



## **HORIZON 2020: Societal Challenge 5**

**Climate action,  
resource efficiency  
and raw materials**

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# What is Horizon 2020

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- ❖ **Initial Commission proposal for a €80 billion research and innovation funding programme (2014-2020); now just over €70 billion (79 billion in current prices including inflation)**
- ❖ **A core part of Europe 2020, Innovation Union & European Research Area:**
  - Responding to the economic crisis to invest in future jobs and growth
  - Addressing people's concerns about their livelihoods, safety and environment
  - Strengthening the EU's global position in research, innovation and technology

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# What's new

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- **A single programme** bringing together three separate programmes/initiatives\*
- **Coupling research to innovation** – from research to retail,  
all forms of innovation
- **Focus on societal challenges** facing EU society, e.g.  
health,  
clean energy and transport
- **Simplified access**, for all companies, universities,  
institutes in  
all EU countries and beyond

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# Mainstreaming of climate and sustainable development objectives

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Climate action, resource efficiency and sustainable development supported across the whole of Horizon 2020

At least **60%** of the overall Horizon 2020 budget should be related to **sustainable development**

**Climate-related** expenditure should exceed **35%** of the overall Horizon 2020 budget

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# Three priorities of Horizon2020

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**1 Excellent science**

**2 Industrial leadership**

**3 Societal challenges**

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# Priority 3.

## Societal challenges

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Why:

- ❖ Concerns of citizens and society/EU policy objectives (climate, environment, energy, transport, etc) cannot be achieved without innovation
- ❖ Breakthrough solutions come from multi-disciplinary collaborations, including social sciences & humanities
- ❖ Promising solutions need to be tested, demonstrated and scaled up

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# Funding (€ million, 2014-2020)

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<b>1. Health, demographic change and wellbeing</b>	<b>7 472</b>
<b>2. Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the Bioeconomy</b>	<b>3 851</b>
<b>3. Secure, clean and efficient energy *</b>	<b>5 931</b>
<b>4. Smart, green and integrated transport</b>	<b>6 339</b>
<b>5. Climate action, environment, resource efficiency and raw materials</b>	<b>3 081</b>
<b>6. Inclusive, innovative and reflective societies</b>	<b>1 310</b>

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# Societal Challenge 5:

## Climate action, environment, resource efficiency and raw materials

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### Objective of this Societal Challenge:

"to achieve a **resource – and water – efficient and climate change resilient** economy and society, **the protection and sustainable management of natural resources** and ecosystems, and a **sustainable supply and use of raw materials**, in order to meet the needs of a growing global population within the sustainable limits of the planet's natural resources and eco-systems."

**We need to decouple economic growth from resource use**

**Part of answer: helping build a green economy**



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# Climate action, environment, resource efficiency and raw materials

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## Rationale and Union added value:

In addition to bilateral and regional cooperation, **Union level actions will also support** relevant international efforts and initiatives, including the **Intergovernmental Panel on Climate Change (IPCC)**, the **Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)** and **the Group on Earth Observations (GEO)**.

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# Climate action, environment, resource efficiency and raw materials

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1. Fighting and adapting to climate change
2. Sustainably managing natural resources and ecosystems
3. Ensuring the sustainable supply of non-energy and non-agricultural raw materials
4. Enabling the transition towards a green economy through eco-innovation
- 5. Developing comprehensive and sustained global environmental observation and information systems**



# Developing comprehensive and sustained global environmental observation and information systems - Rationale

- **Comprehensive environmental observation and information systems** to stimulate the smart use of resources.
- Information and knowledge from these systems will also be used to **support evidence-based policies** and develop new **opportunities in global markets**.
- **Free and open access to data** for Earth observation and monitoring will be encouraged.



# Developing comprehensive and sustained global environmental observation and information systems - Rationale

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This sub-challenge EO is a response to:

- **The need for Global Earth Observations data** that underpins all the research and innovation activities under this programme.
- The fact that **Europe and the European Commission** are **committed at international level** to contribute to Global Earth Observation datasets.
- The need to engage more towards **the delivery of new systems** that can create business opportunities and growth.

# Developing comprehensive and sustained global environmental observation and information systems – **Areas covered 2015**

- **SC5-18b-2015: Integrating North African, Middle East and Balkan Earth Observation capacities in GEOSS –** *Coordination and Supporting Action (~2 M€) – Up to one project*
- **SC5-15-2015: Strengthening the European Research Area in the domain of Earth Observation –** *ERA-NET cofund (~15 M€) – Up to one project*
- **SC5-17-2015: Demonstrating the concept of 'Citizens' Observatories' -** *Innovation Actions (~20 M€) – One or more projects*

## Indicative deadlines:

First stage of two-stage topics: 16/10/14

One stage and second stage of two-stage topics: 10/03/15

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# Earth Observation (EO) 2015 Call Copernicus related topics (~26 M€)

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- EO 1 - 2015: Bringing EO applications to the market - *Innovation Actions*
- EO 2 - 2015: Stimulating wider research use of Copernicus Sentinel data
- EO 3 - 2015: Imaging technologies from space

# Open Access in H2020 and GEOSS



- ❖ Many actions funded under SC5 and other parts in H2020 will participate in the Pilot on Open Research Data in Horizon 2020.
- ❖ Moreover, “Beneficiaries in projects participating in the Pilot on Open Research Data shall adhere to the GEOSS Data Sharing Principles and undertake to register in GEOSS all geospatial data, metadata and information generated as foreground of the project.”
- ❖ “All activities (...) should as far as possible use data resulting from or made available through different initiatives of the European Commission. In particular, the utilisation of GEOSS (Global Earth Observation System of Systems) and Copernicus data, products and information should be privileged. (...)”

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**WORK PROGRAMME 2014-2015**  
**No.5 «Climate action, environment, resource  
efficiency and raw materials»**

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**Area Calls:**

- ❖ **Call – Waste: A Resource to Recycle, Reuse and Recover Raw Materials (WASTE)**
- ❖ **Call – Water Innovation: Boosting its value for Europe (WATER)**
- ❖ **Call – Growing a Low Carbon, Resource Efficient Economy with a Sustainable Supply of Raw Materials (SC5)**

[http://ec.europa.eu/research/participants/data/ref/h2020/wp/2014\\_2015/main/h2020-wp1415-climate\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/wp/2014_2015/main/h2020-wp1415-climate_en.pdf)



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# General information

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## Research Areas:

- ❖ Climate Change, Natural Hazards, Environment & Health, Natural Resources
- ❖ Management, Biodiversity, Marine Environment, Sustainable Urban
- ❖ Development, Environmental Technologies, Earth Observation, Tools for
- ❖ Sustainable Development, Cultural Heritage

[http://ec.europa.eu/research/environment/index\\_en.cfm](http://ec.europa.eu/research/environment/index_en.cfm)

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# CROSS-CHALLENGE TOPICS

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- ❖ **SC5-19-2014/2015: Coordinating and supporting research and innovation in the area of climate action, environment, resource efficiency and raw materials**
- ❖ **SC5-20-2014/2015: Boosting the potential of small businesses for eco-innovation and a sustainable supply of raw materials**
- ❖ **Fast Track to Innovation – Pilot**

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# Other Actions

1. Interim evaluation of the Joint Baltic Sea research and development programme (BONUS)
2. Policy relevant analyses and forward looking reflection
3. External expertise
4. Global Earth Observation (GEO)
5. Intergovernmental Panel on Climate Change (IPCC)
6. Support actions for raw materials policy
7. Developing GEOSSE-based (Global Earth Observation System of Systems) smart internet applications to inform European citizens on the changes affecting their local environment
- 8. International Conference 'Adaptation Futures' – The Netherlands, May 2016**
9. Support to the implementation of the Strategic Research Agenda (SRA) of the Joint Programming Initiative in Cultural Heritage and Global Change (JPI CH)
10. Citizens' Engagement in EU Research and Innovation policy-making on Nature-Based Solutions

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# H2020-WATER-2015

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«WATER INNOVATION:  
BOOSTING ITS VALUE FOR  
EUROPE»

# H2020-WATER

## Calls – Water-03

**Water in  
Agriculture**

Title:

Stepping up EU research  
and innovation  
cooperation in the water  
area

- Form a Joint Programming Initiative  
in water-related research to support  
the implementation of the EU water  
policy

ERA-NET /  
COFUND

Submission:

First stage  
21 April 2015

Budget:

€15 million

# H2020-WATER

## Calls – Water-04

**Promote  
Water  
R&D**

Title:

Harnessing EU water research and innovation results for industry, policy makers and citizens

- Implement measures to showcase, exchange, test & transfer water management solutions to end users in the agricultural sector

- Contribute to a thematic network on water in agriculture

Coordination  
and Support  
Action

Submission:

First stage  
21 April 2015

Budget:

€6 million

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H2020-SC5-2015

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«GROWING A LOW CARBON,  
RESOURCE EFFICIENT  
ECONOMY WITH A  
SUSTAINABLE SUPPLY»

# SC5

## Calls – SC5-03

Climate  
Change &  
Sustainable  
Development

Title:

The economics of climate change and linkages with sustainable development

b)

- Examining of the link between climate change actions and sustainable development through international research collaboration efforts (e.g. IPCC)

Research  
and  
Innovation  
Action

Submission:

First stage  
21 April 2015

Budget:

€15 million



# SC5

## Calls – SC5-09

**Biodiv**

Title:

Consolidating the European Research Area on biodiversity and ecosystem services

- Create and manage a Joint Call to create a unified and open biodiversity research area that promotes free circulation of knowledge
- Create networks of funding institutions and other key players

ERA-NET /  
COFUND

Submission:

First stage  
21 April 2015

Budget:

€15 million

# SC5

## Calls – SC5-13

### Raw Materials

Title:

Coordinating and supporting raw materials research and innovation

- c) Innovation friendly minerals policy framework
- d) Raw materials research and innovation coordination
- e) Raw materials intelligence capacity
- f) Strategic international dialogues and cooperation

c) Development of a comprehensive guide to relevant EU & member states' legislation and mineral policy

- d) Improvement of R&I collaboration among relevant European Technology Platforms
- e) Development of a methodology for reviewing and selecting all relevant methods and tools to provide expertise for EU stakeholders
- f) Promotion of the activities of EU-companies active in the mining and raw materials sector in non-EU countries

Coordination  
and Support  
Action

Submission:

First stage  
21 April 2015

Budget:

€8 million

# SC5

## Calls – SC5-19

### Policies & Regulations

Title:

Coordinating and supporting research and innovation in the area of climate change, environment, research efficiency and raw materials

b) Mapping Member State R&I in the related fields

Mapping of the EU Member State R&I policies, regulations etc in climate change, environment, resource efficiency and raw materials to improve NCP services

Coordination and Support Action

Submission:

First stage  
21 April 2015

Budget:

€5 million

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# H2020-WASTE-2015

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**WASTE: A RESOURCE TO  
RECYCLE, REUSE AND  
RECOVER RAW MATERIALS**

# WASTE-2015

**Calls – Waste-02**

Call Title (+ year)

Key  
word

**Food  
Waste**

Title

Title:

A system approach for the reduction, recycling and reuse of food waste

Research  
and  
Innovation  
Action

Type of action

Short  
description

- How to reduce food & packaging waste?
- How to convert food waste into value-added by-products?
- Interdisciplinary approaches needed

Submission:  
First stage  
21 April 2015

Deadline

Budget:

€14 million

Budget

# WASTE-2015

## Calls – Waste-04

### Waste Streams

Title:

Towards near-zero waste  
at European and global  
level

d) Raw Materials Partnerships

- Creation of a common multi-  
stakeholder platform on a number of  
key raw materials across the value  
chain

Coordination  
and Support  
Action

Submission:

First stage  
21 April 2015

Budget:

€4 million

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# **H2020-SMEInst-2015**

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**«HORIZON 2020 DEDICATED SME  
INSTRUMENT»**

**Main Pillar: Industrial Leadership**

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# H2020-SMEINST - 2015

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**Opening Date 18-12-2014**

**Deadline Date 16-12-2015**

**Intermediate deadlines(s):**

**18-03-2015, 17-06-2015, 17-09-2015**

**SC5-20-2015-1: Boosting the potential of small businesses for eco-innovation and a sustainable supply of raw materials**





**Thanks for your attention!**

**Find out more:**

<http://ec.europa.eu/research/participants/portal/desktop/en/home.html>

<http://ec.europa.eu/research/horizon2020>

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