

SC5 – CLIMATE ACTION, ENVIRONMENT, RESOURCE EFFICIENCY AND RAW MATERIALS



The 2018-2020 Work Programme (WP) of the Societal Challenge 5 (SC5) focuses on moving to a greener, more resource efficient and climate-resilient economy in sync with the natural environment, demonstrating a strong commitment to supporting the **Sustainable Development Goals** (SDGs) and the targets of the **COP21 Paris Agreement**. In particular, the WP focuses on the following six priorities:

- **Climate action** in support of the Paris Agreement;
- **Circular economy**;
- **Raw materials**;
- **Water** for our environment, economy and society;
- **Innovating cities** for sustainability and resilience;
- Protecting and leveraging the value of our **natural and cultural assets**.

THEMATIC AREAS



The overall budget dedicated to SC1 is about **€1.1 billion**.

The activities of this WP will be implemented by the following two calls for proposals:

BUILDING A LOW-CARBON, CLIMATE RESILIENT FUTURE: CLIMATE ACTION IN SUPPORT OF THE PARIS AGREEMENT

- Decarbonisation
- Climate adaptation, impacts and services
- Inter-relations between climate change, biodiversity and ecosystem services
- The Cryosphere
- Knowledge gaps



GREENING THE ECONOMY IN LINE WITH THE SUSTAINABLE DEVELOPMENT GOALS



- Connecting economic and environmental gains - the circular economy
- Raw materials
- Water for our environment, economy and society
- Innovating cities for sustainability and resilience
- Protecting and leveraging the value of our natural and cultural assets: Earth observation
- Protecting and leveraging the value of our natural and cultural assets: Nature-based solutions, disaster risks reduction and natural capital accounting
- Protecting and leveraging the value of our natural and cultural assets: Heritage alive

BUILDING A LOW-CARBON, CLIMATE RESILIENT FUTURE: CLIMATE ACTION IN SUPPORT OF THE PARIS AGREEMENT

This call aims to produce solutions for the achievement of the **Paris Agreement's** mitigation and adaptation. The related actions also support relevant EU policies and objectives, such as the **Energy Union, Arctic policy, EU Adaptation Strategy and EU climate diplomacy efforts**. Special consideration is given to cooperation with strategic partner countries/regions. Ultimately, the actions are expected to support Europe's endeavours to implement not only the Paris Agreement but also the **Sustainable Development Goals (SDGs)**, particularly SDG 13 Climate action, SDG 6 Ensure availability and sustainable management of water and sanitation for all, SDG 11 Sustainable cities and communities, SDG 14 Life below water and SDG 15 Life on land.

Decarbonisation			
Action	Topic	Opening date	Deadline(s)
RIA	Supporting the development of climate policies to deliver on the Paris Agreement, through Integrated Assessment Models (IAMs)	07/11/2017	27/02/2018 04/09/2018
RIA	Negative emissions and land-use based mitigation assessment	14/11/2018	19/02/2019 04/09/2019

Climate adaptation, impacts and services				
	Action	Topic	Opening date	Deadline(s)
	RIA	Climate change impacts in Europe	07/11/2017	27/02/2018 04/09/2018
	RIA	Resilience and sustainable reconstruction of historic areas to cope with climate change and hazard events	07/11/2017	27/02/2018 04/09/2018
	RIA	Human dynamics of climate change	14/11/2018	19/02/2019 04/09/2019

Inter-relations between climate change, biodiversity and ecosystem services				
	Action	Topic	Opening date	Deadline(s)
	RIA	Inter-relations between climate change, biodiversity and ecosystem services	14/11/2018	19/02/2019 04/09/2019

The Cryosphere			
Action	Topic	Opening date	Deadline(s)
RIA	The changing cryosphere: uncertainties, risks and opportunities	14/11/2018	19/02/2019 04/09/2019
CSA		14/11/2018	19/02/2019
RIA	Addressing knowledge gaps in climate science, in support of IPCC reports	07/11/2017	27/02/2018 04/09/2018

Knowledge gaps			
Action	Topic	Opening date	Deadline(s)
RIA	Addressing knowledge gaps in climate science, in support of IPCC reports	07/11/2017	27/02/2018 04/09/2018

RIA: Research and Innovation Action

IA: Innovation Action

CSA: Coordination and Support Action

COFUND: Co-funding of regional, national and international programmes

GREENING THE ECONOMY IN LINE WITH THE SUSTAINABLE DEVELOPMENT GOALS

*This call focuses on moving to a **greener, more resource efficient and climate-resilient economy** in sync with the natural environment, demonstrating a strong commitment to supporting the UN's **Sustainable Development Goals**.*

Connecting economic and environmental gains – the circular economy

Actions in this part of the call aim in the medium term to substantially **improve the efficiency of resource use** (including energy and water), to **minimise the production of waste** and **increase the use of resources** originating from secondary sources – while avoiding adverse health effects – and to **reduce pollution and greenhouse gas emissions**.

Action	Topic	Opening date	Deadline(s)
RIA	Methods to remove hazardous substances and contaminants from secondary raw materials	07/11/2017	27/02/2018
			04/09/2018
RIA	Independent testing programme on premature obsolescence	07/11/2017	27/02/2018
			04/09/2018
IA	Demonstrating systemic urban development for circular and regenerative cities	07/11/2017	27/02/2018
			04/09/2018
IA	Building a water-smart economy and society	14/11/2018	19/02/2019
			04/09/2019
CSA	Coordinated approaches to funding and promotion of research and innovation for the circular economy	07/11/2017	27/02/2018

Raw materials

The EU is highly dependent on raw materials that are crucial for a strong European industrial base, an essential building block of the EU's growth and competitiveness. The main aim of this part of the call will be on achieving the objectives and meeting the targets of the **EIP on Raw Materials**. A wide range of actions will cover the entire EU raw materials value chain, from **sustainable exploration, extraction, processing to recycling**. Actors from the whole EU raw materials innovation chain will be involved, including researchers, industry, end-users, public authorities and civil society.

Action	Topic	Opening date	Deadline(s)
RIA	New technologies for the enhanced recovery of by-products	07/11/2017	27/02/2018
			04/09/2018
IA	Raw materials innovation for the circular economy: sustainable processing, reuse, recycling and recovery schemes	07/11/2017	27/02/2018
			04/09/2018
		14/11/2018	19/02/2019
			04/09/2019
Action	Topic	Opening date	Deadline(s)
CSA	Raw materials policy support actions for the circular economy	07/11/2017	27/02/2018
			04/09/2018
		14/11/2018	19/02/2019
			04/09/2018
RIA	New solutions for the sustainable production of raw materials	07/11/2017	27/02/2018
			04/09/2018
		14/11/2018	19/02/2019
			04/09/2019
IA	Raw materials innovation actions: exploration and Earth observation in support of sustainable mining	14/11/2018	19/02/2019
			04/09/2019

RIA: Research and Innovation Action



IA: Innovation Action

CSA: Coordination and Support Action

COFUND: Co-funding of regional, national and international programmes




Water for our environment, economy and society

This part of the call supports and aims to accelerate the implementation of EU policies and initiatives relating to **water, resource efficiency and water-dependent industries**, while also contributing to policy relating to the Energy Union, climate action and the digital economy. Overall, actions are expected to lead in the medium term to: **digital solutions** for improved public- and private-sector decision-making on water-related risks, efficiency and resilience; **substantial reductions in water and energy consumption**; and the **development of new markets for water-smart technologies and services**. A further action focuses on EU-India cooperation to improve wastewater efficiency and quality of and access to drinking water in **India**.

	Action	Topic	Opening date	Deadline(s)
ICT	IA	Digital solutions for water: linking the physical and digital world for water solutions	07/11/2017	27/02/2018
				04/09/2018
	RIA	EU-India water co-operation	07/11/2017	27/02/2018

Innovating cities for sustainability and resilience

Actions in this part of the call have the medium-term objective of enabling cities to design and implement transition pathways to becoming **inclusive, resilient, sustainable, low-carbon and resource efficient** by **enhancing their innovation capacity and enabling them to act as hubs of innovation**. Further actions aim to strengthen the sustainability of urban areas globally, and particularly in **China** and **CELAC** countries.

	Action	Topic	Opening date	Deadline(s)
	RIA	Strengthening international cooperation on sustainable urbanisation: nature-based solutions for restoration and rehabilitation of urban ecosystems (CHINA)	07/11/2017	27/02/2018
				04/09/2018
	RIA	Strengthening international cooperation on sustainable urbanisation: nature-based solutions for restoration and rehabilitation of urban ecosystems (CELAC)	14/11/2018	19/02/2019
				04/09/2019
	IA	Visionary and integrated solutions to improve well-being and health in cities	14/11/2018	19/02/2019 04/09/2019

Protecting and leveraging the value of our natural and cultural assets: Earth observation

The capacity to observe the planet is evolving rapidly, leading to higher volumes of and more diverse data flows produced at European and national level by private and public operators (including from citizens). Actions in this part of the call aim to capitalise on these trends in collaboration with the **Copernicus programme**, to **develop new mass-market applications for businesses, citizens and public authorities**. Overall, actions are expected in the medium term to **stimulate growth and jobs in Europe in the context of the digital economy** (through open innovation) and to lead to **better informed decision-making in environmental policy and management** and in **disaster management**.

	Action	Topic	Opening date	Deadline(s)
LEIT SC2	IA	Strengthening the benefits for Europe of the Global Earth Observation System of Systems (GEOSS) - establishing 'EuroGEOSS'	07/11/2017	27/02/2018
				04/09/2018
	IA	Development of commercial activities and services through the use of GEOSS and Copernicus data	14/11/2018	19/02/2019 04/09/2019
	CSA		14/11/2018	19/02/2019

RIA: Research and Innovation Action

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CSA: Coordination and Support Action

COFUND: Co-funding of regional, national and international programmes

Protecting and leveraging the value of our natural and cultural assets: Nature-based solutions, disaster risks reduction and natural capital accounting

Actions under this section of the call aim to improve decision making, early warning, preparedness and communication among relevant actors to **better cope with earthquakes** through enhanced forecasting capacity. Furthermore, they aim to enhance the capacity of authorities and the private sector to **better assess and value biodiversity, ecosystems and their services** to enable them to incorporate and mainstream these values into their accounting and decision making frameworks.

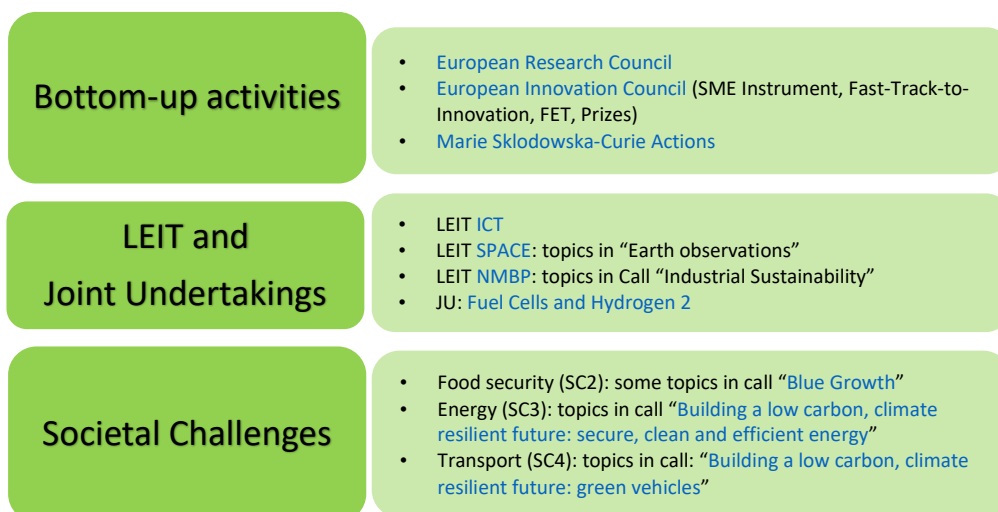
Action	Topic	Opening date	Deadline(s)
RIA	Towards operational forecasting of earthquakes and early warning capacity for more resilient societies	07/11/2017	27/02/2018 04/09/2018
CSA	Valuing nature: mainstreaming natural capital in policies and in business decision-making	07/11/2017	27/02/2018

Protecting and leveraging the value of our natural and cultural assets: Heritage alive

Actions in this part of the call have the medium-term objective of **positioning cultural heritage at the centre of sustainable development** and unlocking its potential as a strategic living resource and driver for economic growth and job creation, social cohesion and environmental sustainability. By doing so, they will also contribute to the **protection and preservation of cultural and historic heritage** in Europe and beyond and will **mobilise investments** in the sector leading to the emergence of a global market for heritage-led innovative solutions and services.

Action	Topic	Opening date	Deadline(s)
CSA	International network to promote cultural heritage innovation and diplomacy	07/11/2017	27/02/2018
IA	Transforming historic urban areas and/or cultural landscapes into hubs of entrepreneurship and social and cultural integration	14/11/2018	19/02/2019 04/09/2019
ERA-NET COFUND	ERA-NET Cofund action(s) for climate action, environment, resource efficiency and raw materials	14/11/2018	19/02/2019

Other opportunities for CLIMATE ACTION, ENVIRONMENT, RESOURCE EFFICIENCY AND RAW MATERIALS research and innovation across Horizon 2020



The policy context



<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>



https://ec.europa.eu/clima/policies/international/negotiations/paris_en#tab-0-0



United Nations
Framework Convention on
Climate Change

United Nations Framework Convention on Climate Change

http://unfccc.int/paris_agreement/items/9485.php



Energy Union

<https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union>

European Innovation
Partnership on Raw Materials

Raw materials policy

<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52008DC0699>



Strategic Implementation Plan of the EIP on Raw Materials

<https://ec.europa.eu/growth/tools-databases/eip-raw-materials/en/content/strategic-implementation-plan-sip-0>



EIP Water

<https://www.eip-water.eu/>



Circular economy

http://ec.europa.eu/environment/circular-economy/index_en.htm



Digital single market

<https://ec.europa.eu/digital-single-market/>