Developing end-user products and services for all stakeholders and citizens supporting climate adaptation and mitigation

This action should contribute to informing citizens and decision-makers about the impacts of climate change in the decades to come, identify adaptation options, and illustrate what pathways towards climate neutrality entail in terms of production, consumption, planning and lifestyle, incorporating behavioural factors. In particular, the last mile of the climate service delivery should be tackled for the most relevant sectors, in order to deliver solutions towards meeting the decarbonisation goals of the European Green Deal as well as adaptation options for dealing with climate change impacts.

The projects under this topic should cover some of the following aspects:

- Building on existing services and frameworks, such as Copernicus, GEOSS, EMODnet and ESA actions. This includes addressing the downstream part of the value chain and engage with end users and stakeholders, customising of data and exploitation platforms, the use, scale-up and replication of existing service models, brokerage of knowledge and dissemination to the public;
- Build robust knowledge on how the climate is changing at a scale meeting the user's needs, and what impacts are to be expected at sectoral and regional levels in Europe. Identification of barriers to the predictive potential of climate adaptation models should be addressed, including by blending the latest information from climate models, downscaling products, observations, user or citizen knowledge or other intelligent ways of filtering relevant information for users;
- Synthesising/exploiting this knowledge in a way that bridges the gap between the expert tools already used by scientists, and the needs of stakeholders who are making decisions today that will both, affect and be affected by climate change and its impacts;
- Making the above findings accessible to the public, going beyond existing tools in both scientific robustness and user relevance;
- Demonstrating the climate services in a near-to-operational environment with the provision of guidance services and measuring the results through key performance indicators defined with users and stakeholders;

- Multiplying the outreach through scaling up and replication to a number of players in the business and public sector, as well as in less represented areas in Europe and beyond. This includes the development of appropriate business models and knowledge brokerage activities as well as activities to tackle other relevant barriers, such as quality assurance and standards, institutional barriers, capacity building.

Actions under this topic should more specifically focus on one of the following aspects:

- Converting the mitigation pathways that are compatible with EU climate goals and adaptation strategies for potential impacts to 2050 and beyond into clear information about how climate change impacts will evolve and how production, consumption, infrastructure and lifestyle needs to change. Including consideration of co-benefits and trade-offs, and insights into the drivers and barriers for these changes, and how barriers can be overcome;
- Contributing to delivering the next-generation of climate services, in collaboration with the commercial sector, through addressing part or all of the downstream part of the value chain, focusing on sectoral and geographical gaps, providing actionable information to non-specialists for adapting to extreme climate events and new climatic conditions through tools, platforms (e.g. GEOSS & Copernicus) and/or mobile applications.

The Commission considers that proposals requesting a contribution from the EU of EUR 3 to 5 million would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts. In line with the Union's strategy for international cooperation in research and innovation, international cooperation is encouraged in particular for this topic addressing the climate priority of the Group on Earth Observation (GEO).

The science underpinning the European Green Deal has outlined what is at stake in terms of the impacts of climate change, the need to adapt to them, and the need to pursue decarbonisation pathways towards net zero. However, the challenges of mitigation and adaptation will ultimately be met by business and investors, government, and citizens. These actors therefore need to be empowered with solutions that are in keeping with scale of the challenge. As today's planning decisions affect our emissions and resilience for decades ahead, decision-makers need to know which modes of production, consumption and lifestyle are compatible with climate-resilience and pathways achieving climate neutrality by 2050. Climate change adaptation and mitigation solutions still fail, to a large extent, to incorporate social and behavioural factors that would increase efficiency towards our climate goals, and overcome barriers preventing achieving those goals.

Scientific research has provided a vast variety of information on the climate system, the impacts of climate change at different scales and options for adaptation as well as integrated assessments of mitigation pathways. However, actions are needed for

relevant and practical climate adaptation and mitigation solutions and information to reach the end users, help them in building the climate-neutral future they want and address environmental challenges posed by climate change. Actions are also needed to support the use of climate information in risk management and planning across sectors and regions.

- Enable citizens, stakeholders and decision-makers to factor climate change and climate action into the decisions that will affect our lives for decades to come;
- Contribute to the exploitation of information and data from the Copernicus programme and GEO initiative;
- Improve robustness and predictive quality of data, and information and knowledge on climate adaptation and mitigation;
- Bring a step change in the use of knowledge and information and allow users to become active players in climate action;
- Make high-level information on climate change more accessible to people's lives and to provide data in a format that makes it useful for its users;
- Improve European capacity regarding availability of solution to adapt to and mitigate climate change, including by tackling sector and/or geographical gaps;
- Provide appropriate responses to European and international climate policies we committed to;
- Increase resilience of society, organisation (private and public), and individual to multiple risks;
- Support the development of the European Service sector regarding end-user climate services.

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