

# Feedback opportunity for the work programme 2025

## Cluster 6 'Food, Bioeconomy, Natural Resources, Agriculture and Environment'

### Destination 1: Biodiversity and ecosystem services

#### Draft expected impacts:

Strategic Plan 2025-2027 – Expected Impact 28: Putting biodiversity on a path to recovery, and protecting and restoring ecosystems and their services.

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”, 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 to society, 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, fishers and aquaculture producers rely on biodiversity-friendly practices while safeguarding long-term sustainability and food security.
- Progress towards reaching the goals and targets of the Global Biodiversity Framework contributes to reducing the pressure on biodiversity and to ensuring sustainable development worldwide.

#### Main expected outcomes:

To achieve the above-mentioned impacts, the following expected outcomes will be pursued:

- The taxonomic community (biodiversity identification from molecules, species and populations to ecosystems, including genomes and e-DNA) and its capacity to engage with and support policy and other decision-making are strengthened. Strategic approaches for a systematic reinforcement of expertise on taxonomy and genetic diversity in the EU and in Associated Countries are built.
- In situ biodiversity observations are scaled up and made available with a view to support applied research and innovation, policy development and implementation, business actions and applications, and other use cases across various sectors. 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.
- The establishment of satisfactory levels for species diversity and populations, favourable reference values, threshold values for good environmental status and ecological needs of species, including quantity and quality of their habitats, are based on latest available knowledge, inter alia through appropriate modelling approaches. The links between habitats

restoration and species conservation, including as regards connectivity and functionality, and competing needs of species are better understood.

- Socio-economic impacts including estimated benefits of nature restoration are better known, including with improved modelling of trends and integrated scenarios for biodiversity, ecosystem services and good quality of life.
- Actors implementing nature restoration activities, in particular under the proposal for an EU Nature Restoration Law benefit from updated knowledge.
- Integrated approaches to protect and restore connected key marine and coastal ecosystems (e.g., coral reefs and associated ecosystems) are elaborated or further developed.
- Alternative governance and socio-economic models that better integrate all values of biodiversity and nature are designed with the aim to ensure biodiversity protection and restoration, including through application of the non-deterioration principle and innovative market instruments. .
- Transformative change is steered by better understanding civil society perceptions of the biodiversity crisis and its underlying conflicts. Strategies, methods and tools to improve communication, increase people's awareness, stakeholder involvement and citizen engagement are developed.
- Practices and innovations in agriculture, forestry, fisheries, and aquaculture to support and make sustainable use of biodiversity and ecosystem functions are further developed, tested and spread.
- Mixed production systems are developed and fostered to enhance agrobiodiversity and the delivery of added co-benefits and ecosystem services.
- Land managers have access to a wider range of crops, including protein crops, and breeds with a rich genetic base, supporting biodiversity in agroecosystems and contributing to low-input, competitive and resilient agriculture and climate change adaptation.
- Europe's leadership to reach an ambitious global biodiversity agenda, including the support for the forthcoming global knowledge support service for biodiversity and regional support centres benefit from improved knowledge, knowledge management and innovative solutions to achieve global biodiversity commitments in Europe and beyond.
- Additional activities under the European Biodiversity Partnership Biodiversa+ will continue to support excellent research on biodiversity with an impact for society and policy and will focus on the flagship programmes 2023-2027 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.

# Feedback opportunity for the work programme 2025

## Cluster 6 'Food, Bioeconomy, Natural Resources, Agriculture and Environment'

### Destination 2: Fair, healthy and environment-friendly food systems from primary production to consumption

#### Draft expected impacts:

Strategic Plan 2025-2027 – Expected Impact 30: Ensuring healthy food and nutrition security by making agriculture, fisheries, aquaculture and food systems sustainable, resilient, inclusive and within planetary boundaries.

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 will contribute to 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, circular, low greenhouse gas-emitting farming systems contributing to climate-neutrality and climate-resilience. This will be achieved by new knowledge and the upscaling and replication of sustainable farming approaches 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 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 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 and sustainable diets; food businesses can flourish; food processing industries' competitiveness is improved, while ensuring sustainability, food safety and food sovereignty, human health is preserved and food waste is reduced.

## **Main expected outcomes:**

To achieve the above-mentioned impacts, the following expected outcomes will be pursued:

- The European Partnership on 'Agroecology' ('Accelerating farming systems transition: agroecology living labs and research infrastructures') fosters the potential of agroecology for environmentally friendly agri-food systems, which contribute to climate-neutrality, are nature-positive, inclusive, place-sensitive, profitable and resilient. It enables farmers and value chain actors to successfully apply agroecology principles thanks to: a stronger R&I ecosystem for agroecology, increased knowledge on the benefits, challenges and potential of agroecology for farming, food and society, improved sharing of and access to knowledge, place-based innovations and improved governance and policies.
- The European Partnership on 'Animal health and welfare' equips farmers aquaculture producers and other actors to protect animals against infectious diseases and improve animal welfare, while reducing the need for antimicrobials and enhancing food safety, quality and public health with a One health approach.
- Transition scenarios for sustainable livestock systems are improved, including through animal breeding and tools for greenhouse gas footprint assessment.
- Farmers are enabled with tools, innovations and practices to sustainably manage natural resources (in soil, water, nutrients, biodiversity).
- Improved circularity at farm and landscape levels is developed in innovative, sustainable ways, including inter alia by boosting agroecology and organic farming.
- Sustainable, resilient, productive and healthy cropping systems are fostered tackling new and emerging threats to plant health. This will be done, through prevention, early detection and integrated management strategies including low-input practices and innovative technologies.
- The production of protein crops for food and feed is diversified and enhanced, helping to decrease reliance on imported products and bolster the resilience of agricultural systems.
- The socioeconomic resilience of agriculture is improved by co-creating with farmers and relevant actors in agricultural primary sector new farming methods, technologies and business models while supporting sustainable farming agricultural policies.
- Farmers and relevant actors in agricultural primary sector have better access to digital tools and are interconnected through the use of advanced digital and data technologies that support sustainable farming approaches.
- Quality from alternative water sources is tested in order to improve water quality for irrigation. Long-term effects on soil quality, crop productivity and quality and food safety and security are assessed.
- Aquaculture production in fresh and sea water is diversified and sustainable growth is facilitated based on the uptake of existing and new knowledge on species biology, food webs and pathology as well as on new production methods and monitoring. Wild fish, nursery habitats, as well as the populations and genetic diversity underpinning aquaculture production are maintained within safe biological limits. At the same time, the integrity, health and functioning of aquatic ecosystems is safeguarded, while also relieving pressure on land resources.

- Sustainable production and harvesting of low-trophic edible aquatic species within limits is promoted in a way that allows biodiversity conservation and restoration in aquatic ecosystems, while information to consumers on the nutritional, environmental and health benefits of such aquatic food is fostered.
- Innovative technologies for more precise and efficient systems for monitoring, control and surveillance of fish stocks and other utilised biological resources are developed, to ensure both the quality of seafood products and the good status of commercial populations, but also that the stocks' quantities are accurately estimated.
- The partnership for 'Sustainable food systems for people, planet and climate' is expected to start its activities in the first semester of 2024, building on the Food 2030 R&I initiative. Via this EU-wide targeted R&I partnership the transition towards healthy and low greenhouse gas-emitting diets that are safe and sustainably produced in resilient EU and global food systems will be accelerated. The partnership will help close knowledge gaps, and identify and deliver innovative solutions, including social innovation, which provide co-benefits for nutrition, climate, nature protection and restoration, environment, circularity and communities. It will also leverage investments and align multiple actors towards common goals and targets, and also contribute to the further build-up of the European Research Area in support of sustainable food systems transformation at various scales.
- Food businesses and industries, including processing, wholesale, retail and food services are provided with opportunities and incentives to stimulate sustainable practices and production that are low greenhouse gas-emitting and energy efficient.
- Consumers/citizens and communities' behaviour/needs are better understood and equipped with capacity and tools that empower them and facilitate the shift to healthy, sustainable diets, enhanced also by social innovation, technology, behavioural change and marketing standards.
- Improved knowledge and innovative solutions are used to contribute to eradicating all forms of malnutrition for the prevention of non-communicable diseases, such as mental health disorders, by developing and making accessible new healthy and sustainable food products, healthy diets for all citizens in particular for the vulnerable ones.
- The shift to sustainable and healthy diets is accelerated by improved knowledge and innovative technological solutions, resulting in innovative foods, and the use of macro and micronutrients, including alternative sources of proteins, are explored.
- Food waste, including from households, are prevented and reduced through the development of innovative, circular economy-driven alternative markets, through better collaboration between countries inside and outside Europe, and through improved resource efficiency along the food value chains, including by reducing un-used biomass streams.
- The potential of the microbiome is further unlocked and used via existing and new technologies, for example to prevent food waste, to receive health benefits, to reduce environmental pollution, and to develop alternative sources of proteins, through the use of biotechnologies and biomanufacturing.

- A science-based information programme, which will enable citizens to understand the dietary shift towards alternative protein including those produced from biotechnology processes for food production, is developed.
- Knowledge and technology innovations between food system actors on food safety and food fraud is better shared and exchanged.
- The prediction, identification, assessment and management of existing and emerging food safety issues across food systems and their interconnectedness is enhanced.
- Innovative tools and approaches to improve resilience and sustainability of agriculture and food systems in Africa are developed.

# Feedback opportunity for the work programme 2025

## Cluster 6 'Food, Bioeconomy, Natural Resources, Agriculture and Environment'

### Destination 3: Circular economy and bioeconomy sectors

#### Draft expected impacts:

Strategic Plan 2025-2027 – Expected Impact 29: 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.

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 avoidance and remediation, and the promotion of new forms of cooperation between diverse economic and societal actors across sectors and territories. All economic operators implement practices that prevent, upgrade and upcycle waste, enhance secondary resource valorisation and promote the optimised use of bio-based resources for greater efficiency. Further support will be given to circular and zero-waste production systems.
- Industry and consumers benefit from new opportunities for more upcycling to new high-value products while increasing recycling rates for material streams of high economic and environmental relevance.
- Innovative business and governance models, such as product-as-a-service systems and second-hand markets, are advanced and coupled with R&I efforts to foster safe and sustainable product design to help reach the European Green Deal objectives of lower resource consumption and less environmental impact. This includes durability, reliability, reusability, reparability, recyclability, 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 climate-neutral, circular, bio-based and nature-based solutions.
- Agriculture and the entire agro-based value chain contribute to a climate-neutral economy and society, also contributing to ensure that all ecosystems are restored, resilient, and adequately protected.
- The full potential of marine and freshwater biological resources and blue biotechnology is leveraged to deliver societal benefits, such as greener industrial products and processes, support public health and environmental conservation.

## **Main expected outcomes:**

To achieve the above-mentioned impacts, the following expected outcomes will be pursued:

- New value chains using upcycled or recycled resources, with minimal loss of value and material quality while increasing the uptake of recycled material are established.
- The increase in resource efficiency along and across value chains through circular interventions and the related reduction in GHG emissions and other environmental pollution, are measured as well as the expected increase of carbon removals.
- New circular business practices, including the uptake of repair, reuse and remanufacturing but also practices that form part of the sharing economy, including fair pricing practices, are developed, established and spread. The impact of the transition to circular economy for society, also with reference to Product Environmental Footprint methods and civil society-oriented actions, is analysed.
- Ecodesign elements and Extended Producer Responsibility schemes are developed and tested.
- Key circular economy stakeholders (citizens, businesses, investors and public institutions) are engaged in circular, climate-neutral and resilient practices and the transfer of circularity knowledge between cities, regions and their partners is facilitated. Improved knowledge and innovative solutions lead to long-term viability, increased replicability and scalability of circular systemic solutions at territorial level.
- Public awareness about social engagement with and acceptance of circular and bio-based solutions is sought.
- Innovative circular governance and business practices are established to increase resource valorization, support resilience, create job opportunities, and develop macro-economic models focusing on circular economy's labor market, skills, and social impacts.
- Supporting tools (including digital solutions) are developed to facilitate the adoption of circular business practices, especially for businesses like SMEs, while also demonstrating advanced digital solutions (e.g., through AI, robotics, IoT, and blockchain) for waste management and recycling.
- Income and business opportunities are diversified for stakeholders and actors (including primary producers) and new job opportunities are created in the bio-based sector, particularly in rural and coastal areas.
- Standards, criteria and sustainability assessment methods for bio-based value chains are developed, and the biomass provision for industrial bio-based value chains, is demonstrated, including from marginal lands.
- High value compounds are obtained by bioprospecting terrestrial and marine ecosystems.
- Full potential of bio-based solutions (non-harmful to biodiversity and able to support nature restoration), in conflict areas is assessed and seized.
- Farmers leverage the sustainability opportunities offered by on-farm innovation including by fostering circular systems.
- The sustainability of bio-based products is improved throughout the whole life cycle, including developing and demonstrating sustainable end-of-life solutions. Assessment methods of sustainability are advanced and demonstrated.



- 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, digitalisation and IT solutions, supporting the bio-based innovation.
- The EU Biotechnology and Biomanufacturing Initiative is supported.
- The discovery pipeline of marine natural products which find applications such as industrial products (biocatalysts) and public health (pharma, bioinspired materials) is broadened with optimised environmental footprint.
- The partnership Forests and Forestry for a Sustainable Future equips forests managers and other key actors with the necessary knowledge and skills to choose the most appropriate management strategies for a successful green transition towards a sustainable and circular bioeconomy while contributing to biodiversity and climate goals.

# Feedback opportunity for the work programme 2025

## Cluster 6 'Food, Bioeconomy, Natural Resources, Agriculture and Environment'

### Destination 4: Clean environment and zero pollution

#### Draft expected impacts:

Strategic Plan 2025-2027 – Expected Impact 29: Achieving healthy soils and forests, as well as clean air, fresh and marine waters, whilst ensuring water resilience and the transition to a clean, competitive and circular economy and sustainable bioeconomy.

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 and waters.
- Safe and sustainable by design bio-based solutions are developed for and by the bio-based industries, including through innovative biotechnology and biomanufacturing techniques, and replacing harmful chemicals in industrial processes and in products, leading to cleaner and less polluting bio-based industries.
- Sustainable bio-based and nature-based solutions will be developed and tested to remediate and restore 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 and economic sustainability, preventing and reducing pollution from agriculture.

#### Main expected outcomes:

To achieve the above-mentioned impacts, the following expected outcomes will be pursued:

- The efficiency of science-based air quality measures and planning processes is increased through new and improved cost-effective monitoring and modelling tools, techniques and approaches for characterization and source apportionment of air pollution, including pollutants of great and emerging concern, directly supporting the revised EU air quality legislation.
- The understanding of the cumulative effects and risks of marine pollution on marine organisms and ecosystems, through new analytical tools, methods and sensors is improved as

well as the assessment of ecotoxicological effects, environmental fate and risks including through bioaccumulation processes.

- A pan-European strategy for monitoring litter including plastic and microplastics in freshwater, coastal and marine waters is developed.
- Standards, criteria and evaluation methods of the environmental sustainability of biomass supply to bio-based industries as well as of bio-based systems – from the supply chain and along the value chain – are developed and assessed, to prevent the release of pollutants to air, water and soil.
- The remediation and restoration of polluted environments, through bio-based and nature-based solutions, including in the international context and towards disaster relief, also enabled by biotechnological solutions, are supported.
- Hazardous substances of concern and of new concern (e.g., Per- and Polyfluorinated Substances (PFAS) and Endocrine-Disrupting Chemicals (EDCs)) are mapped and assessed in industrial releases (sources, quantify the releases and assess risks for environment) from bio-based systems and from bio-based products.
- Innovative methods are analysed, developed and deployed to effectively track, prevent, and reduce pollution from the food and drink industries.
- The environmental footprint and pollution from the food value chains are significantly reduced.
- Advanced water-nutrient-soil management tools that integrate multidimensional data from sampling, remote sensing and other data sources to enable context-specific decision making at farm level, thus enhancing the monitoring of water, nutrients and greenhouse gas balances to reduce pollution are developed.

# Feedback opportunity for the work programme 2025

## Cluster 6 'Food, Bioeconomy, Natural Resources, Agriculture and Environment'

### Destination 5: Land, ocean and water for climate action

#### Draft expected impacts:

Strategic Plan 2025-2027 – Expected Impact 27: Fostering mitigation of and adaptation to climate change in areas and sectors covered by Cluster 6.

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.

#### Main expected outcomes:

To achieve the above-mentioned impacts, the following expected outcomes will be pursued:

- Improved scientific understanding of ocean climate interventions, ocean acidification, limits to ocean integrity at different emission scenarios, ocean changes and climate action, existing and emerging threats, risks and impacts, deep-sea biodiversity and response measures guided by the precautionary principle.
- Greenhouse gas emissions from the land-use sector, in particular non-CO<sub>2</sub> emissions (methane and nitrous oxide), are better monitored and more effectively reduced, and CO<sub>2</sub> removals from the atmosphere are increased.
- The capacity of the land-use sector and of relevant public authorities to anticipate impacts of climate change, including in the medium and longer term, is better understood and enhanced.
- The resilience of agricultural production and of other terrestrial ecosystem services is fostered in the face of direct and indirect climate change impacts, including through more effective public policies.
- Better management of the changing hydrological cycle to reduce water risks related to climate change impacts, foster water resilient land use and planning, enhance cross-sectoral cooperation between various water related policies and between different water use sectors.

- This is done while increasing water use efficiency in all sectors, balancing better water demand and supply, helping transforming the economics and restructuring the governance of water.
- The fragmentation between EU, national and regional R&I funding on water is overcome and related policies are integrated and aligned with a shared strategic research and innovation agenda thanks to the additional activities of the Water4All Partnership ('Water Security for the Planet'), for increased protection and resilience of water resources.

## **Feedback opportunity for the work programme 2025**

### **Cluster 6 ‘Food, Bioeconomy, Natural Resources, Agriculture and Environment’**

#### **Destination 6: Resilient, inclusive, healthy and green rural, coastal and urban communities**

##### **Draft expected impacts:**

Strategic Plan 2025-2027 – Expected Impact 31: Sustainably developing rural, urban and coastal areas.

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 are better prepared to adapt to climate change and to achieve climate neutrality and environmental objectives.
- Rural areas are prepared to mitigate the social, economic and environmental impacts of demographic trends or reverse depopulation through enhanced territorial governance and innovative inclusive solutions.
- Urban and peri-urban communities can access 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 be more resilient and better equipped to tackle extreme weather events thanks to latest scientific research results and innovative 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.

##### **Main expected outcomes:**

To achieve the above-mentioned impacts, the following expected outcomes will be pursued:

- Innovative solutions to tackle rural depopulation are developed, rural areas are equipped to manage an ageing and smaller population, and there are new inclusive job opportunities for all.
- There is an improved understanding of housing and commuting options in rural areas and evidence-based decisions can be taken to address challenges.
- The attractiveness of jobs in agriculture and forestry and the links between farming community and society are enhanced through improved understanding and unlocked potential of media, arts and marketing.
- Rural and urban communities are provided with inclusive and systemic solutions to access sustainable, viable and resilient ways of living through biodiversity-friendly, and local actions

- and nature-based solutions, healthy diets, community practices for enhanced food systems governance.
- Tangible benefits and support to coastal communities, managing authorities, and citizens, including young people, are created to build a knowledge base and skills as well as an interface between the needs of coastal communities and existing R&I solutions in the Atlantic, focusing on enhancing their coastal resilience and supporting them to take evidence-based decisions to respond to climate change with socially acceptable measures in their territories.

# Feedback opportunity for the work programme 2025

## Cluster 6 'Food, Bioeconomy, Natural Resources, Agriculture and Environment'

### Destination 7: Innovative governance, environmental observations and digital solutions in support of the Green Deal

#### Draft expected impacts:

Strategic Plan 2025-2027 – Expected Impact 32: Developing innovative governance models and tools enabling sustainability and resilience.

Proposals for topic 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:

- Just societal transformation, community empowerment and societal participation from enhanced knowledge and tools improving science-policy interfaces, decision-making processes and coordination mechanisms of policies (policy mixes) and multi-level governance support the green transition;
- Sustainability and resilience of the economy are increased by more accessible and interoperable environmental observations and digital and data technologies;
- Enhanced knowledge flows and skills of actors and communities facilitate the transformative changes required by the European Green Deal.

#### Main expected outcomes:

To achieve the above-mentioned impacts, the following expected outcomes will be pursued:

- Farmers, land owners/managers and society at large benefit from support targeted towards the delivery of agri-environment-climate public goods. This will be thanks to new knowledge and innovations that will support development of result-based and collective payments for environmental services on the ground.
- The EU input industry-farmers-food value chains are more sustainable, secure and resilient due to better understanding and improved analytical capacity of system's complexity and the relationships across them.
- The governance of food systems and bioeconomy is improved through robust organisational and institutional design, social transformation, community empowerment at local and regional levels, ensuring of inclusion of underrepresented and disadvantaged groups at local and regional levels, and strengthened science-policy interfaces.
- The opportunities under the concept of Regional Innovation Valleys for the Bioeconomy and Food Systems are assessed and demonstrated.
- Awareness of the need to transition towards sustainable food systems and bioeconomy is raised and buy-in from all relevant actors, also involving disadvantaged communities, vulnerable people, women, youth and youth-led initiatives and organisations ensured through multi-actor approach, public engagement, education, and training.



- Understanding and awareness of bioeconomy and its bio-based sector on territorial, local and regional level is improved based on the scientific evidence, underpinned by the sustainability, circularity, fairness and inclusiveness principles.
- The EU and international science-policy interfaces are strengthened to help achieve the Sustainable Development Goals including through Earth Intelligence as defined in the GEO post 2025 strategy.
- The green and digital transitions in various sectors are facilitated by Earth Observation (EO) based services in Europe with a pathway for EU and global policy and market uptake, facilitated through GEO and other initiatives.
- Environmental observing systems, in particular in remote and difficult-to-access areas like polar regions, are optimised and their governance and interoperability are improved, making them more comprehensive, cost-effective and user-friendly to support policies at European and international level.
- International collaboration to enhance coordination on observing systems and sharing environmental data and knowledge is enhanced in support of multi-lateral environmental agreements and initiatives (the Paris Agreement, the Global Greenhouse Gas Watch, the Kunming-Montreal Global Biodiversity Framework and the Early Warnings for All initiative). This will help strengthening science-diplomacy approaches.
- Sustainable agriculture practices are enabled by innovative big data, AI and machine learning based solutions.
- Farmers, rural actors (including rural businesses), foresters and the nature conservation sector are served with digital and data-based solutions and equipped with better knowledge and skills to exploit their potential.
- Future generations of farmers and advisors are prepared for the future of farming by providing them with the right knowledge and skills at the right time and place, including by improved agricultural education and training systems.
- The practitioners better and more widely use the R&I results ready for practice from successful Horizon projects and EIP-AGRI OGs, including via improved implementation of multi-actor projects.
- Knowledge and skills of farmers, land owners/managers and advisors are strengthened via thematic and advisory networks including on legume crops.