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ANNEX TO THE DECISION

DRAFT WORK PROGRAMME 2014 – 2015

*12. Climate action, environment, resource efficiency and
raw materials*

DRAFT

HORIZON 2020 – WORK PROGRAMME 2014-2015
Climate action, environment, resource efficiency and raw materials

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Introduction to Societal Challenge 'Climate Action, Environment, Resource Efficiency and Raw Materials'

The objective of the Societal Challenge 'Climate action, environment, resource efficiency and raw materials' is 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.

The era of seemingly plentiful and cheap resources is coming to an end: raw materials, water, air, biodiversity and terrestrial, aquatic and marine ecosystems are all under pressure. The combined impacts of climate change and current production and consumption patterns are undermining our planetary habitat. Based on current trends, the equivalent of more than two planet Earths will be needed by 2050 to support the growing global population. There needs to be a decoupling of economic growth from resource use.

Helping to build a green economy – a circular economy in sync with the natural environment – is part of the answer. This Work Programme will focus on investing in innovation for a green economy. This will require great progress in social and public sector innovation.

Actions under this Work Programme will therefore address gaps in the knowledge base needed to understand changes in the environment, identify the policies, methods and tools that would most effectively tackle the above mentioned challenges, and support innovators and businesses to bring green solutions to the market. Waste and water have been selected as particular priorities, on the grounds of their substantial potential for business opportunities and job creation while tackling important resource efficiency challenges.

Efforts have been made to encourage SME participation, notably through the SME Instrument and bottom-up approaches, together with innovation and demonstration actions, where SMEs can follow up research projects with work linked to closer to market activities.

In addition to the calls below, activities relating to climate action, environment, resource efficiency and raw materials are also found in the calls relating to 'Blue growth: unlocking the potential of the oceans', 'Energy-efficiency' and 'Disaster-resilience: safeguarding and securing society, including adapting to climate change'.

Call – Waste: A Resource to Recycle, Reuse and Recover Raw Materials

Towards a near-zero waste society

[H2020-WASTE-2014/2015]

A smart economy minimises the production of waste and re-uses waste as a resource. Resource constraints and environmental pressures will accelerate the transformation from a linear extraction – use – throw-away model of production and consumption to a circular one. Moving towards a near-zero waste society not only has an environmental rationale, it increasingly becomes a factor of competitiveness. Europe has proven expertise in efficiently handling and treating waste and is at the forefront of innovation in this sector. Capitalising on these strengths, this call intends to further boost innovative, environmentally-friendly and cross-sectoral waste prevention and management solutions in order to reduce environmental depletion and Europe's dependency on the import of raw materials and reinforce its position as world market leader. The global waste market, from collection to recycling, is estimated at € 400 billion per annum and holds significant potential for job creation.

Activities in this call address the whole production and consumption cycle, from waste prevention and the design of processes and products for recyclability to re-use and waste management. This will involve economic actors from different sectors working together in new ways. A better organisation at EU level of the different actors involved will contribute to this end. A systemic approach to innovative waste prevention and management will benefit from a better understanding of the environmental impact of human behaviour and the participation of citizens in co-developing and co-testing new solutions, particularly in urban areas, a field with great potential for public sector innovation.

This call addresses EU research priorities for 'Urban Waste and Innovation' identified by citizens through a wide consultation process in the context of the FP7 project VOICES¹. Through a participatory approach involving science, technology, civil society organisations and policy experts, the priorities identified by citizens were subsequently clustered into six thematic areas: 'economic instruments'; 'education and communication'; 'modelling business and consumer behaviour'; 'policy'; 'product /production design'; and 'waste treatment /management'. The activities of this call respond to each of these thematic areas, as indicated in the text.

In addition to supporting cross-sectoral approaches, this call will address specific challenges in the areas of food, agricultural and construction waste. The Public-Private Partnerships on Sustainable Process Industries (SPIRE PPP) and on Bio-Based Industries will contribute to the objectives of this call. The innovation and demonstration activities in this call will offer particular opportunities to SMEs. The activities are expected to contribute to the objectives set out in the resource efficiency road map, with waste being managed as a resource by 2020, waste generated per capita in absolute decline and recycling and re-use of waste being economically attractive options for public and private actors. Prevention and better management of waste, which represents an estimated 2% of

¹ <http://www.voicesforinnovation.eu/>

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the EU's total greenhouse gas output, should also significantly contribute to climate objectives.

To enhance the impact of activities, dissemination of results and outputs is encouraged across the call. Beneficiaries funded partially or entirely by Societal Challenge 'Climate action, environment, resource efficiency and raw materials' are required to deposit peer-reviewed articles resulting from projects in an institutional or subject-based repository, and to make their best efforts to ensure that readers have open access to these articles within six months of publication. Open access to data, where appropriate, is also encouraged. Each proposal should allocate appropriate efforts and resources for dissemination to promote the use and uptake of results.

In the context of cooperation with the European Space Agency (ESA), projects selected for funding are encouraged to utilise ESA Earth Science data. The data, both from ESA missions or third party missions, are for the vast majority of cases available for free web download (further details for ESA missions and Third Party Missions are available at <http://eopi.esa.int>). Likewise, the utilisation of data produced from different initiatives of ESA or the European Commission, in particular Copernicus, is encouraged in all activities of Societal Challenge 'Climate action, environment, resource efficiency and raw materials'.

Topics contributing to the objectives of this call in other parts of this Horizon 2020 Work Programme include:

- FoF 13 – 2015: Re-use and re-manufacturing technologies and equipment for sustainable product life cycle management
- SPIRE 7 – 2015: Recovery technologies for metals and other minerals.

WASTE-1-2014: Moving towards a circular economy through industrial symbiosis²

Specific challenge: Growing prosperity leads to the extraction and use of more resources and to the production of more waste. The EU is committed to implement the principles of the waste hierarchy, which implies the prevention of waste, its re-use and recycling where it is not prevented, and its energy recovery as sub-optimal option. This calls for eco-innovative solutions and resource-efficient products, processes and services, and their uptake which will be facilitated by new sustainable lifestyles and consumption behaviour.

Industrial symbiosis, whereby different actors derive mutual benefit from sharing utilities and waste materials, requires large-scale systemic innovation with the aim of turning waste from one industry into useful feedstock for another one. The management of waste material flows coming from different sectors calls for reliable and harmonised data for

² This topic responds to EU research priorities identified in the FP7 project VOICES under the thematic areas 'model business and consumer behaviour', 'product /production design', and 'policy' including: sustainable lifestyles and consumption behaviour, sharing utilities and waste materials, producer responsibility for waste production, increased product life-spans, enabling material reuse, recycling, recovery, industrial symbiosis leading to closed-loop processes, and consumption behaviour and lifestyle change.

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the estimation of composition, patterns of supply and quantity of wastes generated over the year(s), in order to achieve reliable and predictable feed-stocks of secondary raw materials for industrial plants. Industrial symbiosis needs ample coordination between a variety of stakeholders, such as industry, research, civil society organizations, public authorities and policy makers, and an increased awareness of producer responsibility for waste production, which is essential in consideration of the central role of businesses in the economic and societal transformation.

Industrial symbiosis has been identified by the SPIRE PPP as one of the solutions to be addressed to achieve more efficient processing, resource and energy efficient systems for the process industry.

Scope: Actions should demonstrate and analyse, with a life cycle perspective, innovative processes and services, including organisational and management systems and business models, or a combination thereof, that increase product life-spans, enable product and material reuse, recycling, recovery, with an upgrading cascading approach for recovered materials and products, and reduce generation of waste along product chains as well as reduce feedstock materials and the emission of harmful substances. They can either focus on a specific production value chain and/or have a cross-sectoral approach establishing industrial symbiosis leading to closed-loop processes.

A significant role could be given to SMEs. Opportunities for social innovation, encouraging more sustainable consumption behaviour and lifestyle change, and involving civil society, should be considered, with appropriate attention to the gender dimension and to the barriers to raising awareness of eco-innovative solutions and their market penetration.

Systemic and cost-effective solutions will benefit from innovative ICT solutions for waste traceability, waste material flow management, and the estimation of the availability, composition and quality of waste.

The Commission considers that proposals requesting a contribution from the EU between the range of 8 to 10 million euro would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected impact: Measurable reduction of waste generation and resource use in the medium term. Significant gains in productivity against the state of the art for waste treatment plants and in material and energy efficiency, with reduction of greenhouse gas and other pollutants emissions in the short term. Contribution to standards validated by industrial players and identification of best available techniques and emerging techniques under the Industrial Emissions Directive. Significant increase in European and global market up-take and replicability of eco-innovation solutions, measured by qualitative and quantitative indicators, contributing to an important reinforcement of the eco-industry landscape in Europe in the short term. Support to the implementation and evaluation of technology verification schemes, including the EU Environmental Technology Verification Pilot programme. Support to the implementation of the roadmap of the SPIRE PPP.

Type of action: Innovation actions

The conditions related to this topic are provided along with the general conditions for this call. [Link to end of the description of the call]

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WASTE-2-2014: A systems approach for the reduction, recycling and reuse of food waste³

Specific challenge: Food waste has taken on disquieting proportions worldwide in all steps of the food production and supply chain but especially at consumer level. Before defining measures to reduce such waste at all stages it is necessary to develop a better understanding of business and consumer behaviour in relation to waste generation, handling, re-use and by-product valorisation. Technologies for the collection, sorting/grading, stabilisation and valorisation of food waste, by-products and packaging material need improvement or development. The aim is to optimise the performance of the whole food system, including packaging and catering, and achieve a secure and sustainable food supply.

Scope: Actions should both address approaches to reducing food waste and packaging materials generated at relevant stages of the food system and investigate ways of converting food waste into value-added by-products. A comprehensive methodology for evaluating food waste in all its components should be developed addressing quality, safety, sustainability, legislation and costs. Inter-disciplinary research methods include practical, close-to-market approaches for characterising possible new foods and feeds and identifying the risks and benefits related to the new production processes. A database/inventory should be developed of recyclable materials, valuable molecules, substances and materials originating from waste and by-products, also in view of future LCAs. Solid involvement of social sciences and humanities and civil society is a prerequisite to better understand the socio-economic, cultural and environmental dimension of food waste and promote change in the business and consumer environment, while the use of ICT tools is expected to accelerate this.

The Commission considers that proposals requesting a contribution from the EU between the range of X to X million euro would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected impact:

- A significant contribution to achieving the European policy target of reducing food waste by 50% by 2030
- A reduction in waste management costs,
- Supporting a harmonised approach to EU food waste legislation and improved national implementation, and contribution to new standards.
- An increase in the competitiveness of the European food and drink and chemical industry, in particular SMEs, as measured in terms of market share, turnover, cost effectiveness, employment and intellectual property, through the development of innovative applications of food waste.
- Progress towards sustainable food consumption patterns leading to healthier consumers and as a result reduced national health costs.

³ This topic responds to EU research priorities identified in the FP7 project VOICES under the thematic areas 'policy', 'model business and consumer behaviour', and 'waste treatment /management', including: food waste, business and consumer behavior, technologies for waste collection, packaging materials and food waste legislation.

Type of action: Research and innovation actions

The conditions related to this topic are provided along with the general conditions for this call. [Link to end of the description of the call]

WASTE-3-2014: Recycling of raw materials from products and buildings⁴

Specific challenge: Advances in many complex products and buildings, such as energy efficient buildings, electronic and electric equipment (EEE), (electric) vehicles, airplanes, multi-material packaging solutions, bring to the society benefits in the form of a better performance, reduced transport weight, decreased energy consumption etc. Complex products contain many different raw materials and their recovery schemes are also complex and imply different steps, ranging from collection and logistics to refining and purification of desirable materials.

New solutions are needed for the extraction of the raw materials from more complex products and buildings containing a multitude of minerals and metals (including Critical Raw Materials and other technology metals), wood-based materials, etc.

This specific challenge is identified in the Action area on Recycling of raw materials from products and buildings of the European Innovation Partnership on Raw materials.

Scope: Actions should address one of the following issues of sustainable recycling and recovery of raw materials:

- developing innovative technological solutions for the recovery of technology metals from complex end-of-life products, including pre-processing technologies, comprehensive metallurgical recovery and advanced information and communication technologies;
- developing solutions for a better recovery of raw materials (metals, aggregates, concrete, bricks, plasterboard, glass and wood) from construction and demolition (C&D) waste, particularly in the most promising targets, such as deconstruction of non-residential buildings.

The proposals should develop the solutions proving the concept and feasibility at the level of TRL 5-6.

The Commission considers that proposals requesting a contribution from the EU between the range of 6 to 8 million euro would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected impact: In the medium to longer term unlocking a significant volume of various raw materials within EU28 through conversion of wastes or raw materials not currently worth exploitation into valuable resources⁵. Restoration of degraded land (e.g. landfill

⁴ This topic responds to EU research priorities identified in the FP7 project VOICES under the thematic areas 'waste treatment/management', including the extraction of raw materials from construction waste.

⁵ EU research priority identified under the thematic area 'waste treatment/management' in the FP7 project VOICES.

and mining waste heaps). In the shorter term measurable increase in the efficiency of exploitation of raw materials' deposits against the state of the art. Increased range and yields of recovered materials and energy efficiency, reduced environmental footprint measured by qualitative and quantitative indicators. Contribution to achieving the objectives of the EIP on Raw materials.

Type of action: Research and innovation actions

The conditions related to this topic are provided along with the general conditions for this call. [[Link to end of the description of the call](#)]

WASTE-4-2014/2015: Towards near-zero waste at European and global level⁶

Specific Challenge: The complexity and heterogeneity of waste streams require coordination and networking between researchers, entrepreneurs and public authorities to harmonise technologies, processes and services, to profit from benchmarking and sharing best practices, and use or develop standards. Insufficient co-operation between different value chain players in several raw materials sectors results in lower recycling rates or suboptimal use of raw materials from an environmental and socio-economic point of view. Improve co-operation within or along different supply chains, including a participatory role of citizens and civil society organizations, could enhance the understanding of an optimal use of raw materials and waste reduction.

The global nature of the waste management challenge requires coordination, pooling of resources and definition of global objectives and strategies, and holds a potential for export of eco-innovative solutions and seizing new markets. Dissemination at international level of knowledge on waste management, including environmental regulations and standards, can contribute to turning waste into a resource at global level and to setting up resource efficient waste management systems and technologies and services, particularly in developing countries and emerging economies. To this end, enhanced forms of participatory processes for all stakeholders are needed.

Scope: Actions should address one of the following issues:

a) A European near-zero waste stakeholder platform [2014]: Creation of a stakeholder platform for defining an integrated strategic research and innovation agenda, including systemic eco-innovation and business models, for waste prevention and management in Europe, defining areas of waste technologies to be clustered, and proposing actions for strengthening links between research funding programmes across Europe. This should help foster synergies between relevant stakeholders and value chains while identifying new market opportunities. It should provide for participatory and proactive social engagement of citizens and education as well as gender specific needs. Roadmaps addressing specific waste streams, including the electronic waste coming from the ICT sector, should be developed.

⁶ This topic responds to EU research priorities identified in the FP7 project VOICES under the thematic areas 'education and communication', 'model business and consumer behaviour', 'product /production design', and 'policy', including European waste management best practices, benchmarks and standards, and proactive social engagement of citizens and education.

b) Global waste dimension [2014]: Development of a strategy for global dissemination and uptake of European waste management best practices, benchmarks and standards, thereby raising awareness on behavioural, social, political, cultural and institutional aspects in solid waste management, and paving the way to new market opportunities. In line with the Union's strategy for international cooperation in research and innovation⁷ actions will contribute to the commitments of Rio+20 and UNEP's Global partnership on Waste Management and will follow up on the on-going international activities such as the EU – Africa pilot project on waste, aiming at developing a roadmap of potential joint European-African research and innovation actions, including knowledge transfer in the field of waste management'.

c) Secondary raw materials inventory [2014]: Establishment of an EU network for enhancing knowledge in order to improve the sustainable supply of raw materials through a secondary raw materials inventory component of an EU knowledge base with data and information on secondary raw materials and their materials flows, maps and evaluation of European stocks, including historical mine residues, of raw materials, in particular critical raw materials. It should improve data collection on secondary raw materials at national and regional level in the EU and subsequent access to data, including the need for additional EU-wide waste statistics. Compatibility with relevant EU or global standards and interoperability with national databases and other relevant databases (e.g. from FP7 projects) should be ensured. If appropriate, the development of new standards should be examined. The action shall support implementation of the European Innovation Partnership on Raw materials.

d) Raw materials partnerships [2015]: Creation of a common multi-stakeholder platform focused on a limited number of key raw materials across their whole value chain. This should involve partners from across the value chain, including mining, processing, recycling, application, public sectors (national/regional/local) and civil society, while respecting the conditions of each value chain. The action shall support implementation of the European Innovation Partnership on Raw materials.

Expected impact:

a) and b) Improved knowledge and metrics of specific waste streams in Europe, contributing to harmonised and optimised innovative waste management systems, best practices and standards and increased recycling rates in the medium term. Significant improvement in the knowledge of costs and performances along value chains, informing a pricing policy for waste management in line with the waste hierarchy. Support to the implementation of the Waste Framework Directive (Dir. 2008/98/EC) and achievement of Europe 2020 strategy reduction targets for greenhouse gas emissions. Support to the outcome of RIO+20 and the UNEP's Global Partnership on Waste Management and implementation of environmentally sound waste management systems, in line with the Basel Convention.

c) and d) In the medium term, easier decision-making at EU and national level as well as by industry, due to the creation of an inventory of secondary raw materials. Increased EU raw materials knowledge and transparency of EU raw materials information, for the benefit of various stakeholders. Boosting the raw material sector through an

⁷ COM(2012)497

interdisciplinary and transnational co-operation allowing matching the supply and demand from the EU downstream industry. In the longer term, securing availability of key raw materials, while creating greater added value to the economy and more jobs. Facilitation of exchange of information and increased knowledge and use of the most advanced, economically effective and innovative technologies in the whole value chain of raw materials.

Type of action: Coordination and support action

The conditions related to this topic are provided along with the general conditions for this call. [[Link to end of the description of the call](#)]

WASTE-5-2014: Preparing and promoting innovation procurement for resource efficiency

Specific Challenge: Through innovation-oriented public procurement, the public sector can foster lead markets and generate critical mass of demand for eco-innovative solutions, thus providing an important boost to resource efficiency and to waste prevention, reuse and recycling. It can lead to a sharing of the additional risks and costs involved in buying and using eco-innovative solutions and to a more rapid market uptake of such solutions. Barriers include the absence of cross-border coordination and lack of access to best practices and to knowledge of close-to-market innovative solutions.

Scope: Actions should lead to the establishment of (a) network(s) of public procurers to overcome the fragmentation of demand for eco-innovative solutions for resource efficiency and waste management and prevention in Europe. The creation of a buyers' group responsible for drawing common specifications should prepare for a joint or coordinated procurement (including needs assessment, financial modelling of different approaches, market consultation and testing involving the supply chain, drafting of specifications, risk management plan). The feasibility of launching a joint or coordinated public procurement of innovation (PPI) should be assessed.

Expected impact: Creation of a critical mass of procurers of eco-innovative solutions that would not otherwise be able to penetrate the market. Leverage of additional investment in research and innovation. Demonstrable contribution of public sector innovation and increased mobilisation of SMEs and industrial partners to promoting resource efficient products and services. Creation of new markets in the area of resource efficiency in the short and medium term. Movement from product purchase to service delivery.

Type of action: Coordination Action – PPI, Public Procurement of Innovative Solutions

The conditions related to this topic are provided along with the general conditions for this call. [[Link to end of the description of the call](#)]

WASTE-6-2015: Promoting eco-innovative waste management and prevention as part of sustainable urban development⁸

⁸ This topic responds to EU research priorities identified in the FP7 project VOICES under the thematic areas 'waste treatment /management', 'model business and consumer behaviour', 'policy' and 'economic

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Specific challenge: The growing waste produced in Europe, particularly in urban areas, where the vast majority of the world population are expected to live by 2050, represents a cost for society and a burden on the environment and, at the same time, a valuable stock of resources that can be exploited.

Boosting eco-innovative solutions to prevent waste generation and promote the use of waste as a resource, in line with the objectives of the EU Resource Efficiency Roadmap and the Waste Framework Directive, can enhance the natural and living environment in urban and peri-urban areas. Developing and demonstrating such solutions in real-life environments will enhance their market uptake and contribute to sustainable urbanisation worldwide.

Cities are more than spatially extended material artefacts; they are complex systems similar to living organisms that use energy, air, water and nutrients and need to dispose waste in a sustainable way. Adopting an urban metabolism perspective opens the way for innovative, systemic approaches, involving the analysis of resource flows within cities. Integrating in this way economic, social and environmental dynamics, it is possible to understand the patterns of resource use and consumption, and pinpoint drivers of waste-avoiding behaviour, manufacturing and business and public governance models.

Scope: Actions are expected to adopt an integrated urban metabolism approach and interdisciplinary research and innovation and take into account the gender dimension where relevant. Active engagement of local authorities, citizens and other relevant stakeholders are considered essential and might be promoted by using the concept of mobilisation and mutual learning (i.e. MML Action Plan). Actions should address one of the following issues:

a) Eco-innovative solutions: demonstration, at an appropriate pilot scale, of integrated eco-innovative cost- and energy-efficient technologies, processes and services for waste treatment, enhanced collection, recycling and recovery of high-grade valuable materials from waste. Approaches are expected to integrate technological and non-technological solutions, including, where appropriate, the use of economic instruments, such as incentives for more sustainable production and consumption patterns. Industry participation, including by SMEs, is considered essential.

The Commission considers that proposals requesting a contribution from the EU between the range of 8 to 10 million euro would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

b) Eco-innovative strategies: Development of innovative and sustainable strategies for waste prevention and management in urban and peri-urban areas. Activities should highlight how urban patterns, drivers, consumer behaviour, lifestyles, culture, architecture and socio-economic issues can influence the metabolism of cities. Activities should highlight the possible benefits to be derived from ecosystems services and green infrastructure.

instruments', including the use of waste as a resource, addressing patterns of resource use and consumption including incentives for more sustainable ones, active engagement of local authorities, and enhanced waste collection, recycling and recovery.

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The Commission considers that proposals requesting a contribution from the EU between the range of 8 to 10 million euro would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected impact: Significant measurable improvements in the state of the art in waste management in urban and peri-urban areas, and in the operationalisation of the urban metabolism approach for sustainable urban development and reduction of environmental hazards in cities. Contribution, over the long term, to the establishment of European Research and Innovation leadership in urban waste management and prevention.

In addition, the following specific impacts are expected:

a) Significant improvement in cost, material and, where appropriate, energy recovery efficiency in waste recycling and prevention in the short term. Identification of potential markets for the proposed waste collection strategies, treatment technologies and recycled products, as well as potential for replicability of solutions, based on a return-on-investment study on the short term. Creation, in the short term/medium, of green jobs and/or new SMEs due to effective market uptake of innovative technologies, processes and services. Contribution to development of standards, validated by key industrial players, and identifying best available and emerging techniques under the Industrial Emissions Directive.

b) Demonstrable improvement in the short/medium term in the participatory and science-based decision-making and planning for waste management, risk prevention and land-use as an integral part of urban development. Collectively-built solutions to promote eco-innovative urban management and re-naturing cities, measurable by qualitative and quantitative indicators. Significant increased competitiveness of soil-ecology-construction-waste treatment-related industries. In the long term, enhanced environmental resilience in urban areas and quality of life both in Europe and internationally.

Type of action: a) Innovation actions

and b) Research and innovation actions ***The conditions related to this topic are provided along with the general conditions for this call. [Link to end of the description of the call]***

H2020 – WASTE-7-2015: ensuring sustainable use of agricultural waste, co-products and by-products

Specific challenge: Agriculture generates co-products, by-products and waste streams that are currently not properly taken care of both in environmental and economic terms.

In plant production, which includes fruit, vegetables, and wine by-products, grass, straw, etc., losses take place at the farm and post-harvest levels and also down the chain at the level of the retail sector. Co-products or by-products are generated, for instance in the wine sector, which require sustainable use. Straw has been given significant attention in the last years as biomass feedstock and potential trade-offs with its relevance for soil improvement need to be considered.

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In livestock production, manure and effluents management is a challenge, in particular in industrial production systems. While manure is used as fertiliser, it impacts on the environment, with emissions to the air, soil and water. It is important to consider the whole manure chain to avoid pollution swapping and health issues, due to possible transmission of pathogens.

Beyond reduction and recycling of agricultural waste, co-products and by-products, there may be opportunities for new processes enabling innovative uses of these materials.

Scope: Activities should evaluate existing techniques and develop new and innovative approaches for efficient use of agricultural waste, co-products and by-products, thereby contributing to the creation of sustainable value chains in the farming and processing sectors (including the organic sector). Sector-specific case studies of such uses should improve testing and up-take of proposed approaches and technologies and should be implemented through competitive calls within the project (in line with relevant Horizon 2020 provisions). Research and innovation efforts should address crop co-products/by-products/waste as well as manure/effluents.

On straw and other crop residues (including in mixture with manure), activities should develop environmental safeguards such as sustainable extraction rates as well as guidance on optimal use of crop residues (in particular straw) for soil improvement and on farming practices to harvest and handle crop residues for alternative purposes.

As regards manure and effluents, the activities should address some or all of the following areas:

- Nutrient recovery from manure
- Improved knowledge on environmental impact of manure, further developing measurements and good manufacturing practices, minimising impact on water and air quality (emissions and odors)
- Sanitary implications of pathogens that can be transmitted from manure and possible control options
- Management chains, from processing to transport and application.

Involvement of industry should be ensured and pilot and/or demonstration activities should be performed. Knowledge platforms should be established. Actions proposed should fall under the concept of 'multi-actor approach'. Projects should be implemented through cascading grants: they should finance actions through competitive calls, in line with relevant Horizon 2020 provisions.

The Commission considers that proposals requesting a contribution from the EU between the range of X to X million euro would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected impact: Projects should contribute to the development of new and sustainable uses of agricultural co-products and by-products and waste streams from the plant and livestock sectors, and to the creation of sustainable value chains. This should improve the competitiveness of the concerned sectors while reducing the potential harm to the environment.

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Projects should in particular contribute to resource efficiency in agriculture and the bioeconomy; to soil quality – through an optimal use of crop waste; to water quality – recapturing nitrogen and phosphorus from manures and therefore reducing pollution and eutrophication of ground waters; to air quality – by reducing livestock emissions, therefore making it more environmentally sustainable and socially acceptable. Impacts on regulatory and standards development should be expected.

Type of action: Research and innovation

The conditions related to this topic are provided along with the general conditions for this call. [Link to end of the description of the call]

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CONDITIONS FOR THIS CALL

Publication date: 11122013⁹

Deadline(s):

Topics WASTE 2, WASTE 3, WASTE 4a, WASTE 4b, WASTE 4c, WASTE 5	DDMM2014 at 17.00.00 Brussels time			
Topics WASTE 1	First stage DDMM2014 at 17.00.00 Brussels time	Second stage DDMM2014 at 17.00.00 Brussels time		
Topic WASTE 4d, WASTE 7	DDMM2015 at 17.00.00 Brussels time			
Topics WASTE 6	First stage DDMM2014 at 17.00.00 Brussels time	Second stage DDMM2015 at 17.00.00 Brussels time		

Indicative budget: [\[Link to the relevant option on "margin of manoeuvre"\]](#)

Overall indicative budget: EUR 75.5 million from the 2014 budget¹⁰ and EUR 60 million from the 2015 budget¹¹

⁹ The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.

¹⁰ Subject to the adoption of the draft budget 2014 by the Budgetary Authority without modifications of the appropriations foreseen on the corresponding budget line or the availability of appropriations in 2014 under the rules of provisional twelfths referred to in Article 315 of TFEU

¹¹ These amounts will be included in the financial decision for 2015

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	2014 EUR million	2015 EUR million	
Topics WASTE-2, WASTE-7	EUR 9.00	EUR 15.00	
Topics WASTE-3	EUR 15.00		
Topic WASTE-4	EUR 5.50	EUR 4.00	
Topic WASTE-5	EUR 1.00		
Topics WASTE-1, WASTE-6	EUR 45.00	EUR 40.00	

Eligibility conditions:

Topics WASTE-1, WASTE-2, WASTE-3, WASTE-5, WASTE-6, WASTE-7	The standard eligibility conditions apply. Please read carefully the provisions [Link to the annex on standard eligibility conditions] under Annex X before the preparation of your application.
Topic WASTE-4	The standard eligibility conditions apply. Please read carefully the provisions [Link to the annex on standard eligibility conditions] under Annex X before the preparation of your application.
	Up to <u>one</u> project per sub-topic will be funded.

Evaluation criteria:

Topics WASTE-1, WASTE-2, WASTE-3, WASTE-4, WASTE-5, WASTE-6, WASTE-7	The standard evaluation criteria apply. Please read carefully the provisions [Link to the annex on standard evaluation criteria] under Annex X before the preparation of your application.
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Evaluation procedure: [\[Link to the annex on standard evaluation procedure\]](#)

- Proposal page limits and layout:

Topics WASTE-1, WASTE-2, WASTE-3, WASTE-4, WASTE-5, WASTE-6, WASTE-7	10 pages
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Applicants must ensure that proposals conform to the page limits and layout given in the Guide for Applicants, and in the proposal part B template available through the electronic Submission Services of the Commission.

The Commission will instruct experts to disregard any pages exceeding these limits.

The minimum font size allowed is 11 points. The page size is A4, and all margins (top, bottom, left, right) should be at least 15mm (not including any footers or headers).

- Indicative timetable for evaluation and grant agreement¹²:

	Information on the outcome of the evaluation (<i>single or first stage</i>)	Information on the outcome of the evaluation (<i>second stage</i>)	Indicative date for the signing of grant agreements	
Topics WASTE-2, WASTE-3, WASTE-4a, WASTE-4b, WASTE-4c, WASTE-5	DDMM2014 <i>Maximum 6 months after the deadline</i>	-	DDMMYYYY <i>Maximum 9 months after the deadline</i>	
Topic WASTE-1		DDMM2014 <i>Maximum 6 months after the deadline</i>	DDMMYYYY <i>Maximum 9 months after the deadline</i>	

¹² Should the call publication be postponed, the dates in this table should be adjusted accordingly.

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Topics WASTE-4d, WASTE-7	DDMM2015 <i>Maximum 6 months after the deadline</i>		DDMMYYYY <i>Maximum 9 months after the deadline</i>	
Topic WASTE-6		DDMM2015 <i>Maximum 6 months after the deadline</i>	DDMMYYYY <i>Maximum 9 months after the deadline</i>	

Consortia agreements: In line with the Rules for Participation and the Model Grant Agreement, participants in Research and Innovation Actions or in Innovation Actions are required to conclude a consortium agreement prior to grant agreement.

The primary objective of this call is to support sustainable development. It also contributes to climate action objectives.

Call – Water Innovation: Boosting its value for Europe

Treasuring our water

[H2020-WATER-2014/2015]

Water is an invaluable resource for human health, food security, sustainable development and the environment, and is an economic sector of growing importance for Europe. However, water resources are constantly under pressure from climate change, urbanisation, pollution, overexploitation of freshwater resources and increasing competition between various user groups. Improvement of the state of water resources, both in terms of quantity and quality, will trigger substantial economic benefits. The objective of the Water Framework Directive – to achieve good status by 2015 – will be met only in around half of the European waters, making major additional action necessary.

The aim of this challenge is to seize these new and significant market opportunities by positioning Europe as a global market leader in water related innovative solutions.

The world market for drinking and waste water reached €250 billion in 2008, with corresponding investments of more than €33 billion per annum. Pollution of water from run-off alone (predominantly of agricultural origin) was estimated in 2011 to cost the EU €30 billion per annum. The market for technologies to adapt to climate change – such as protecting from floods and droughts – is rapidly growing, considering that the cost of repairing damages is estimated to be about 6 times higher than the cost of adaptation.

There is significant potential to boost the competitiveness and growth of the European water sector, which includes 9 000 active SMEs and provides 600 000 direct jobs in water utilities alone. A 1% increase of the rate of growth of the water industry in Europe may result in 10.000 to 20.000 new jobs, while synergies with other sectors may generate even larger returns (some estimates indicate that the application of ICT in water management and monitoring could produce growth of 30% per year).

Activities in this call address: integrated approaches to water and climate change; bringing innovative water solutions to the market; and harnessing water research and innovation results for the benefit of industry, policy makers and citizens in Europe and globally.

The actions supported under this call are expected to contribute to several policy objectives including those set out in the Europe 2020 Resource-efficient Europe Roadmap for water: impacts of droughts and floods should be minimised; alternative water supply options are only relied upon when all water saving and water efficiency measure are taken and other options exhausted; water extraction should remain below 20% of available renewable water resources. Specific actions respond to relevant needs identified in the European Innovation Partnerships (EIP) 'Water' and its Strategic Implementation Plan and to research gaps identified through the WFD Common Implementation Strategy/Science-Policy activity (CIS-SPI) as well as through relevant European Technology Platforms. The innovation and demonstration activities in this call are expected to offer particular opportunities to SMEs.

To enhance the impact of activities, dissemination of results and outputs is encouraged across the call. Beneficiaries funded partially or entirely by Societal Challenge 'Climate

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action, environment, resource efficiency and raw materials' are required to deposit peer-reviewed articles resulting from projects in an institutional or subject-based repository, and to make their best efforts to ensure that readers have open access to these articles within six months of publication. Open access to data, where appropriate, is also encouraged. Each proposal should allocate appropriate efforts and resources for dissemination to promote the use and uptake of results.

In the context of cooperation with the European Space Agency (ESA), projects selected for funding are encouraged to utilise ESA Earth Science data. The data, both from ESA missions or third party missions, are for the vast majority of cases available for free web download (further details for ESA missions and Third Party Missions are available at <http://eopi.esa.int>). Likewise, the utilisation of data produced from different initiatives of ESA or the European Commission, in particular Copernicus, is encouraged in all activities of Societal Challenge 'Climate action, environment, resource efficiency and raw materials'.

Other topics contributing to the objectives of this call in other parts of the Horizon 2020 Work Programme include:

- NMK 15 - 2015: Materials innovations for the optimisation of cooling in power plants
- NMK 24 - 2015: Low-energy solutions for drinking water production – pilot plants
- INFRAIA 1-2014/2015: Integrating and opening existing national and regional research infrastructures of pan-European interest (research infrastructures for hydrological/ hydrobiological research, research infrastructures for environmental hydraulic research)
- SFS 2 - 2014/2015: Sustainable crop production
- SFS 8 - 2014/2015: Resource-efficient eco-innovative food production and processing
- SFS 11 - 2014/2015: Implementation of an Ecosystem-based approach for European aquaculture
- ISIB 4 - 2014/2015: Improved data and management models for sustainable forestry
- ISIB 5 - 2014: Renewable oil crops as a source of bio-based products

WATER-1-2014/2015: Bridging the gap: from innovative water solutions to market replication

Specific challenge: One of the main factors hampering the market uptake of innovative solutions in the field of water is the lack of real scale demonstration of their long term viability. In addition, highly promising and sustainable innovative water solutions (technologies, processes, products, services etc.) often do not reach the market due to pre-commercialisation challenges and the residual risk linked to scaling-up.

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There is therefore a need to take action to accelerate the commercialisation of eco-innovative water solutions with a view to stimulating sustainable economic growth, business and job creation in the water sector.

The European Innovation Partnership (EIP) on Water¹³ has identified 8 priority areas: 5 thematic priorities (water reuse and recycling; water and waste water treatment, including recovery of resources; water and energy integration; flood and drought risk management; and the role of ecosystem services in the provision of water related services) and 3 cross-cutting priorities (water governance; decision support systems and monitoring; and financing for innovation). According to the EIP on Water, these are areas which show high potential for innovation and market uptake.

Scope: Actions should address one of the following:

a) 2014: first application and market replication of near-market water solutions, addressing the thematic priorities identified in the EIP on water.

The Commission considers that proposals requesting a contribution from the EU between the range of 2 to 4 million euro would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

b) 2015: demonstration/pilot activities of new or improved innovative water solutions in a real environment, with a focus on the cross cutting priorities identified in the EIP on water, while addressing the thematic priorities.

The Commission considers that proposals requesting a contribution from the EU between the range of 6 to 8 million euro would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Activities should also help process industries become less water dependant while ensuring efficient management of other resources (e.g. raw materials and energy), and/or exploiting untapped potential of ICT by developing and deploying advanced ICT solutions for water resources management in agriculture and urban areas.

Complex issues should be addressed with innovative, creative solutions with a globally positive environmental impact demonstrated by life cycle analysis. Social, institutional, economic and governance aspects ensuring a more rapid uptake of solutions as well as aspects affecting market deployment and uptake, such as, standardisation and regulatory issues, market assessment and business plan, should be considered where appropriate. The participation of SMEs is considered essential.

Expected impact: Wide and fast deployment of sustainable innovative solutions in the water sector. Contribution to the priority areas of the EIP 'Water'. Support to the objectives of the Sustainable Process Industries Public-private Partnership (SPIRE PPP), in particular helping process industries and consumers to socially accept water as a highly valuable resource rather than a cheap consumable. Market penetration and demonstration, long-term application and sustained use of successful and sustainable innovative solutions by various end-users. Creation of new market opportunities both

¹³ <http://ec.europa.eu/environment/water/innovationpartnership/>

inside and outside Europe. Increased resource efficiency and environmental performance of the water sector, inter alia through synergies between public water authorities, water utilities, various economic actors and sectors, major companies and industries, SMEs and research organisations. Significant reduction in water use. More than 50% reduction of energy demand in water supply, treatment and transportation. Development and uptake of water efficiency standards in urban, agricultural and industrial areas, including the promotion of interoperability between water information systems at EU and national levels and their harmonisation with the INSPIRE Directive.

Type of action: Innovation actions

The conditions related to this topic are provided along with the general conditions for this call. [Link to end of the description of the call]

WATER-2-2014/2015: Integrated approaches to water and climate change

Specific challenge: The rising demands of a growing world population for food, water, materials and energy will put increasing pressures on land use, water resources and ecosystems. Increased energy use leads to increased demands for cooling water for thermal power plants. Climate mitigation options such as biomass production for energy (biofuels) might also lead to increased land and water demands. Increased food and feed demand will put increasing pressures on land (e.g. deforestation leading to more greenhouse gas emission) and water resources. Such pressures will be compounded by the impacts of climate change which are likely to further modify the availability and suitability of these resources as well as affect agricultural productivity.

Tools to help explore options for low-carbon pathways, such as climate-energy models, currently lack a comprehensive integration of land-use and water systems, leading to an incomplete picture of the interactions between competing demands and the future viability and costs of adaptation and mitigation options as well as the environmental protection and agricultural challenges.

Despite considerable progress over the past ten years, forecasting natural water cycle variability and short- and long-term extreme weather events still suffers from severe limitations. Improved understanding of the impacts of climate change on the hydrological cycle is necessary in order to better inform decision makers and ensure sustainable water supply and management of water systems, and quality of water bodies, in Europe.

Scope: Actions should address one of the following issues.

a) Water cycle under future climate [2014]:

Actions should aim to:

- maximise the reliability of projections of precipitation (average, distribution, frequency, intensity) and couple them with water cycle variability at local/regional scales in Europe, over various timescales;
- improve the short-to-medium term forecasting of related extreme events;
- assess the impacts of weather extremes as well as the wider impacts of climate change on the different components of the water cycle in terms of quantity and quality;

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- develop risk management strategies for extreme weather and climate change-related threats at the appropriate scale(s) (local, regional and continental), taking into consideration the role and involvement of the relevant actors, and emphasising highly vulnerable water resources of strategic importance.

The Commission considers that proposals requesting a contribution from the EU between the range of 6 to 8 million euro (or more) would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

b) Integrated approaches to food security, low-carbon energy, sustainable water management and climate change mitigation [2015]:

Actions should aim to:

- develop tools and methodologies for integrating agriculture, forestry, climate change impacts and adaptation with climate-energy-economic models and land-use models, using a multi-disciplinary approach;
- consider the potential role, contributions and limitations of low-carbon options with respect to land and water resources;
- develop a better scientific understanding of the land-water-energy-climate nexus;
- develop integrated strategies and approaches, at different spatial scales (regional, national, continental, global), integrating resource efficient land use, agricultural productivity improvements, sustainable water management and low carbon energy transition and analysing interactions with the existing regulatory frameworks in these areas and the potential barriers to implementation.

The Commission considers that proposals requesting a contribution from the EU between the range of 6 to 8 million euro (or more) would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected impact:

a) More efficient management of water resources in Europe due to better knowledge of the water cycle under the future climate. Contribution to management planning across the EU in support of the Blueprint to safeguard Europe's water resources and the EU Climate Change Adaptation Strategy. Contribution in the longer-term to the development of reliable climate services in relation to the water cycle.

b) Increased understanding of how water management, food and biodiversity policies are linked together and to climate and sustainability goals. Reduction of the uncertainties about the opportunities and limitations of low-carbon options, such as bioenergy technologies and resource efficiency measures, in view of relevant near-term policy initiatives. Contribution to future assessments, including those of the IPCC, with multidisciplinary and integrated tools.

Type of action: Research and innovation actions ***The conditions related to this topic are provided along with the general conditions for this call.*** [Link to end of the description of the call]

WATER-3-2014/2015: Stepping up EU research and innovation cooperation in the water area

Specific challenge: Water-related research and innovation is fragmented at EU level and dispersed at national level in several ministries, universities, agencies, regional governments and programmes. To be more effective and increase the added value of related investments, the efforts and strategic research agendas of the many funding networks and organisations existing in Europe need to be integrated to establish transnational and trans-disciplinary research and innovation actions.

Scope: Actions should pool the necessary financial resources from the participating national (or regional) research programmes with a view to implementing a joint call for proposals with EU co-funding to support the priorities identified in the Strategic Research Agenda of the Water Joint Programming Initiative (JPI). Proposers are encouraged to implement other joint activities including additional joint calls without EU co-funding.

In 2014, this call should support research and innovation developing technological solutions and services for water distribution and measurement, waste water treatment and reuse, desalination, floods and droughts etc.

In 2015 the call should support research and innovation on sustainable water use in agriculture, to increase water use efficiency and reduce soil and water pollution.

Expected impact: Better use of scarce human and financial resources in the area of water R&I. Reduced fragmentation of water research and innovation efforts across Europe. Improved synergy, coordination and coherence between national and EU funding in the relevant research fields through transnational collaboration. Improved implementation of research and innovation programmes in these fields through exchange of good practices. Contribution to the implementation of the JPI on water.

Type of action: ERA-NET (Programme COFUND action)

The conditions related to this topic are provided along with the general conditions for this call. [Link to end of the description of the call]

WATER-4-2014: Harnessing EU water research and innovation results for industry, policy makers and citizens

Specific challenge: Effective use and market exploitation of water research results is often limited by the lack of adequate knowledge exchange practices and mechanisms. The same applies for research that gives answers to policy implementation, like achieving Water Framework Directive (WFD) good status. This is exacerbated by the fact that water research and innovation faces several multidisciplinary challenges and involves a wide variety of policy sectors, decision makers, public and private users and stakeholders at various levels.

Critical mass is needed for knowledge exchange, to ensure wide applicability of research results, facilitate the translation of knowledge into use by various stakeholders, reduce unnecessary duplication of efforts, raise public awareness of water-related issues and promote innovation and business development.

Scope: Actions should aim to:

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- promote the dissemination and exploitation of EU funded activities, including relevant ICT-based tools and platforms and their integration for market leadership in many fragmented areas, develop appropriate policy briefs, and foster knowledge sharing and continuous benchmarking across the EU to ensure wider application of innovative solutions and further demonstrate their potential to solve water-related challenges, including through river basin networks and River Basin Districts;
- identify research gaps with a view to avoiding overlaps between key regional, national, European and international activities, taking into account the implementation of the WFD;
- promote water-related innovation and business development, help cluster eco-innovative companies and develop innovative financial instruments;
- develop a coordinated approach to the integration of the water and waste sectors in the 'Smart Cities and Communities' European Innovation Partnership (EIP)¹⁴, identifying research and innovation needs which could lead to future actions, promoting exchange of best practice between public authorities and stakeholders involved, and increasing preparedness and planning capacities of all the relevant actors.

Expected impact: Enhanced science- and evidence-based decision making in the field of water. Application of best management practices and new developments to address needs and opportunities in the water field. Enhanced interface between water and innovation policies. Rapid market uptake of research results in line with the priority area of the European Innovation Partnership (EIP) 'Water'¹⁵. A more integrated community of researchers and users extending across disciplines, countries, organisations and sectors. Improved public engagement in research and improved public understanding of the dynamic nature of water systems and the role of innovation in the water sector. Integration of the water and waste sectors into the Smart Cities EIP, reinforcing its ultimate goal of contributing to achieving the 3 bottom line objectives (20-20-20).

Type of action: Coordination and support actions

The conditions related to this topic are provided along with the general conditions for this call. [Link to end of the description of the call]

WATER-5-2014/2015: Strengthening international R&I cooperation in the field of water

Specific challenge: Sustainable water supply and sanitation is fundamental to the food security, health, survival, societal well-being and economic growth in developing countries, especially in Africa. Developing countries are also particularly vulnerable to water-related problems which are expected to be exacerbated in the future by more

¹⁴ <http://ec.europa.eu/eip/smartcities/>

¹⁵ <http://ec.europa.eu/environment/water/innovationpartnership/>

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frequent and severe floods and droughts due to climate change. A prerequisite for tackling these challenges is a profound analysis of water resources at cross-boundary catchment scales, pressures on water resources and conflicts in water use that require sound approaches to water management. International cooperation can play an important role in mitigating these negative effects.

At the same time, the EU should aim to strengthen international cooperation also with emerging economies, especially China and India, through strategic partnerships in the field of water. This will allow for joint development of technological solutions that, capitalizing on the mutual knowledge and experience of the water industry in EU Member States and these countries, have a great potential for further replication and market uptake. Building on its leadership in international water-related negotiations, the EU will promote its experience in water policy and river management in order to share best practices.

Scope: Actions should address one of the following issues:

a) 2015: development of water supply and sanitation technology, systems and tools, and/or methodologies to manage risks associated with water supply and sanitation and cross-boundary water management issues, or integrated water resources management systems for sustainable agriculture and food security, sustainable environment protection and economic growth, focused on the non-EU Mediterranean countries and Africa. Actions should connect to local knowledge, socio-economic development cultures, policy institutions and implementing bodies, and take into account the gender dimension where relevant. In line with the Union's strategy for international cooperation in research and innovation¹⁶ international cooperation is encouraged, in particular with non-EU Mediterranean countries and Africa. Participation of organisations from the above-mentioned regions is considered essential.

The Commission considers that proposals requesting a contribution from the EU between the range of 2 to 3 million euro would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

b) 2015: a coordination platform for scientists, decision makers, practitioners and other key stakeholders representing a number of African countries throughout the duration of Horizon 2020 to identify opportunities and constraints for the sustainable management of water and other natural resources and ecosystems and for the development of cost-effective climate change adaptation and mitigation measures in Africa. In line with the Union's strategy for international cooperation in research and innovation¹⁷ international cooperation is encouraged, in particular with Africa;

c) 2014: a strategic cooperation partnership for water research and innovation between Europe and the rest of the world, promoting the creation of networks of companies (including SMEs), entrepreneurs, policy makers, regulators and funding bodies to create business opportunities. In line with the Union's strategy for international cooperation in

¹⁶ COM(2012)497

¹⁷ COM(2012)497

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research and innovation¹⁸ projects contributing to implementing on-going international activities and partnerships where the EU Member States are jointly committed to providing a more coherent approach to research and innovation (e.g. EU/Member States-India research and innovation partnership on water, China Europe Water Platform) that aim at establishing a shared strategic research and innovation agenda will be given priority.

Expected impacts:

- a) Application of innovative technological approaches/solutions adapted to local conditions, operational and effective application of integrated water management, better identification of water vulnerability by policy makers, advanced regulatory and economic instruments, improved capacity building of local actors, and increased economic and social well-being at local and regional levels in the non-EU Mediterranean countries and Africa. Support to internationally agreed water-related goals, including in the context of the post-2015 development framework and Rio+20 follow up, by bridging the water and sanitation gaps.
- b) Better preparedness in Africa to address water and climate change vulnerabilities, with less fragmentation of efforts and enhanced knowledge sharing and technology transfer.
- c) Creation of market opportunities for European water innovations outside Europe, thus supporting the implementation of the EIP 'Water' and its priority areas. Support to the implementation of the objectives set by the Strategic Forum for International Science and Technology Cooperation¹⁹.

Type of action:

- a) Research and innovation actions
- b) & c) Coordination and support actions

The conditions related to this topic are provided along with the general conditions for this call. [Link to end of the description of the call]

CONDITIONS FOR THIS CALL

Publication date: 11122013²⁰.

Deadline(s):

Topics WATER 3, WATER 4,	DDMM2014 at 17.00.00 Brussels time			
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¹⁸ COM(2012)497

¹⁹ <http://ec.europa.eu/research/iscp/index.cfm?lg=en&pg=sfic-general>

²⁰ The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.

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WATER 5b				
Topics WATER 1, WATER 2a	First stage DDMM2014 at 17.00.00 Brussels time	Second stage DDMM2014 at 17.00.00 Brussels time		
Topics WATER 3, WATER 5c	DDMM2015 at 17.00.00 Brussels time			
Topics WATER 1, WATER 2b, WATER 5a	First stage DDMM2014 at 17.00.00 Brussels time	Second stage DDMM2015 at 17.00.00 Brussels time		

Indicative budget: [\[Link to the relevant option on "margin of manoeuvre"\]](#)

Overall indicative budget: EUR 68.00 million from the 2014 budget²¹ and EUR 96.00 million from the 2015 budget²²

	2014 EUR million	2015 EUR million	
Topic WATER 3	EUR 10.00	EUR 15.00	
Topics WATER 4, WATER 5b, WATER 5c	EUR 5.00	EUR 3.00	
Topic WATER 1	EUR 40.00	EUR 45.00	
Topic WATER 2	EUR 13.00	EUR 18.00	
Topic WATER 5a		EUR 15.00	

²¹ Subject to the adoption of the draft budget 2014 by the Budgetary Authority without modifications of the appropriations foreseen on the corresponding budget line or the availability of appropriations in 2014 under the rules of provisional twelfths referred to in Article 315 of TFEU

²² These amounts will be included in the financial decision for 2015

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Eligibility conditions:

Topics WATER 1, WATER 2, WATER 5a	The standard eligibility conditions apply. Please read carefully the provisions [Link to the annex on standard eligibility conditions] under Annex X before the preparation of your application.
Topics WATER 3, WATER 4, WATER 5b, WATER 5c	The standard eligibility conditions apply. Please read carefully the provisions [Link to the annex on standard eligibility conditions] under Annex X before the preparation of your application. Up to <u>one</u> project per year and/or per sub-topic will be funded.

Evaluation criteria:

Topics WATER 1, WATER 2, WATER 3, WATER 4, WATER 5	The standard evaluation criteria apply. Please read carefully the provisions [Link to the annex on standard evaluation criteria] under Annex X before the preparation of your application.
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Evaluation procedure: [\[Link to the annex on standard evaluation procedure\]](#)

- Proposal page limits and layout:

Topics WATER 1, WATER 2, WATER 3, WATER 4, WATER 5	10 pages
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Applicants must ensure that proposals confirm to the page limits and layout given in the Guide for Applicants, and in the proposal part B template available through the electronic Submission Services of the Commission.

The Commission will instruct experts to disregard any pages exceeding these limits.

The minimum font size allowed is 11 points. The page size is A4, and all margins (top, bottom, left, right) should be at least 15mm (not including any footers or headers).

- Indicative timetable for evaluation and grant agreement²³:

[This table will be completed after discussions with REA are completed.]

²³ Should the call publication postponed, the dates in this table should be adjusted accordingly.

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	Information on the outcome of the evaluation (<i>single or first stage</i>)	Information on the outcome of the evaluation (<i>second stage</i>)	Indicative date for the signing of grant agreements	
Topics WATER 3, WATER 4, WATER 5b	DDMM2014	-	DDMMYYYY	
Topics WATER 1, WATER 2b		DDMM2014	DDMMYYYY	
Topics WATER 3, WATER 5c	DDMM2015		DDMMYYYY	
Topics WATER 1, WATER 2a, WATER 5a		DDMM2015 <i>Maximum 6 months after the deadline</i>	DDMMYYYY <i>Maximum 9 months after the deadline</i>	

Consortia agreements: In line with the Rules for Participation and the Model Grant Agreement, participants in Research and Innovation Actions or in Innovation Actions are required to conclude a consortium agreement prior to grant agreement.

The primary objective of this call is to support sustainable development and climate action. Call – Growing a Low Carbon, Resource Efficient Economy with a Sustainable Supply of Raw Materials

[H2020-SC5-2014/2015]

This call forms part of an overall focus on investing in innovation for a green economy. The multi-disciplinary research and innovation required to effectively tackle this challenge in a sustainable way entails pooling complementary knowledge and resources, including the active involvement of socio-economic disciplines. The dissemination and uptake of research and innovation results by policy-makers, businesses and society at large is encouraged to empower actors at all levels of society to actively participate in this process.

Actions under this call aim to support businesses in developing and bringing to the market eco-innovative solutions and to encourage their take-up by public authorities in their procurement practices. They will also help move towards a new era of climate information systems and services, which can provide accessible, high quality and ultimately useful data for the public sector, business and society.

Actions under this call also aim to improve our understanding of the complex interactions within, across and between ecosystems and the different elements driving changes in the

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environment, in order to better tackle these challenges and to use the available knowledge e.g. to make ecosystem restoration more effective. Actions will address the need to both usefully harness Earth Observation data and to engage citizens in developing systems for effective transfer of environmental knowledge for the benefit of scientists, policy makers, business and society

Actions will also focus on sustainable access to and production of raw materials to ensure significant reduction in resource use and a secure and sustainable supply of key raw materials.

Finally, a number of actions under this call aim to bring together and better coordinate research and innovation actions within Europe and beyond, accompanied by timely and open exchange of information and research results, to enhance the impact of research and innovation and ensure a more efficient use of scientific developments for policy, business and citizens.

Given the transnational and global nature of the climate and the environment, their scale and complexity, as well as of the raw materials supply chain, activities are foreseen at both EU level and beyond. In addition to bilateral and regional cooperation, Union level actions will also support relevant international efforts and initiatives.

To enhance the impact of activities, dissemination of results and outputs is encouraged across the call. Beneficiaries funded partially or entirely by Societal Challenge 'Climate action, environment, resource efficiency and raw materials' are required to deposit peer-reviewed articles resulting from projects in an institutional or subject-based repository, and to make their best efforts to ensure that readers have open access to these articles within six months of publication. Open access to data, where appropriate, is also encouraged. Each proposal should allocate appropriate efforts and resources for dissemination to promote the use and uptake of results.

In the context of cooperation with the European Space Agency (ESA), projects selected for funding are encouraged to utilise ESA Earth Science data. The data, both from ESA missions or third party missions, are for the vast majority of cases available for free web download (further details for ESA missions and Third Party Missions are available at <http://eopi.esa.int>). Likewise, the utilisation of data produced from different initiatives of ESA or the European Commission, in particular Copernicus, is encouraged in all activities of Societal Challenge 'Climate action, environment, resource efficiency and raw materials'.

FIGHTING AND ADAPTING TO CLIMATE CHANGE

SC5-1 and SC5-2-2014/2015: Climate Services for Europe and globally

Specific challenge: The provision of trustworthy science-based climate information to government, public and private decision makers is a fundamental prerequisite for both properly managing the risks society is facing and seizing the opportunities this implies. In order to meet societal expectations, a significant improvement in the prediction of the climate system (in a seamless way from seasonal-to-decadal and centennial timescales) is needed.

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To address these challenges, the climate science community will need to enter into a new era of climate information systems, which take into account the usefulness, provision, accessibility and quality of data. In order to maintain Europe's leadership in this field and meet the challenges of climate change, significant progress is required in parallel in the development of both climate modelling and science for climate services.

a) SC5-1-2014: Advanced Earth-system models

Scope: Actions should develop a new generation of advanced and well-evaluated global climate and Earth-system models as well as sophisticated climate related prediction systems with the aim of providing to governments, business and society in general state-of-the-art trustworthy scientific input to climate risk assessments at decadal to centennial time scales at the highest spatial resolution possible. Relevant physical, chemical and biological Earth-system processes, including anthropogenic drivers as well as socio-economic aspects and their feedback need to be adequately incorporated into climate models predictions and projections at the appropriate scale. New methods for representing uncertainties in Earth System models should help to assess the reliability of regional responses and their impacts on key economic sectors. Advanced high resolution Earth-system models should also provide the basis for producing novel climate scenarios. Future models should have the capability of better reproducing past as well as recent climate records.

The Commission considers that proposals requesting a contribution from the EU between the range of 10 to 15 million euro would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

b) SC5-2-2015: ERA for Climate Services

Scope: Actions should pool the necessary financial resources from the participating national (or regional) research programmes with a view to implementing a joint call for proposals with EU co-funding to develop better tools, methods and standards on how to produce and use reliable data, new sets of projections and impact indicators relevant for users' needs and capabilities. These are required by users to assess impacts of and adaptation responses to future climate variability and extreme conditions for specific regions, sectors and relevant time periods (seasonal-to-decadal) at regional and local scale. This should also include consideration of specific requests for services and multi-drivers risk analyses, which require an inter- and trans-disciplinary two-way dialogue between scientists, information providers and end-users. Links with international climate service initiatives should be established.

Actions should promote a wide representation of EU Member States. Due to the strong Institutional character of research in this field, the ERA-NET consortium will be composed of governmental research organisations that implement one single joint call based on in-kind contribution from their institutional funding.

Expected impact:

a) improved science based foundation to better assess the impacts of climate variability and change at decadal to centennial time scales, to support the development of effective climate change policies and optimize private decision-making. Robust, credible and trustworthy climate predictions and projections to make in the medium- and long-term European business sectors more resilient and competitive at global scale. Project outcome should support the post-AR5 IPCC process and other relevant international scientific assessments, and provide a solid scientific basis for future science cooperation and policy actions at European and international level.

b) facilitate climate-smart public and private decisions making thereby reducing the impact of climate related hazards and promoting climate-proof management of European resources. Strengthened European integration through more effective exchange and transfer of climate-related knowledge across the EU. Support to the development and widening of the Joint Programming Initiative on Climate. Scientific support to the development of COPERNICUS operational activities and ClimateAdapt web portal. European contribution to the Global Framework for Climate Services (WMO-GFCS), the Future Earth Programme and relevant actions launched by the Belmont Forum. Support to the implementation of the EU Strategy on Adaptation to Climate Change.

Type of action:

- a) Research and innovation actions
- b) ERA-NET (Programme COFUND action)

The conditions related to this topic are provided along with the general conditions for this call. [[Link to end of the description of the call](#)]

SC5-3-2014: The economics of climate change and linkages with sustainable development

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Specific Challenge: Policy makers face societal and economic challenges when addressing climate change, including the need to bring climate action into the wider agenda of economic welfare and sustainable development. Decision-making processes require robust estimates of the costs and benefits, as well as risks and opportunities associated with different mitigation pathways against a background of uncertainty about the future climate and its impacts. It is also necessary to explicitly address the links between the development of low-emission strategies and other policies to promote sustainable development, and to understand how climate change is connected to issues such as eradication of energy poverty, increased well-being and welfare, air quality improvement, technology innovation, and food and water availability. To respond effectively to climate change and simultaneously meet sustainable development goals, radical transformations are needed to enable the transition to a clean, low-carbon, sustainable and resilient society, at the national, regional and global levels.

Scope: Actions should address one of the following:

a) developing a comprehensive economic assessment of climate change impacts and response strategies in relation to different mitigation and adaptation pathways, focusing on the low-carbon transformation of the energy system. Actions should quantify the costs, benefits and risks of different technological and societal transitional changes of the energy system, examine the impacts on green growth, innovation dynamics, job creation and social cohesion, and develop tools and methodologies in support of evidence-based decision making.

The Commission considers that proposals requesting a contribution from the EU between the range of 6 to 8 million euro would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

b) examining the link between climate change actions and sustainable development through international research collaboration efforts and developing a science dialogue between the EU and International partner countries, with a focus on G20 countries. Actions should develop technological and socio-economic mitigation pathways in the context of wider sustainable development goals, examine actual and prospective mitigation policies in various countries to support evidence-based policy making for climate action in the context of sustainable development, and undertake international collaboration with scientists with insights into the local challenges and opportunities. In line with the Union's strategy for international cooperation in research and innovation²⁴ projects will contribute to provide support for capacity-building and knowledge-sharing goals under the UNFCCC and contribute to major international scientific assessments (e.g. IPCC).

The Commission considers that proposals requesting a contribution from the EU between the range of 3 to 5 million euro would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected impact:

²⁴ COM(2012)497

a) Support for technological, institutional and socio-economic innovation in the area of climate action. Reduction already in the short-term of the uncertainties in assessing and computing the costs, benefits and economic values of mitigation options. Facilitation of EU and global climate policy goals and mainstreaming of climate change mitigation options across multiple scales and sectors, providing scientific underpinning for the implementation and review of the 'Roadmap for moving to a low-carbon economy by 2050'. Contribution to major international scientific assessment (e.g. IPCC)

b) Increased collaboration and cooperation in scientific research between the EU and key target countries in the area of climate action. Support for capacity-building and knowledge-sharing goals under the UNFCCC. Integration of climate action in the broader development agendas for developing countries. Accelerated transfer of low-carbon and adaptation technologies and knowledge to emerging and developing countries. Contribution to major international scientific assessments (e.g. IPCC).

Type of action: Research and innovation actions

The conditions related to this topic are provided along with the general conditions for this call. [[Link to end of the description of the call](#)]

SC5-4-2015: Improving the air quality and reducing the carbon footprint of European cities

[N.B. Topic moved from 'Smart Cities and Communities' Focus Area]

Specific challenge: The majority of the European population lives in urban environments where citizens are frequently exposed to levels of air pollutants exceeding the limit values established by the European directives. The sources of pollution in cities are mainly linked to urban activities such as transport and heating. Other activities such as energy production, industrial activity, agriculture and trans-boundary pollution play an important role. Air pollution and climate change are strongly connected and there is therefore a need to consider both environmental and climate considerations when designing emission abatement strategies. Integrated approaches are needed to find long-term, sustainable solutions in the EU.

Scope: Development of technological options and strategies to fight against air pollution in urban environments and climate change ensuring the involvement of the main pollution-generation sectors. Actions should include the development and application of tools in support of integrated air quality and low carbon governance in EU Member States, with the aim of designing and implementing adequate abatement strategies and practices. The specific circumstances of the different regions and cities of Europe and the complex systems dynamics of societal and technological changes required for a transition to air pollution free/ low carbon society should be taken into account. Actions should foster the integration of assessment, monitoring and source apportionment advanced tools with innovative technological options and strategies to improve air quality and reduce the carbon footprint of urban areas. Participation of SME's is encouraged.

The Commission considers that proposals requesting a contribution from the EU between the range of 6 to 8 million euro would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

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Expected impact: Reduction of the negative effects on health and climate together with the costs associated with air pollution in Europe. Increase compliance with the EU air quality legislation. Rapid market deployment of technological and non-technological innovative solutions. Contribution to the goals of the Smart Cities and Communities focus area. Societal transformation to a green and low carbon economy. Improved air quality in EU cities in the medium- to long-term.

Type of action: Research and innovation actions

The conditions related to this topic are provided along with the general conditions for this call. [[Link to end of the description of the call](#)]

SC5-5-2014/2015: Coordinating and supporting research and innovation for climate action

Specific challenge: The pace of current developments and uncertainties surrounding likely future trends requires further steps to maintain and strengthen the evidence base to ensure that policy makers, businesses and citizens in the EU can continue to draw on a sound understanding of the state of the climate and the wider environment, the possible response options and their consequences in social, economic and environmental terms.

Better integration and coordination of on-going and future climate change research and innovation initiatives within Europe and beyond is needed, accompanied by timely and open exchange of information and research results to enhance the impact of research and ensure a more efficient use of resources and scientific developments.

Scope: Creation of European climate change networks to facilitate dialogue among the relevant scientific communities, funding bodies and user communities in Europe throughout the duration of Horizon 2020 and enhance effective communication and dissemination activities targeting different stakeholders, to maximise the impacts of the research and innovation initiatives and increase public awareness about climate science and research results. Actions should cover activities such as clustering, co-ordinating and creating synergies between international, European and nationally funded climate change research and innovation actions, developing joint programmes and projects, creating links with related international programmes, forward looking analysis to establish emerging needs, and effective mechanisms to strengthen science-policy interface. This requires genuinely cross-disciplinary, integrated and systemic approach - including the socio-economic dimension-, as well as the engagement and collaboration between the climate science and the broader stakeholder communities.

Actions should address one of the following issues:

a) Earth system modelling and climate services [2015]: parallel development of a Europe-wide climate modelling and service framework to enable and encourage open exchange of knowledge, expertise and data in order to more accurately simulate climate evolution, and to improve the reliability of science based climate information at local, regional and global scales. It should integrate the European climate modelling, observations and service infrastructure initiatives and provide a science-stakeholder communication platform to better manage European resources, reduce fragmentation and improve synergies between national, European and international activities.

b) Climate mitigation options [2014]: establishment of a comprehensive mapping and assessment of climate mitigation options, policies and related technologies in the EU Member States, taking into account their costs and opportunities. It should include analyses of the potential for international co-operation/co-development with emerging economies and developing countries, with the aim of ensuring synergies amongst research projects, foster collaboration with national and international research programmes and maximize impacts and outreach of EU-funded activities, also in view of accelerating technology transfer. Furthermore, the risks, benefits and socio-economic aspects of negative emission technologies (including geo-engineering) should also be addressed, together with new approaches for linking research on impacts and adaptation with those on mitigation options and economic costs. In line with the Union's strategy for international cooperation in research and innovation²⁵ international cooperation is encouraged, in particular with emerging economies and developing countries.

Expected impact: Evidence-based policy and appropriate, cost-effective management, planning and adaptation decisions by the public sector, businesses, industry and society through the provision and effective communication of trustworthy and timely science-based information. Enhanced impact of research and innovation activities through better identification of climate change R&I priorities, improved coordination of EU, Member States' research and innovation programmes and funded activities, and synergies with international research and innovation programmes and actions.

In addition, the following specific impacts are expected:

- a) European society's improved resilience to climate change and mitigation of the risk of dangerous climate change.
- b) Better coordination of relevant research and innovation in Europe, including cooperation with the EIT. Enhanced implementation of the EU 2050 Roadmap and relevant initiatives through improved dissemination of key research findings.

Type of action: Coordination and support action ***The conditions related to this topic are provided along with the general conditions for this call.*** [*Link to end of the description of the call*]

PROTECTING THE ENVIRONMENT, SUSTAINABLY MANAGING NATURAL RESOURCES, WATER, BIODIVERSITY AND ECOSYSTEMS

SC5-6-2014: Biodiversity and ecosystem services: drivers of change and causalities

Specific Challenge: Biodiversity provides ecosystem services (provisioning, regulating, maintaining and cultural) crucial for human well-being. However, knowledge gaps remain in understanding the causality relationships between drivers/pressures (individually and collectively) and changes in biodiversity, ecosystem functions and ecosystem services.

²⁵ COM(2012)497

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Since biodiversity is declining rapidly, leading to declines in ecosystem service provision, there is an urgent need to both document and evaluate the effects of drivers of change on all relevant levels of biological organisation, to ensure effective policy and sustainable development, and to better understand the links between biological diversity, ecosystem functions and resilience, and in turn to ecosystem service provision.

Scope: Through a systematic approach and within an integrated socio-economic-ecological framework, actions should:

- assess the causalities between biodiversity and ecosystem functions and services
- assess the impacts of direct, indirect and emerging drivers of change, separately and in combination, on status and trends of biodiversity and ecosystem function (at all relevant scales), resilience and service provision;
- provide forecasting methodologies to predict future variation in drivers of change, their expected impact on biodiversity and the ensuing consequences of ecosystem service delivery;
- develop and refine sound and cost-effective indicators on biodiversity, ecosystem function/resilience and ecosystem service which capture all the relevant ecological and socio-economic dimensions and are widely applicable;
- develop innovative ecosystem service oriented management concepts (including participatory initiatives), common frameworks and tools for the conservation and sustainable management of biodiversity and ecosystem services.

The Commission considers that proposals requesting a contribution from the EU between the range of 5 to 10 million euro would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected impact: In the mid-term, enhanced predictive capacity concerning causalities between biodiversity and ecosystem function/service provision on the one hand and the drivers of change and biodiversity/ecosystem services on the other is expected. In the short to long term, this action should lead to more cost-effective environmental monitoring and enhanced evidence- and science-based policy, management and business models within a sustainable environmental and socio- economic context, enhanced citizen awareness and participation; as well as contribute to the achievement of EU and international biodiversity targets (EU 2020 Biodiversity Strategy²⁶, Convention on Biological Diversity, Rio+20) and [link in with international efforts on biodiversity and ecosystem services, including through fora such as IPBES](#).

Type of action: Research and innovation actions

The conditions related to this topic are provided along with the general conditions for this call. [[Link to end of the description of the call](#)]

SC5-7-2015: More effective ecosystem restoration in the EU

²⁶ COM(2011) 244 final

Specific Challenge: Ecosystem restoration is frequently an expensive and almost always a lengthy process but it is capable of delivering extensive benefits in a cost-effective manner while also conserving and enhancing Europe's natural capital. The restoration sector has accumulated a lot of expertise but knowledge, technologies and capacity will need to grow rapidly if the full potential offered by restoration is to be achieved.

Scope: Actions should develop **for conceptually coherent ecosystem types** tools, approaches, methodologies and methods to assess and predict the effectiveness relative to their stated objectives – including both cost-effectiveness and benefits in relation to biodiversity and ecosystem services – of environmental restoration measures. They should engage the whole restoration community (business, academia, including social sciences and humanities, public administrations and civil society) in a major initiative to exchange experiences, identify strengths, weaknesses and best practices, encourage new techniques and technologies, and share information, knowledge and know-how in order to promote effective and sustainable restoration activities across the EU.

Actions should use pilot projects or case studies, including a demonstration phase.

The Commission considers that proposals requesting a contribution from the EU between the range of 5 to 7 million euro would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected impact: In the mid-term, improved design of restoration/rehabilitation measures and incentives; more effective integration of the 'restoration agenda' into the delivery of major policy objectives related to growth, job creation, urban and rural development, resilience to climate change, conservation and enhancement of natural capital; innovative policy mechanisms that can facilitate restoration; contribution to advances in green infrastructure; contribution to the objectives of the EU 2020 Biodiversity Strategy²⁷ and the EU Water Framework Directive; better assessment of potential benefits of establishing restoration site networks allowing for long-term observations and sharing of experiences for different types of ecosystems and pressures.

Type of action: Research and innovation actions

The conditions related to this topic are provided along with the general conditions for this call. [[Link to end of the description of the call](#)]

SC5-8-2014: Preparing and promoting innovation procurement for soil decontamination

Specific Challenge: Soil contamination is typically caused by industrial activity, mining practices, agricultural chemicals or improper disposal of waste and is increasingly becoming a very serious environmental and health problem. Member States are making efforts to establish national decontamination/remediation strategies but these are very costly. It is therefore crucial for public authorities to be able to identify the most fit-for-purpose and cost-effective solutions.

²⁷ COM(2011) 244 final

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Scope: Actions should establish and promote a network of public procurers in the area of soil decontamination/remediation, in order to raise awareness, share knowledge, debate common procurement needs and draw up common specifications, taking into account longer-term public sector requirements and socio-economic aspects, with the aim of investigating the feasibility of launching joint pre-commercial procurement (PCP) to find common innovative solutions in the field.

Expected impact: In the mid-term, leverage of additional investment in research, development and innovation in the area of soil decontamination and provision of innovative solutions to address associated challenges. In the medium/long term, promotion of innovation in the sector from the demand side at reduced costs. Over the medium/long term, creation of new markets in the area of soil decontamination/remediation. Increased competitiveness of SMEs and industrial partners in this area.

Type of action: Coordination Action – Support to PCP – pre-commercial procurement

The conditions related to this topic are provided along with the general conditions for this call. [Link to end of the description of the call]

SC5-9-2014: Consolidating the European Research Area on biodiversity and ecosystem services

Specific challenge: Biodiversity is our life insurance providing us with various (ecosystem) services and its deterioration and loss jeopardises the provision of these services. The challenge is to advance towards completing the European Research Area in this field and to develop further the common vision and activities currently undertaken by Member States, enhancing co-ordination and thereby the overall impact of research and innovation in this domain. Ultimately, a unified and open biodiversity research area that promotes free circulation of scientific knowledge and technology and strengthens competitiveness needs to be created.

Scope: Actions should pool the necessary financial resources from the participating national (or regional) research programmes with a view to implementing a joint call for proposals with EU co-funding in this area, based on a joint vision and a common strategic research agenda for biodiversity and ecosystem services, involving also social sciences and humanities as appropriate. The joint call may be implemented in cooperation with non-EU countries where relevant and appropriate, and by developing links with relevant research infrastructures. In line with the Union's strategy for international cooperation in research and innovation²⁸ international cooperation with international partners is encouraged. Proposers are encouraged to implement other joint activities, including the establishment of a pan-European network of funding agencies and other key players in Europe, building on previous experience and avoiding overlaps with other initiatives, support to mutual learning and training, exchange of good practice, researcher mobility and equal opportunities (e.g. through EURAXESS) and better careers in the field as well as additional joint calls without EU co-funding.

Expected impact: Effective trans-national, pan-European research networking and synergies among national/regional and EU research programmes in the area of

²⁸ COM(2012)497

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biodiversity and ecosystem services to promote sustainable development. New knowledge-intensive products and services. Improved evidence-based policy through interdisciplinary and trans-disciplinary science-policy interface and [link in with international efforts on biodiversity and ecosystem services, including through fora such as IPBES](#).

Type of action: ERA-NET (Programme COFUND action) – Single stage

The conditions related to this topic are provided along with the general conditions for this call. [[Link to end of the description of the call](#)]

H 2020 – SC5-10-2014/2015: Coordinating and supporting research and innovation for the management of natural resources

Specific Challenge: The pace of current developments and uncertainties surrounding likely future trends in ecosystems and their services requires further steps to maintain and strengthen the evidence base to ensure that policy makers, businesses and citizens in the EU can continue to draw on a sound understanding of the state of natural resources and the wider environment, the possible impact of response options and their consequences in social, economic and environmental terms.

Better coordination of often fragmented research and innovation actions within Europe and beyond is needed, accompanied by timely and open exchange of information and research results to enhance the impact of research and ensure a more efficient use of resources and scientific developments.

Innovative ways are required to mobilise all relevant actors, increase policy coherence, resolve trade-offs, manage conflicting interests, increase participation of citizens in decision-making and improve public awareness and business uptake of research results.

Scope: Creation of European networks to facilitate dialogue among the relevant scientific communities, funding bodies and user communities in Europe throughout the duration of Horizon 2020. Actions should cover activities such as clustering, co-ordinating and creating synergies between international, European and nationally funded research and innovation actions, developing joint programmes and projects, creating links with related international programmes, forward looking analysis to establish emerging needs, communication and dissemination activities for an improved science-policy interface, and aligning research with decision-making requirements. This requires cross-disciplinary interaction and an integrated, systemic approach, especially between socio-economic and environmental sciences.

Actions should address one of the following issues:

a) Enhancing mapping ecosystems and their services [2014]: developing a flexible methodology that permits consistent aggregation and comparison across scales for coordination of a transparent, comparable and evidence-based mapping and assessment of ecosystems and their services, including multiple ones, across the entire EU (including the outermost regions) and at national and regional level in order to guide policy- and decision-making. It should also analyse their interdependency, inter-linkages, synergies and potential trade-offs and value their multi-functionality for human well-being, building on the outcomes of the Millennium Ecosystem Assessment (MA) work and the Economics of Ecosystems and Biodiversity (TEEB) studies.

b) An EU support mechanism for evidence-based policy on biodiversity & ecosystems services [2015]: setting up an innovative, self-sustainable governance mechanism with a long-term perspective extending beyond the life of the project to enhance effective and efficient interactions between science, society and policy related to biodiversity and ecosystems services in the EU. This should build on existing science-policy interfaces and include all EU Member States, Associated or Accession countries and should be open to observers.

c) Structuring research on soil, land-use and land management in Europe [2014]: a network of funding agencies and other key players in Europe (and possibly beyond) to scope national funded research activities, develop a joint vision and design a strategic research agenda (SRA) for activities on soil, land-use and land management that should be implemented through future joint calls. These may include issues such as land-use change impacts and trends, including the ones related to bioenergy/bioeconomy resources, spatial planning, soil threats, sustainable use of the soil-sediment-water system, impacts at global level and effects on trading partners, integrating socio-economic research and identifying elements linking to relevant policy domains and multilateral environmental agreements.

Expected impact: Evidence-based policy and appropriate, cost-effective management, planning and adaptation decisions by the public sector, businesses, industry and society through the provision and effective communication of trustworthy and timely science-based information. Enhanced impact of research and innovation activities through better identification of R&I priorities, improved coordination of EU and Member State research and innovation programmes and funded activities, and synergies with international research and innovation programmes.

In addition, the following specific impacts are expected:

a) In the short term (1-3 years), an enhanced capacity and more consistent approach of Member States, through leveraging and complementing their actions, to carry out their obligations in line with the EU 2020 Biodiversity Strategy and national requirements.

b) Swift response to scientific and technical needs resulting from EU research and innovation and environmental policies in the short term (1-3 years) and further improvements in the medium term (3-10 years). Long-term positive impact on policy- and decision-making to address local, regional, cross-border or pan-European challenges through the provision of knowledge assessments, advice and science-based options [and link in with international efforts and fora on biodiversity and ecosystem services](#).

c) In the short-term establish a jointly agreed vision and SRA and a network of funding agencies determined to implement it through a joint call in a follow-up phase. Enhance synergies and collaboration between national research programmes in the domain. Medium to long-term, improved evidence-based policy making in domains such as agriculture, environment, climate action, spatial planning, energy transition, drinking water production, resource efficiency and cohesion, and for implementing the Rio+20 pledge to achieve a 'land-degradation neutral' world.

Type of action: Coordination and support action

The conditions related to this topic are provided along with the general conditions for this call. [[Link to end of the description of the call](#)]

ENSURING THE SUSTAINABLE SUPPLY OF NON-ENERGY AND NON-AGRICULTURAL RAW MATERIALS

SC5-11-2014/2015: New solutions for sustainable production of raw materials

Specific challenge: The EU is highly dependent on imports of raw materials that are crucial for a strong European industrial base, an essential building block of the EU's growth and competitiveness. However, Europe is confronted with a number of challenges along the entire raw materials value chain, starting with exploration, to secure a sustainable access to raw materials, including Critical Raw materials (CRM).

The major challenges are the geological uncertainty, technological and economic feasibility of mine development, and high and growing costs for exploration. In Europe, additional challenges include difficult operation in densely populated areas (access to land) and the fact that the majority of new deposits in Europe will be found at greater depths or in extreme environments as the Arctic and the oceans.

Europe is also facing the fact that it has been actively mined over many centuries so easy-to-access mineral deposits are mostly exhausted, and exploration activity in last decades was too low in order to identify sufficient amount of new resources. The major opportunities to access the fresh raw materials within the EU are in greater depths or in smaller deposits where larger mining operations may not be feasible.

In the processing step, the available primary and secondary raw materials feeds are becoming more complex and low grade, and they may also vary in composition over time and contain different size of particles from coarse to very fine grains. Efficient processing requires a series of complex and integrated solutions leading to high investment installations, that will only be economically viable when operating at certain size (economy of scale) and for a predictably-sufficient long time taking into consideration volatility of metal prices.

The production process face also the challenge related to water and sediment pollution, atmospheric dispersion, transport and deposition of toxic particles, noise, transport of ores etc.

This action supports the objectives of the European Innovation Partnership on Raw materials.

Scope: Actions should address one of the following issues. All actions should facilitate the market uptake of solutions developed through industrially-driven multidisciplinary consortia.

The Commission considers that proposals requesting a contribution from the EU between the range of 2 to 8 million euro would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

a) New exploration technologies and geomodels [2015]

Actions should address one or both of the following issues:

- develop new or improved highly efficient and cost-effective exploration technologies, such as new drilling techniques, integrated drilling and analytical technologies, down-hole and cross-hole sensing, 3D geophysical (seismic, gravimetric, magnetic, electrical and electromagnetic), automation, robotics, and other relevant tools;
- develop new geo-models of mineral deposits or belts formation, interpreting in a useful form the data and information obtained from integrated geological, geophysical, geochemical and other methods. Models would increase knowledge on mineral deposit/belt types and also decrease the exploration costs (such as the number of expensive deep drills needed).

b) Mining of small deposits and alternative mining [2014]

Actions should develop new sustainable concepts and technological solutions, including alternative approaches, for mining of small or difficult to access mineral deposits, particularly addressing the challenge of industrial viability and environmental impacts. The participation of SMEs is encouraged.

c) Deep mining on continent and in sea-bed [2015]

Actions should develop new highly-automated technological sustainable solutions for deep mining on the continent and in the sea bed combined with *in-situ* processing of minerals, particularly addressing the challenge of industrial viability, the exposure of workers underground and the impact on the continental and marine environment and reducing the amount of waste rock to be transported. Related raw materials, marine and maritime policies are to be taken into account.

d) Flexible processing technologies [2014]

Actions should develop new integrated sustainable processing concepts and systems with higher technical, economic, energy, health, safety and environmental performance and flexibility, versatility, and where appropriate mobility and modularity, for processing and refining of different raw materials from low grade and/or complex feeds with changing composition and logistically distributed material sources along all processing steps to refining. Actions should focus on processing and refining of feeds containing ores, industrial and construction minerals, and wood-based fibres, if justified also with secondary materials feeds.

e) New metallurgical systems [2015]

Actions should develop a design and elements of an integrated sustainable metallurgical system (including pyro-, hydro-, bio-, electro-chemistry) for metals processing and refining, maximizing metal recovery yield and minimizing energy consumption and the environmental footprint, while ensuring the economic viability of the entire process. Upstream (pre-processing) and down-stream (treatment/use of metallurgical wastes such as slags, dusts, effluents) interfaces should also be considered.

The proposals should develop the solutions proving the concept and feasibility at the level of TRL 5-6.

Expected impact: In the longer term pushing Europe to the forefront in the areas of sustainable exploration, mining and processing technologies and solutions. Improved competitiveness and creation of new jobs in materials producing and downstream industries. Unlocking a substantial volume of various raw materials within the EU . In the

short to medium term enabling the better efficiency of exploitation of raw materials' resources and increasing the range and yields of recovered raw materials. Reduced exploration costs for the industry through new cost-effective exploration technologies. Improved competitiveness and creation of numerous new jobs in mining and equipment manufacturing industries. Improved economic viability and investment security of mining operations. Increased process efficiency (including water and energy consumption) and reduced environmental footprint.

Type of action: Research and innovation actions

The conditions related to this topic are provided along with the general conditions for this call. [[Link to end of the description of the call](#)]

SC5-12-2014/2015: Innovative and sustainable solutions leading to substitution of raw materials

Specific challenge: High-tech products, including electric and electronic equipment, green energy technologies or extreme applications, contain substantial amounts of certain Critical Raw Materials (CRM). Although the amount of CRM per product in general is very low, the huge number of products manufactured makes the total amounts very impressive. The prices and availability of CRM varies in time. There is therefore a need to find alternative solutions to replace certain CRM in concrete applications, or to diversify the supply of raw materials sources. Substitution of CRMs can also increase the recyclability of waste products, allowing for more efficient processes and reduce environmental impacts.

This action will support the objectives of the European Innovation Partnership on Raw materials.

Scope: Actions should address one of the following issues.

The Commission considers that proposals requesting a contribution from the EU between the range of 2 to 8 million euro would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

a) Materials for electronic devices [2014]

development of innovative and sustainable solutions for the appropriate substitution of critical and scarce raw materials in electronic devices, including substitution of indium in transparent conductive layers and substitution of CRMs in light sources, targeting appropriately materials and applications that are difficult to recycle and where there are limited prospects to increase primary supply within Europe. Active involvement of end users from a variety of concerned sectors such as the built environment (smart windows), touch screen, flexible electronics, solar energy and lighting is considered essential. Synergies with existing relevant initiatives must be ensured, in particular, with the FET Flagship on graphene and the possible Photonics Public Private Partnership.

b) Materials under extreme conditions [2015]

Development of innovative and sustainable solutions for the appropriate substitution of critical and scarce raw materials in applications under extreme conditions, such as substitution of CRM in heat resistant super alloys or in hard materials, targeting

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appropriately materials and applications that are difficult to recycle and where there are limited prospects to increase primary supply within Europe. Active involvement of end users from a variety of concerned sectors, such as energy, transport, tooling and process industry, is considered essential and synergies with existing relevant initiatives must be ensured.

Expected impact: In the longer term pushing Europe to the forefront in the area of sustainable raw materials substitution. Improved competitiveness and creation of new jobs in materials producing and downstream industries, demonstrated by a return-on-investment study. Significant contribution to reduced dependency on Critical Raw Materials in the medium term. Contribution to the large scale adoption of the new technology in Europe, measured by quantitative and qualitative indicators. Availability of new materials with improved performance under extreme conditions and for electronic devices.

Type of action: Research and innovation actions

The conditions related to this topic are provided along with the general conditions for this call. [Link to end of the description of the call]

SC5-13-2014/2015: Coordinating and supporting raw materials research and innovation

Specific Challenge: Appropriate supply of raw materials requires sustainable framework conditions, which relate to mineral policies, permitting procedure and data reporting system, raw materials knowledge infrastructure, and international co-operation. Mineral policies are sometimes not clear, too dispersed in their implementation or insufficiently linked to other related policies (e.g. land-use planning) to be fully effective. A common understanding of which mineral deposits are of public importance is lacking. Permitting procedures can be lengthy and sometimes conflict with other public authorities' requirements. Knowledge of raw materials reserves and resources is dispersed, terminology is often heterogeneous and reporting standards vary throughout the Member States. There is no raw materials knowledge infrastructure at EU level.

Research and development in the area of raw materials is scattered between different players. Further co-ordination is required between industrial players, researchers in the EU and across the whole value chain and EU and MS funding authorities. Synergies in R&D with the best world players in raw materials technology and scientific developments could also be better exploited, as well as learning from the experience of raw materials-producing countries.

The actions shall support implementation of the European Innovation Partnership on Raw materials.

Scope: Actions should address one of the following issues:

a) Mineral deposits of public importance [2014]: developing a concept and methodology for defining and safeguarding the mineral deposits of public importance with an adequate regulatory or guidance framework similar to NATURA 2000. It should develop an appropriate mapping framework with the detailed definition and qualifying conditions of the concept of mineral deposits of public importance, covering all minerals with stress on the occurrence of critical minerals and defining deposits of local, regional,

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national or EU interest and importance. It should also examine how to incorporate the concept into the national and regional minerals policies as well as in land use planning policies of different scales through different policy scenarios and their impacts, and test the methodology on several areas and scales for ensuring robustness at all scales (local, regional, national and EU) and transferability across Member States.

b) Raw materials intelligence capacity [2015]: developing a methodology for reviewing and selecting all relevant methods and tools necessary for providing high quality expertise for stakeholders, taking into account methods and tools such as: statistics, life cycle assessment, materials flows analysis, 2-4 D modelling, forecasting global supply and demand, and other trends. When appropriate, mentoring, dissemination of best practices, analysis on related policy, regulations, trade and other relevant issues, involving the international community, should be incorporated. In line with the Union's strategy for international co-operation in research and innovation²⁹ international cooperation is encouraged.

c) Innovation friendly minerals policy framework [2015]: developing a comprehensive guide to relevant EU and Member States' legislation and mineral policy, including a benchmark analysis of existing national minerals policies and the exchange of best practices in the area of mineral policies and related regulations among Member States. It should focus on the elements catalysing introduction of innovative raw materials production in the EU, such as promoting innovative mining, processing and recycling solutions or streamlining the permitting procedure along the whole chain of mining activities. It should also include information on exploration, mineral production, trade, reserves and resources that should be standardized and systematically reported on by EU and Member States, and explore the feasibility of implementing existing rules or developing alternative ones for the exploitation of sub-surface and deep sea resources across Member State borders taking into account UNCLOS when the sea resources are considered.

d) Raw materials research and innovation coordination [2015]: improving both research and innovation collaboration among all the relevant European Technology Platforms and other industrial and research initiatives, improving coordination with the relevant EU, Member States and regional policies and initiatives in the area of raw materials, engaging all the relevant players, particularly civil society and authorities at regional and local level, across the whole EU. The action should develop a common long term 2050 vision and roadmap for the relevant raw materials, including metals, industrial minerals and aggregates, wood and natural rubber-based materials.

e) Strategic international dialogues and co-operation on raw materials with technologically advanced countries [2014]: In line with the Union's strategy for international co-operation in research and innovation³⁰ projects will contribute to promoting the cooperation with technologically advanced countries to facilitate discussion in multilateral fora (such as OECD, UNEP, G20, G8) and strategic international dialogues and co-operation with technologically advanced countries (such as Australia, Canada, Japan, South Africa, US and others). Mapping and addressing the

²⁹ COM(2012)497

³⁰ COM(2012)497

cooperation opportunities in terms of the synergies in research and innovation, joint educational and skills programmes, and exchange of best practices in exploration, extraction, processing and recycling of raw materials essential for industry, and in management and substitution of Critical Raw Materials.

f) Strategic international dialogues and cooperation with raw materials producing countries and industry [2015]: aiming to promote the activity of European companies active in the mining and raw materials sectors in non-EU countries, inward mining investment to Europe and co-operation with raw materials producing countries, including exchange of best practices in raw materials policy and social licence, resulting in strong and sustainable relationships with these countries. In line with the Union's strategy for international co-operation in research and innovation³¹ international cooperation with international partners is encouraged, in particular with Australia, US, Canada, European Neighbourhood Policy countries, African Union and Latin America.

Expected impact: In the medium to longer term enhanced impact of research and innovation activities through better identification of R&I priorities, improved co-ordination of EU and Member State research and innovation programmes and funded activities, and synergies with international research and innovation programmes. Greater EU influence in multilateral processes and better support to implementation of international commitments. Contribution to evidence-based policy and appropriate, cost-effective management, planning and adaptation decisions by the public sector, businesses, industry and society addressing global challenges in Europe and beyond through the provision and effective communication of trustworthy science-based information. Establishing and maintaining strong and sustainable relationships with the countries concerned. Improved conditions for sustainable access and supply of raw materials in the EU. Facilitated decision-making at EU, national, regional and local levels and in the minerals industry. Safeguarding of mineral wealth for future generations by defining mineral deposits of public importance. Stable and competitive supply of raw materials from EU sources. Promotion of good governance and facilitation of public acceptance in the EU. Increased competitiveness of the EU industry and minerals supply from EU sources. Increased transparency of EU raw materials policies and legislation. Increased EU raw materials knowledge for different stakeholders, increased transparency of EU raw materials information through completion of an inventory of raw materials. Better understanding of longer term raw materials research and innovation needs and initiatives by the wider society in the EU. Facilitated translation of the industrial needs into governmental planning, policy and decision making and vice versa resulting in an improved environment for the industry in the EU.

Type of action: Coordination and support action

The conditions related to this topic are provided along with the general conditions for this call. [*Link to end of the description of the call*]

ENABLING THE TRANSITION TOWARDS A GREEN ECONOMY THROUGH ECO-INNOVATION

[N.B. topic moved to end of call]

³¹ COM(2012)497

- [N.B. topic moved to separate call]

SC5-14-2014: Consolidating global knowledge on the green economy in support of sustainable development objectives in Europe and internationally

Specific challenge: Global challenges in the areas of climate change, environment, resource efficiency and raw materials require global solutions. Research and innovation can make an important contribution to the EU's involvement in multilateral processes and implementation of international commitments in these areas. In the past, European research has supported sustainability at international level and across sectors and disciplines. Following Rio+20 there is a need to support the emerging sustainability framework post-2015, and reconcile it with the green economy agenda, also with the involvement of civil society. At the same time, the challenge is to harness the opportunities provided by existing, new and emerging markets to increase the EU's global competitiveness.

Innovative ways are required to address international challenges, mobilize all relevant actors, exchange best practices, resolve trade-offs, manage conflicting interests, addressing in-context specificities, including cultural aspects, increase participation of citizens in decision-making and improve both public awareness and business uptake of research results beyond the borders of the EU.

Scope: Creation of networks to facilitate dialogue among the relevant scientific communities in Europe and beyond throughout the duration of Horizon 2020. Actions should cover activities such as clustering, co-ordinating and creating links and synergies between international and European research and innovation programmes and other initiatives in the area of climate action, environment, resource efficiency and raw materials, and communication and dissemination activities for an improved science-policy interface in response to decision-making requirements. This requires cross-disciplinary interaction and an integrated, systemic approach, especially between socio-economic and environmental sciences.

Networking activities between stakeholders to consolidate European experience and research findings that are relevant to the green economy, including on systemic eco-innovation. In line with the Union's strategy for international cooperation in research and innovation³² projects will contribute to establish effective links to relevant international networks and initiatives, particularly those supporting the Rio+20 follow up and the green economy agenda at international level. Areas of activities may include sustainable consumption and production, greening global value chains, green growth and jobs, green behaviour, economic and environmental policies etc. and should be geared towards supporting the development and implementation of sustainable development goals.

Actions should include a sufficient number of international partners from the target region(s) to ensure adequate scale and scope of cooperation.

Expected impact: Enhanced impact of EU research and innovation activities through evident synergies with relevant international research and innovation programmes and other initiatives. Greater EU influence in multilateral processes and better support to

³² COM(2012)497

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implementation of international commitments. Significant contribution to evidence-based policy and appropriate, cost-effective management, planning and adaptation decisions by the public sector, businesses, industry and society addressing global challenges in Europe and beyond through the provision and effective communication of trustworthy science-based information. Increased coordination between different actors and stakeholders to minimise the risk of overlaps and duplication of efforts. Strengthened synergies on green economy and sustainability issues and increased awareness of both technologically and socially eco-innovative solutions. Demonstrated improved science-based evidence in support of sustainability decision making at national, regional and global level and for the implementation of sustainable development goals. Demonstrated increased multi-stakeholder participation as well as general public and private sector engagement in support of the transition to a green economy.

Type of action: Coordination and support action

The conditions related to this topic are provided along with the general conditions for this call. [[Link to end of the description of the call](#)]

DEVELOPING COMPREHENSIVE AND SUSTAINED GLOBAL ENVIRONMENTAL OBSERVATION AND INFORMATION SYSTEMS

SC5-15-2015: Strengthening the European Research Area in the domain of Earth Observation

Specific challenge: Decision makers require access to the information they need, when they need it, and in a format they can use. Bringing together and strengthening European national and regional research and innovation programmes in the domain of Earth Observation can contribute to this.

Many European countries and pan-European organisations are conducting research and innovation programmes on Earth Observation but these activities remain quite fragmented. They need to be better integrated at institutional level to reach the critical mass that would enable Europe to be better positioned with regard to its main competitors.

Scope: Actions should pool the necessary financial resources from national (or regional) research programmes with a view to implementing a joint call for proposals with EU co-funding on observing and monitoring changes affecting the Earth's atmosphere, oceans, cyosphere and landscapes, with human activities being a major driver of these changes in the domain of climate, environment and resource efficiency.

The joint call should address the issue of the coherence of European participation within GEO and should also provide a research and innovation component to the Copernicus programme. Pan-European Organisations conducting research activities in the domain of Earth Observation, such as the European Space Agency, should participate in this ERA-NET.

Expected Impact: By 2016 reinforced European leadership within GEO post-2015. By 2017, effective coordination mechanism and integration of major European research and innovation Earth observation programme as a contribution to GEOSS and Copernicus.

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By 2018 significant improvement of shared Earth observation architectural components and related information infrastructure, improved, open and unrestricted data sharing across borders and disciplines, and interoperability amongst observational, modelling, data assimilation and prediction systems to maximise value and benefits of Earth observation investments. Significant use of the GEO resources in decision making in the domains of climate, environment and resource efficiency.

Type of action: ERA-NET (Programme COFUND action)

The conditions related to this topic are provided along with the general conditions for this call. [[Link to end of the description of the call](#)]

SC5-16-2014: Making Earth Observation and Monitoring Data usable for ecosystem modelling and services

Specific challenge: Maximum benefit should be made of the investments made in Earth Observation data and information when developing terrestrial and marine ecosystem models and sustainable ecosystem services, in order to deliver major benefits to citizens, businesses and governments. To achieve this, there is a need to develop innovative solutions that will provide open and unrestricted access to interoperable ecosystem Earth Observation data and information. This demanding task is rendered more difficult by the still fragmented and limited ability to collect, store, integrate, analyse and share the required Earth Observations. Overcoming this challenge will contribute to assessing the status of our planet's biodiversity and developing sustainable ecosystem services and natural capital.

Scope: Actions should focus on recovering existing data, supporting new measurements and observations, synthesis and interpretation of data for making all information and knowledge available to scientists, policy makers, citizens and other concerned stakeholders to provide a full picture of the state and temporal evolution of ecosystems in existing internationally recognised protected areas. The scope of the action should include enhancing participation of all players in social and political decisions regarding the protection and management of key ecosystems and the definition of future protected areas. They should undertake pilot actions in selected protected areas to further develop the Global Earth Observation System of Systems (GEOSS) and foster a knowledge base regarding ecosystem observations for the Copernicus (Global Monitoring for Environment and Security) initiative.

The participation of pan European organisations with a remit in the domain of Earth Observation is encouraged, in order to facilitate access to the necessary data for projects.

The Commission considers that proposals requesting a contribution from the EU between the range of 8 to 15 million euro would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected Impact: By 2015 strong European support and leadership within the GEO Ecosystem tasks. Documented monitoring methodology to define ecological status of future protected areas. Significant contribution to the research requirement for the Copernicus operational services. By the end of the project: new prototype products and ecosystem services, based on improved access to (notably via GEOSS) and long-term

storage of ecosystem Earth Observation data and information in existing protected areas, tested, evidence-based environmental policy making and administrative efficiency, and contribution to transparency in public administration and the provision of better public services concerning natural resources management. Improved evidence-based environmental policy making and political decisions.

Type of action: Research and innovation actions

The conditions related to this topic are provided along with the general conditions for this call. [Link to end of the description of the call]

SC5-17-2015: Demonstrating the concept of 'Citizen Observatories'

Specific challenge: New *in-situ* observatories ('Citizen Observatories') based on citizens' own devices (e.g. smart phones, tablets, laptops, and other social media) used together with innovative technologies can strengthen environmental monitoring capabilities, have the potential to generate new and original applications to reduce investment and running costs of in-situ observations and monitoring applications and solutions, and **involve novel partnerships between the private sector, public bodies, NGOs and citizens.** However, achieving this depends on further development and testing in real conditions, wider deployment and commercialisation by the private sector and greater user acceptance. This requires leveraging emerging technologies, data and information sharing, developing services and actively engaging in governance at all levels and scales in the domain of environment. It also calls for innovative approaches and tools to handle complexity, interactions and interfaces and to facilitate knowledge transfer, assessment, valuation, uptake and exploitation of data and results for policy, industry and society at large.

Scope: Actions should scale up, demonstrate, deploy, test and validate in real-life conditions the concept of Citizen Observatories and the effective transfer of environmental knowledge for policy, industrial, research and societal use, with a focus on the domain of land cover/land use, both in rural and urban areas. A strong involvement of citizens and citizens' associations together with the industrial sector, in particular SMEs, is considered essential. The data collected should complement those from existing systems (e.g. the Copernicus land service) and surveys, including national surveys.

The Commission considers that proposals requesting a contribution from the EU between the range of 3 to 5 million euro would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected Impact: Lowered cost and extension of the *in-situ* component of the GEOSS and Copernicus initiatives. Better decision-making through the empowerment and active role of citizens and citizen's associations in environmental monitoring, co-operative planning and environmental stewardship, with special impact on land resources management. Enhanced implementation of governance and global policy objectives. Increased deployment and market uptake of innovative *in-situ* monitoring techniques. Increased European role in the business of *in-situ* monitoring of the environment.

Type of action: Innovation actions

The conditions related to this topic are provided along with the general conditions for this call. [Link to end of the description of the call]

SC5-18-2014/2015: Coordinating and supporting Earth Observation research and innovation in Europe and in the North African, Middle East, and Balkan region

Specific Challenge: The specific challenge is to strengthen the Earth Observation networks (space-based, airborne, and particularly in-situ) of the broad European and North African, Middle East, and Balkan region to reinforce its contribution to the knowledge base for climate, natural resources, and raw materials.

Europe's contribution to the monitoring of our planet by land, sea, air and space-based Earth observation systems remains too fragmented. In addition, geopolitical and economic events in recent years in the EU's southern and south-eastern neighbourhood regions have had adverse effects on infrastructures and services as well as on its already quite modest Earth Observation capacities. An improvement is therefore urgently needed to enable effective, sustainable planning and management of measures to cope with regional and global challenges such as food security, climate change and access to raw materials and energy.

Scope: Actions should focus on Earth Observation related research activities with the aim of continuously providing timely and accurate information, forecasts and projections. In line with the Union's strategy for international cooperation in research and innovation³³ projects will contribute to implementing the Global Earth Observation System of Systems (GEOSS) and Copernicus.

Actions should address one of the following issues:

a) Coordinating European Observation Networks to reinforce the knowledge base for climate, natural resources and raw materials [2014]

Bringing together Earth Observation-related research and innovation networks and activities (space-based, airborne and particularly *in-situ*) within Europe to provide coherent, continuous, timely and accurate information, forecasts and projections in support of the Global Earth Observation System of Systems (GEOSS) and Copernicus. It should also identify critical gaps in, *inter alia*, observation specifications and parameters, geographical areas, and observation and information accessibility, and then establish practical methods and set priorities for addressing these gaps.

b) Integrating North African, Middle East and Balkan Earth Observation capacities in GEOSS [2015]

Integrating, coordinating and supporting initiatives in these countries to deliver Earth Observation information services that will benefit critical economic and social sectors such as tourism, agriculture, transportation, health, research and education, while involving service providers in those sectors. Regional observational systems that are needed to complete the Global Earth Observation System of Systems (GEOSS) are of particular importance. In line with the Union's strategy for international cooperation in

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research and innovation³⁴ international cooperation is encouraged, ensuring a sufficient number of international partners from the target region to ensure adequate scale and scope of cooperation.

Expected impact:

a) Improved assessment and prediction of future changes through continuous provision of timely and accurate information, forecasts and projections. Coherent European monitoring and observation of the Earth Systems. Improved planning for future Earth observation and information systems. Upgraded and expanded Earth observations capacity by harnessing national and regional investments in scientific and technological advances and innovative approaches. Preparation of further integration of research and innovation programmes in the domain of Earth Observation in Europe.

b) Improved food security, access to raw materials and energy, and adaptation to climate change in the North-African, Middle-East, and Balkan regions due to improved Earth Observation data and information services. Rapid re-installation of the required infrastructures by the relevant public services and decision makers. Future investments in this region, leading to sustainable development of resources and activities. Strengthened competitiveness and performance of critical economic and social sectors such as tourism, agriculture, transportation, health, research, and education.

Type of action: Coordination and support action

The conditions related to this topic are provided along with the general conditions for this call. [[Link to end of the description of the call](#)]

CROSS-CHALLENGE TOPICS

SC5-19-2014/2015: Coordinating and supporting research and innovation in the area of climate action, environment, resource efficiency and raw materials

Specific challenge: Better transnational cooperation and coordination of research and innovation policies, programmes and initiatives in the area of climate action, environment, resource efficiency and raw materials within Europe is needed to enhance the impact of research and innovation and ensure a more efficient use of resources and R&I developments.

Innovative ways are required to mobilise all relevant actors, increase policy coherence, resolve trade-offs, manage conflicting interests, increase participation of citizens in decision-making and improve public awareness and business uptake of research results.

Scope: Enhancing European networks to facilitate dialogue among the relevant scientific communities, funding bodies and user communities in Europe throughout the duration of Horizon 2020. Actions should cover activities such as clustering, co-ordinating and creating synergies between European and nationally or regionally funded research and innovation actions, developing joint programmes and initiatives, creating links with related international programmes, conducting forward looking analysis to establish

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emerging needs, accompanied by timely and open exchange of information and results and effective communication and dissemination activities. This requires cross-disciplinary interaction and an integrated, systemic approach, especially between socio-economic and environmental sciences.

Actions should address one of the following issues:

a) Mapping Member State research and innovation in climate change, environment, resource efficiency and raw materials [2015]: to identify baselines, trends, good practices, threats, opportunities and potential synergies between EU, national and regional programmes, over the entire duration of Horizon 2020, building on existing sources, studies and databases, including ERA-Watch.

b) Facilitating transnational co-operation between NCPs in Societal Challenge 5 [2014]: Support will be given to a network of formally nominated H2020 National Contact Points (NCPs) in the area of climate action, environment, resource efficiency and raw materials. The activities will be tailored according to the nature of the area, and the priorities of the NCPs concerned. Various mechanisms may be included, such as benchmarking, joint workshops, enhanced cross-border brokerage events, specific training linked to this Societal Challenge as well as to gender dimension of Research and Innovation and to communication of project results, and twinning schemes. Special attention will be given to enhance the competence of NCPs, including helping less experienced NCPs rapidly acquire the know-how accumulated in other countries.

The focus throughout should be on issues specific to the climate action, environment, resource efficiency and raw materials societal challenge.

Proposals can only include NCPs from EU Member States, Associated Countries and neighbourhood policy countries which have been officially appointed by the relevant national authorities.

The consortium should have a good representation of experienced and less experienced NCPs.

If certain NCPs from EU Member States or Associated Countries wish to abstain from participating, this fact should be explicitly documented in the proposal. These NCPs are nevertheless invited and encouraged to participate in the project activities, and are eligible for reimbursement of their participation.

In line with the Union's strategy for international cooperation in research and innovation³⁵ international cooperation is encouraged, in particular with neighbourhood policy countries.

The Commission expects to receive and fund a single proposal under this heading.

Expected impact:

a) Evidence-based policy and appropriate, cost-effective management, planning and adaptation decisions by the public sector, businesses, industry and society through the provision and effective communication of trustworthy and timely science-based information. Enhanced impact of research and innovation activities through better

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identification of R&I priorities, improved coordination of EU and Member State research and innovation programmes and funded activities, and synergies with international research and innovation programmes. Evidence-based R&I policy-making at EU and national/ regional as well as international levels; knowledge-based support to business management decisions; synergy between international, EU, national and regional programmes; recommendations for European Semester.

b) Improved and professionalised NCP service across Europe, thereby helping simplify access to Horizon 2020 calls, lowering the entry barriers for newcomers, and raising the average quality of proposals submitted. A more consistent level of NCP support services across Europe.

Type of action: Coordination and support action

The conditions related to this topic are provided along with the general conditions for this call. [[Link to end of the description of the call](#)]

SC5-20-2014/2015: Boosting the potential of small businesses for eco-innovation and a sustainable supply of raw materials

[N.B. previously topic SC5-13-2014/2015]

Specific challenge: Innovative SMEs have been recognised as being able to become the engine of the green economy. They can play an important role in helping Europe to exit from the economic crises and in job creation. The potential of commercialising innovative solutions from SMEs is however hindered by several barriers including the absence of the proof of concept, the difficulty to access risk finance, the lack of prototyping, insufficient scale-up studies, etc. Growth therefore needs to be stimulated by increasing the levels of innovation in SMEs, covering their different innovation needs over the whole innovation cycle.

Innovative SMEs are to be supported and guided to reach and accelerate their full green growth potential. This topic is targeted at all types of eco-innovative SMEs in all areas addressing the climate action, environment, resource efficiency and raw materials challenge, focusing on SMEs showing a strong ambition to develop, grow and internationalise. All kinds of promising ideas, products, processes, services and business models, notably cross-sectoral and multi-disciplinary ones, are eligible.

Scope:

The SME instrument consists of three separate phases and a coaching and mentoring service for beneficiaries. Participants can apply to phase 1 with a view to applying to phase 2 at a later date, or directly to phase 2.

In phase 1, a feasibility study shall be developed verifying the technological/practical as well as economic viability of an innovation idea with considerable novelty to the industry sector in which it is presented (new products, processes, services and technologies or new market applications of existing technologies). The activities could, for example, comprise risk assessment, market study, user involvement, Intellectual Property management, innovation strategy development, partner search, feasibility of concept and the like to establish a solid high-potential innovation project aligned to the enterprise strategy and with a European dimension. Bottlenecks in the ability to increase profitability of the

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enterprise through innovation shall be detected and analysed during phase 1 and addressed during phase 2 to increase the return in investment in innovation activities.

In phase 2, innovation projects will be supported that address the societal challenge 'Climate action, environment, resource efficiency and raw materials' and that demonstrate high potential in terms of company competitiveness and growth underpinned by a strategic business plan. Activities should focus on innovation activities such as demonstration, testing, prototyping, piloting, scaling-up, miniaturisation, design, market replication and the like aiming to bring an innovation idea (product, process, service etc) close to deployment and market introduction, but may also include some research. For technological innovation a Technology Readiness Levels of 6 or above (or similar for non-technological innovations) are envisaged.

In addition, in phase 3, SMEs can benefit from indirect support measures and services as well as access to the financial facilities supported under Access to Risk Finance of this work programme. [\[Link to the Access to Risk Finance Part\]](#)

Successful beneficiaries will be offered coaching and mentoring support during phase 1 and phase 2. This service will be accessible via the Enterprise Europe Network and delivered by a dedicated coach through consultation and signposting to the beneficiaries. The coaches will be recruited from a central database managed by the European Commission and have all fulfilled stringent criteria with regards to business experience and competencies. Throughout the three phases of the instrument, the Network will complement the coaching support by providing access to its innovation and internationalisation service offering. This could include, for example, depending on the need of the SME, support in identifying growth potential, developing a growth plan and maximising it through internationalisation; strengthening the leadership and management skills of individuals in the senior management team and developing in-house coaching capacity; developing a marketing strategy or raising external finance.

Expected impact:

- Enhancing profitability and growth performance of SMEs by combining and transferring new and existing knowledge into innovative, disruptive and competitive solutions seizing European and global business opportunities.
- Market uptake and distribution of innovations tackling the specific challenge of 'Climate action, environment, resource efficiency and raw materials' in a sustainable way.
- Increase of private investment in innovation, notably leverage of private co-investor and/or follow-up investments.
- The expected impact should be clearly described in qualitative and quantitative terms (e.g. on turnover, employment, market seize, IP management).

Type of action: SME Instrument

The conditions related to this topic are provided along with the general conditions for this call. [\[Link to end of the description of the call\]](#)

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CONDITIONS FOR THIS CALL

Publication date: 11122013³⁶.
 01072014 for SC5-20 phase 2

Deadline(s):

Topics SC5-5b, SC5-8, SC5-9, SC5-10a, SC5-10c, SC5-11b, SC5-11d, SC5-12a SC5-13a, SC5-13e, SC5-14, SC5-18a, SC5-19b	DDMM2014 at 17.00.00 Brussels time			
Topics SC5-1, SC5-3, SC5-6, SC5-16	First stage DDMM2014 at 17.00.00 Brussels time	Second stage DDMM2014 at 17.00.00 Brussels time		
Topics SC5-2, SC5-5a, SC5-10b, SC5-11a, SC5-11c, SC5-11e, SC5-12b, SC5-13b, SC5-13c, SC5-13d, SC5-13f, SC5-15, SC5-18b, SC5-19a	DDMM2015 at 17.00.00 Brussels time			
Topics	First stage	Second stage		

³⁶ The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.

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SC5-4, SC5-7, SC5-17	DDMM2014 at 17.00.00 Brussels time	DDMM2015 at 17.00.00 Brussels time		
Topic SC5-20 [SME instrument]	Phase 1 15/03/2014 15/06/2014	Phase 2 15/11/2014	Phase 1 15/03/2015 15/06/2015	Phase 2 15/03/2015 15/06/2015
Open call cut- off dates	15/09/2014 15/12/2014		15/09/2015 15/12/2015	15/09/2015 15/12/2015

Indicative budget: [\[Link to the relevant option on "margin of manoeuvre"\]](#)

Overall indicative budget: EUR 168 million from the 2014³⁷ and EUR 189.00 million from the 2015 budget³⁸

	2014 EUR million	2015 EUR million	
Topic SC5-11	EUR 35.00	EUR 50.00	
Topics SC5-1, SC5-2, SC5-3, SC5-4	EUR 43.00	EUR 40.00	
Topic SC5-5, Topic SC5-10, Topic SC5-14, Topic SC5- 18b	EUR 9.00	EUR 9.00	
Topics SC5-6, Topic SC5-7	EUR 20.00	EUR 15.00	
Topic SC5-8, Topic SC5-18a	EUR 2.00		
Topics SC5-9, SC5-16	EUR 12.00	EUR 15.00	
Topic SC5-12	EUR 10	EUR 10.00	
Topic SC5-13	EUR 3.00	EUR 6.00	

³⁷ Subject to the adoption of the draft budget 2014 by the Budgetary Authority without modifications of the appropriations foreseen on the corresponding budget line or the availability of appropriations in 2014 under the rules of provisional twelfths referred to in Article 315 of TFEU

³⁸ These amounts will be included in the financial decision for 2015

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Topics SC5-16, SC5-17	EUR 15.00	EUR 20.00	
Topic SC5-19	EUR 2.00	EUR 5.00	
Topic SC5-20 [SME instrument]	EUR 17 million out of which 90% for phase 2	EUR 19 million out of which 90% for phase 2	Single stage for both phase 1 and phase 2. Budget includes all three phases and the mentoring and coaching support for beneficiaries.

Eligibility conditions:

Topics SC5-1, SC5-3, SC5-4, SC5-6, SC5-7, SC5-11, SC5-12, SC5-16, SC5-17	The standard eligibility conditions apply. Please read carefully the provisions [Link to the annex on standard eligibility conditions] under Annex X before the preparation of your application.
Topics SC5-5, SC5-8, SC5-10, SC5-13, SC5-14, SC5-18, SC5-19	The standard eligibility conditions apply. Please read carefully the provisions [Link to the annex on standard eligibility conditions] under Annex X before the preparation of your application. <i>Up to <u>one</u> project per sub-topic will be funded.</i>
Topics SC5-2, SC5-9, SC5-15	The standard eligibility conditions apply. Please read carefully the provisions [Link to the annex on standard eligibility conditions] under Annex X before the preparation of your application. <i>Up to <u>one</u> project per topic will be funded.</i>
Topic SC5-20 [SME instrument]	The standard eligibility conditions for the SME instrument apply to this topic. [Link to the annex of the standard eligibility conditions for SME instrument] The presentation of a Consortium Agreement is not mandatory, but recommended for proposals presented by consortia. Please read carefully the provisions under Annex X [Link to the annex on standard eligibility conditions] before the preparation of your application.

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Evaluation criteria:

<p>SC5-1, SC5-2, SC5-3, SC5-4, SC5-5, SC5-6, SC5-7, SC5-8, SC5-9, SC5-10, SC5-11, SC5-12, SC5-13, SC5-14, SC5-15, SC5-16, SC5-17, SC5-18, SC5-19</p>	<p>The standard evaluation criteria apply. Please read carefully the provisions [Link to the annex on standard evaluation criteria] under Annex X before the preparation of your application.</p>
<p>Topic SC5-20 [SME instrument]</p>	<p>The specific award criteria for the SME instrument apply to this topic. [Link to the annex of the specific award criteria for SME instrument]</p> <p>Please read carefully the provisions under Annex X [Link to the annex on standard evaluation criteria] before the preparation of your application.</p> <hr/> <p>For phase 1, projects shall last 6 months. The duration could be longer in well justified cases.</p> <p>For phase 2 projects shall last around 12 to 24 months. The duration could be longer in well justified cases.</p> <hr/> <p>The specific award criteria for the SME instrument apply to this topic. [Link to the annex of the specific award criteria for SME instrument]</p> <p>Please read carefully the provisions under Annex X [Link to the annex on standard evaluation criteria] before the preparation of your application.</p>

Evaluation procedure: [\[Link to the annex on standard evaluation procedure\]](#)

- Proposal page limits and layout:

<p>Topics SC5-1, SC5-2, SC5-3, SC5-4, SC5-5, SC5-6, SC5-7, SC5-8, SC5-9, SC5-10, SC5-11, SC5-12, SC5-13, SC5-14, SC5-15, SC5-16, SC5-17,</p>	<p>10 pages</p>
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SC5-18, SC5-19	
Topic SC5-20 [SME]	Phase 1: max. 10 pages Phase 2: max. 30 pages

Applicants must ensure that proposals confirm to the page limits and layout given in the Guide for Applicants, and in the proposal part B template available through the electronic Submission Services of the Commission.

The Commission will instruct experts to disregard any pages exceeding these limits.

The minimum font size allowed is 11 points. The page size is A4, and all margins (top, bottom, left, right) should be at least 15mm (not including any footers or headers).

- Indicative timetable for evaluation and grant agreement³⁹:

	Information on the outcome of the evaluation (<i>single or first stage</i>)	Information on the outcome of the evaluation (<i>second stage</i>)	Indicative date for the signing of grant agreements	
Topics SC5-5b, SC5-8, SC5-9, SC5-10a, SC5-10c, SC5-11b, SC5-11d, SC5-12a, SC5-13a, SC5-13e, SC5-14, SC5-18a, SC5-19b	DDMM2014	-	DDMMYYYY	
Topics SC5-1, SC5-3, SC5-6, SC5-16		DDMM2014	DDMMYYYY	
Topics SC5-2, SC5-5a, SC5-10b, SC5-11a, SC5-11c,	DDMM2015	-	DDMM2015	

³⁹ Should the call publication postponed, the dates in this table should be adjusted accordingly.

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SC5-11e, SC5-12b, SC5-13b, SC5-13c, SC5-13d, SC5-13f, SC5-15, SC5-18b, SC5-19a				
Topics SC5-4, SC5-7, SC5-17		DDMM2015	DDMMYYYY	
Topic SC5-20 [SME instrument]	Applicants will be informed of the outcome of the evaluation two months after the corresponding deadlines set out above for phase 1 and three months after the corresponding deadlines set out above for phase 2.		Grant agreements are planned to be signed within 3 months after the corresponding deadlines set out above for phase 1 and within 6 months after the corresponding deadlines set out above for phase 2.	

Consortia agreements: In line with the Rules for Participation and the Model Grant Agreement, participants in Research and Innovation Actions or in Innovation Actions are required to conclude a consortium agreement prior to grant agreement.

The primary objectives of this call are to support sustainable development and climate action.

Fast Track to Innovation – Pilot

Fast track to Innovation Topic

It is noted that the following information is provided at this stage only to facilitate the familiarisation with this topic. The Commission will provide in due course full details, together with the announcement of the relevant calls, on the Fast track to Innovation Topic.

The general aspects of this topic are as follows:

Under this Fast Track to Innovation (FTI) pilot, proposals for innovation actions linked to any technology field will be invited, on the basis of a continuously open call (with its first cut-off date in 2015) and a bottom-up-driven logic.

Any legal entity may participate and proposals may be submitted at any time. The Commission shall initiate three cut-off dates per year to evaluate proposals. Time between a cut-off date and signature of the grant agreement or notification of the grant decision shall not exceed six months. No more than 5 legal entities shall participate in an action. The amount of the grant shall not exceed EUR 3 million.

Proposals shall be ranked according to the impact, quality and efficiency of implementation and excellence, with the criterion of impact given a higher weighting. Factors such as time sensitivity and the international competitive situation shall be taken into sufficient account when evaluating the impact of a proposal, to allow for flexibility according to the various specificities within different fields of applied research

Other Actions (not subject to calls for proposals)

1. Interim Evaluation of the Joint Baltic Sea Research and development programme (BONUS)

An Interim Evaluation of the Joint Baltic Sea Research and development programme (BONUS) is required by decision of the European Parliament and Council 862/2010/EU. This evaluation will assess the progress of BONUS towards the objectives set out in Article 2 and Annex 1 of this decision as well as the recommendations of BONUS on the ways to further enhance integration, on the quality and efficiency of implementation (scientific, management and financial) and on whether the level of financial contribution of the participating states is appropriate. The evaluation will also provide a foundation for the impact assessment required for any potential programme following BONUS. A group of external experts will be established to provide this analysis.

Type of action: Expert contracts

Indicative budget: **EUR 0.150 million from the 2014 budget**

2. Policy relevant analyses and forward looking reflection

Group(s) of external experts will be established to provide analyses of past activities in policy relevant areas, assess policy relevant state-of-the-art scientific knowledge and to engage in a forward looking reflection on issues related to future environment related research and innovation.

Type of action: Expert contracts

Indicative budget: **EUR 0.300 million from the 2014 budget and EUR 0.300 million from the 2015 budget**

3. Proposal evaluation and project review

The use of appointed experts for the evaluation of project proposals (EUR 2.5 million 2014 and EUR 2.5 million 2015) and, where appropriate, for the reviewing of running projects (EUR 0.5 million in 2014 and EUR 0.5 million in 2015).

Type of action: Expert contracts

Indicative budget: **EUR 3 million from the 2014 budget and EUR 3 million from the 2015 budget**

4. Global Earth Observation (GEO)

An annual contribution to the 2014 and 2015 activities of the Global Earth Observation (GEO) Secretariat⁴⁰, as subscription to a body of which they are a member, according to Article 121(2)(d) of the Financial Regulation applicable to the general budget of the European Communities.

As a full member of GEO the Commission will pay a contribution on behalf of the Union to the GEO Trust Fund, which is the budgetary structure agreed by the GEO members to fund the GEO secretariat (hosted by the World Meteorological Organisation in Geneva, Switzerland), to ensure the implementation of the GEOSS according to its annual work plan and the continuity of the leadership and participation of Europe in GEO.

Type of action: Subscription

Indicative budget: **EUR 0.80 million from the 2014 budget and EUR 0.80 million from the 2015 budget**

5. IPCC

The IPCC (Intergovernmental Panel on Climate Change) is the key global climate science-policy interface, underpinning European and international climate policy making and is the leading body responsible for the scientific assessment of climate change. The European Union has an enhanced observer status at the UN and may exercise the following procedural rights at IPCC Sessions: the right to speak in turn, the right to reply and the right to introduce proposals.

The Commission will pay a contribution on behalf of the Union to the IPCC secretariat (hosted by the World Meteorological Organisation in Geneva, Switzerland) with the aim of increasing the participation and visibility of the EU within the preparation process of the next IPCC assessment report.

Legal entity: IPCC (Intergovernmental Panel on Climate Change) secretariat, hosted by the World Meteorological Organisation, Geneva, Switzerland

Evaluation criteria: The Coordination and Support Action will be evaluated based on the evaluation criteria set out in Article XX of the Horizon 2020 rules of participation [\[Link to the annex\]](#).

Rate of co-financing: The maximum possible rate of co-financing is set out in Article XX of the Horizon 2020 rules of participation [\[Link to the annex\]](#).

Type of action: Grant to identified beneficiary (coordination and support action)

Indicative budget: **EUR 0.25 million from the 2014 budget and EUR 0.25 million from the 2015 budget**

⁴⁰ Contribution paid by the Union as subscription to a body of which they are a member, according to Article 121(2)(d) of the Financial Regulation applicable to the general budget of the European Communities.