



Horizon 2020 Work Programme 2015

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

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What is Horizon 2020?

- **€70.2 billion* billion research and innovation funding programme (2014-2020)**
- **A core part of Europe 2020, the Innovation Union & the 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**
- **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

Three priorities



Cross-cutting issues

- **International cooperation:** to address societal challenges, enhance the competitiveness of European industry, and comply with the EU's international commitments
- **Social sciences and humanities :** to contribute to the evidence base for policy-making at international, EU, national, regional and local levels, effectively tackle societal challenges and enhance the impact of actions
- **Gender:** to rectify imbalances between women and men and to integrate a gender dimension in research and innovation programming and content
- **SMEs:** Stronger participation by SMEs, including via the new SME instrument
- **Climate action and sustainable development objectives:**
Climate action 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%.

Societal Challenges: funding (€ million, 2014-2020)

1. Health, demographic change and wellbeing	7 472
2. Food security, sustainable agriculture, marine and maritime and inland water research & the Bioeconomy	3 851
3. Secure, clean and efficient energy *	5 931
4. Smart, green and integrated transport	6 339
5. Climate action, environment, resource efficiency and raw materials	3 081
6. Europe in a changing world - inclusive, innovative and reflective societies	1 309
7. Secure societies - protecting freedom and security of Europe and its citizens	1 695

* Additional funding for nuclear safety and security from the Euratom Treaty activities (2014-2018)

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

Objective: *"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."*



Broad lines of activities (2014-2020):

- Fighting and adapting to climate change
- Sustainably managing natural resources and ecosystems
- Sustainable supply of non-energy and non-agricultural raw materials
- Transition towards a green economy through eco-innovation
- Global environmental observation and information systems
- Cultural heritage

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

Work Programme 2014-2015: 3 calls

- Waste: A resource to recycle, reuse and recover raw materials
- Water innovation: Boosting its value for Europe
- Call: Growing a low carbon, resource efficient economy with a sustainable supply of raw materials



Contribution to Focus Area calls in other WP parts in 2015:

- Disaster-resilience: Safeguarding society and adapting to climate change (SC7)
- Blue growth: Unlocking the potential of the oceans (SC2)

Waste: A resource to recycle, reuse and recover raw materials

Rationale for this focus area:

- Major opportunity for European society and economy
- Reinforce EU position as a world market leader
- Need to cover the whole production and consumption cycle
- Involvement of wide range of stakeholders for more sustainable consumption behaviour and lifestyle change
- Supported by Public-Private Partnerships on Sustainable Process Industries (SPIRE PPP) and on Bio-Based Industries
- Contributing to the Resource Efficiency Road Map

1st evaluation deadline: 21 April 2015

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Waste: A resource to recycle, reuse and recover raw materials

- Areas covered in 2015



Support for research and innovation on:

- Promoting **eco-innovative waste management and prevention** as part of **sustainable urban development** (*WASTE-6-1025*)
- Ensuring sustainable use of **agricultural waste**, co-products and by-products (*WASTE-7-2015*)

Coordination and support actions on:

- Towards **near-zero waste** at European and global level – raw materials partnerships (*WASTE-4-2015*)

Water innovation: Boosting its value for Europe

Rationale for this focus area:



- Reinforce water innovation capacity and market uptake of successful research results
- Boost the competitiveness and growth of the European water sector
- Create leadership in water resources management and position Europe as a global market leader in water related innovative solutions
- Support the needs of relevant EU water, innovation and resource efficient policies, international commitments and related initiatives: EIP Water, EIP Agriculture, JPI on Water, SPIRE PPP, IPCC, Rio+20, etc.

1st evaluation deadline: 21 April 2015

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Water innovation: Boosting its value for Europe

- Areas covered in 2015

Support for research and innovation:

- Bridging the gap: from **innovative water solutions** to **market replication** (*WATER-1-2015*)
- Integrated approaches to water and climate change: **integrated approaches to food security, low-carbon energy, sustainable water management and climate change mitigation** (*WATER-2-2015*)
- Strengthening **international R&I cooperation** in the field of water (*WATER-5-2015*)

Coordination and support actions:

- **Harnessing EU water research and innovation results** for industry, policy makers and citizens (*WATER-4-2015*)

ERA-NET: Stepping up **EU R&I cooperation** in the water area
(*WATER-3-2015*)

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'Growing a low carbon, resource efficient economy with a sustainable supply of raw materials'



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*1st evaluation deadline:
21 April 2015*



Growing a low carbon, resource efficient economy with a sustainable supply of raw materials

Fighting and adapting to climate change



Rationale:

- Building foundations for developing European climate services
- Supporting climate policy through developing strategic capabilities in climate projection, prospective economic analysis, international cooperation and preparing for future IPCC reports

Topics in 2015:

- Climate services for Europe and globally: ERA-NET (*SC5-2-2015*)
- Improving the air quality and reducing the carbon footprint of European cities (*SC5-4-2015*)
- Coordination and support action: Earth system modelling and climate services (*SC5-5-2015*)

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Image © Norbert Verch, 2013. Source : NACLIM project

Growing a low carbon, resource efficient economy with a sustainable supply of raw materials

Protecting the environment, sustainably managing natural resources, water, biodiversity and ecosystems



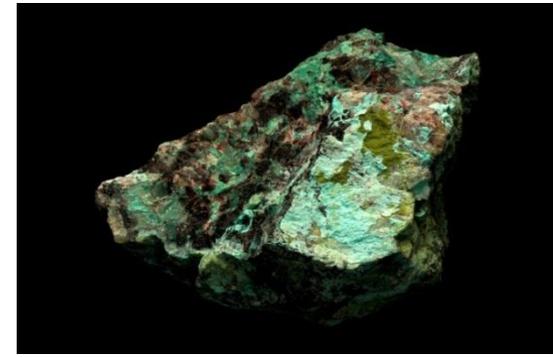
Rationale:

- to provide knowledge and tools for a balanced management and protection of natural resources, contribute to reversing the trends that damage the environment, and ensure that ecosystems continue to provide the resources, goods and services that are essential for sustainable development.

Topics in 2015

- More effective ecosystem restoration in the EU (*SC5-7-2015*)
- Coordination and support action: an EU support mechanism for evidence-based policy on biodiversity and ecosystem services (*SC5-10-2015*)

Growing a low carbon, resource efficient economy with a sustainable supply of raw materials



Ensuring the sustainable supply of non-energy and non-agricultural raw materials

- Rationale:

European Raw Materials Initiative & EIP raw materials

- Areas covered in 2015:

- New solutions for **sustainable production** of raw materials (*SC5-11-2015*)
 - **Deep mining on continent and/or in sea-bed**
 - **New sustainable exploration technologies and geomodels**
 - **New metallurgical systems**
- Innovative and sustainable solutions leading to **substitution** of raw materials: materials under extreme conditions (*SC5-12-2105*)
- Coordinating and supporting raw materials R&I
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Growing a low carbon, resource efficient economy with a sustainable supply of raw materials

Developing comprehensive and sustained global environmental observation and information systems



Rationale:

- Comprehensive environmental observation and information systems to stimulate the smart use of resources, support evidence-based policies and develop new opportunities in global markets.

Topics in 2015:

- Demonstrating the concept of 'Citizen Observatories' (*SC5-17-2015*)
- Coordinating and supporting Earth Observation research and innovation in Europe and in the North African, Middle East, and Balkan region (*SC5-18b-2015*)

Growing a low carbon, resource efficient economy with a sustainable supply of raw materials



Cross-challenge issues in 2015

Coordination and support action:

- Mapping member State R&I in climate change, environment, resource efficiency and raw materials

Evaluation deadline: 21 April 2015

SME Instrument:

- Boosting the potential of **small businesses** for **eco-innovation** and a sustainable supply of **raw materials**

Continuously open call (with 4 cut-off dates p.a. in 2015)

SME Instrument: how does it work?

Phase 1: Concept and feasibility assessment

Input: Idea/Concept: "Business Plan 1"

Activities:

Feasibility of concept
Risk assessment
IP regime
Partner search
Design study
Pilot application
etc.

10% success

Output: elaborated "Business plan 2"

Lump sum: 50.000 €

~ 6 months

Phase 2: R&D, demonstration, market replication

Input: "Business plan 2" plus description of activities under Phase

Activities:

Development, prototyping, testing, piloting, miniaturisation, scaling-up, market replication, research

30-50% success

Output: "investor-ready Business plan 3"

0.5-2.5 M€ EC funding

~ 12 to 24 months

Phase 3: Commercialisation

Promote instrument as quality label for successful projects

Facilitate access to private finance

Support via networking, training, information, assistance with IP management, knowledge sharing, dissemination...

SME window in the EU financial facilities (debt facility and equity facility)

No direct funding

Disaster-resilience: Safeguarding society and adapting to climate change (SC7)

SC5 topics in 2015:

- Science and innovation for **adaptation to climate change**: from assessing costs, risks and opportunities to demonstration of options and practices (*DRS-9-2015*)
- Towards **risk reduction science and innovation plans** at national and European level
 - *coordination & support action (DRS-10-2015)*
- Mitigating the impacts of **climate change** and **natural hazards** on **cultural heritage** sites, structures and artefacts (*DRS-11-2015*)



Call deadline: 27 August 2015
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'Blue Growth: Unlocking the potential of the oceans' (SC2)



- Objective: to address wide and complex ocean challenges which are cross-cutting in nature

SC5 topic in 2015:

- Improving the preservation and sustainable exploitation of Atlantic marine ecosystems (*BG-1-2015*)

1st evaluation deadline: 3 February 2015

NEW in 2015: Fast track to Innovation

The **Fast Track to Innovation** (FTI) provides funding for close to market, business driven projects, in any area of technology.

- not restricted to SME (unlike SME Instrument or Eurostars programme)
- aim: reduce time from idea to market.
- 3-5 legal entities from at least 3 eligible States
- business-driven
- industry involvement requires: either the allocation of at least 60% of the budget to industry participants in the consortium or the presence of a minimum number of two industry participants in a consortium of three or four partners, or of three industry participants in a consortium of five partners
- One common and continuously open call
- Time-to-grant for participants = maximum 6 months
- EU funding levels: fixed at 70% of eligible costs
- €1 million and €2 million (in certain cases, up to €3 million)

2014 calls – evaluation of SC5 single stage topics

Budget and proposals:

- Indicative budget: €108M
- Number of (sub-)topics in call: 21
- Number of proposals submitted: 161 (of which 2 inadmissible/ineligible)
- Number of proposals receiving evaluation score above threshold: 96
- Total budget requested from above-threshold proposals: €345M
- Number of proposals retained for funding: 30
- Total EU funding requested from these proposals: €110M

Calendar:

- Information to applicants in early September 2014
- Signature of grant agreements by December 2014
- Grants beginning from January 2015 onwards

2014 calls – evaluation of first stage of SC5 two-stage topics

Budget and proposals:

- Indicative budget: €181M
- Number of (sub-)topics in call: 9
- Number of proposals submitted: 321
- Number of proposals receiving evaluation score above threshold: 116
- Total budget requested from above-threshold proposals: €743M

Calendar:

- Deadline for second stage: 16 September 2014
- Evaluations end September to mid-December 2014
- Applicants informed of evaluation results by mid-February 2015
- Grants signed by mid-May 2015

Some submission & evaluation tips

- Where to start? Consider all information available on the Participant Portal call page, e.g. Work Programme (introduction to call, topic text, topic conditions), Guide for Applicants (GfA), on-line manuals...
- Make sure that your proposal is eligible!
- Electronic submission? Get familiar with the web-based system before the deadline; complete administrative forms (part A) in advance, including budgetary aspects.
- Evaluation criteria? Follow the guidance provided in the GfAs. All criteria are relevant and have similar importance and scores.
- Be concise and precise: proposals will be assessed by peers; respect the given layout and page limits.
- Cross-cutting issues: read WP text carefully for issues related to inter-disciplinarity, innovation, SSH, gender, SME participation ... and make them real in your proposal
- Get support!

Where to get help and support?



INFORMATION
AND SUPPORT

FIND INFORMATION AND SUPPORT

For guidance refer to the How to participate and Support menus which include:

- **H2020 online manual** leads you through all the processes starting from the proposal preparation and through the entire project lifecycle
- **Horizon 2020 helpdesk** - Questions on participation.
- **Reference documents** page gives you access to the work programmes, legal and guidance documents
- search for your **National Contact Points (NCPs)** or contact additional support networks and helpdesks
- check out the frequently asked questions (**FAQ**)
- contact the Participant Portal **IT helpdesk**

For specific factual questions on SC5 calls:
RTD-H2020-SC5-CALLS-2014-2015@ec.europa.eu

Looking ahead to 2016-2017

Continuation of strategic programming approach

- to provide coherent multi-annual implementation of the Horizon 2020 Specific Programme:
 - integration of EU priorities and policy objectives in priority setting.
 - improved impacts – through sequencing and integration of funded activities
 - EU added value – i.e. in relation to Member States' activities
- taking into account inputs from Advisory Groups and other external stakeholders

SC5 Advisory Group: 2016-17 priorities

SC5 was broken down into four priority areas:



- **Systemic Eco-innovation**
- **Climate Services**
- **Nature-based Solutions**
- **Sustainable Supply of Raw Materials**
+ integration of SSH disciplines throughout.

Cross-cutting issues of particular relevance:

- **cross-links between priorities needed**
- **environment and health**
- **sustainable provision of food and water**
- **migration**
- **impacts of geopolitics for climate change and resources**
- **cultural heritage**
- **Earth Observation/monitoring**

Sector-level challenges that raise specific environmental issues.

Consulting external stakeholders: process

- **Public consultation** open 7 May - 23 June 2014
- Based on **set of questions + supporting documents** (1st Report of SC5 Advisory Group, Horizon 2020 Specific Programme)
- **Publically available on Horizon 2020 website**
- **Upon invitation:** (ETPs, foundations, NGOs, regional stakeholders, financial institutions...)
- **'Yammer' community:** <http://tinyurl.com/greenRTD>
- **Raw materials:** consolidated contacts with stakeholders via **European Innovation Partnership (EIP) on raw materials**
- **Summary of results published:** <http://ec.europa.eu/programmes/horizon2020/en/news/results-stakeholder-consultation-horizon-2020-societal-challenge-5-climate-action-environment>

Consulting external stakeholders: main messages

- **General consensus on need for:**
 - ✓ holistic/systemic approach, inter-disciplinarity, broad stakeholder participation;
 - ✓ transition towards a circular economy/systemic eco-innovation, including changing production and consumption patterns.
- **Areas to focus on:**
 - ✓ Cities, seen as "living labs" for new lifestyles and technologies.
 - ✓ Systemic eco-innovation/Circular economy
 - ✓ Links between environment, climate change, food, energy and health
- **Sector-specific:**
 - ✓ Water
 - ✓ Recycling and efficient use of raw materials
 - ✓ Air pollutants
 - ✓ CO2 capture, storage and exploitation
 - ✓ Cultural heritage
 - ✓ Climate change research & development of services

Programming process

2015

Jan-July

Preparation of detailed work programme 2016/17 content, prepared on basis of strategic programming document, including discussion with PC configurations on basis of drafts

Summer

Opinions of Programme Committee configurations

Third quarter

Adoption of work programme; publication of calls for 2016

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Climate Action, Environment, Resource Efficiency and Raw Materials

Call for Ideas – Pilot/demonstrations projects

- ✓ Help identifying R&I areas of more interest from innovators and innovation users
- ✓ Stimulate developers/providers engagement in projects of greater ambition
- ✓ Areas:
 - Systemic eco-innovation for a circular economy
 - Climate services
 - Nature-based solutions
 - Water

Deadline for submissions: 28 February 2015

<https://ec.europa.eu/eusurvey/runner/CALLforIDEAS-SC5>



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**Thank you
for your attention!**