhaus (NEB) Facility is encouraged.

This topic must involve the effective contribution of social sciences and humanities (SSH), including gender studies. Proposals are encouraged to consider, where relevant, the services offered by European research infrastructures such as the European social survey (ESS ERIC).

HORIZON-CL6-2025-02-COMMUNITIES-03: Innovative solutions for resilient and climate-adapted coastal communities in the Atlantic

Call: Cluster 6 Call 02 - single stage	
Specific conditions	
Expected EU	The Commission estimates that an EU contribution of around EUR 6.00

contribution per project	million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 6.00 million.
Type of Action	Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: the proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part. Due to the scope of this topic, legal entities established in Brazil are exceptionally eligible for Union funding. In order to achieve the expected outcomes of the action, namely contribution to the implementation of the All-Atlantic Ocean Research and Innovation Alliance (AAORIA) Declaration, participation, as a beneficiary or associated partner, of at least three legal entities established in at least three of the following countries is required: Argentina, Brazil, Canada, Cape Verde, Ghana, Iceland, Morocco, Norway, Senegal, South Africa, United Kingdom, United States of America.
Technology Readiness Level	Activities are expected to achieve TRL 7 by the end of the project – see General Annex B.

Expected Outcome: In line with the European Green Deal, notably the EU climate adaptation strategy, the 2030 biodiversity strategy, the European Ocean Pact and EU policies to protect Europe's ocean, seas and coasts, a successful proposal will contribute to the impacts of this Destination related to coastal communities.

Project results are expected to contribute to all of the following expected outcomes:

- deliver tangible benefits and support to Atlantic [222] coastal communities, managing authorities, and citizens, aimed at increasing their resilience to climate change and other environmental challenges, including those affecting coastal ecosystems;

- enhance the capacities of coastal communities for adaptation to environmental change by fostering innovation, and professional skills and competences within an intergenerational context. Building community climate change literacy through creating inclusive learning spaces that also take into account the local cultural heritage and traditional knowledge and are sustainable in the long-term;

[222] This encompasses coastal communities from all Atlantic countries, including those outside the EU, reflecting the pole-to-pole dimension of the All-Atlantic Ocean Research and Innovation Alliance.

- contribute to the implementation of the All-Atlantic Ocean Research and Innovation Alliance (AAORIA) Declaration[223] and particularly the recently agreed area of action[224] on increasing resilience of coastal communities.

Scope: Approximately 1 billion people around the globe inhabit vulnerable low-lying coastal areas facing multiple environmental threats, such as extreme weather events, sea-level rise, saltwater intrusion into coastal ecosystems, increased water temperatures and ocean acidification. The latest IPCC report warns of further intensification of these threats, projecting a tenfold increase in coastal flood damage by the end of the 21st century and potential damage to coastal ecosystems, infrastructure, economic sectors, livelihoods, and human health. An urgent, coordinated effort to increase coastal resilience[225] has therefore become imperative.

The need to develop outcome-oriented science to enhance the resilience of coastal communities was recently prioritised by AAORIA, a science diplomacy initiative focusing on ocean research and innovation. AAORIA partners[226] have a wealth of already existing innovative ideas, knowledge and solutions for enhanced coastal resilience which could be used by coastal communities to create tangible change.

The European Commission, together with an AAORIA's coordination and support action OKEANO, has started to collect this knowledge and make it available to communities around the Atlantic. But considerable effort is still needed to further develop and expand the range of solutions and services to be made accessible to and co-created with the communities.

This topic contributes to the implementation of the updated Action Plan for a sustainable, resilient and competitive blue economy in the European Union Atlantic area.

Proposals should address all of the following:

- engage with Atlantic coastal communities to understand their unique challenges, concerns, current strategies for adaptation to climate change, and traditional environmental knowledge, and to gather valuable insights into the specific needs and priorities of these communities in the context of coastal resilience;

- work towards enhancing coastal resilience in the Atlantic by building and testing a comprehensive toolbox[227] of scientific outputs and traditional knowledge addressing the community needs for increased coastal resilience, building on the work undertaken by

223 SKM_80822071310280 (allatlanticocean.org)

224 See of AAORIA 2023 Forum listing the two current priority areas of action of AAORIA

225 For this action, the definition of coastal resilience proposed by the European Marine Board position paper "Building Coastal Resilience in Europe" applies: the capacity of coastal natural and socio-economic systems to persist, adapt or transform when faced with disturbances induced by factors such as sea-level rise, extreme events and human impacts, whilst maintaining their essential functions (Folke, 2006; Masselink & Lazarus, 2019).

226 See partners at All-Atlantic Ocean Research and Innovation Alliance (allatlanticocean.org).

227 For this action, the toolbox is intended as a repository of available knowledge, and practices aimed at enhancing coastal resilience; this could include case studies, examples of what has worked in various environments for various aspects of coastal resilience, methodology, description of technological solutions, etc outputs of existing research projects and initiatives.

OKEANO project. The toolbox should include knowledge and solutions for various aspects of coastal resilience, including measures to protect and restore coastal ecosystems as nature-based solutions. As part of the toolbox, the proposals should consider and, where needed, develop methods and tools that would allow the communities to anticipate the diverse impacts of adaptation actions and measures, including on their most vulnerable members, and thus to avoid climate maladaptation[228] risks. In this context, proposals should consider the gender dimension and other social categories[229] and their intersections in disaster preparedness and capacity-building. A dynamic system for regular updates and refinement of the toolbox should be designed, based on emerging research and feedback from communities. An ongoing collaboration between scientists, policymakers, and community representatives should be fostered to ensure the relevance and effectiveness of the solutions included in the toolbox;

- to improve the production, access, and use of the knowledge responding to local community needs, and to support and complement the activities of the living labs, proposals should develop an interface[230] enabling communities to choose a tailor-made mix of coastal resilience solutions uniquely responding to their needs, in a way that increases societal buy-in and acceptance of the solutions while avoiding maladaptation risks;

- for the digital element of the interface, proposals should design an online platform connecting available coastal resilience knowledge and solutions with community needs in a user-friendly manner, and produce interoperable, tailor-made digital applications. Proposals should consider complementarities with other platforms that already exist, such as those of the Mission Restore our Ocean and Waters and Mission Adaptation to Climate Change. The platform should allow for easy integration with existing digital decision-making, mapping and planning tools, for instance, by offering API (Application Programming Interfaces) integration which enables the platform to connect with existing digital tools and systems, allowing for the seamless exchange of data and functionality between systems;

- the toolbox and interface should be tested and piloted in living labs[231] based on a systematic user co-creation approach in real life communities and settings. Proposals should create the living labs in a diverse set of Atlantic communities, such as coastal cities, regions and islands (including small island developing states), from different parts of the Atlantic, and other relevant communities living at the intersection of marine, coastal and freshwater areas, with a particular attention to those that are highly

228 Climate maladaptation has been highlighted in the sixth Assessment Report of the IPCC and refers to a situation when climate change adaptation actions backfire, further deepening existing social inequities and leading to adverse outcomes.

229 Such as disability, age, socioeconomic status, ethnic and/or cultural origins, sexual orientation, etc.

230 For this action, the interface is intended as a combination of digital means, participatory approaches and guidelines that would allow coastal communities to access the repository (toolbox) of coastal resilience related knowledge, and practices, and to select the right mix of solutions for their unique resilience needs.

231 What are Living Labs - European Network of Living Labs (enoll.org)

vulnerable to the risks of climate change. These living labs could also serve as centres for knowledge dissemination, training, community engagement, and collaborative problem-solving. Using the results of relevant projects [232], proposals should select appropriate participatory processes or develop new ones that would involve a broad range of stakeholders from the local communities where the toolbox and interface would be used;

- To empower local coastal communities to make evidence-based decisions in response to environmental change within their territories, proposals should promote innovation and enhance human capacity through the establishment of learning spaces, knowledge exchange, training, participatory process of visioning and skills development, based on the contents of the toolbox. Attention should be given to securing the long-term sustainability of these activities.

Proposals must implement the multi-actor approach, to ensure an adequate involvement of researchers and relevant stakeholders (e.g. regional and local authorities, citizens, youth, NGOs, local businesses, private investors, social innovators, etc) from the target communities. They should also integrate SSH disciplines, including gender studies and citizen social science where relevant.

International cooperation is strongly encouraged, especially with AAORIA partner countries and other Atlantic countries.

To ensure complementarities and avoid overlaps, the proposals should foresee to work closely with relevant ongoing Horizon Europe projects, particularly the OKEANO project, and, where relevant, the projects funded under the topic HORIZON-MISS-2025–01-CLIMA-03, and relevant projects of the Mission 'Restore our Ocean and Waters by 2030' and its Atlantic and Arctic lighthouse (e.g. A-AAGORA and CLIMAREST), and the Mission Ocean Implementation Platform (MIP) [233], notably on deployment and upscaling of solutions. Proposals should also consider results of other Horizon 2020 and Horizon Europe projects such as TRIATLAS, the projects of the ADAPT4COAST cluster, ILIAD, DestinE, the EU Digital Twin of the Ocean and other relevant projects, programmes, and initiatives, including from AAORIA partner countries and other countries around the Atlantic, as well as relevant work under the OSPAR convention[234].

HORIZON-CL6-2025-02-COMMUNITIES-04: Creating urban co-creation spaces for driving sustainable food system transformation

Call: Cluster 6 Call 02 - single stage	
Specific conditions	
Expected EU	The Commission estimates that an EU contribution of around EUR 6.00

232 Such as those from the ADAPT4COAST project cluster and EmpowerUs project.
233 Mission Ocean, Seas and Waters Implementation Support Platform | Ecologic Institute
234 OSPAR Commission | Protecting and conserving the North-East Atlantic and its resources

contribution per project	million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [235].

Expected Outcome: The successful proposal will contribute to the European Green Deal priorities and the farm to fork and the EU biodiversity strategies, as well as of the EU's climate ambition for 2030 and 2050. It will also contribute to the Food 2030 priorities: nutrition for sustainable healthy diets, circularity and resource efficiency, innovation and empowering communities. [236] The successful proposal will support the development of policies, business models and market conditions contributing to the sustainable and inclusive development of urban areas and to the empowerment and resilience of their communities, who can access, afford and choose sustainable food.

Projects results are expected to contribute to all of the following expected outcomes:

- enhanced skills and problem-based learning to change food cultures, behaviours and food environments;
- improved local governance frameworks for social inclusion and social economy in urban areas;

[235] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

[236] European Commission, Directorate-General for Research and Innovation, Bizzo, G., Fabbri, K., Gajdzinska, M. et al., Food 2030 – Pathways for action 2.0 – R&I policy as a driver for sustainable, healthy, climate resilient and inclusive food systems, Publications Office of the European Union, 2023, https://data.europa.eu/doi/10.2777/365011

- improved understanding of the local policy 'mix'/package of measures as well as the effective communication and marketing strategies that are needed to support EU consumer behavioural change towards sustainable diets.

Scope: Achieving sustainable food systems requires managing numerous interconnected activities and actors with an impact on nutrition, environmental and economic outcomes of great relevance to the EU, including the Sustainable Development Goals (SDGs). Understanding food systems interconnections and interdependencies is crucial in decision making processes to steer a food system change. Yet, for governments to promote more sustainable food systems, they will need to improve their capacity to deal with the complexity of interdependencies with adequate governance mechanisms and principles to support a more systemic approach. Strengthening food systems governance in the urban context is an important area and opportunity for research, innovation and implementation to accelerate sustainability impact in the local context. It has the potential to enhance more coordination and coherent actions, leading to the development of more effective urban policies that ensure food security and nutrition for all without compromising economic, environmental, and social foundations.

Proposals are expected to address at least three of the following:

- create innovative hands-on living labs and co-creation spaces that actively engage all parts of society to enhance skills and capacity building toward healthy, affordable and environment- and climate-friendly diets; and apply randomized controlled trials, for different age groups (especially young people and the elderly), socio-economic groups and their different needs;

- promote and establish sustainable / regenerative community gardens and indoor and open field small-scale urban agriculture for skills building and network creation and share best practices from other areas/cities not covered by the proposals;

- enhance participation of vulnerable groups, such as young people (including those not in education or employment), elderly people, migrants, homelessness people, ethnic minorities, pregnant women, and persons with disabilities, in living labs and community gardens to strengthen inclusion as well as intercultural and intergenerational cohesion;

- enhance attractiveness of safe, healthy, environment-friendly food, for instance by making use of social media and partnering up with different actors (e.g., chefs, nutritionists and dieticians, food scientists and technologists, food industry, start-ups R&D, social/solidarity economy actors, etc.);

- involve local and regional governance mechanisms to enable structural change, for instance by developing and implementing effective participatory and inclusive processes which enable and stimulate an extensive dialogue on food system transformation and involve diverse stakeholders (e.g., citizens, farmers, consumers, civil society organizations, research institutions, businesses, and public authorities at the local or regional levels);

- connect different living labs and build networks, also from previous EU funded projects, for joint learning and best practice exchange;
- establish data monitoring approaches (e.g. through using machine learning approach, AI, etc.) and a test-control approach for impact assessment and evidence-based policy making.

Proposals should include a dedicated task in the workplan and appropriate resources to collaborate with the projects funded under this topic and under topic HORIZON-CL6-2022-GOVERNANCE-01-01 (Mobilisation of society to transform food systems for co-benefit, Cleverfood).

Collaboration and complementarity with the European Partnerships on "Sustainable Food Systems", "Agroecology", the EU Missions "A Soil Deal for Europe" and "Climate-Neutral Smart Cities", and the New European Bauhaus (NEB) Facility is encouraged.

Cooperation with the JRC may be envisaged, in particular for actions related to monitoring and improving the governance of food systems.

Proposals should integrate the gender dimension where applicable. Consideration of other social categories besides gender (disability, age, socioeconomic status, ethnic and/or cultural origin, sexual orientation, etc.), and their intersections, should be also ensured. The use of multi-actor approach is encouraged.

This topic should involve the effective contribution of Social Sciences and Humanities (SSH) disciplines.

In order to achieve the expected outcomes, cooperation with legal entities established in widening countries is strongly encouraged. International cooperation is also encouraged.

Destination - Innovative governance, environmental observations and digital solutions in support of the Green Deal

Staying the course on the goals of the European Green Deal and related policy initiatives in a fast-changing context, the EU needs innovative and agile governance models and tools that enable sustainable prosperity and competitiveness. To this end, it is crucial to invest in R&I that delivers evidence-based knowledge and tools, which support decision-making processes and designing effective policy mixes that enable the twin green and digital transitions engaging society at large in a just manner ensuring that no one is left behind. R&I activities under this destination intend to assist policymakers (from the local to the global level) in dealing with complexity and to enable them to introduce science-based arguments for social debates, to compare options for action and to make evidence-based decisions. A higher degree of coordination and convergence across the scientific community and other networks channelling evidence-based knowledge for policymaking will be promoted. Some of the R&I activities will support the development of sustainable, circular and inclusive bioeconomy and its bio-based sectors in line with the bioeconomy strategy[237] and the communication on biotechnology and biomanufacturing in the EU[238] as well as the forthcoming new European biotech act[239]. New knowledge and innovations will support the common agricultural policy (CAP) and related EU initiatives, focusing specifically on reinforcing farmers' position in the value chains, as well as rewarding farmers that work with nature, preserving biodiversity and natural ecosystems and helping to decarbonise the economy on the way to net-zero by 2050. R&I activities will also contribute to boosting the attractiveness of agriculture and the links between the farming community, in particular young farmers, and the society at large.

Data and intelligence provided by environmental observations are key for assessing the state of the planet, including its biodiversity and the pollution of its air, soils and waters, thus supporting the EU biodiversity strategy for 2030[240], the Nature Restoration Law[241], the EU zero pollution action plan[242] and the announced European Ocean Pact. R&I and related coordinating activities under this destination will improve environmental observing systems and provide Earth Intelligence, i.e. targeted and actionable environmental knowledge and insights, that will support policymakers, society and economy in navigating the transformative changes required by the European Green Deal. Towards these ends, technological solutions and data governance models will be advanced in order to make environmental data more available, accessible, usable and inter-operable at European and global level. Some topics under this destination support the Group on Earth Observations (GEO), which is an international partnership that aims at delivering Earth Intelligence to decision makers at all levels. It offers a unique forum for international cooperation and the opportunity to scale-up solutions developed in Europe and other regions of the globe, in particular under the European programme Copernicus, advancing the implementation of the UNFCCC Paris Agreement, the

237 Bioeconomy strategy - European Commission (europa.eu)
238 47554adc-dffc-411b-8cd6-b52417514cb3_en (europa.eu)
239 https://commission.europa.eu/document/download/e6cd4328-673c-4e7a-8683-f63ffb2cf648_en?filename=Political%20Guidelines%202024-2029_EN.pdf
240 Biodiversity strategy for 2030 - European Commission (europa.eu)
241 Nature restoration law – Final text adopted by European Parliament and Council (consilium.europa.eu)
242 Zero Pollution Action Plan - European Commission (europa.eu)

Sendai Framework for Disaster Risk Reduction, the 2030 Agenda for Sustainable Development, and the New Urban Agenda, as well as endeavours like the Kunming-Montreal Global Biodiversity Framework, the UN Early Warnings for All and the WMO Global Greenhouse Gas Watch initiatives.

EuroGEO is the regional initiative in GEO implementing a policy- and user-driven research and innovation agenda to maximise uptake and engagement of EO applications, building on Copernicus and other EU assets in Earth Observation, that are addressing the above-mentioned GEO priorities. EuroGEO will be enabled to provide Earth Intelligence to local administrations or businesses with targeted decision support to increase the resilience and environmental performance of their operations. R&I activities will help also to implement the EU Arctic policy, by improving and integrating polar observation systems in response to user requirements at local, regional and international levels.

There is a need to unlock the potential of applied digital and data technologies to support sectors covered by this Cluster in becoming more productive, competitive, sustainable, resilient, competitive, and inclusive in line with the evolving EU policy initiatives in the fields of cyber, data and digital technologies and services (e.g., European data strategy and future European data union strategy, Europe's digital decade policy programme and the AI innovation package, including the announced apply AI strategy). This destination will contribute to the development and diffusion of innovative digital and data-based solutions to support economic sectors relevant for Cluster 6 and society at large to achieve the European Green Deal targets and objectives. The key focus in this destination will be on enhancing sustainable rural development through digital twins for rural communities, agriculture and forestry.

As stressed in the Political Guidelines for the next European Commission 2024−2029, Europe needs a radical step change in ambition and action for all skill levels and for all types of training and education for sustainable prosperity and competitiveness. The common agricultural policy (CAP) cross-cutting objective and the Pact for Skills highlight the important role that knowledge and skills play in enabling all actors relevant to this cluster to actively engage in the twin green and digital transitions. Effective Agriculture Knowledge and Innovation Systems (AKIS)[243], defined as the combined organisation and knowledge flows between persons, organisations and institutions who use and produce knowledge for agriculture and interrelated fields, are key to facilitate the sharing and uptake of knowledge, skills and innovative solutions for a more competitive, sustainable and resilient economy. In synergy with the CAP, activities under this destination will strengthen AKIS at European and national level, by increasing the knowledge flows among the AKIS actors (in particular practitioners), building a community of competent and impartial advisors and preparing the farming community to the future of agriculture through improved education and training

[243] AKIS fosters flows of knowledge and skills to support the actors in the sustainability transitions across the Cluster 6 destinations; they go beyond agriculture, farming and rural activities and cover environment, climate, biodiversity, landscape, bioeconomy, consumers and citizens, i.e., all food and bio-based systems including value chains up to the consumer.

systems. Specific attention will be also given to boosting the co-creation and use of R&I results in practice via enhanced implementation of the multi-actor approach (MAA).

Proposals responding to the topics under this destination should set out credible pathways to **developing innovative governance models and tools enabling sustainability and resilience**, and more specifically to one or several of the following **impacts**:

- effective policy mixes and multi-level governance enable a just sustainable transition for all, engaging society at large and balancing economic, social and environmental goals, thanks to improved evidence-based knowledge, tools and science-policy interfaces;
- competitiveness, sustainability and resilience of the economy are increased by more accessible and interoperable environmental observations as well as data technologies;
- productivity is boosted and transformative changes required by the European Green Deal are facilitated, leaving no one behind, thanks to enhanced digitalisation and flows of existing and new knowledge, solutions and skills among actors and communities.

This destination will support R&I activities in complementarity with the European Partnership on Agriculture of Data and those that continue for the Sustainable Blue Economy Partnership. To maximise the impacts of R&I, international cooperation and the integration of social sciences and humanities (SSH) disciplines are encouraged.

To ensure coordination at European and global levels and effective dissemination of user-driven Earth intelligence solutions to inform decisions and accelerate action on global environmental challenges, support will be continued for the annual subscription of the GEO secretariat.

R&I activities supporting digital and data-based innovation under Cluster 6 will complement activities supported by Cluster 4 (Digital, Industry and Space) and the Digital Europe Programme, bringing benefits for citizens, businesses, researchers, the environment, society at large and policymakers. Synergies will be carefully considered in particular with Copernicus, the Common European Data Spaces and the Destination Earth programme.

The destination will ensure synergies with the CAP instruments aimed at strengthening AKIS in all Member States across the EU, thereby deliver on the cross-cutting objective to foster co-creation and sharing of knowledge and innovation. Strong interaction between and integration of AKIS actors is key to this end, hence the CSA type of activities will prevail. The interactive innovation model will be supported via a reinforced multi-actor approach mainstreamed across Cluster 6.

Innovating with governance models and supporting policies

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-03-GOVERNANCE-01: Improving analytical capacity and understanding of the bargaining power and interactions of farmers with the operators of the value chains

Call: Cluster 6 Call 03 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 6.00 million.
Type of Action	Research and Innovation Actions
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [244].

Expected Outcome: Reinforcing the position of farmers in the value chain is a key objective of the common agricultural policy (CAP). In line with this CAP objective, and other related policies [245], the successful proposal will enhance knowledge and analytical tools useful to the development and implementation of effective governance and policy mixes aimed at improving the functioning of EU agriculture and food value chains (hereafter 'value chains'). The successful proposal will contribute to support value chains that generate a fair income to farmers and create enabling conditions for the transition to sustainable, resilient and competitive farming systems.

Project results are expected to contribute to all of the following expected outcomes:

- the capacity of the research community to analyse and model the EU agricultural and food sectors, their market structures, and the formation, transmission and distribution of costs, prices, risks and economic values along value chains is enhanced; likewise,

[244] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

[245] e.g., the EU Directive 2019/633 on unfair trading practices in business-to-business relationships in the agricultural and food supply chain, and the EU Regulation 1308/2013 establishing a common organisation of the markets in agricultural products.

policymakers, farmers and other value chain operators have a better understanding of the functioning of value chains and the formation, transmission and distribution of costs, prices, risks and economic values along them;

- policymakers at EU, national and local level have a better understanding of the impacts of policies on the functioning of value chains, and are therefore better equipped to design and support the uptake of existing and future policy tools strengthening farmers' position in them;

- farmers and consumers benefit from improved policy mixes, fair business interactions and tools reinforcing the bargaining power of farmers with upstream and downstream operators and supporting more sustainable, transparent and resilient value chains.

Scope: The understanding and the capacity to analyse the functioning of agriculture and food sectors, value chains [246] and market structures remain incomplete and oversimplified. This contributes to a knowledge gap on the relations between farm production costs and price transmission, from input prices faced by farmers to food prices faced by consumers. Market and value chain conditions and dynamics affecting farmers' bargaining power are important drivers of farmers decision-making and income. They define the prices of the inputs and services bought and the commodity and non-commodity outputs sold by farmers. Hence, they contribute to the choices of production and business model, investments, and to the adoption of sustainable practices. A better understanding of the composition and functioning of value chains and market settings, in a granular and comprehensive way, would support accurate assessments of the socio-economic impacts of policies and business operations. It would also support the development of effective, evidence-based policies and business strategies adapted to the diverse conditions faced by farmers and consumers that will improve the functioning of the agricultural and food markets.

Proposals should:

- provide an analytical framework and tools capturing the complexity and heterogeneity of EU value chain structures, in particular relative to:
    - their length (number of intermediaries from the input industry to the consumers);
    - their scale (global, EU, national or local);
    - the degree and forms of vertical coordination;
    - the degree and forms of horizontal coordination between farmers;
    - the degree of concentration of operations at all stages;

[246] The agriculture and food value chains encompass all operators from the producers of necessary inputs for agricultural production to the consumers, including farmers, food and bio-based industries (including processing), retail, wholesale, food service (including public procurement), as well as the suppliers of inputs and services such as seeds, pesticides, fertilisers, energy, machinery, packaging, repair, transport, finance, advice, and logistics.

  - the degree of product (quality) differentiation.

- the framework should include a consolidated conceptualisation such that it can be adapted to represent the diversity of cases within and between sectors. The framework should also be sustained with empirical evidence and data to the maximum extent;

- apply the developed analytical framework and tools to empirically model production costs, price formation, price transmission, risk, cost and economic value distributions, and profit margins along selected value chains, and to characterise sources of market failures and occurrence of unfair trading practices. Proposals should consider different economic contexts (e.g., high/low prices, different patterns of price volatilities, etc.);

- develop and/or improve adequate indicators and collect the necessary data to improve the assessment of farmers bargaining power with upstream and downstream operators of value chains in analytical tools and models;

- explore, characterise, and analyse the interactions between value chain operators and the characteristics of value chains affecting farmers' bargaining and decision-making power, in particular on the type of farm business and structural changes (e.g., farm size, legal form, etc.). The proposed activities should include the analysis of the transaction relationships between farmers and input suppliers, farmers and service providers, and farmers and buyers of agricultural products. Among others, this work should analyse the types of contracts, provisions, clauses, standards, indications and calculations of prices and volumes, and how economic value, costs, and risks are shared among the operators. Proposals are encouraged to analyse whether farmers' bargaining and decision-making power is affected by socioeconomic characteristics (e.g., gender, age, etc.).

- explore existing and/or propose new policy and business solutions and tools to reinforce farmers bargaining power in value chains. Identify good practices (governance, awareness raising, etc.) for their successful implementation and uptake. Among the possible solutions, proposals should explore:

  - coordination approaches between farmers and/or between farmers and other value chain operators (e.g., form, size, contractual agreements, capacity building, etc.);

  - tools (e.g., data tools, innovative technologies) to increase market transparency and the accessibility and use of information. This should contribute to better inform farmers and consumers on the distribution of costs, prices, economic value, and risks along value chains and improve the fairness and efficiency of agriculture and food markets.

Proposals should develop dissemination materials (e.g., policy briefs, research findings briefs, audio or visual presentations, etc.) summarising the results of key deliverables to facilitate the uptake of R&I outputs by decisionmakers in policy or business contexts.

Proposals should capitalise on existing relevant research findings and tools. Proposals should also ensure synergies with other relevant EU-funded studies, projects, initiatives, and processes [247].

This topic should involve the effective contribution of Social Sciences and Humanities (SSH) disciplines.

HORIZON-CL6-2025-03-GOVERNANCE-02: Upscaling innovative payments to support farmers in the delivery of agri-environment-climate public goods

Call: Cluster 6 Call 03 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. The following additional eligibility criteria apply: The proposals must use the multi-actor approach. See definition of the multi-actor approach in the introduction to this Work Programme part.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Beneficiaries may provide financial support to third parties. The support to third parties can only be provided in the form of grants. The maximum amount to be granted to each third party is EUR 60 000.

Expected Outcome: In line with the climate action and biodiversity objectives of the Green Deal and the common agricultural policy (CAP), the successful proposal will contribute to the development and uptake of effective governance and competitive business models. This will be based on the upscaling of innovative payment mechanisms with result-based and/or collective and/or spatially coordinated approaches supporting the provision of environmental services by farmers and the transition to more resilient and sustainable farming systems. The

[247] e.g., producer organisations operational programmes, the EU Agri-Food Chain Observatory, fi-compass, etc.

successful proposal will contribute to the impact of this destination on just societal transformation, community empowerment and societal participation in support to the green transition.

Project results are expected to contribute to all of the following expected outcomes:

- policymakers, businesses, farmers, and other relevant stakeholders have a clear understanding of the role environmental services play in a flourishing society, and engage in payment for environmental services schemes with result-based and/or collective and/or spatially coordinated approaches with the governance perspective of ensuring long-term financing capacity at scale;

- policymakers, businesses, farmers, and other relevant stakeholders have improved knowledge and innovative tools to develop, implement and upscale payment for environmental services schemes with result-based and/or collective and/or spatially coordinated approaches adapted to the diverse contexts. Farmers and businesses from diverse farming contexts widely participate on a long-term basis in innovative payment for environmental services schemes with result-based and/or collective and/or spatially coordinated approaches;

- society at large benefit from more targeted support towards the delivery of agri-environment-climate public goods with positive social, economic, biodiversity and climate outcomes.

Scope: Payments for environmental services are economic incentives recognizing and supporting farmers for voluntary interventions that contribute to the provision of public goods [248]. Research and practical experiences from a diversity of initiatives from the public and private sector, provided evidence and guidance on cost-effective and well-contextualised design to support practitioners. Implementing more result-based, collective or spatially coordinated approaches in payment conditionality rules are among the key recommendations to best achieve impacts. While some Member States integrated such approaches in the design of some eco-schemes and agri-environment-climate measures in the CAP, important barriers to the upscaling and long-term implementation remain to be overcome. Building sufficient institutional, monitoring, funding and financing capacity are necessary to increase synergies between economic viability, environmental effectiveness and longevity. This strengthened capacity would support the achievement of more sustainable and positive social, economic, climate and biodiversity outcomes effectively contributing to the Green Deal objectives. Mobilising more the private sector in those innovative payment for environmental services schemes would contribute to address those barriers.

Proposals should:

[248] e.g., climate change mitigation, soil functionality, biodiversity, water quality and water availability preservation and restoration, resilience to extreme weather events, animal welfare, etc.

- develop and/or improve, test, pilot and evaluate payment for environmental services schemes with result-based and/or collective and/or spatially coordinated approaches in real-life conditions considering a diversity of farming contexts;

- put a special focus on mobilising private funding (e.g., value chain approaches, market-based instruments, crowdfunding, bottom-up approaches, etc.) and assessing the social and economic implications of the schemes with the perspective of long-term implementation and financial viability under different scenarios and socio-economic contexts;

- based on an analysis of the role of agriculture and food value chains in supporting and valorising farmers' provision of environmental services, develop and/or improve approaches supporting a just and fair remuneration of farmers for these services;

- develop and/or improve and apply robust and cost-effective monitoring of the environmental services provided by farmers;

- identify barriers and enablers for the implementation and upscaling of payment for environmental services schemes with result-based and/or collective and/or spatially coordinated approaches and propose effective solutions to address them. Special attention should be given to not repeat but build on and complement the state-of-the art;

- support capacity building, training, reskilling, and education, in particular on the technical, financial, legal and administrative implications of contractual arrangements, enabling farmers and other involved practitioners, including the private sector, to implement the proposed solutions.

Proposals should ensure complementarities with ongoing relevant Horizon Europe projects including from the Mission "A Soil Deal for Europe" and capitalise on existing relevant research findings and tools. Proposals should also ensure synergies with other relevant LIFE projects, EU-funded studies, pilot projects, and processes [249].

Proposals should include a dedicated task, appropriate resources and a plan on how they will collaborate with other projects selected under this topic (e.g., by participating in joint activities, workshops, as well as common communication and dissemination activities, etc.).

The JRC participation could involve contributing to the testing of payment for environmental services schemes via experiments.

Proposals must implement the 'multi-actor approach', with a consortium based on a balanced mix of actors with complementary knowledge, including farmers, researchers, and businesses. Involvement of SMEs, in particular of farmers, for developing, improving, testing and/or piloting the proposed solutions is strongly encouraged. As an option, proposals may provide financial support to third parties (FSTP) to facilitate the engagement of SMEs in testing and/or piloting the proposed solutions. A maximum of 10% of the EU funding should be

[249] e.g., rural development programmes, EU-wide certification scheme for carbon removals, etc.

allocated to this purpose. In this case, consortia need to define the selection process of entities, for which financial support may be granted.

This topic should involve the effective contribution of Social Sciences and Humanities (SSH) disciplines.

HORIZON-CL6-2025-03-GOVERNANCE-03: Boosting the attractiveness of agriculture and the connection between the farming community and society

Call: Cluster 6 Call 03 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Research and Innovation Actions
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [250].

Expected Outcome: In line with the objectives of the Vision for Agriculture and food and the common agricultural policy (CAP), to support generational renewal, to promote fair jobs and social inclusion for farmers, the successful proposal will support the impact of this Destination related to the development of innovative governance models by providing strong evidence-informed knowledge and analytical capacity to support the development and implementation of effective policies, in particular the CAP post 2027.

Project results are expected to contribute to all of the following expected outcomes:

- the perception of and the communication on agriculture as economic activity and profession are assessed and enhanced to boost the attractiveness of the sector for new

[250] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

entrants and young farmers and the connection between farming community and society is improved;

- knowledge on the socio-economic and other factors influencing the attractiveness of farming within the society, in particular among the young generation, is improved and disseminated to local, national and EU policymakers, business operators and other relevant actors;

- new strategies, solutions and practices to enhance the farming sector attractiveness are widely used by diverse actors, including farmers, businesses, policymakers, local or regional contracting authorities and society at large.

Scope: With the current challenges of climate change, biodiversity loss, resource scarcity, new working patterns and consumers' behaviour changes, there is the need for a more innovative, sustainable farming in the EU. However, the EU's farming sector is facing a steady decline of workforce in the last fifteen years, also depending on demographic challenges such as an ageing farming population. Thus, the need for attracting and supporting young and new farmers is critical. The motivations, commercial nature and business models for farming have changed due to the recent climate and environmental challenges and to the new opportunities offered by the technological and digital innovations, but at the same time, due to social and economic factors.

While it is a vital sector, farming still remains largely poorly understood by society, subject to many myths and misconceptions. To develop and implement effective policies and business strategies that enhance the attractiveness of the sector, it is essential to better understand how the perception of farming by society is determined by socio-economic and other factors (for example, but not limited to: income, labour conditions, land markets, use of sustainable practices, mental health, social wellbeing, social, economic and gender inequalities, generational renewal, etc…). Sound governance and policies creating an attractive environment, inclusive fair job conditions for farmers will enable the transition to more resilient and sustainable farming systems.

New interdisciplinary knowledge also stemming from disciplines such as social sciences and humanities is necessary to explore and better understand the ways in which agriculture is expressed and thought about, and its changing relationship with society. Activities under this topic should unlock the potential of cultural and creative industries to improve the communication about agriculture to society.

Proposals should:

- improve understanding of the socio-economic and other factors and conditions influencing attractiveness of farming as an economic activity and profession, and how farmers see and project themselves in the future of farming;

- examine the factors that influence the decision to become or to leave the profession of farm worker or farm owner in diverse regions across Europe, incorporating storytelling and narrative techniques;

- explore and analyse how farmers' interactions vary within the farming community and with the broad society based on different factors (e.g. historical, sectorial, territorial, farm size, age, education, gender, etc) and how those factors influence their social and economic roles;

- explore and assess the perception of and communication on farming across society at large according to different societal actors (individuals or groups that play a significant role in shaping and influencing societal norms, values, and institutions) and economic actors (individuals, businesses, or organizations that participate in economic activities, such as production, consumption, and distribution of goods and services) across the EU with different perspectives (e.g. historical, sectorial, territorial, size, age, education, gender, etc);

- map existing agricultural education and training programmes across Europe and provide recommendations, based on the evidence collected, on how they can be designed to appeal to a diverse range of individuals;

- improve societal perception of farming through the mobilisation of and cooperation between cultural and creative industries (CCIs);

- map, assess, promote existing and propose new solutions, good practices, initiatives, approaches, that aim at improving the attractiveness of farming sector and the connection between the farming community and society, and widely disseminate to policymakers, farmers, businesses and other relevant actors.

Proposals should support collaborative and interdisciplinary work. Thus, proposals should involve the effective contribution of Social Sciences and Humanities (SSH) disciplines, such as sociology, geography, demography, communication, behavioural science, anthropology or education. Proposals may involve digital media, traditional media, arts, marketing, cultural disciplines (and beyond) to contribute to improving attractiveness of the farming sector. Participatory foresight methods are encouraged.

HORIZON-CL6-2025-03-GOVERNANCE-04: Operationalisation of bioeconomy sustainability principles

Call: Cluster 6 Call 03 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 4.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a

	proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 8.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. The following additional eligibility criteria apply: The proposals must use the multi-actor approach. See definition of the multi-actor approach in the introduction to this Work Programme part.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [251].

Expected Outcome: In line with the European Green Deal, the EU's climate targets for 2030 and 2050 and the bioeconomy strategy vision for an economic system that acts within planetary and social boundaries, the successful proposal will contribute to the impact of this Destination on effective policy mixes and multi-level governance to enable a just sustainable transition for all.

Project results are expected to contribute to all of the following expected outcomes:

- new and improved knowledge and better understanding of how bioeconomy sustainability principles for food and other bio-based value chains can be operationalised (e.g. cascading use of biomass or the food-first principle) in different environmental, social and economic contexts. Clarity on future projected sectoral availability and demand for biomass and biomass types will render improved clarity and transparency for businesses and consumers, thus enabling better-informed choices and policy- and decision making;

- new knowledge of how social sustainability, particularly related to distributional (inter-national, intra-national and inter-regional) and inter-generational justice can be captured and operationalised in Bioeconomy Monitoring Systems;

[251] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

- increased deployment of bioeconomies across Europe considering environmental, social and economic sustainability;

- improve knowledge of the impact of the bioeconomy on ecosystems, and provide options on how to protect /restore ecosystems, contribute to the reduction of biodiversity loss and to climate action, while developing the bioeconomy.

Scope: Bioeconomy[252] is a place-based policy framework. The application of sustainability principles in concrete contexts therefore depends on available (environmental and human) assets, challenges and priorities, as well as access to logistics, finance and infrastructure. It is therefore important that sustainability principles are developed both with high clarity of their intention as well as sufficient flexibility to enable implementation in differing contexts. In particular, it is important to assess the impact of bioeconomy on ecosystems and to develop options on how to protect /restore ecosystems while developing bioeconomy. The sustainability principles must be able to give clear direction how to manage situations of conflicting objectives, and ensure that no unintended environmental, economic social consequences follow, preventing unsustainable use of biomass.

Successful proposals are expected to:

- develop or improve the sustainability assessment of bio-based and food value chains, both from land and aquatic systems and their related value webs to increase transparency for businesses and consumers, enabling better informed choices;

- analyse the performance of bioeconomy innovation ecosystems with regard to social, economic, and environmental sustainability, and demonstrate their long-term feasibility (e.g. with regard to infrastructure, climate adaptation, biodiversity and ecosystem protection and restoration). Demonstrate the applicability of bioeconomy sustainability principles in regional case studies, based on the concept of Regional Innovation Valleys for Bioeconomy and Food Systems[253];

- identify and address challenges for the EU, Member States and regions (e.g. public authorities) to deploy sustainability principles and providing policy recommendations to overcome them.

The possible participation of the JRC in the project would ensure that the approach proposed is compatible with the bioeconomy working streams of the Knowledge Centre for Bioeconomy.

International cooperation is encouraged.

252 See definition: European Commission, Directorate-General for Research and Innovation, A sustainable bioeconomy for Europe – Strengthening the connection between economy, society and the environment – Updated bioeconomy strategy, Publications Office, 2018, https://data.europa.eu/doi/10.2777/792130

253 Concept of Regional Innovation Valleys for Bioeconomy and Food Systems

This topic should involve the effective contribution of Social Sciences and Humanities (SSH) disciplines, including gender studies[254]. Proposals must implement the 'multi-actor approach', with a consortium based on a balanced mix of relevant actors with complementary knowledge to achieve the objectives of the project, including for instance relevant rural actors.

Proposals should include a dedicated task, appropriate resources and a plan on how they will seek synergies with other with other EU programmes and funding instruments initiatives, and ensure complementarities with relevant activities carried out or to be carried out under other initiatives in Horizon Europe (e.g. funded projects under past ZEROPOLLUTION and CIRCBIO Cluster 6 calls).

Proposals should build on the findings of the "Global Resources Outlook [255]" 2024 from the International Resource Panel.

HORIZON-CL6-2025-03-GOVERNANCE-05: Exploring options to resolve land and sea use competition

Call: Cluster 6 Call 03 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 4.50 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 9.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the

254 See overview of gender and EU bioeconomy: Infografías COOPID AP. See overview of gender in bioeconomy literature: Gender and women in scientific literature on bioeconomy:A systematic review - ScienceDirect

255 Global Resources Outlook 2024 | UNEP - UN Environment Programme

	Research and Training Programme of the European Atomic Energy Community (2021-2025) [256].

Expected Outcome: In line with the European Green Deal, the EU's climate and biodiversity targets for 2030 and 2050 and the bioeconomy strategy vision for an economic system that acts within planetary and social boundaries, the successful proposal will contribute to the impact of this Destination on effective policy mixes and multi-level governance to enable a just sustainable transition for all.

Project results are expected to contribute to all of the following expected outcomes:

- identify direct and indirect implications of current and future regional, national and EU policies and targets on land and sea and biomass use that are relevant in the regional context (more than one region);
- further knowledge of existing and emerging trade-offs across environmental objectives (including climate mitigation and adaptation, and protection and restoration of biodiversity) and also between social and economic objectives in different regional ecological, economic and societal contexts;
- further development of deliberation tools (e.g. software tools) that will support better-informed policy- and decision-making processes on a national and regional level that comprehensively assess the European Green Deal related policy domains[257].

Scope: A sustainable and circular bioeconomy relies on a management guaranteeing the preservation and restoration of biodiversity and healthy ecosystems while providing sufficient biomass for the production of food, materials and energy required for peoples' wellbeing. On one hand we see a decline of biodiversity, a gap in ecosystem carbon sequestration or lacking capacity of the biosphere to absorb pollutants; on the other hand the increasing competition of biomass use between food, materials, and energy indicates a potential sustainable biomass gap in Europe[258]. Projections indicate that this sustainable biomass gap could be exacerbated in the decades to come. To anticipate potential areas of conflicts and to develop holistic and coherent policy packages on biomass and land and sea uses requires tools that can inform policy makers how environmental, economic and social objectives can be met based on the available sustainable biomass, in order to close the biomass gap while assessing and minimizing the environmental, economic and wider societal impact and considering social justice and equality aspects on local, regional and EU levels. The Joint Research Centre is working on a deliberation tool on 'Integrated Bioeconomy Land Use Assessment' (IBLUA)[259]

256 This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

257 Report COM/2022/283: EU Bioeconomy Strategy Progress Report - European Bioeconomy policy: stocktaking and future developments | Knowledge for policy (europa.eu)

258 The European Biomass Puzzle — European Environment Agency (europa.eu)

259 Integrated bioeconomy land use assessment: Land system responses to bioeconomy-related policies | Knowledge for policy (europa.eu)

at the European level. However, an assessment at such aggregate rough level is not sufficient for informing policies at national and regional level. This topic is encouraged to build upon the JRC's tools developed for the European-level approach and assessment to improve context-specific deliberation tools that can assess social and economic outcomes of policies at regional level and support regional policy makers in finding best context-specific policies related to land and sea and biomass.

Successful proposals are expected to:

- develop tools (including methodologies and processes) for national and regional policy- and decision-makers to carry out integrated bioeconomy land and sea assessments, with the objective to minimize the 'land/sea footprint' and provide different land and sea biomass uses solutions, considering their feasibility, viability, and societal desirability (e.g. region specific). The assessment shall consider natural, semi-natural, and managed (agricultural and forestry, fisheries and aquaculture) ecosystems and the impacts of land/sea use on ecosystem conditions, biodiversity and supply of ecosystem services and interlinkages, considering the System of Environmental Economic Accounting set of indicators and the JRC's EU-wide ecosystem condition assessment;

- assess and develop integrated and coherent policy objectives to improve land and sea biomass use in national and regional contexts, considering the inclusive approaches to developing a wide range of policy narratives (e.g. objectives) pursued by the JRC in the EU-level assessment (i.e. IBLUA). The different narratives described qualitatively will be quantitatively represented (e.g. reporting relevant social, economic and environmental indicators) in the deliberation tool, which should be able to capture different configurations of land and sea and biomass use, including dietary needs, energy uses, bio-based products expansion, and carbon farming; considering the challenges to land/sea ownership (e.g. private vs public) and the options stem from the tool to resolve them;

- demonstrate how the deliberation tool could be implemented in a network of regions covering different socio-economic situations and climate/ecological zones in the EU and associated countries to improve just and sustainable land/sea management, food security and circular biomass uses.

The participation of the JRC in the project is encouraged to ensure that the approach proposed is compatible with the bioeconomy working streams of the Knowledge Centre for Bioeconomy and with the various JRC's tools and methodologies developed for the EU bioeconomy assessment.

Proposals should include a dedicated task, appropriate resources and a plan on how they will collaborate with other projects funded under this topic and ensure complementarities with relevant activities carried out under other initiatives in Horizon Europe, including the Horizon Europe Mission "A Soil Deal for Europe", and seek synergies with other EU programmes and funding instruments.

Proposals should build on the findings of the "Global Resources Outlook[260]" 2024 from the International Resource Panel. Proposals are encouraged to consider, where relevant, the services offered by European research infrastructures. The catalogue of European Strategy Forum on Research Infrastructures (ESFRI) research infrastructures portfolio can be browsed from ESFRI website.

HORIZON-CL6-2025-03-GOVERNANCE-06: Strengthening and connecting bioeconomy networks

Call: Cluster 6 Call 03 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 4.40 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 4.40 million.
Type of Action	Coordination and Support Actions
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [261].

Expected Outcome: In line with the European Green Deal, the EU's climate targets for 2030 and 2050 and the bioeconomy strategy vision for an economic system that acts within planetary and social boundaries, the successful proposal will contribute to the impact of this Destination on effective policy mixes and multi-level governance to enable a just sustainable transition for all.

Project results are expected to contribute to all of the following expected outcomes:

- better understanding and increased awareness of the bioeconomy for a fast deployment of bioeconomy potential benefits and solutions, across the Europe, in rural and coastal

260 Global Resources Outlook 2024 | UNEP - UN Environment Programme

261 This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

areas, cities, communities and governments, and in economic sectors among businesses, citizens, and especially young people;

- better coordination of European bioeconomy initiatives, including those funded by EU R&I framework programmes, and of relevant networks, with a view to strengthening knowledge exchange and synthesis on the bioeconomy for an increased uptake of bioeconomy actions and solutions in businesses, in education and in policy, and to accelerate the achievement of the EU bioeconomy strategy objectives with respect to social, economic and environmental sustainability, including climate action as well as biodiversity and ecosystem protection and restoration;

- enhanced networking and cooperation on European bioeconomy between relevant actors and stakeholders at European, national and regional levels, as well as outreach and support to relevant international networks and initiatives to foster fast deployment of bioeconomy and biotechnologies actions and solutions;

- increased buy-in from all relevant actors and stakeholders to collaborate and act as bioeconomy changemakers: including disadvantaged communities, people in vulnerable situations, women, and youth, but also underrepresented stakeholders like NGOs and investors, in and across sectors, communities, regions, and ministries.

Scope: There is a need to strengthen a Europe - wide network for the bioeconomy to exchange knowledge and to stimulate mutual learning of bioeconomy initiatives and solutions, on the transition to a sustainable and circular bioeconomy, and on its governance – in view of the review of the current EU bioeconomy strategy. Although some platforms for networking and cooperation on the bioeconomy exist, more can be done to strengthen relationship building across European sectors, stakeholder groups, generations, languages, levels of governance, or professions and advance the cross-cutting insights that drive bioeconomy solutions and improved governance. Barriers including insufficient understanding of the bioeconomy concept and its potential, language, limited capacities to engage in knowledge exchange, unsuitable engagement formats, or a lack of mutual understanding are some of the factors that contribute to this situation.

Efforts to strengthen and connect bioeconomy networks across Member States and Associated Countries will foster interconnectedness amongst stakeholders, across sectors, regions and disciplines, to strengthen policy coherence and implementation. It will accelerate relation building and transfer of knowledge on bioeconomy, help the development and implementation of the EU bioeconomy strategy in Europe, and contribute to scale-up place-based solutions that address EU challenges in different regional contexts.

Successful proposals are expected to:

- establish and develop an EU-wide platform (one-stop shop, multilingual) for networking and engagement on the bioeconomy, that brings together EU practitioners, researchers, investors, policy makers and education providers,

- support of international research and innovation bioeconomy networks and initiatives (e.g. International Bioeconomy Forum or International Advisory Council on Global Bioeconomy) to foster international research collaboration and Science-to-Policy interfaces for bioeconomy;

- develop communication strategies and tools, and organise events to inform EU, national and regional actors and stakeholders about bioeconomy deployment, successful bioeconomy initiatives and solutions (i.e., open access to industrial demonstrations sites), including from relevant EU-funded R&I projects, and other EU programmes (i.e., Interreg: European Territorial Co-operation);

- stimulate dialogue on bioeconomy solutions and initiatives, to build relations, exchange knowledge and support mutual learning, across European sectors, stakeholder groups, generations, languages, levels of governance, or professions; align these activities with needs under the EU bioeconomy strategy and related policies including on climate and biodiversity;

- implement lean business models to manage the platform (e.g. secretariat, operations, events) and its activities in a sustainable manner beyond the end of the project using public and private funding;

- liaise and collaborate with bioeconomy education institutes for improved skills development initiatives and networks to develop and deploy innovative interactive bioeconomy education material in support of both the informal and formal education at all levels;

- engage and train investors on the European bioeconomy to foster investment in bioeconomy sectors.

Proposals are encouraged to work together with relevant initiatives including those of the European Commission's Joint Research Centre (Knowledge Centre on Bioeconomy, Bioeconomy Monitoring System), the Circular Biobased Europe Joint Undertaking, the European Circular Economy Stakeholder Platform, and BIOEAST. Proposals are expected to build on results from EU R&I projects including BioVoices and ShapingBio.

HORIZON-CL6-2025-03-GOVERNANCE-07: Strengthening the European Research Area by enhancing the bioeconomy research and innovation ecosystem in BIOEAST countries

Call: Cluster 6 Call 03 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 4.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a

	proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 4.00 million.
Type of Action	Coordination and Support Actions
Procedure	The procedure is described in General Annex F. The following exceptions apply: The evaluation committee will be composed partially by representatives of EU institutions.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [262].

Expected Outcome: In line with the European Green Deal priorities, the EU's climate targets for 2030 and 2050 and the bioeconomy strategy vision of an economic system that acts within environmental and social boundaries, the successful proposal will contribute to the impact of this Destination on just sustainable transition for all by assessing research and innovation capacities in the bioeconomy for improved innovation ecosystems and aligned national R&I agendas in BIOEAST[263] countries, Ukraine, Moldova, and the Western Balkans.

Project results are expected to contribute to all of the following expected outcomes:

- improved research and innovation capacities in the bioeconomy, by strengthening soil and water resilience, enhancing food systems security, and promoting sustainable biomass valorisation through the adaptation of modern biorefinery concepts and biomanufacturing techniques;

- improved coordination and collaboration among stakeholders within the macro-region to address regional challenges, to coordinate research efforts at local, national, macro-regional and European levels, fostering a shared vision for climate-neutrality and an inclusive, sustainable and circular bioeconomy;

262 This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

263 www.bioeast.eu The Central-Eastern European Initiative for Knowledge-based Agriculture, Aquaculture and Forestry in the Bioeconomy – BIOEAST – offers a common political commitment and shared strategic research and innovation framework for working towards sustainable bioeconomies in the Central and Eastern European (CEE) countries (Czech Republic, Hungary, Poland, Slovakia, Bulgaria, Croatia, Latvia, Lithuania, Estonia, Romania, Slovenia).

- strengthened macro-region's research and innovation ecosystem through integration of public and private stakeholders that lead to tangible projects which drive fair and sustainable socio-economic development and environmental sustainability, including contribution to the reduction of biodiversity loss and to climate action;

- strengthened European Research Area by outlining a roadmap and identifying emerging thematic areas for research and innovation cooperation through a multidisciplinary approach, incorporating, among other fields, environmental science, ecology, and biodiversity.

Scope: This topic targets proposals for the alignment of research and innovation agendas for sustainable natural resources, with a particular attention to soil and water resilience, food systems security, and sustainable biomass valorisation in the bioeconomy. The primary goal is to enhance research and innovation capacities, while fostering ownership in BIOEAST and EU accession countries, with special focus on Ukraine, Moldova, and Western Balkans. Based on the BIOEAST Initiative involvement and format, the proposal should be able to mobilise the research funders and managers, but also thematic networks from the macro-region. For establishing the knowledge transfer and good cooperation, consortia should include entities from EU Member States with significant experience of managing joint research initiatives and partnerships. Collaboration with the BIOEAST Initiative is expected to be instrumental in achieving the outcomes of the project.

Proposals should demonstrate the potential for impact and scalability of their proposed activities. Proposals should collaborate and ensure synergies with ongoing and past projects and initiatives on bioeconomy governance[264],and collaborate with the Circular Bio-based Europe (CBE) JU and its widening strategy. The successful proposal will contribute to:

- engage ministries, research funders, and managers as well as thematic networks, to mobilise resources and create synergies between European, national and regional level funds;

- establish frameworks for communication and coordination among European and national bioeconomy related programme owners and managers to reduce fragmentation;

- enhance long-term cooperation in the bioeconomy to amplify research impact on socio-economic development while supporting widening and the EU enlargement process;

- address the region's geopolitical, research, and innovation challenges by achieving coherence across research, policy, and funding instruments in the bioeconomy. This includes fostering climate neutrality, contributing to the reduction of biodiversity loss, promoting an inclusive, circular, sustainable bioeconomy through an integrated macro-regional approach to research and innovation.

264 BIOEASTsUP, BOOST4BIOEAST

Deploying and adding value to environmental observations

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-03-GOVERNANCE-08: Effective environmental observing systems and associated governance

Call: Cluster 6 Call 03 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 5.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 10.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used).
Procedure	The procedure is described in General Annex F. The following exceptions apply: To ensure a balanced portfolio covering different use cases, grants will be awarded not only in the order of ranking, but at least also to one proposal that is the highest ranked within Area A and at least also to one proposal that is the highest ranked within Area B, provided that the applications attain all thresholds.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [265].

[265] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link:

Expected Outcome: Successful proposals will contribute to the expected impact of this Destination on more accessible and interoperable environmental observations.

Project results are expected to contribute to all of the following expected outcomes:

- more cost-effective and user-friendly environmental observing systems serving the needs of science, as well as policy and decision makers at various levels, based on enhanced usability, accessibility, effectivity, interoperability and exploitation of environmental observations;
- improved international cooperation in support of EU and global climate and environmental monitoring policies and reporting obligations;
- more sustainable and resilient environmental observing systems based on advanced governance models and well-informed decision-making by national, European and international actors.

Scope: Efficiency and cost-effectiveness of observing systems will play a crucial role in global initiatives such as the WMO Global Greenhouse Gas Watch, or GEO initiatives and flagships, which are needed to support EU and international policies, like for example the Paris Agreement, the Montreal Protocol and its Kigali Agreement, the European Climate Law, the EU climate adaptation strategy, the EU's F-gas Regulation[266], or the Regulation on ozone-depleting substances.

Proposals are expected to exploit the latest digital technologies (e.g. Artificial Intelligence, digital twins, IoT) and science (e.g. data assimilation and analysis, or models) to develop innovative, generic, quantitative, cost-effective and user-friendly tools to optimize current and future/emerging orbital (baseline and small satellite constellations) and non-orbital observing systems (e.g. autonomous systems, manned and unmanned aerial vehicles (drones), citizen science networks) and their combinations from a performance and investment point of view, using approaches like Observing System Experiments (OSEs) and Observing System Simulation Experiments (OSSEs).

Proposed activities should identify technical, as well as socio-economic, cultural, geo-political, or other barriers on usability, accessibility (including at international level), effectivity, interoperability and exploitation of environmental observing systems, and propose and support the implementation of innovative, efficient and pragmatic solutions to overcome them. Towards this end, the inclusion of social sciences and humanities (SSH) disciplines is encouraged.

Innovative decision-making approaches should be investigated to support and facilitate international governance and negotiations at European and global level, as well as national actors on sustainable and resilient environmental observations matters, regarding investments,

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https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

[266] Regulation (EU) 2024/573, http://data.europa.eu/eli/reg/2024/573/oj.

operations, accessibility, gaps and innovation. Inter-operability with European data spaces and other existing data infrastructures should be considered.

The approaches should be demonstrated in the context of one of the following specific use case areas (and proposals should identify which use case area they are addressing):

- Area A: monitoring global anthropogenic and natural greenhouse gas emissions and sinks, in support of the Paris Agreement;
- Area B: ozone depleting substances and F-Gases, in support of the Montreal Protocol.

Proposals are expected to demonstrate a good understanding of data requirements for policy implementation. The optimisation of the observing systems should identify and address in an iterative process the needs of well identified user groups, like for example modelling communities, Copernicus, Destination Earth, international organisations, and regional or national authorities.

Tools and approach should be flexible enough to be applied to other observing systems and examples. The project is expected to benefit from and leverage underlying work of ESA, EUMETSAT, Copernicus, or European Research Infrastructures (ICOS, ACTRIS, etc.).

International cooperation is encouraged.

HORIZON-CL6-2025-03-GOVERNANCE-09: Delivering Earth Intelligence to accelerate the green and digital transition

Call: Cluster 6 Call 03 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 7.50 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 15.00 million.
Type of Action	Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used).
Technology Readiness Level	Activities are expected to achieve TRL 7-8 by the end of the project – see General Annex B. Activities may start at any TRL.

Expected Outcome: Successful proposals will contribute to the expected impact of this Destination on more accessible and interoperable environmental observations.

Project results are expected to contribute to all of the following expected outcomes:

- accelerate the green and digital transition of economic sectors through the development of end-user applications and decision support systems for operationalisation or commercialisation by public or private service providers;
- successful integration and consolidation of European and national GEO [267] related activities across the EU Member States and Associated countries, that result in effective and operational contributions to the GEO work programme activities, with a clear path towards uptake in Europe and internationally in support of climate or biodiversity related policies and targets;
- contribute to the EuroGEO[268] initiative and support the EC Knowledge Centre on Earth Observation (KCEO) on uptake of Environmental Observations (EO) for EU policy making.

Scope: This action is an application-oriented initiative, responding to the new GEO post-2025 strategy and is aimed at combining and advancing existing European Earth observation services and solutions, that were prototyped under relevant Horizon, Copernicus, and other EU and national projects and initiatives, and scaling them up with end-users and customers towards wide adoption. In support of the European Green Deal targets, the project should develop, test, demonstrate and customise 2 to 3 integrated solutions, using advanced digital technologies like Artificial Intelligence, including generative AI, with a clear path towards operationalisation that should correspond to some of the following selected focus areas of the GEO Post-2025 implementation plan:

- Sustainable Agriculture and Food Security;
- Water Resilience;
- Ecosystems and Biodiversity;
- Carbon Management;
- Disaster Resilience.

The solutions should be co-designed with relevant European users, including local, regional and national governments (such as through the Copernicus National User Forums), and mature business plans should be developed in the project to ensure operational uptake after

[267] Group on Earth Observations (GEO, https://earthobservations.org/) is an intergovernmental partnership working to improve the availability, access, and use of open Earth observations, including satellite remote sensing and in situ data, to impact policy and decision making in a wide range of sectors.

[268] https://research-and-innovation.ec.europa.eu/knowledge-publications-tools-and-data/knowledge-centres-and-data-portals/eurogeo_en

the project, including by public/private procurers or service providers, Copernicus services, or GEO flagships and initiatives.

The activity should leverage European infrastructures and where relevant integrate various remote sensing platforms such as satellites, manned and unmanned aviation (drones). It should further build on and contribute to the existing European digital ecosystem, including different research and service infrastructures, like European data spaces, citizen science initiatives and national, regional, and global databases of in-situ observation, and support their evolution. Clustering and cooperation with other selected projects under this call topic and other relevant projects should be ensured. To this end, proposals should earmark the appropriate resources for coordination activities accordingly in their work plan.

Outreach and training activities are expected to reach the wider European EO community and to support further the upscaling of European/national/sub-national EO services beyond this project and actively promote pan-European synergies. Efforts should be planned for active participation in relevant EuroGEO action groups and workshops as well as for engaging with the Copernicus stakeholder community at European (e.g. Entrusted Entities) and national level (e.g. Copernicus Ambassadors).

HORIZON-CL6-2025-03-GOVERNANCE-10: Improving and integrating polar observation systems in response to user requirements at local, regional, and international level

Call: Cluster 6 Call 03 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 8.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 16.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used).

Procedure	The procedure is described in General Annex F. The following exceptions apply: To ensure a balanced portfolio covering different regions, grants will be awarded not only in order of ranking but at least also to one proposal that is the highest ranked within region 'Area A' and one proposal that is the highest ranked within region 'Area B', provided that the applications attain all thresholds.

Expected Outcome: In line with the Green Deal, the EU climate action an adaptation strategy, the EU Arctic policy[269], the Kunming-Montreal Global Biodiversity Framework, the UN 2030 Agenda for sustainable development, successful proposals will contribute to the expected impact of this Destination on more accessible and interoperable environmental observations.

Project results are expected to contribute to all following expected outcomes:

- major European contribution to improved and long-term coordination, governance, sustainability, and resilience of international environmental observing systems relevant for polar regions, to better understand their evolution and role in the climate system and the related impact on biodiversity;
- enhanced usability, accessibility, effectiveness, interoperability, and exploitation of environmental observing and data systems, that help improving Earth System and prediction models, as well as digital twins (the European Digital Twin of the Ocean[270] and Destination Earth [271], and in particular support the evolution of the relevant Copernicus services and the Copernicus Arctic Hub[272];
- support to sustainable management of the polar regions and to decision-making processes for civil society, local or national authorities and stake- and right-holders, as well as EU and international organisations, thereby supporting the related EU policies.

Scope: Long-term, integrated, and sustained observations, building on shared polar observation variables require the development of a "system of systems". Proposals should address aspects such as carbon cycle, biogeochemistry, sea ice dynamics, ice shelves, freshwater flows changing marine waters and oceanic circulation, atmospheric composition and conditions, subsea permafrost, degradation of marine habitats and biodiversity.

Proposals should demonstrate how they will contribute significantly to:

- improving marine and cryospheric observing systems, in particular the non-space-based components, focussing on their optimisation, integration, coordination and governance,

269 JOIN(2021) 27 final, "A stronger EU engagement for a peaceful, sustainable and prosperous Arctic"
270 https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/restore-our-ocean-and-waters/european-digital-twin-ocean-european-dto_en
271 https://destination-earth.eu/
272 www.arctic.hub.copernicus.eu

building on available technologies or technologies in development, including Artificial Intelligence;

- harmonised, standardised and interoperable of FAIR and CARE Polar Data systems (e.g. data collection, processing and management, incl. also historical data), that are able to provide real time information when necessary; and make them openly available e.g. through the European Marine Observation and Data network (EMODnet)

- supporting the European polar science coordination efforts, including synergies with the objectives of the European Polar Coordination Office (EPCO) and through contributing to the implementation of its work plan;

- the development of strategies on the medium and long term to ensure the sustainability of the observing systems and of the delivery of products and services, taking into account, where relevant, the recommendations of Copernicus polar roadmap[273].

Proposals are expected to focus their scope on only one of the following region 'areas':

- Area A: 'Arctic Ocean and coastal regions'

Proposals focusing on this region need to additionally take the following into account:

- The improvements of the overall observing systems should include community-based monitoring and the local, traditional and indigenous knowledge and where relevant, be co-designed with local communities and Indigenous peoples and with other relevant stake- and right-holders with view to, inter alia, developing products and services needed for adapting to the changing Arctic.

- The action should support the EU Arctic policy and the implementation of the Roadmap for Arctic Observing and Data Systems Sustaining Arctic Observing Networks (SAON-ROADS), [274] strengthen Arctic Ocean observations and their coordination, and ensure complementarities with the activities on societal benefit assessment of Arctic observing systems undertaken by the Joint Research Centre.

- Area B: 'Antarctic shelves and Southern Ocean'

- Proposals focusing on this region should additionally support the establishment of the UN Ocean Decade programme Antarctica InSync [275] and contribute to the activities of the Scientific Committee on Antarctic Research (SCAR).

In addition to the chosen regional scope (Area A or Area B), proposals should strengthen the coupling between the polar regions themselves, both for in-situ and satellite observations, for instance through harmonised observing strategies (including cost-effective and user-friendly methods to assess and optimize the design, investment in and operations of polar observing

273 https://joint-research-centre.ec.europa.eu/jrc-news-and-updates/copernicus-polar-roadmap-eu-satellite-observations-help-respond-emerging-polar-challenges-2024-09-03_en
274 https://journalhosting.ucalgary.ca/index.php/arctic/article/view/74330
275 https://oceandecade.org/actions/antarctica-insync

systems), harmonised measurement methodologies, the development of Shared Essential Polar Variables, and interoperable, Arctic and Antarctic data systems.

The proposal should also establish collaborations with other relevant projects such as HiAAOS,[276] POLARIN,[277] and other projects which are part of the EU Polar Cluster[278], as well as with relevant European research infrastructures.[279].

It should also take into consideration and support the valorisation of future Sentinel expansion missions: CIMR, CRISTAL, ROSE-L, with the possibility to co-ordinate with pre-launch campaigns like CRISTALair and CIMRair. This topic is part of a coordination initiative between ESA and the European Commission on Earth System Science. which supports complementary collaborative projects funded on the EC side through Horizon Europe and on the ESA side through the FutureEO programme. Proposals should include dedicated tasks, appropriate resources and a plan on how they will collaborate with relevant ESA activities, including projects selected under the under the ESA Polar Science Cluster[280] and under the Invitation to Tender "ESA Sentinel User Preparation Polar Science Foundational Experiment" [281].

This action offers an opportunity for Europe to continue playing a leading role in Polar research and knowledge provision at the international level, thereby contributing to the implementation of the G7 Future of the Seas and Ocean Initiative priority on Arctic Ocean Observing,[282] GEO Blue Planet Initiative, to the All-Atlantic Ocean Research and Innovation Alliance[283], the Global Ocean Observing System (GOOS), the Global Climate Observing System (GCOS). International cooperation is therefore encouraged, also with view to the 5th International Polar Year (2032-33).

Digital and data technologies as key enablers

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-03-GOVERNANCE-11: Enhancing sustainability and resilience of agriculture, forestry and rural development through digital twins

Call: Cluster 6 Call 03 - single stage	
Specific conditions	
Expected EU contribution per	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately.

276 https://cordis.europa.eu/project/id/101094621
277 https://cordis.europa.eu/project/id/101130949
278 https://polarcluster.eu/
279 The catalogue of European Strategy Forum on Research Infrastructures (ESFRI) research infrastructures portfolio can be browsed from ESFRI website https://ri-portfolio.esfri.eu/
280 https://polarsciencecluster.esa.int
281
282 www.g7fsoi.org
283 www.allatlanticocean.org

project	Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used). The following additional eligibility criteria apply: The proposals must use the multi-actor approach. See definition of the multi-actor approach in the introduction to this Work Programme part.
Technology Readiness Level	Activities are expected to achieve TRL 5-6 by the end of the project – see General Annex B. Activities may start at any TRL.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025) [284]. Beneficiaries may provide financial support to third parties. The support to third parties can only be provided in the form of grants. The maximum amount to be granted to each third party is EUR 60 000.

Expected Outcome: In line with the European Green Deal, the long-term vision for rural areas and the common agricultural policy (CAP), the successful proposal supports rural communities to benefit from digital twins and strengthen their capacities for the effective and efficient deployment of innovative solutions.

Projects results are expected to contribute to all of the following expected outcomes:

[284] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

- rural communities, farmers, foresters and other rural actors take advantage of digital twins available to help them meet sustainability and climate adaptation objectives while enhancing rural economy and resilience;

- rural communities are supported by digital and data technologies in exploring different pathways to make villages an attractive place to live for its residents, achieved through strengthened capacities in data-driven decision-making, monitoring and foresight;

- a stronger (digital) rural innovation ecosystem is in place bringing together public and private players and improving attractiveness of rural areas;

- collaboration across different rural actors is fostered through innovative smart governance solutions enabling data and evidence-based policy making.

Scope: Considering that approximately one third of EU citizens live and work in rural areas, it is key to empower rural communities – farmers, foresters and other rural actors - in the transition towards sustainability and resilience so that no one is left behind. In this context, digital twins' technology has gained attention in the past decade because of its potential in addressing challenges across numerous application areas and transforming the way businesses and public administrations operate. Nevertheless, research and innovation related to the use of digital twins in rural areas and relevant key economic sectors, in particular agriculture and forestry, is still limited. Digital twins require further exploration, innovation, testing and demonstration to fully exploit their potential, and reach higher level of maturity and scalability across different territorial and sectoral contexts.

Proposals should:

- design, prototype and test the use of digital twins to improve sustainability and resilience of rural areas and related key sectors (i.e. agriculture, forestry and other relevant sectors). Innovations should be co-created with rural actors to respond to their needs and tested for their feasibility for the territorial development opportunities or challenges that they bring;

- develop a detailed map of the villages in three-dimension employing digital and data technologies. The map should be freely accessible to local authorities, researchers, private companies and other relevant actors to monitor key parameters, test ideas and explore smart(er) and more competitive, sustainable and resilient forms of village development. Where relevant, focus should be given to the planning, monitoring and management of green areas as well as other natural elements in the village that can improve resilience to climate change;

- develop a public web-based platform allowing users to visit the 3D model of the village twins remotely, including through the use of immersive technologies (e.g. Virtual Reality). By integrating various technologies, the platform should allow the user to access information on selected elements of the cultural, historical and/or natural heritage

of the village for promotional purposes while establishing a mechanism for residents to provide feedback on existing and proposed initiatives of village development;

- assess the potential of the investigated digital technologies in promoting forms of collaborative, open and citizen-centric governance;
- measure and assess the costs and benefits of the implementation of digital twins in the rural areas and sectors of application, including enablers and barriers to their uptake and acceptance by the target groups, adequacy and availability of existing public/private funding opportunities, incentives, and new business models supporting their development beyond project duration;
- provide research, business and policy recommendations supporting the successful deployment of the developed digital twins in rural areas and relevant key sectors;
- support training and capacity building for local administrations and rural actors in order to share best practices, develop skills, create and maintain a rural innovation ecosystem enabling them to benefit from the innovations developed for the digital transition in rural areas.

The application of the developed technologies should support the implementation of the smart villages concept oriented towards relatively underdeveloped and remotely located rural areas and communities.

Proposals must implement the 'multi-actor approach', with a consortium based on a balanced mix of relevant actors with complementary knowledge to achieve the objectives of the projects, including for instance relevant rural actors (in particular end-users of the digital twins), universities, research and technology organisations.

Proposals must integrate the gender dimension in the implementation of the activities (e.g. to address gender-specific needs affecting design and testing of the developed technologies, when investigating benefits and limitations, gathering and analysing disaggregated data, in the development of training and communication material as well as research and policy recommendations).

Moreover, proposals should build on results and ensure complementarities with other Horizon 2020/ Europe as well as other relevant EU-funded initiatives and projects (e.g. EU Missions, project that may follow from the topic “HORIZON-CL6-2024-GOVERNANCE-02-01: European Partnership of Agriculture of Data”) and demonstrate adequate planning and use of resources for this purpose.

Proposals may involve financial support to third parties, e.g. to relevant rural actors (including farmers, foresters and other rural businesses), academic researchers, hi-tech start-ups, SMEs, to develop, test or validate the developed digital twins and/or to provide other contributions to achieve the project objectives. A maximum 30% of the EU funding should be allocated to this purpose.

This topic should involve the effective contribution of social sciences and humanities (SSH) disciplines. By integrating relevant SSH expertise (e.g. gender expertise), the successful proposal aims to produce meaningful results that enhance the societal impact of related research activities, while delivering locally-based solutions, engaging residents, rural actors and leading to behavioural changes.

Proposals should cover various biogeographical regions with a balanced coverage reflecting the various pedo-climatic zones in Europe in a representative way and taking into account different types of villages (e.g., different size, remoteness, degree of digital maturity, reliance on economic sectors, exposure and vulnerability to climate change etc.) and farming systems.

The possible contribution of the JRC could involve support in monitoring and modelling activities applied to rural areas, agriculture and forestry.

Proposals should develop diverse practice-oriented dissemination materials (e.g. audiovisual materials, brochures) presenting the digital twins and other R&I solutions developed within the project and feed them into communication channels most consulted by the potential end-users.

Strengthening agricultural knowledge and innovation systems (AKIS)

Proposals are invited against the following topic(s):

HORIZON-CL6-2025-03-GOVERNANCE-12: Increasing knowledge flows to practice within Agricultural Knowledge and Innovation Systems (AKIS) via thematic networks

Call: Cluster 6 Call 03 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 3.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 3.00 million.
Type of Action	Coordination and Support Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: The proposals must use the multi-actor approach. See definition of the multi-actor approach in the introduction to this Work Programme part.
Legal and financial set-up of the Grant	The rules are described in General Annex G. The following exceptions apply:

Agreements	Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [285].

Expected Outcome: Successful proposal will support the EU policies related to agriculture, forestry and/or rural areas, including related climate, biodiversity, and other environmental policies. The focus will be on the cross-cutting objective of the common agricultural policy (CAP) to enhance knowledge flows among AKIS[286] actors, in particular end-users[287]. The successful thematic network will support the objective by widely sharing existing and new knowledge in a language and format that is easy to understand and targeted to end-users and by building a more informed, interconnected and engaged AKIS community. It will address the need of end-users for impartial and tailored knowledge that is key to foster the transitions to more competitive, sustainable and resilient agriculture and/or forestry and/or rural areas.

Project results are expected to contribute to all of the following expected outcomes:

- collected practice-oriented research findings, innovative solutions and best practices, are presented in an attractive and understandable way, updated and maintained in the long-term[288], and made easily accessible by using the most appropriate channels for end-users;
- practice-ready knowledge and solutions, both generated by research and innovation (R&I) [289] and collected from practice, are widely disseminated to, shared and implemented by end-users;
- AKIS at EU and national/regional levels are more effective and the flow of practice-ready knowledge and solutions between end-users and all other relevant AKIS actors is increased across the EU in a geographically balanced way, improving cost-effectiveness of solutions and taking into account the differences between the territories.

Scope: The research findings, innovative solutions, practical knowledge and best practices, are not sufficiently known, shared and used in practice, despite the sustained investment in R&I to support farmers and/or foresters and/or rural communities in becoming more

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285 This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

286 AKIS is defined in Article 3(9) of the Regulation (EU) 2021/2115

287 An "(end-)user" of R&I result(s) is a person who is him/herself putting the results into practice (i.e. practitioner); depending on the theme of the thematic networks, end-users could be farmers and/or foresters and/or other rural actors, or all of them.

288 i.e., beyond the duration of the thematic network.

289 Including CAP-funded EIP-AGRI operational groups innovation projects, Horizon-funded R&I projects and other R&I activities beyond those funded under CAP and EU R&I programmes

competitive, sustainable and resilient. Moreover, national/regional and sectoral AKIS are insufficiently connected and organised to intensify thematic collaboration between researchers, advisors, and end-users.

Proposals should:

- select the theme of the thematic network in a bottom-up way in order to respond to the most urgent need(s) from practice; explain the relevance of the theme in relation to end-users' need(s), clarifying the added-value of the proposal and how it avoids duplication in relation to the ongoing or completed thematic networks and projects[290];
- collect and compile all up-to-date scientific and practical knowledge, best practices and innovative solutions, which are effective and ready for use in practice to address the end-users' needs, but not commonly known and/or used by the end-users; and, if needed, translate/adapt them to diverse local contexts;
- develop and share widely an extensive range of useful, applicable and appealing informative materials and training courses using the most effective approaches, formats, tools (including audio-visual) and channels to reach as many advisors and end-users as possible. The information provided should be easy to access and understand, and translated into at least all 24 EU official languages to allow dissemination across the whole EU. As much as possible, the outputs of the thematic network should serve education and training, knowledge exchange programmes, AKIS knowledge hubs, advisors providing targeted advice, peer-to-peer learning activities, etc.;
- provide a summary of the costs and benefits analysis of the collected practices for the end-users, and include these aspects explicitly in the informative materials and training courses;
- feed all the practice-oriented outputs directly into EU, national and regional AKIS dissemination channels that are most used and trusted by end-users in the diverse contexts, including (but not limited to) the EU and National CAP Networks[291], the EU-FarmBook online platform and the AKISConnect platform[292] and relevant advisory networks[293];
- mobilise also relevant AKIS actors and use AKIS actions at EU/national/regional and European levels to share the outputs of the project widely across the EU.

The proposal should include a dedicated work package, providing adequate resources for collecting outputs from the EIP-AGRI Operational Group projects (OGs)[294] on the theme

290 A theme already covered by a finished thematic network(s) is not allowed, unless the added value of the thematic network proposal is clearly explained and justified.

291 Innovation & knowledge exchange | EIP-AGRI | EU CAP Network

292 EU-FarmBook (eufarmbook.eu)&akisconnect | Connecting all EU AKIS actors

293 Advisory networks – connecting advisors across the EU | EU CAP Network (europa.eu), including projects selected under topic HORIZON-CL6-2025-03-GOVERNANCE-13

294 supported under the Rural Development Programmes (RDP) 2014-2022 and the CAP Strategic Plans (CSP) 2023-2027

chosen, as well as creating collaboration opportunities and fostering knowledge exchanges with and between them. The proposal should indicate which OGs could be relevant to the theme chosen.

The activities of the thematic network should complement with those organised by the EU CAP Network[295].

Proposals must implement the 'multi-actor approach', with a consortium based on a balanced mix of relevant actors with complementary knowledge clearly activating advisors, farmers and/or foresters and/or rural actors in the identification of the most urgent needs from practice as well as in the planning and execution of the main tasks of the thematic network.

The resulting project should run for a minimum of 3 years. An initial plan on how the thematic network and its outputs will be updated and maintained in the long-term beyond the projects duration should be included in the proposal.

The consideration of social diversity (including gender and other categories) in the dissemination activities of the thematic networks is encouraged.

HORIZON-CL6-2025-03-GOVERNANCE-13: Strengthening knowledge and skills of advisors and integrating them within Agricultural Knowledge and Innovation Systems (AKIS) via an EU advisory network

Call: Cluster 6 Call 03 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 10.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 10.00 million.
Type of Action	Coordination and Support Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: The proposals must use the multi-actor approach. See definition of the multi-actor approach in the introduction to this Work Programme part.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the

295 Innovation & knowledge exchange | EIP-AGRI | EU CAP Network

	Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [296]. Beneficiaries may provide financial support to third parties. The support to third parties can be provided in the form of grants. The maximum amount to be granted to each third party is EUR 60 000.

Expected Outcome: Successful proposal will support the common agricultural policy (CAP), in particular its cross-cutting objective [297], and related climate, biodiversity and other environmental policies, by connecting impartial advisors across all EU Member States in an EU-wide network.

Project results are expected to contribute to all of the following expected outcomes:

- the organisation and integration of impartial advisors (both public and private) within the national/regional and European AKIS [298] is strengthened, and the exchanges between them and other relevant AKIS actors are intensified[299];
- the impartial advisors are better equipped with the practice-oriented and up-to-date knowledge, skills and tools enabling them to support farmers with high quality and impartial advice covering the three dimensions of sustainability – economic, environmental and social – in line with all objectives of the CAP[300];
- the sharing and use in practice of existing and new knowledge and solutions by farmers is accelerated and widespread thanks to more competent, skilled and impartial advisors, supporting the transition towards more competitive, sustainable and resilient farming.

Scope: Advisors are best placed to encourage farmers to change their practices that improve the competitiveness, sustainability and resilience of farming. A novelty in the current CAP strategic plans[301] is that advisors should be integrated within the AKIS as well as be impartial, competent and up to date on scientific and innovation developments. They should be able to translate the knowledge and provide concrete, targeted and practical solutions for farmers adapted to specific local circumstances. They should be prepared to provide innovation

296 This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

297 Article 6(2) of the Regulation (EU) 2021/2115

298 AKIS is defined in Article 3(9) of the Regulation (EU) 2021/2115

299 To this end strong interaction with AKIS Coordination Bodies organising advice and knowledge flows within their Member States will be necessary and illustrated in the proposal.

300 In line with the Article 15(3) of the Regulation (EU) 2021/2115, Member States shall ensure that the advice given is impartial and that advisors are suitably qualified, appropriately trained and have no conflict of interest. The proposals should aim to support Member States in fulfilling this obligation.

301 Article 15 of the Regulation (EU) 2021/2115, Article 15(4)(e) of the Regulation (EU) 2021/2115, Article 127(3) of the Regulation (EU) 2021/2115

support services, based on the interactive innovation model. They should also be able to use diverse data sources to analyse the performance of farms over time covering the three dimensions of sustainability and accordingly provide informed, holistic advice to the farmers.

Against this background, proposals should:

- improve the organisation and concrete services provided by impartial advisors, both public and private, within Member States' AKIS in a collaborative way, including by (1) ensuring more networked structures, deepening the advisors' integration into AKIS at EU and national/regional levels, and (2) developing and advancing more effective and interactive working methodologies and tools;

- improve advisors' knowledge and skills across the EU in all areas of high interest to practitioners, covering competitiveness and the three dimensions of sustainability in line with all the objectives of CAP, at minimum by (1) enhancing the provision and management of knowledge useful for practice, and the sound thematic organisation and interaction of advisors and other relevant actors within AKIS in knowledge hubs, ensuring stronger links between research, education, advisors and farmers and encouraging the collection, wider sharing and use of available knowledge across the EU; (2) organising a substantial amount of activities to improve collaboration between advisors at the EU/national/regional levels, and enable them to effectively and widely share their knowledge, experience and skills, (3) creating and sharing tools, training courses and informative materials useful for advisors and their clients, as well as developing and applying approach(es) to motivate advisors to participate in and make use of them;

- improve and support the understanding and implementation of the interactive innovation model by the advisory community acting as innovation support services[302], including by (1) illustrating it with practical examples, (2) providing methodology and training for continued professional development, and (3) ensuring regular communication of research and innovation needs collected from practice to the relevant AKIS actors;

- create, regularly update and manage an online platform serving as a reference point for advisors and their clients that includes at minimum: (1) a database of advisors' contacts and profiles (at least including education, professional experience and specific field(s) of expertise), (2) diverse robust data sources and decision support tools (including tutorials), (3) training courses and informative materials, (4) best practice examples (taking account of the costs and benefits for end-users), and (5) other tools and materials relevant for the target audience. The online platform should integrate the practice-oriented outputs from Horizon and CAP-funded projects useful for advisory services, and its entire content (not only interface) should be translated into all 24 official EU languages.

[302] e.g., for the creation and implementation of the EIP-AGRI Operational Groups (Article 15(4) of the Regulation (EU) 2021/2115

Proposals should include a dedicated task and appropriate resources to collaborate with, ensure complementarities, avoid duplication of efforts and use efficiently the outputs and activities of the relevant past, existing and future AKIS projects[303].

Proposals must implement the 'multi-actor approach'. Minimum 50% of the number of the participants involved in the project should be impartial advisors spending at least half of their time on giving advice to farmers. The partners within the consortium should be well networked with advisors overall and have the capacity to involve as many of the advisors professionally active in providing advice to farmers as possible across the EU into the activities of the project.

Proposals should cover a wide range of impartial advisors working on diverse themes of interest for practitioners from all EU Member States and improve collaboration between them, using the countries' AKIS structures (including the AKIS Coordination Bodies) as intermediaries. To this end, proposals may involve financial support to third parties to ensure the involvement of advisors from across the whole EU in the activities of the advisory network. Consortia need to define the selection process of the advisors / advisory services and/or other relevant AKIS actors.

The project should run for a minimum of seven years. An initial plan for financial sustainability and maintenance of the EU advisory network in the long-term beyond the project duration should be included in the proposal.

HORIZON-CL6-2025-03-GOVERNANCE-14: Preparing farmers, their workforce and advisors to the future of agriculture by providing the relevant knowledge, skills and competences at the right time and place

Call: Cluster 6 Call 03 - single stage	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 8.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 8.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: The proposals must

303 In particular but not exhaustive the projects funded under Horizon 2020, Horizon Europe and CAP: advisory and thematic networks, ATTRACTISS, modernAKIS, i2connect, PREMIERE, EU-FarmBook, the future project to be selected under the topic HORIZON-CL6-2025-03-GOVERNANCE-14, and relevant EIP-AGRI Operational Groups projects (notably on knowledge hubs)

	use the multi-actor approach. See definition of the multi-actor approach in the introduction to this Work Programme part.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [304].

Expected Outcome: Successful proposals will support the common agricultural policy (CAP), in particular its cross-cutting objective [305], and related climate, biodiversity and other environmental policies, by enhancing the relevant knowledge, skills and competences of farmers, their workforce and advisors that they need for the transition to more competitive, sustainable and resilient agriculture.

Project results are expected to contribute to all of the following expected outcomes:

- lifelong learning (LLL) [306], including various agricultural educational and training systems, are innovative, fit-for-purpose, more responsive to the diverse and fast-changing needs of the learners, and effective in preparing the current and future generations of farmers, agricultural workers and advisors to the future of farming;
- farmers, agricultural workforce and advisors have the relevant, comprehensive and up-to-date knowledge, skills and competences to cope with and benefit from the various drivers of change, and improve competitiveness, sustainability and resilience of their farms;
- introduction, spread and implementation by farmers in their practice of new knowledge and solutions are accelerated, leading to improved productivity and sustainability performance of farming systems in all three dimensions – economic, social and environmental.

Scope: Knowledge, skills and competences are key enablers for more competitive, sustainable and resilient agriculture[307]. However, there are growing concerns in many EU Member States

304 This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

305 Article 6(2) of the Regulation (EU) 2021/2115

306 Lifelong learning (LLL) encompasses all learning activities undertaken throughout life with the aim of improving knowledge, skills and competences, within personal, civic, social or employment-related perspectives. The intention or aim to learn is the critical point that distinguishes these activities from non-learning activities, such as cultural or sporting activities.

307 Strategic Dialogue on the future of EU agriculture - European Commission

over the shortages and mismatches of knowledge, skills and competences among the farming community working in the diverse and fast-changing contexts[308]. To be prepared and benefit from the various climate, environmental, technological, socio-economic and other relevant drivers of change, the farming community, specifically farmers, their workforce, and advisors, should be able to learn and use in practice the relevant knowledge, skills, and competences, at the right time and place in a lifelong journey.

Against this background, proposals should:

- develop, improve and apply methodology to assess and foresee what knowledge, skills and competences farmers, their workforce and advisors currently have and need/will need in the future to improve competitiveness, sustainability and resilience of agriculture in light of the evolving context. This should enable the identification of potential gaps and opportunities for upskilling and reskilling, new LLL activities and methods, and serve as a baseline for future assessments of the actions aimed at enhancing the knowledge, skills and competences.

- map, assess and explore how farmers, their workforce and advisors are and should acquire knowledge, skills and competences (e.g., methods and tools, timing, frequency and place, incentives, etc.), as well as who is and who should be providing them in order for LLL to be practice-oriented, attractive, effective, timely and up-to-date; take into account also how the 27 Member States designed their CAP interventions related to LLL.

- investigate how to widely and effectively disseminate new practice-oriented knowledge and innovations, resulting from e.g. diverse research and innovation projects, among farmers, their workforce and advisors; in particular analyse what approaches/tools, communication materials and channels are preferred, trusted and used by farmers, their workforce and advisors; based on the analysis provide toolbox and guidelines;

- map, assess and compare agricultural LLL, including education and training systems, across the EU and beyond, explore and assess best practices on how to embed the knowledge collected within the Agricultural Knowledge and Innovation Systems (AKIS)[309] structures to provide valuable input for LLL, including education and training systems, and provide recommendations for improving LLL, including educational and training systems, in view of making them more effective in supporting the transition to competitive, sustainable and resilient agriculture;

- co-create, pilot, test, and share new, interactive, effective approaches and tools (e.g., exploring the potential of generative AI and social innovation), to stimulate LLL, increase knowledge flows within AKIS and enable farmers, their workforce and advisors to quick, easy and affordable access to impartial and relevant knowledge, skills and competences supporting their decision-making;

308 Policies for the Future of Farming and Food in the European Union | OECD.
309 AKIS is defined in Article 3(9) of the Regulation (EU) 2021/2115

- explore potential synergies between EU instruments and develop new practical approaches to better connect Horizon-funded projects, EIP-AGRI operational groups projects and Erasmus+ projects to LLL in agriculture, including education and training systems, to maximise the impact of these projects for LLL and promote a more coherent approach to knowledge, skills and competences development;

- develop and test a system(s) compatible with existing EU-wide initiatives [310] that acknowledge(s) and reward(s) farmers, their workforce and advisors who engage in LLL. The system(s) should include different levels of recognition based on the extent and depth of LLL activity completed, as well as be visible, verifiable, and tied to tangible benefits, providing a strong incentive for continuous learning. The project should also assess how the system(s) can be of benefit for the knowledge, skills and competences development of the farming community.

Proposals should include a dedicated task and appropriate resources to cooperate with project that will be selected under the topic HORIZON-CL6-2025-03-GOVERNANCE-13, ensuring complementarities and avoiding duplication of efforts.

Proposals must implement the 'multi-actor approach', with a consortium based on a balanced mix of relevant actors, including farmers, advisors, agricultural educators and trainers, and other relevant AKIS actors with relevant knowledge and information, and ensuring inclusive co-creation in order to better understand their current and future needs for knowledge, skills and competences, and co-develop the best approaches to effectively address these needs.

Proposals should consider in the research and innovation activities national/regional and context specificities, evolving farm structures and labour organisation, as well as social diversity in a comprehensive way. This topic should involve the effective contribution of social sciences and humanities (SSH) disciplines.

310 e.g., micro-credentials, individual learning accounts, European Quality Assurance Reference Framework in VET, etc.

Other actions not subjected to calls for proposals

Grants to identified beneficiaries

1. Presidency events – Boosting and mainstreaming the bioeconomy and the transformative governance of the green transition for food systems and biodiversity

Denmark will take on the Presidency of the Council of the European Union in the second half of 2025. The foreseen Presidency events will be an opportunity to announce the next steps for the EU Bioeconomy Strategy and the EU's Food2030 initiative, and for mainstreaming the bioeconomy concept across different EU policies and instruments.

This action will cover the organisation by the Danish Presidency of two conferences with the following titles: **"**Boosting and mainstreaming the bioeconomy - Science and governance for the green transition" and "Transformative governance for food systems and biodiversity". The European Commission will support the organisation of the events in cooperation with the entity designated by the Danish Presidency.

Conference: Boosting and mainstreaming the bioeconomy - Science and governance for the green transition

Expected outcome: This conference is expected to contribute to all of the following expected outcomes:

- an opportunity is provided to take stock of the work under the EU Bioeconomy Strategy, EU R&I Framework Programmes (including Partnerships, Missions, and Joint Undertakings) and the Food2030 initiative;
- recent developments, including a planned update of the Bioeconomy Strategy, are discussed.

Scope: The conference should address all the following activities:

- provide exchanges on the EU's strategic policies and on relevant insights from and for science, innovation and practice, at Member State and EU level.
- provide a space for the presentation of scientific achievements across disciplines, and for exchange of ideas and innovative solutions including bio-based solutions.
- further strengthen the science policy interface for improved and coherent governance and to advance circularity and a sustainable bioeconomy.

The event will bring together European Commission services, Member States, Members of the European Parliament and other EU Institutions, stakeholders, experts and interested citizens, including youth representatives, from across Europe.

Conference: Transformative governance for food systems and biodiversity

Expected outcome: This conference is expected to contribute to all of the following expected outcomes:

- the role of R&I in the existing and possible future governance for food systems and biodiversity is explored and discussed among a diverse range of stakeholders.
- a just, fair and inclusive green transition is supported, while at the same time contributing to achieve the climate targets.

Scope: The conference should address all the following activities:

- highlight the strong links between the transition towards healthy and sustainable food systems, and the transition to a sustainable circular bioeconomy,
- promote stakeholder collaboration and new partnerships across various disciplines and sectors at local, national and European levels,
- exchange results and good practices between ongoing Horizon projects, Missions and partnerships working on food systems and biodiversity,
- increase awareness and engagement from the public, media and other stakeholders about the importance of the transformative governance for the food system and biodiversity for a greener future.

The event will bring together all actors of the food system, such as European and national policymakers from different levels, farmers, academia, SMEs, NGOs, youth representatives, consumers and the private sector, collaborating on advancing policy and R&I on agriculture, food systems and biodiversity for a fair and sustainable future.

Specific conditions:

The starting date of the grant awarded under this action may be as of the submission date of the application.

Subcontracting is not restricted to a limited part of this action.

The evaluation committee will be composed fully by representatives of EU institutions.

Legal entities:

University of Copenhagen, Nørregade 10, 1172 København, Denmark

Form of Funding: Grants not subject to calls for proposals

Type of Action: Grant to identified beneficiary according to Financial Regulation Article 198(e) - Coordination and support action

The general conditions, including admissibility conditions, eligibility conditions, award criteria, evaluation and award procedure, legal and financial set-up for grants, financial and

operational capacity and exclusion, and procedure are provided in parts A to G of the General Annexes.

Indicative timetable: As of second quarter of 2025

Indicative budget: EUR 0.30 million from the 2025 budget

2. Presidency event - Advancing the bioeconomy strategy for sustainable food and bio-based systems

Research and innovation (R&I) are key enablers for the deployment of the bioeconomy and for developing sustainable food and biobased systems.

Ireland will take on the Presidency of the Council of the European Union in the second half of 2026. The foreseen Presidency event will be an opportunity to build on the new EU Bioeconomy Strategy that is expected to be published by the end of 2025, and the EU's Food2030 initiative, for advancing the bioeconomy across different EU policies and instruments, and for increasing private and public investment.

Expected outcome: this conference is expected to contribute to all of the following expected outcomes:

- The bioeconomy as a vehicle to address the challenges that the EU faces today, including climate change, fossil-fuel dependency and food security.
- The conference provides an opportunity to take stock of the new EU bioeconomy strategy, Food2030 initiative and Horizon Europe (including Horizon Europe Partnerships, Missions, and Joint Undertakings) and other bioeconomy-related EU policies. It will provide exchange on the EU's strategic challenges and on insights from science, innovation and practice, at Member State and EU level.

Scope: the conference should address all of the following activities:

- provide a space for the presentation of scientific achievements, real-world examples of the bioeconomy in action (such as those funded by the Circular Biobased Europe Joint Undertaking) and for exchange of practical ideas and innovative solutions;
- highlight the role of the bioeconomy for vibrant rural, coastal and urban areas, for mobilising primary producers in climate action and in the green transition, and for creating and maintaining jobs, growth, for primary producers, landowners, small and medium sized enterprises, and other rural actors, including through new value-added chains and business models. Possible synergies with the EU Clean Industrial Deal, the Agri-Fish and COMPET Council, the UN FAO, IACGB and the Global Bioeconomy Summit, the EU High Level Policy Forum on the Bioeconomy and the Standing Committee for Agricultural Research (SCAR) could be explored.

The event will bring together the European Commission, Member States, Members of the European Parliament and other EU Institutions, stakeholders, experts and interested citizens, including youth representatives, from across Europe.

The event will take place in Dublin during the Irish Presidency of the Council of the European Union. The European Commission will support the organisation of the event in cooperation with the entity designated by the Irish Presidency.

This grant will be awarded without a call for proposals according to Article 198(e) of the Financial Regulation and Article 24(3)(b) of the Horizon Europe Regulation to the legal entity identified below.

Specific conditions:

The starting date of the grant awarded under this action may be as of the submission date of the application.

Subcontracting is not restricted to a limited part of this action.

The evaluation committee will be composed fully by representatives of EU institutions.

Legal entities:

Department of Agriculture, Food and the Marine, Agriculture House, Kildare Street, Dublin D02 WK12, Ireland

Form of Funding: Grants not subject to calls for proposals

Type of Action: Grant to identified beneficiary according to Financial Regulation Article 198(e) - Coordination and support action

The general conditions, including admissibility conditions, eligibility conditions, award criteria, evaluation and award procedure, legal and financial set-up for grants, financial and operational capacity and exclusion, and procedure are provided in parts A to G of the General Annexes.

Indicative timetable: As of second quarter of 2025

Indicative budget: EUR 0.30 million from the 2025 budget

Public procurement

1. Coordination and support service for Circular Cities and Regions Initiative (CCRI)

The transition to a circular economy is key to reducing pressures on natural resources. It is also a prerequisite to achieve the EU's 2050 climate neutrality target and to halt biodiversity loss. For these reasons, the circular economy concept should be a central component in local and regional economies, which have a suitable scale for closing resources loops, creating sustainable circular ecosystems and designing participatory community-based innovation

schemes, which can bring co-benefits for climate action and the preservation of a healthy environment. An increasing number of cities, regions, industries and businesses are engaging in testing and improving circularity in their territories, economic sectors, value chains and services. Nevertheless, concrete implementation of systemic solutions for the territorial deployment of the circular economy still needs to be demonstrated and replicated in other areas. In particular, a major challenge is to apply the circular economy concept effectively in urban and regional policy areas beyond traditional resource recovery in waste and water sectors. Horizon Europe - The Circular Cities and Regions Initiative[311] (CCRI) is part of the European circular economy action plan and aims to support circular solutions for the transition towards a sustainable, regenerative, inclusive and just circular economy on a local and regional scale. The aim of the CCRI's activities is to help implement the European Green Deal, the circular economy action plan and the bioeconomy strategy, contributing to the EU's long-term climate and biodiversity objectives. The CCRI Coordination and Support Office is currently run via a 4-year framework contract (FWC) (from October 2021 until October 2025).

The objective of this new action is to continue and strengthen the coordination and support service for the CCRI's implementation at local and regional level beyond October 2025. In this second operation phase of the initiative, and under the foreseen follow-up framework contract, the CCRI will consolidate and diversify the technical support it provides to European cities and regions. The CCRI will continue to act as a structuring element to connect and facilitate cooperation among the different CCRI-related projects funded under Horizon 2020 and Horizon Europe. It will also continue to further strengthen the collaboration and synergies with other organisations and initiatives supporting the circular transition at local and regional level. The focus will however smoothly shift from pilot experimentation to larger-scale solution roll-out and upscaling.

The first specific contract under this follow-up framework contract is expected to be signed in October/November 2025. It will: (i) provide support activities to European cities and regions in the implementation of their circular systemic solutions; (ii) deepen the analysis of the remaining R&I gaps, and further identify (technical, regulatory and financial) drivers and obstacles for boosting circularity at local and regional level; and (iii) support the dissemination and exploitation of pilot project results.

Form of Funding: Procurement

Type of Action: Public procurement

Indicative timetable: As of second quarter of 2025

Indicative budget: EUR 3.00 million from the 2025 budget

2. Studies, conferences, events and outreach activities

A number of specific contracts will be signed under existing framework contracts to:

311 Circular Cities and Regions Initiative | Circular Cities and Regions Initiative (europa.eu)

(i) support the dissemination and exploitation of project results;

(ii) contribute to the definition of future challenge priorities;

(iii) carry out specific evaluations of programme parts;

(iv) organise conferences, events and outreach activities.

Should existing framework contracts prove unsuitable or insufficient to support these activities, one or more calls for tender may be launched, as appropriate. The contracts envisaged cover the following subjects: studies, technical assistance, conferences, events and outreach activities.

Form of Funding: Procurement

Type of Action: Public procurement

Indicative timetable: throughout 2025

Indicative budget: EUR 0.60 million from the 2025 budget

Expert contract actions

1. External expertise to assess and advise on EU research and innovation policy

This action will support the provision of independent expertise in support of the design, implementation and valorisation of EU research policies in the areas currently in scope of Cluster 6: i. environmental observation; ii. biodiversity and natural resources; iii. agriculture, forestry and rural areas; iv. seas, oceans and inland waters; v. food systems; vi. bio-based innovation systems in the EU's bioeconomy and vii. circular systems.

Individual experts will work on the assessment, analysis and valorisation of completed and on-going research and innovation actions and programmes and the identification of future research and innovation needs.

The assessment and advisory tasks of individual experts can include the following:

- analysis of the contribution of research results (at national, EU and/or international level) to EU policy objectives and emerging issues, including policy recommendations where appropriate.
- analysis of research results at national, EU and/or international level (e.g. portfolio analysis), which may imply quantitative assessments and/or qualitative assessments.
- identification of innovative solutions as well as potential gaps and synergies to be addressed by EU research and innovation policy.
- advice on the valorisation, communication, dissemination and exploitation of research results.

- participation in conferences and events, e.g. including the drafting of papers and reports on their conclusions.

A special allowance of EUR 450/day will be paid to the experts appointed in their personal capacity who act independently and in the public interest.

Form of Funding: Other budget implementation instruments

Type of Action: Expert contract action

Indicative budget: EUR 1.00 million from the 2025 budget

Subscription actions

1. GEO subscription 2025

The EU provides an annual contribution to activities of the Group of Earth Observations (GEO) Secretariat for 2025. As reaffirmed by the Cape Town declaration [312] GEO is committed to advancing the implementation of the Paris Climate Change Agreement, the Sendai Framework for Disaster Risk Reduction, the 2030 Agenda for Sustainable Development, and the New Urban Agenda.

As a full member of the GEO, the Commission will pay a contribution on the EU's behalf to the GEO Trust Fund, which is the budgetary structure agreed by GEO members to fund the GEO Secretariat and some GEO activities, including GEOGLAM (hosted by the World Meteorological Organisation in Geneva, Switzerland).

This contribution will help ensure the that the GEO secretariat operates according to its concept of operation and annual operations plan, agreed by the GEO Executive Committee (which the EU is co-chairing together with China, USA, and South Africa). At least EUR 0.20 million EUR of the contribution shall be used to support the function of a regional GEO coordinator in charge of the European caucus. Another EUR 0.30 million EUR of the contribution shall be reserved for the GEOGLAM directorate hosted by the GEO secretariat.

Type of Action: Subscription action

Indicative timetable: As of second quarter of 2025

Indicative budget: EUR 1.60 million from the 2025 budget

312 Cape Town Ministerial Declaration and Youth Declaration (earthobservations.org)

Budget[313] [314]

	Budget line(s)	2025 Budget (EUR million)	2026 Budget (EUR million)	2027 Budget (EUR million)
Calls				
HORIZON-CL6-2025-01		345.00	50.00	50.00
	from 01.020260	*345.00*	*50.00*	*50.00*
HORIZON-CL6-2025-02		352.50	138.00	144.00
	from 01.020260	*352.50*	*138.00*	*144.00*
HORIZON-CL6-2025-03		129.40		
	from 01.020260	*129.40*		
HORIZON-CL6-2025-01-two-stage		48.00		
	from 01.020260	*48.00*		
HORIZON-CL6-2025-02-two-stage		74.00		
	from 01.020260	*74.00*		
Contribution from this part to call HORIZON-CL4-2025-01 under Part 7 of the work programme		12.00		
	from 01.020260	*12.00*		
Other actions				
Grant awarded without a call for proposals according to Financial Regulation Article 198(e)		0.60		
	from	*0.60*		

313 The budget figures given in this table are rounded to two decimal places.
The budget amounts are subject to the availability of the appropriations provided for in the general budget of the Union for 2025.

314 The contribution from Cluster 6 for the year 2025 is EUR 153.39 million for the Missions work programme part and EUR 27.97 million for the New European Bauhaus Facility work programme part.

	01.020260			
Public procurement		3.60		
	from 01.020260	*3.60*		
Expert contract action		1.00		
	from 01.020260	*1.00*		
Subscription action		1.60		
	from 01.020260	*1.60*		
Estimated total budget		967.70	188.00	194.00