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## **A.2 CALL – WATER INNOVATION: BOOSTING ITS VALUE FOR EUROPE**

[H2020-YYYY-CALL IDENTIFIER]

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, and the improvement of the state of water resources 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 therefore to seize these new and significant market opportunities by positioning Europe as a global market leader in related innovation and technology. The world market for drinking and waste water reached €250 billion in 2008, with corresponding investments of more than €33 billion per annum. The market for technologies to adapt to climate change – like 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 mean between 10 000 and 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). The integrated portfolio of activities will address innovative tools and methodologies, including advanced ICT and earth observation technologies, for risk assessment, mitigation and adaptation strategies. It will also address eco-innovative, integrated and cross-sectoral solutions for water management such as: wastewater and drinking water treatment technologies; water reuse systems; closed water cycles in industry; enhanced desalination technologies; improved materials; process, behaviour and technologies to enhance water and energy use efficiency; and appropriate management systems and strategies that incorporate water, wastewater, storm water and energy systems and duly consider changes in its availability due to climate change or other stressors. Specific actions will rely on relevant needs identified in the Blueprint to Safeguard Europe's Water and the Strategic Innovation Plans of the European Innovation Partnerships (EIPs) – in particular the EIP 'Water', launched in 2012. Actions in this area will support the Europe 2020 Resource-efficient Europe Flagship, and the general Union Environment Action Programme to 2020.

It should be noted that the following topic under the LEIT pillar of Horizon 2020 also contributes directly to the objectives of this Focus Area:

- Y2.3-3: Materials innovations for the use of cooling water in power plants
- Y2.4-10: Low-energy solutions for drinking water production – pilot plants.

Contribution to the objectives of this Focus Area will also potentially be made actions under the JRC's Key orientations:

- Low carbon economy and resource efficiency: 'Implementation of the Water Framework Directive and the related directives, including monitoring and model-based assessment of water resources and demand in the EU and globally, chemical and microbiological monitoring, flood risk assessment, drought monitoring and forecasting, and information systems' and 'Contribution to initiatives for a water-efficient Europe in 2020, including an assessment of desalination potential'
- Agriculture and global food security: 'Modelling soil, water and ecosystem dynamics in order to improve their sustainable management in agricultural systems' [tbc]
- Solidarity with developing countries: 'Scientific advice, dissemination of information, and capacity-building of national scientific and government partners in developing countries, in particular in the field of natural resource management through applied space technologies, and with a focus on climate change, forestry, biodiversity and ecosystem services, and water' and 'Analysis, technical assistance, development of ICT tools, and organisation of workshops to support related multilateral or bilateral agreements and cooperation initiatives, with a focus on climate change, forestry, biodiversity and water' [tbc]

***WATER 1\_2014: Interactions and trade-offs between sustainable energy, land use, water resources and climate change***

*Specific challenge:* The rising demands of a growing world population for food, materials and energy alongside the need to conserve biodiversity and tackle climate change through mitigation options, such as changes in agricultural practices, forestry management, carbon sequestration and bioenergy production, will lead to increasing and conflicting demands on land and water systems. Simultaneously, the impacts of climate change on the availability and suitability of land and water will add further pressure.

Current climate-energy models lack a comprehensive integration of land-use and water systems. As a result, important interactions and feedbacks between the socio-economic and physical spheres have often been left outside the scope of analyses leading to an incomplete picture of the future viability and costs of mitigation options and environmental protection challenges. Better methods and models that consider all the linkages between climate, energy, land and water are needed in order to explore the implications of options for tackling climate change (including low- and zero-carbon technologies) for land use, food security and water availability, and taking into consideration other pressures on biodiversity, ecosystems, agriculture and forests, such as feedbacks due to climate change impacts and population increase. This is a relatively new field of research which links environmental and socio-economic sciences, and will require greater effort in the years to come.

*Scope:* 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. Research should investigate the potential role, contribution and limits of mitigation options, such as bioenergy technologies, bioenergy with CCS (carbon capture and storage) and energy and resource efficiency in future mitigation pathways. Societal, political, institutional and behavioural aspects of the land-use and water systems and the possible mitigation options, should be taken into account. International cooperation is encouraged.

*Expected impact:* Development of the next generation of climate-energy-economic models that integrate climate, energy, land and water nexus. Tools for policy makers that enable the identification of these interrelationships to help target synergies, avoid potential tensions and

assess the sustainability of bioenergy development and resource efficiency options in terms of their likely effects on the broad climate-energy-land system. Transparent evaluation of trade-offs reflected in the different options.

*Type of action:* Collaborative project (100%) – Two 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](#)]

### ***WATER 2\_2014: Supporting the implementation needs of various EU water related policies***

*Specific challenge:* The recently adopted new strategy for the protection of Europe's water resources indicates that despite progress already made, the EU still faces important challenges in water management. It also recognises that the implementation of current EU water policies is currently hindered by important knowledge gaps, and stresses the importance of mainstreaming water policy by improving the efficient use of water resources, reducing pressure on water bodies and managing trade-offs among various water uses. Finally, the assessment of River Basin Management Plans (RBMPs) in the first Water Framework Directive (WFD) cycles shows that there is good practice in some Member States or River Basin Districts that should be further disseminated.

*Scope:* The aim of this action is to support the implementation needs and gaps of current EU water policies, with a view to attaining good status of water, tackling over-allocation of water, increasing water efficiency, reducing vulnerabilities to floods and droughts, and ensuring the integration of water policy objectives into other relevant policy areas. Proper attention to the socio-economic dimension of water resources management issues should be given. Consideration should be given to research gaps identified through the WFD Common Implementation Strategy/Science-Policy activity (CIS-SPI) as well as through relevant European Technology Platforms. Actions to establish river basin networks will be also supported.

*Expected impact:* Better implementation of EU water policy in close collaboration with river basin managing authorities and other relevant stakeholders. Improved and continuous knowledge sharing and benchmarking between river basins across the EU. Better assessment of the effectiveness of Member States' measures to implement water related policies, using new tools and methodologies. Improved assessment by policy makers of the sustainability/vulnerability of water resources, using common integrated indicators. Increased integration of water policy objectives into other relevant EU policies.

*Type of action:* Collaborative projects (100%) – Two 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](#)]

### ***WATER 3\_2014: Market replication of eco-innovative water solutions***

*Specific challenge:* One of the main factors hampering the market uptake of innovative technological solutions in the field of water is the lack of appropriate attention given to real scale activities aiming to demonstrate the long term viability of these solutions, remove the obstacles related to their wide application and enlarge markets for related products and services. This has been well acknowledged in the context of the Innovation Union Flagship Initiative and the Eco-innovation Action Plan and, particularly, solicited by the Strategic Implementation Plan (SIP) of the European Innovation Partnership on Water (EIP Water)

which see these actions as a way to accelerate the commercialisation of innovative water technologies, products and services and provide long-term value to both companies and public sector stakeholders. In addition, the European Technology Platforms, which are industry led, support these objectives by bringing in a market perspective.

*Scope:* This action aims to support projects concerned with the first application or market replication of eco-innovative water technologies, products, services or practices of EU added value, which have already been technically demonstrated with success but which, owing to residual risks, have not yet penetrated the market in the priority areas identified in the 1st SIP of the EIP Water. Projects should aim to stimulate market uptake of innovation in water reuse and recycling, water and wastewater 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. Advanced ICT solutions for water resources management in agriculture and urban areas will be also considered. Attention should be given to addressing complex issues with innovative and creative solutions, which have a globally positive environmental impact demonstrated by a life cycle analysis. Technologies, products and services increasing the efficiency and quality of various services and creating new job opportunities should also be developed. Where appropriate, social and economic issues aiming to ensure a more rapid uptake of innovative solutions should be also considered. The participation of SMEs is considered to be essential.

*Expected impacts:* Wide and fast deployment of eco-innovation in the water sector in line with the priority area of the EIP 'Water'. Creation or enlargement of related markets. Increased resource efficiency and environmental performance of the water sector, through synergies between water public authorities, water utilities, business sectors, big companies and SMEs and research organisations. Better implementation of EU water-related policies.

*Type of action:* Collaborative Project (70%) – Two stage

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#### ***WATER 4\_2014: Harnessing EU water research and innovation results for industry, policy makers and citizens***

*Specific challenge:* Water research and innovation faces several multidisciplinary challenges and involves a wide variety of policy sectors, decision makers, users and stakeholders at various levels. In addition, water resources management requires evidence based decision making, adequate participatory approaches and transparent planning in order to develop good governance, facilitating conflict prevention, management and resolution. It is therefore necessary to achieve critical mass for knowledge exchange, ensure wide applicability of research results, facilitate the translation of knowledge into use by various stakeholders, reduce unnecessary duplication of research efforts, and at the same time promote innovation and business development.

*Scope:* The aim of this action is to promote the dissemination and exploitation of EU funded activities to ensure wider application of innovative solutions and further demonstrate their potential to solve water related challenges. Actions aiming to raise public awareness and further promote the role of science and technology in society will also be supported. Dissemination of innovative forms of governance in both the public and private water sector and support actions with a view to developing innovative financial instruments for water research and innovation will be promoted, as well as activities to promote innovation, and business development and help clustering of eco-innovative companies in the field of water.

Activities aiming to identify research gaps and avoid overlaps between various regional, national, European and international activities will be also supported. Furthermore, the development of appropriate policy briefs will be supported, to work towards opening markets for future innovations.

*Expected impacts:* 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, support the implementation of water and innovation policies and enhance the development of innovations. Rapid market uptake of research results in line with the priority area of the EIP 'Water'. More integrated community of researchers and users extending across disciplines, 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.

*Type of action:* Coordination 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](#)]

### ***WATER 5\_2014: Strengthening partnerships with China, India and other emerging economies to enhance market uptake of water solutions***

*Specific challenge:* For many years the EU has made a significant contribution by supporting international research cooperation in the field of water. A large amount of information and knowledge is already available. However, this information and knowledge has not always been properly disseminated and exploited, mainly due to the multidisciplinary dimension of water problems, the socio-economic complexities and the regional context of water management, leading to many missed opportunities. On the other hand, these activities have helped to build synergies and strong cooperation partnerships between researchers and policy makers at various levels. There is a need to give to these partnerships a more strategic vision and support actions that will improve the applicability of research results to real cases, share experiences on how to accelerate the transfer from research to practice, and strengthen the exploitation potential and market uptake of European water innovations at global scale.

*Scope:* The objective of this action is to promote the creation of networks of companies (including SMEs), entrepreneurs and funding actors to create business opportunities harnessing successful research results from previous EU-funded international cooperation water-related RTD projects that have been successfully implemented by end-users. This action also aims to help create more strategic co-operation on water research between Europe and the rest of the world. Priority will be given to on-going international activities and partnerships where the EU and Member States are jointly committed to providing a more coherent approach to research and innovation (e.g. EU/MS-India research and innovation partnership on water, China Europe Water Platform). In this context, brokerage events, workshops and conferences bringing together researchers, industry, policy makers and end-users, as well as coordination actions, mapping activities and promotion of innovation related support actions will be supported.

*Expected impact:* Strengthened exchange of experience, coordination, collaboration and long-term cooperation between EU funded activities. Support the implementation of the Strategic Forum for International Science and Technology Cooperation. Creation of market opportunities for European water innovations outside Europe, thus supporting the implementation of priority area of the EIP 'Water'. Achievement of the Millennium Development Goals by bridging the water and sanitation gaps. Application of innovative

technological approaches/solutions adapted to local conditions. Improved capacity building of local actors.

*Type of action:* Coordination Action – Single stage

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### ***WATER 6\_2014: Stepping up EU R&I cooperation in the water area***

*Specific challenge:* Water research is fragmented at EU level and dispersed at the national level in different Ministries, universities, agencies, regional governments and programmes. It is therefore necessary to integrate the efforts and strategic research agendas of the many funding networks and organisations existing in Europe in order to establish transnational and trans-disciplinary research actions and increase the added value of related investments.

*Scope:* This action will support the priorities identified in the Strategic Research Agenda of the Water JPI. The main aim of this action is to pool the necessary financial resources from the participating national (or regional) research programmes and the European Union with a view to implementing a single joint call for proposals for research projects in the field of robust, smart and cost-effective technological solutions for water distribution and measurement, wastewater treatment and reuse, desalination and valorisation of sewage sludge.

*Expected impact:* Better use of scarce resources. Reduced fragmentation of water research efforts across Europe.

*Type of action:* ERA-NET – 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](#)]

### ***WATER 7\_2015: Increasing confidence in seasonal-to-decadal predictions of the water cycle***

*Specific challenge:* Water is a basic requirement for life and effective management of water resources is necessary in order to provide some of society's basic needs. Climate change affects the hydrological cycle in many different ways, including changes in precipitation patterns and extreme events (e.g. floods, droughts). Higher temperatures and changes in extremes are projected to affect water quality and exacerbate water pollution, with negative impacts on ecosystems and human health as well as on water system reliability and operating costs. These changes will directly influence the way water resources are managed at local, regional and continental level. Despite considerable progress made in the past ten years, forecasting natural water cycle variability and responses to anthropogenic threats including climate change, especially at regional scales, still suffers from severe limitations. Improved prediction systems are increasingly necessary to better inform decision makers and support policy making in Europe and beyond.

*Scope:* The aim is to maximise the reliability of predictions of rainfall changes (frequency, severity) and of water cycle variability at local/regional scales in Europe, over various timescales under different climate scenarios and to improve the forecasting of related extreme events. Research should quantify the uncertainty in precipitation projections and predictions at both regional and EU level; it should hence focus on linking different types of models (climate, hydrological, impact) that should be routinely coupled to improve estimates of the

effects of future changes on the water cycle and their socio-economic consequences. Particular attention should be given to the downscaling of global models and the development/validation of regional climate models that will more accurately simulate the impacts of climate change on water resources. Well-designed communication of the research outputs to policy makers should be envisaged to support climate change adaptation measures.

*Expected impact:* More efficient management of water resources in Europe. Better implementation of the river basin management planning (RBMP) of the Water Framework Directive. Contribution to the implementation of the EU Climate Change Adaptation Strategy.

*Type of action:* Collaborative Project (100%) – Two stage

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### ***WATER 8\_2015: Laying foundations for a Water Information System, (INSPIRE compliant)***

*Specific challenge:* The lack of interoperability between existing water information systems at EU (WISE) and national/river basin levels as well as the lack of harmonisation of these systems with the INSPIRE Directive, prevents the full implementation of these systems and hampers their contribution in resolving water related issues. For this reasons harmonisation of existing state of the art models and specifications (conceptualisation and design) of a technology independent and open reference model of water resources information system, to support implementation and information on EU Water policies is needed.

*Scope:* The action should aim to take first steps towards finding new solutions to achieve interoperability between existing systems and develop new connectivity standards and to develop ontologies and new interoperable solutions linked to the applications used in the water sector. Topics to be addressed: ontologies, semantic interoperability, GIS, business modelling, DSS, and management tools.

*Expected impact:* to create a common language in the water sector and to overcome its fragmentation

*Type of action:* Collaborative project (100%) – Two stage

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### ***WATER 9\_2015: Strengthening international R&I cooperation in the field of water***

*Specific challenge:* The trans-boundary character of many EU rivers requires enhanced cooperation within and beyond the EU. Developing countries are particularly vulnerable to several water-related problems linked to climate change, such as floods and droughts. Assistance in the form of research and capacity-building that enables them to prevent and react to growing problems is therefore necessary. At the same time, strengthening international cooperation in the field of water will help the EU to promote its water policy and river management experience and to promote technology transfer, thus enhancing its world leadership and opening additional market opportunities for the water industry.

*Scope:* The objective of this action is to support joint collaborative research and innovation actions for the demonstration of water supply and sanitation technology, systems and tools and methodologies to manage risks associated with water supply and sanitation, as well as

cross-boundary water management issues and integrated water resources management systems for sustainable agriculture and food security, sustainable environment protection and economic growth. Action will focus on [the EU's neighbouring countries,] the non-EU Mediterranean countries and Africa and should be connected to local knowledge, socio-economic development cultures, policy institutions and implementing bodies, also taking into consideration gender dimension issues where relevant. Participation of organisations from the above-mentioned regions is considered essential.

*Expected impacts:* More operational and effective application of integrated water management approaches. Increased economic and social well-being at local and regional levels. Better identification of water vulnerability by policy makers. Improved preparedness and planning capacities of public authorities. Achievement of the Millennium Development Goals by bridging the water and sanitation gaps. Use of innovative technological approaches/solutions adapted to local conditions. Improved capacity building of local actors. Creation of additional world market opportunities for European innovative water solutions, one of the objectives of the EIP on Water.

*Type of action:* Collaborative Projects (100%) – Two stage

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### ***WATER 10\_2015: Integrated water reuse in process industries***

*Specific challenge:* Water is of vital economic importance to various process industries, since related costs can reach up to 25% of the total production costs and are expected to increase further due to stronger demands to improve product quality and safety and more stringent legislation. Moreover, water has the potential to help process industries to realise their resource and energy efficiency targets. It is therefore necessary to help industries to become less water dependent and promote a sustainable use of water in industrial processes, while ensuring efficient management of other resources required in the production such as raw materials or energy.

*Scope:* This action [is direct support to the objectives of the SPIRE PPP, and] aims at the development and implementation of innovative solutions to help European process industries move towards the sustainable use of water. This action is also in line with the related priorities of the Strategic Implementation Plan of the EIP 'Water'. Innovative solutions should address systems and tools for water quantity and quality control, flexible and adaptable solutions to cope with water scarcity, the combination of real time monitoring tools, sensors and systems, waste separation processes, and integrate water and energy efficiency measures. Projects should ensure that they feed into the Exchange of Information process aimed at identifying best available techniques and emerging techniques under the Industrial Emissions Directive. The participation of SMEs is considered essential.

*Expected impacts:* Increased industrial productivity in parallel with improved resource efficiency in industrial processes. Considerably improved levels of water reuse in food, chemicals, pulp and paper and textile industries. Industry to view water as a highly valuable asset and a vital element used in close conjunction with production processes, rather than a consumable. Support of the implementation of the priority area of the EIP 'Water'. Maximized uptake of innovative approaches, by use of the Exchange of Information process under the Industrial Emissions Directive.

*Type of action:* Collaborative Projects (70%) – Two 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]***

### ***WATER 11\_2015: Development and deployment of eco-innovative water solutions***

*Specific challenge:* One of the main factors hampering the market uptake of innovative technological solutions in the field of water is the lack of appropriate attention given to real scale activities aiming to demonstrate the long term viability of these solutions, remove the obstacles related to their wide application and enlarge markets for related products and services. This has been well acknowledged in the context of the Innovation Union Flagship Initiative and the Eco-innovation Action Plan, and particularly solicited by the Strategic Implementation Plan of the European Innovation Partnership on Water (EIP Water), which see these actions as a way to accelerate the commercialisation calls of innovative water technologies, products and services and provide long-term value to both companies and public sector stakeholders.

*Scope:* This action will support demonstration projects bringing together business, academic communities, policy makers and end-users to test innovative approaches that can address the scale and complexity of challenges, with a view to maximising knowledge exchange and optimising business growth. In line with the priorities identified in the 1st Strategic Implementation Plan (SIP) of the EIP 'Water', attention will be given to demonstration projects for water reuse and recycling, water and wastewater treatment, including recovery of resources, water and energy integration, flood and drought risk management and enhancing the role of ecosystem services in the provision of water related services. Demonstration of advanced ICT solutions for water resources management will be also considered. Projects should ensure that they feed into the Exchange of Information process aimed at identifying best available techniques and emerging techniques under the Industrial Emissions Directive. The participation of SMEs is considered essential.

*Expected impact:* Significant reduction in water use. Development and uptake of water efficiency standards in urban, agricultural and industrial areas. Reduction by more than 50% of energy demand in water supply, treatment and transportation. Reduction in water use for energy production and increased use of alternative water sources for power plant cooling and other industrial processes. Increase in the conjunctive use of traditional and alternative water supply measures. Market penetration, long-term application and sustained use of successful solutions by various end-users, and creation of new market opportunities both inside and outside Europe. Support of the implementation of the priority area of the EIP 'Water'. Maximized uptake of innovative approaches, by use of the Exchange of Information process under the Industrial Emissions Directive.

*Type of action:* Collaborative Project (70%) – Two stage

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### ***WATER 12\_2014 & 2015: Fostering small businesses in the water sector***

*Specific challenge:* Nowadays, it is widely accepted that SMEs can play an important role in strengthening the EU's capacity to innovate in the water sector. SMEs should therefore be encouraged to increase the quality of their research, be more innovative and further commercialise their ideas, products and services.

*Scope:* The objective of this action is to help research performing SMEs in the water sector to convert new technologies and services for waste water treatment and reuse for drinking water and agriculture into market products.

*Expected impact:* Overcome barriers preventing participation of SMEs in research funding mechanism, foster funding opportunities and increase their entrepreneurial activity. Support of the implementation of the priority area of the EIP 'Water'. Help the market uptake of innovative ideas and solve water related challenges

*Type of action:* SME instrument

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### ***WATER 13\_2015: Accompanying measures to gradually link the water sector into smart cities***

*Specific challenge:* The Smart Cities Innovation Partnership (SCC EIP), as proposed in the Europe 2020 Flagship Innovation Union, is a partnership across the areas of energy, transport and information and communication with the objective to catalyse progress in areas where energy production, distribution and use, mobility and transport, and information and communication technologies (ICT) are intimately linked and offer new interdisciplinary opportunities to improve services while reducing energy and resource consumption and greenhouse gas (GHG) and other polluting emissions. The partnership will focus during the first period (2014-2016) on the integration of energy, transports and ICT solutions and during the second period it will open to other (important) urban sectors, like water and waste.

*Scope:* The action will aim at developing a coordinated approach to the integration of water and waste sectors in the 'Smart Cities' EIP, identifying research needs which could lead to future research actions, promoting exchanges and best practises between public authorities and the stakeholders involved (notably representatives across the whole water and waste, ICT sectors, standardisation organisations, but also energy and transports stakeholders), and increasing preparedness and planning capacities of all the relevant actors. Exchange of experience, coordination, collaboration and long-term cooperation between EU funded activities will be also considered.

*Expected impact:* Integration of the water and waste sectors into the Smart Cities EIP, reinforcing the ultimate goal of the SCC EIP of contributing towards achieving the 3 bottom line objectives (20-20-20).

*Type of action:* Coordination action – Single stage

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### ***WATER 14\_2015: Africa, water and global change: vulnerabilities, risks and cost-effective adaptation measures***

*Specific challenge:* Africa is facing serious challenges for sustaining its development. Sustainable water supply and sanitation is fundamental to Africa people's food security, health, survival, growth and development. Climate change is already severely impacting Africa and it is expected that these changes will be exacerbated in the near future. Africa needs to be prepared to address its climate change and water related vulnerabilities, especially extreme weather phenomena such as floods, droughts, and build up effective adaptation

measures. For that reason, a multi-disciplinary and integrated approach involving various scientific and technological research fields, such as climate modelling and impact studies, hydrological cycle, land and water resources management, and integrating broader socio-economic factors, such as, migration and resettlements, urbanisation and gender dimension will be needed. Cooperation between various national research authorities and funding agencies, continuous engagement and dialogue with the scientific, practitioner and stakeholder communities, promotion of local capacity building, and links with observation and monitoring international programs and initiatives, including GEOSS, will be also needed.

*Scope:* The goal of this activity is the development of a platform in which scientists, decision makers, practitioners and other key stakeholders may regularly convene throughout the duration of Horizon 2020. The platform should identify opportunities and constraints for the sustainable management of water and other natural resources and ecosystems, and for the development of cost-effective adaptation measures. Links with opportunities and strategies for mitigation options may be also explored. Participation of African institutions/organisations is highly recommended.

*Expected impact:* Development and application of effective climate change adaptation measures as a result of durable dialogue between EU and Africa, and within different scientific and decision making communities. Minimised fragmentation of efforts and enhanced knowledge sharing and technology transfer resulting from relevant research activities centred in Africa. Application of innovative strategies that merge institutional and policies actions with local capacity building. Higher awareness and knowledge of climate change and ecosystem services at the level of local practitioners.

*Type of action:* Coordination Action – Single stage

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### ***WATER 15\_2015: Stepping up EU R&I cooperation in the water area***

*Specific challenge Specific challenge:* Water research is fragmented at EU level and dispersed at the national level in different Ministries, universities, agencies, regional governments and programmes. It is therefore necessary to integrate the efforts and strategic research agendas of the many funding networks and organisations existing in Europe in order to establish transnational and trans-disciplinary research actions and increase the added value of related investments.

*Scope:* This action will support the priorities identified in the Strategic Research Agenda of the Water JPI. The main aim of this action is to pool the necessary financial resources from the participating national (or regional) research programmes and the European Union with a view to implementing a single joint call for proposals for research projects in the field of improving water use efficiency for a sustainable agriculture reducing soil and water pollution

*Expected impact:* Better use of scarce resources. Reduced fragmentation of water research efforts across Europe.

*Type of action:* ERA-NET – Single stage

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*Additional input to this Focus Area expected from Research Infrastructures e.g.*

Integrating Activities, Environment section:

- IA.12 (ENV2) Research infrastructures for hydrological/ hydrobiological research: Infrastructures for hydrological/ hydrobiological research (hydrological, hydrometeorological and hydrochemical aspects as well biological/ ecological indicators).
- IA.16 (ENV34) Research infrastructures for environmental hydraulic research: Infrastructure for environmental hydraulic research (best facilities to help solve climate change adaptation problems; harmonising and organising the flux of data).