The role of EU research and innovation in meeting the SDG-target of water efficiency

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Sustainable development, research and innovation
A core element of EU policies and actions

- A commitment of the Treaty on European Union
- Europe 2020 – A strategy for smart, sustainable and inclusive growth
- Horizon 2020 – Commitment to sustainable development with 60% of its budget
- EC to present a new approach to ensuring economic growth and social and environmental sustainability beyond 2020, taking into account the Europe 2020 review and the internal and external implementation of the SDGs (2016 Commission Work Programme)
The Role of Science, Technology and Innovation Policies to Foster the Implementation of the Sustainable Development Goals (SDGs)

Report of the Expert Group “Follow-up to Rio+20, notably the SDGs”

http://ec.europa.eu/research/environment/index.cfm?pg=sdgss
Science, technology and innovation (STI) policy is fundamental to implement the new United Nations “2030 Agenda” for sustainable development.

STI for SD policies (STI4SD) are a vital asset for the EU to continue to be the global frontrunner of SD.

Orienting public and private investments in the real economy to the SDGs will help create markets for new solutions that respond to the challenge of sustainability.

Achieving the SDGs is not just a political commitment or a moral imperative. It is an opportunity for promoting jobs and growth, and achieving prosperity.
Report of the Expert Group – Key recommendations

- **Switch the focus**, reorienting mindsets and behaviours towards SD, reframing the EU’s STI challenges, and refocusing from technology transfer to building innovation capacity.

- **Strengthen international partnerships**, enhancing engagement with developing countries through existing EU instruments, engaging all stakeholders (especially business), and developing tailor-made international STI initiatives.

- **“Walk the talk” and establish enabling systems** identifying causes of implementation gaps, aligning domestic STI with SDGs, ensuring Policy Coherence for Sustainable Development, seizing benefits from the “data revolution”, and setting up monitoring, evaluation and assessments of STI4SD.
Water: an essential element of Sustainable Development Goals
Water efficiency challenges

✓ Develop appropriate water resource efficiency measures and tools in agriculture, industry and urban areas

✓ Address the increasing interconnectedness across various economic sectors and develop appropriate water allocation mechanisms between competing water uses

✓ Improve information for optimal water-resource management

✓ Increase awareness, dissemination and exploitation of successful practices

✓ Increase regional and international cooperation to improve R&I, governance, financing and investments
EU water Research and Innovation

- An important driver in support of the implementation of sustainable solutions to several water challenges in different part of the world

- Past and ongoing EU RTD funded projects provide opportunities for improving the collective welfare and the sustainable development of societies in different parts of Africa, South Mediterranean area, Latin America, India and China

- Boosting research and innovation in the water area and developing innovative solutions to many water challenges within and outside Europe is an important component of Horizon 2020.
Water-related projects - FP7 Africa-call

Integrated **toolbox and guidelines** for INRM, based on the available tools, data, capacity and requirements for sub-national authorities

Conservation Agriculture **simulation model** - for decision-makers in different African regions and under different conditions (decision support system)

**Guidance** on how and where drought preparedness and adaptation should be targeted to contribute to an increase in resilience and improve effectiveness of drought mitigation measures

**Simplified planning tool** - to compare different solutions of water supply and sanitation systems based on real costs - MSExcel®, final version web-based in SSWM toolbox

**Guidelines** with criteria for upgrading and designing WHTs leading to improved livelihoods under different climatic, environmental and economic conditions. **Guidelines** for sharing of knowledge on WHT improvements leading to upscaling
Water-related projects - FP7 Africa-call (cont.)

Locally adapted and co-designed innovations to improve food production in irrigated farming systems (Guidelines)

Guidelines for application and adaptation of water harvesting. (WOCAT)

Framework to assess the potential of new technologies introduced into innovative de-centralised systems / technology assessment framework (TAF) and Guidance for Technology Introduction (GTI)

Investment decision tool based on cost-benefit analyses of biotechnological best practices & guidelines for water treatment biotechnologies implementation

Disease risk mapping system for three water-related, high-impact VBDs (malaria, Rift Valley fever and schistosomiasis) in eastern Africa
Water Research and Innovation in Horizon 2020

✓ A priority across the 3 priorities of Horizon 2020 and a key component of Societal Challenge 5: "Climate action, environment, resource efficiency and raw materials"

✓ Reinforcing water innovation capacity and market uptake of successful research results, boost competitiveness and growth and create leadership in water resources management

✓ Boosting research and innovation in the water area and developing innovative solutions to many water challenges within and outside Europe, to support the needs of relevant EU water and resource efficient policies, international commitments and related initiatives, is also an important component of Horizon 2020
Examples of current Horizon 2020 projects

**Strengthening international R&I cooperation in the field of water (Africa-Mediterranean)**

- **MADFORWATER**: Development and application of integrated technological and management solutions for wastewater treatment and efficient reuse in agriculture tailored to the needs of Mediterranean African Countries
- **VicInAqua**: Integrated aquaculture based on sustainable water recirculating system for the Victoria Lake Basin
- **SafeWaterAfrica**: Self-Sustaining Cleaning Technology for Safe Water Supply and Management in Rural African Areas
- **DAFNE**: Use of a Decision-Analytic Framework to explore the water-energy-food nexus in complex and trans-boundary water resources systems of fast growing developing countries.
Examples of current Horizon 2020 projects (cont.)

Strengthening international R&I cooperation in the field of water

✓ **PIANO**: Policies, Innovation And Networks for enhancing Opportunities for China Europe Water Cooperation

✓ **AfriAlliance**: Africa-EU Innovation Alliance for Water and Climate

✓ **IC4WATER**: Tackling Water Challenges in the International Context (Water JPI)
A Commission's proposal for an Art. 185 TFEU

**Strategic objective**
- To develop the fully piloted and demonstrated common innovative solutions in the field of water provision and food systems in the Mediterranean region

**Specific objectives**
- formulation of a stable, long-term, common strategic R&I agenda in the field of water provision and food systems
- orientation of all national research and innovation programmes towards the implementation of the strategic R&I agenda
- structural involvement of all relevant R&I actors in the implementation of the strategic research agenda by pooling knowledge and financial resources so as to achieve the necessary critical mass;
- strengthening of R&I funding and implementation capabilities of all involved actors.
- **Budget**: around €400 million (of which at least €200 million from Participating States and up to €200 million from the EU)
Some conclusions

✓ The importance of water in the SDGs and the Paris Agreement on climate puts again water in the centre of the highest level of the political and sustainable debate.

✓ To be able to meet the SDG-target on water efficiency we need to create the necessary framework to link water resources management with the wider growth and development issues.

✓ Increasing interconnectedness across various economic sectors, bringing together the physical and digital world, exploring the opportunities of the transition to green economy and scaling-up recent scientific and technological advances, would support greater efficiency in the water sector, within and outside Europe.

✓ Supporting the implementation of SDGs and strengthening international cooperation and science diplomacy, including water, will be a key element of the remaining Horizon 2020 calls.
Thank you for your attention!

Find out more:

www.ec.europa.eu/research/horizon2020