

Horizon 2020 Condensed

Societal Challenge 5: Climate action, environment, resource efficiency and raw materials

What is the 'Climate Challenge'?

Funding for the Climate Challenge is predominantly for collaborative projects in a number of priority areas.

The aim of the Climate Challenge is to support the move 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 (SDGs) and the targets of the COP21 Paris Agreement.

What will be funded?



The European Commission has published the 2018-2020 work programme part for Societal Challenge 5 'Climate action, environment, resource efficiency and raw materials'. The priorities for 2018-20 continue in line with the area's goal to realise a green economy and so contribute to achieving smart, sustainable and inclusive growth. A number of different policies influenced the development of this part of the Work Programme, such as the Paris Agreement on climate change

and the UN Sustainable Development Goals. For 2018-20, the Commission has identified identifies six strategic priorities:

- 1) Climate action in support of the Paris Agreement;
- 2) Circular economy;
- 3) Water for our environment, economy and society;
- 4) Innovating cities for sustainability and resilience;
- 5) Raw materials;
- 6) Protecting and valorising our natural and cultural assets:
 - Earth observation
 - Nature based solutions, disaster risk reduction and natural capital accounting
 - Heritage alive

For 2019-20, these topics will fall under two main calls:: ‘Building a low-carbon, climate resilient future: climate action in support of the Paris Agreement’ and ‘Greening the economy in line with the Sustainable Development Goals (SDGs)’.

A brief summary of the calls related to climate in the 2019-20 Work Programme is provided in the table below. For a full description and topic details, please see the Work Programme.

SC5 ‘Building a low-carbon, climate resilient future: climate action in support of the Paris Agreement’ Sub-topics 2019-2020
• Decarbonisation
• Climate adaptation, impact and services
• Inter-relations between climate change, biodiversity and eco-system services
• The Cryosphere
• Addressing knowledge gaps
• Earth Observation
SC5 ‘Greening the economy in line with the Sustainable Development Goals (SDGs)’ Sub-topics 2019-2020
• 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 risk reduction and natural capital accounting
• Protecting and leveraging the value of our natural and cultural assets: Heritage alive
Climate Calls Elsewhere in the H2020 2018-2020 Work Programme

- Societal Challenge 2 'Food security, sustainable agriculture and forestry, marine, maritime and inland water research, and the bio-economy'
- Societal Challenge 2 -Joint Undertaking for Bio-Based Industries (BBI).
- Innovation actions with relevance to raw materials can be found in the calls under the SPIRE PPP.
- LEIT - 'Space 2018-2020' (H2020-SPACE-2018-2020) – Earth Observation
- EIC Prize 'Early Warning for Epidemics' in the Work Programme part 'Towards the next EU Framework Programme for Research and Innovation: European Innovation Council (EIC) Pilot'.
- 'Blue Growth' (H2020-BG-2018-2020) in the Work Programme part 'Food security, sustainable agriculture and forestry, marine, maritime and inland water research and the bioeconomy'

Societal Challenge 5 supports two of the H2020 'focus areas' for the last three years of the work programme:

- The 'Low Carbon' Focus Area covers all the actions in the Horizon work programme 2018-20 that can contribute to the goals of the Paris Agreement with a nominal budget of €3.34 billion.
- The 'Circular Economy' Focus Area contributes to renewing Europe's industrial capacities and boosting growth in a world of resource constraints. This entails extensive integration between the Industrial Leadership and Societal Challenges of H2020 and has a nominal budget of €941 million.

The Commission has now published information 'booklets' on how each focus area influences the various aspects of the work programme. Links to the two areas relevant to SC5 can be found in the further information box below.

Work programme update – 2020

Further to its publication on 2 July, the Commission announced a number of changes to the work programme for 2020.

Under the call 'Building a low-carbon, climate resilient future: climate action in support of the Paris Agreement' the sub-topics are:

LC-CLA-10-2020: Scientific support to designing mitigation pathways and policies

LC-CLA-11-2020: Innovative nature-based solutions for carbon neutral cities and improved air quality

LC-CLA-12-2020: Advancing climate services

LC-CLA-13-2020: Climate resilience of European coastal cities and settlements

LC-CLA-23-2020: Towards a comprehensive European mountain research strategy

LC-CLA-14-2020: Understanding climate-water-energy-food nexus and streamlining water-related policies

LC-CLA-15-2020: Forest Fires risk reduction: towards an integrated fire management approach in the E.U.

LC-CLA-16-2020: Multi-hazard risk management for risk-informed decision-making in the E.U

LC-CLA-17-2020: Polar climate: understanding the polar processes in a global context in the Arctic and Antarctic Regions

LC-CLA-21-2020: Coordination of European Polar research

LC-CLA-18-2020: Developing the next generation of Earth System Models

LC-CLA-22-2020: Enhancing the Belmont Forum Collaborative Research Action on Climate, Environment and Health

LC-CLA-19-2020: Integrated GEOSS climate applications to support adaptation and mitigation measures of the Paris Agreement

LC-CLA-20-2020: Supporting the implementation of GEOSS in the Arctic in collaboration with Copernicus

Under the call ‘Greening the economy in line with the Sustainable Development Goals (SDGs)’ the sub-topics are:

CE-SC5-05-2018: Coordinated approaches to funding and promotion of research and innovation for the circular economy

CE-SC5-24-2020: Improving the sorting, separation and recycling of composite and multi-layer materials

CE-SC5-25-2020: Understanding the transition to a circular economy and its implications on the environment, economy and society

CE-SC5-28-2020: Develop and pilot circular systems in plastics, textiles and furniture sectors

CE-SC5-29-2020: A common European framework to harmonise procedures for plastics pollution monitoring and assessments

CE-SC5-30-2020: Plastics in the environment: understanding the sources, transport, distribution and impacts of plastics pollution

CE-SC5-07-2018-2019-2020: Raw materials innovation for the circular economy: sustainable processing, reuse, recycling and recovery schemes

CE-SC5-08-2018-2019-2020: Raw materials policy support actions for the circular economy

SC5-10-2019-2020: Raw materials innovation actions: exploration and Earth observation in support of sustainable mining

SC5-26-2020: Sustainable management in extractive industries

SC5-27-2020: Strengthening international collaboration: enhanced natural treatment solutions for water security and ecological quality in cities

SC5-32-2020: Addressing wild pollinators decline and its effects on biodiversity and ecosystem services

SC5-33-2020: Monitoring ecosystems through research, innovation and technology

SC5-21-2019-2020: ERA-NET Cofund action for climate action, environment, resource efficiency and raw materials

SC5-34-2020: ERA-NET Cofund action on conservation and restoration of degraded ecosystems and their biodiversity, including a focus on aquatic systems

SC5-35-2020: ERA-NET Cofund action on enhancing urban transformation capacities

SC5-36-2020: ERA-NET Cofund action on raw materials

Call dates, budgets and specific eligibility criteria have now been included in the work programme to reflect the changes and additions of the sub-topics above.

The ‘other actions’ included at the end of the document has also been modified, with additional actions such as the International Resource Panel (IRP) Secretariat’, ‘Presidency event (conference): ‘Climate action, environment, resource efficiency and raw materials’ – Portugal, 2021’, ‘Support actions for raw materials policy (JRC)’ and ‘Mainstreaming GEOSS data sharing and management principles in support of Europe's environment’.

Finally, there has been an addition of specific footnotes relating to changes in activities or removal of sub-topics. A summary is as follows:

- Addition of a footnote referring to the transfer of the 2020 part of topics CE-SC5-07-2018-2019-2020 and CE-SC5-08-2018-2019-2020 to the cross-cutting call on ‘Competitive, Low Carbon and Circular Industries’;
- Change of footnotes to reflect the decision to transfer to EASME projects under topics SC5-22-2019 and SC5-23-2019 which initially had been excluded from the delegation;
- Change of a footnote for SC5-21-2019-2020 reflecting the decision not to continue this topic in 2020.

Funding, eligibility and project details

Funding for Challenge 5 projects under the 2018-2020 work programme is primarily through Research and Innovation Actions (RIA), Innovation actions (IA) and Co-ordination and Support actions (CSA).

While the manner in which applicants choose to address a specific topic challenge is largely at their discretion, generic minimum consortium requirements are listed in the work programme and any specific individual topic requirements are given in the description of the topic scope.

Topic specific requirements might include (not exhaustive) a multi-disciplinary approach; emphasis on ICT solutions; the involvement of public stakeholders; Small or Medium Enterprises (SME) and private sector involvement; and/or the specific use of European satellite generated data. The **UN Sustainable Development Goals** and the **COP21 Paris Agreement** are crucial considerations in the expected impact.

Relevant EU policy areas and developments

EU environmental legislation and policies aim at protecting Europe’s nature, encouraging business to green the EU economy, and have an objective to safeguard the health and wellbeing of people living in the EU.

Of key importance to the 2018-2020 work programme are the two main Political drivers of the EU’s commitment to the **UN’s Sustainable Development Goals (SDGs)** and the targets of the **COP21 Paris Agreement**.

An overview of other policies, objectives and targets relevant to the EU is also contained in a report by the European Environment Agency on EU environmental policy and legislation: **Towards a green economy in Europe - EU environmental policy targets and objectives 2010-2050**.

The EU is also committed to taking any action identified in the assessment reports of the **Intergovernmental Panel on Climate Change (IPCC)**, the United Nations body for assessing the science related to climate change. The IPCC prepares comprehensive reports about knowledge on climate change, its causes, potential impacts and response options. The IPCC is due to publish its sixth assessment report in 2022.

More specifically, **The 7th Environment Action Programme (EAP)** guides European environment policy until 2020. In order to give more long-term direction it sets out a vision beyond that, of where it wants the Union to be by 2050 and is based on three key objectives:

- to protect, conserve and enhance the Union’s **natural capital**
- to turn the Union into a **resource-efficient**, green, and competitive low-carbon **economy**
- to **safeguard** the Union’s citizens from **environment-related pressures** and risks to health and wellbeing

Consultation on the development of an ‘8th EAP’ is due to start in late 2019.

A number of Joint Programming Initiatives (JPIs) are relevant to this challenge, including the JPIs on Oceans, Water and on Climate Change. These initiatives may also issue calls for transnational research projects in relevant areas:

- Water: **waterjpi.eu**
- Oceans: **jpi-oceans.eu**

- Climate: jpi-climate.eu

In addition, [JPI Urban Europe](#) and also the [JPI on Cultural Heritage](#) could be relevant depending on the specific subject areas in question.

[The European Innovation Partnership \(EIP\) on 'Water'](#) plays a leading role in determining the strategic direction of water research, as does the [EIP Raw Materials](#) in that subject area. Specific actions in the work programme relate to priority areas identified in the strategic development plans of these EIPs.

Other important links are with Public-Private Partnerships (PPPs) under Horizon 2020, including the Sustainable Process Industries contractual PPP (SPIRE), which concentrates on optimising industrial processing, reducing the consumption of energy and resources and minimising waste. Calls for proposals for SPIRE can be found within the Nanotechnologies, Advanced Materials, Biotechnology, and Advanced Manufacturing and Processing (NMBP) LEIT work programme of Horizon 2020.

Also of relevance is the [Bio-based Industries Joint Technology Initiative \(Bio-based JTI\)](#) which aims to use renewable natural resources and innovative technologies for greener everyday products, concentrating on converting non-edible parts of plants and bio-degradable wastes into bio-based products and fuels. JTIs are industry led collaborations in key interest areas that issue their own calls. The EU contribution to JTI funding is from the Horizon 2020 budget.

Details on the inputs into the development of the 2018-2020 Societal Challenge 5 Work Programme are provided on a dedicated [Commission web page](#).

More information:

- European Commission Research and Innovation Participant Portal for:
 - Calls for proposals
<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities>
 - Climate 2018-2020 Work Programme (updated for 2019)-
http://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-climate_en.pdf
- European Commission website on environment policy and research environment:
ec.europa.eu/research/environment
- European Resource Efficiency Roadmap:
ec.europa.eu/environment/resource_efficiency/about/roadmap
- UN Sustainable Development Goals- <https://sustainabledevelopment.un.org/>
- COP21 Paris Climate Agreement:
https://ec.europa.eu/clima/policies/international/negotiations/paris_en
- The European Institute of Innovation and Technology's Climate-KIC (Knowledge and Innovation Community) focuses on the challenge of climate change and may be a source of information and partner searches: climate-kic.org
- Sign up to the UKRO Portal to stay up to date on Climate /Environment funding in Horizon 2020: ukro.ac.uk
- Booklets on Focus Areas:
https://ec.europa.eu/programmes/horizon2020/sites/horizon2020/files/lc_booklet.pdf
https://ec.europa.eu/programmes/horizon2020/sites/horizon2020/files/ce_booklet.pdf
- For specific questions, contact your assigned UKRO European Advisor.