



Horizon 2020

Boosting innovations in the water sector

**Economic benefits of water innovation
Challenges and opportunities for the chemical sector
Brussels, 5 November 2015**



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Water

Major component of successive EU RTD programmes

- ✓ *Major societal challenge*
- ✓ *Key element of several EU policies (environmental, agriculture, climate change, international and development cooperation policies)*
- ✓ *Sector of key economic importance and ready for innovation*

Need and benefits for innovation in the water sector

- ✓ *Water has been listed as the number one global risk that can cause significant negative impact for several countries or industries within the next 10 years (World Economic Forum – Global Risks 2015 report)*
- ✓ *Citizens, societies, agriculture and industries will increasingly need innovative solutions to meet the need of using water in a more efficient and effective way*
- ✓ *The 2011 Global Water Market survey from Global Water Intelligence, estimates that the global water market is USD 480 billion in 2010, including USD 175 billion for municipal and industrial water and wastewater capital expenditure*
- ✓ *By seizing new and significant market opportunities, Europe can increasingly position itself as a global market leader in water related innovation and technology*

EU major policy drivers for research and innovation in the water sector in the context of Horizon 2020

- ✓ *Innovation Union Flagship Initiative - European Innovation Partnership on Water*
- ✓ *Resource Efficiency Flagship Initiative*
- ✓ *Eco-Innovation Action Plan*
- ✓ *EU water related policies (Blueprint to safeguard Europe's waters)*
- ✓ *Joint Programming Initiative "Water challenges in a Changing World"*
- ✓ *Water related ETPs (WssTP, SusChem) and PPPs (SPIRE)*

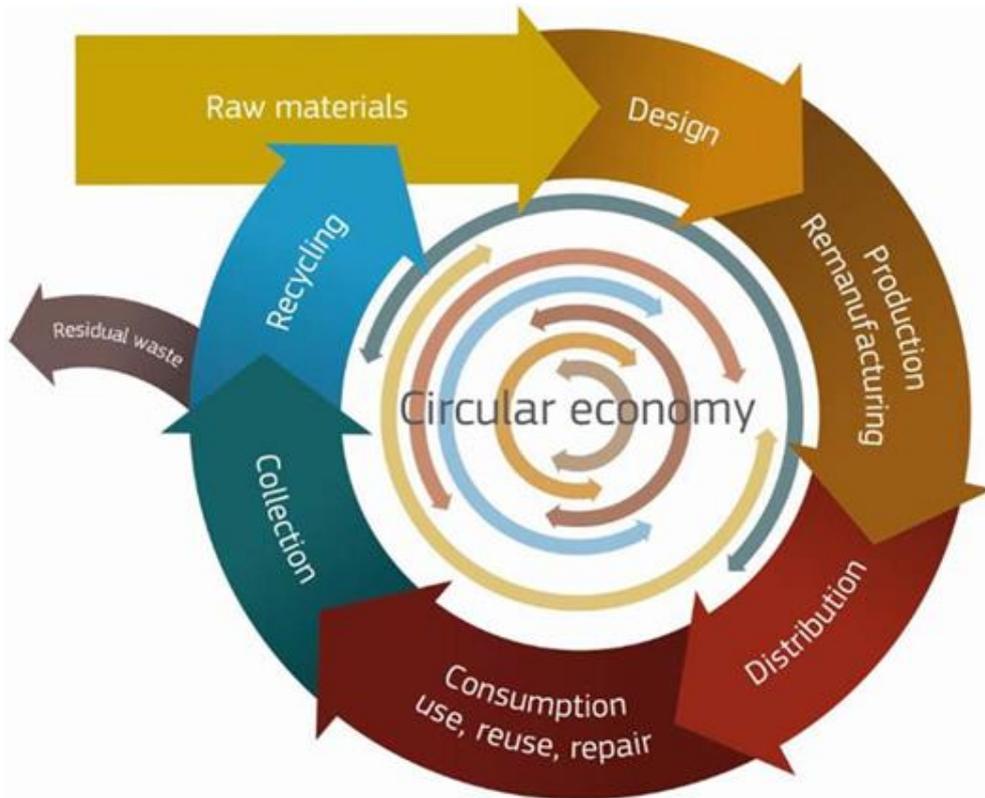
Water has the potential to contribute to the Juncker Commission's policy agenda



- ✓ A new boost for **jobs, growth and investment**
- ✓ A deeper and fairer internal market with a **strengthened industrial base**
- ✓ A resilient Energy Union with a **forward looking climate change policy**
- ✓ **A stronger global actor**

✓ **Open Innovation** ✓ **Open Science** ✓ **Open to the world**

Contributing to the circular economy



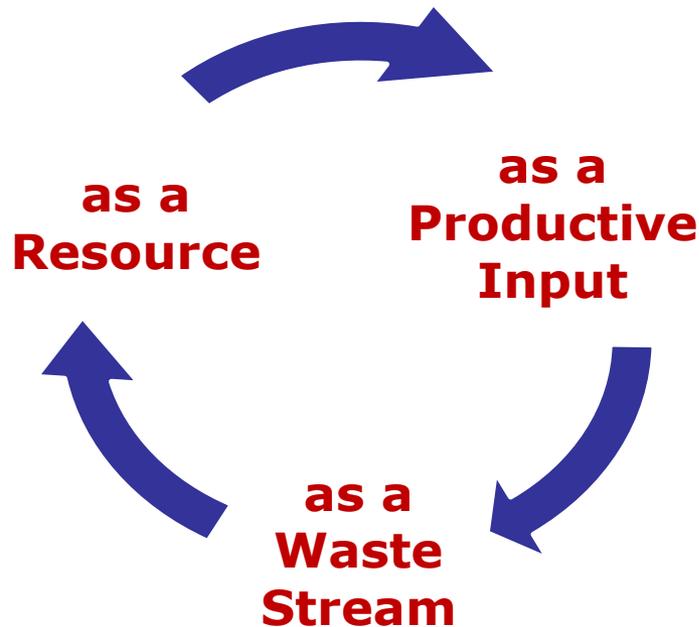
- ✓ demonstrating the economic and environmental feasibility of the circular economy
- ✓ supporting systemic innovation to obtain a systems-wide transformation
- ✓ reorganising production and consumption to maintain/enhance value of products, components, materials and resources throughout the value chain and product life
- ✓ decoupling creation of wealth and jobs from resource consumption



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Water

A critical element of the Circular Economy



In the EU, on average, of the total water abstraction:

- 44 % is used for agriculture
- 40 % is used for industry and energy production (cooling in power plants), and
- 15 % is used for public water supply

Horizon 2020: addressing Europe's challenges

- **Investing in research and innovation 2014-2020**
- **Budget of €77 billion**
- **Contributing to the Juncker Commission's policy agenda** as a core component of **Europe 2020, Innovation Union & European Research Area**
 - ✓ Investing in jobs and growth
 - ✓ Addressing people's concerns ('societal challenges')
 - ✓ Strengthening the EU's global position in R&I
- **Coupling research to innovation to maximise impact**

Water in Horizon 2020

A key component of Societal Challenge 5: Climate action, environment, resource efficiency and raw materials



Objective of Societal Challenge 5:

"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."



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SC5 Work Programme 2014-2015

Focus Area

Water innovation: Boosting its value for Europe

- ✓ *Reinforcing water innovation capacity and market uptake of successful research results*
- ✓ *Boost the competitiveness and growth of European water sector*
- ✓ *Create leadership in water resources management and positioning Europe as a global market leader in water related innovative solutions*
- ✓ *Support the needs of relevant EU water, innovation and resource efficient policies, international commitments and related initiatives.*

Societal Challenge 5: new focus for 2016-17



- ✓ **Increased emphasis on delivering innovative solutions**
- ✓ **Transformative agenda**
- ✓ **Systemic approach to innovation**
- ✓ **Unlocking private and public investment in future solutions**
- ✓ **Large-scale demonstration projects with replication potential**

Water in the context of SC5 WP 2016-2017



- ✓ mainstreamed through WP 2016-2017, as part of the systemic approach
- ✓ harnessing strong potential for European industry to become global market leader
- ✓ continuity with 2014-2015 Focus Area call on 'Water Innovation: Boosting its value for Europe'

Water and circular economy topics



Cross-cutting call: 'Industry 2020 in the Circular Economy'

- ✓ **CIRC-2-2016: Demonstrating the potential of efficient nutrient recovery from water**
(IA – deadline 8 March 2016 for stage 1 & 6 September 2016 for stage 2)
 - **Total indicative budget for these topics in 2016: € 20M**
Recommended EU contribution/project: 6-8 M€

- ✓ **CIRC-2-2017: Towards the next generation of water systems and services– large scale demonstration projects**
(IA – deadline 7 March 2017 for stage 1 & 5 September 2017 for stage 2)
 - **Total indicative budget for these topics in 2017: € 30M**
Recommended EU contribution/project: 10 M€

Water: 2016 topics



Call 'Greening the economy':

- ✓ SC5-11-2016: **Supporting international cooperation activities on water**
(CSA – *deadline 8 March 2016*)
- ✓ SC5-12:2016: **Food systems and water resources for the development of inclusive, sustainable and health Euro-Mediterranean societies**
(CSA – *deadline 26 January 2016*)
 - Total indicative budget for these topics in 2016: €4M

Other SC5 topics with relevance to water:



- ✓ SC5-01-2016-2017: **Exploring the added value of climate services**
- ✓ SC5-02-2017: **Integrated European regional modelling and climate prediction system**
- ✓ SC5-03-2016: **Climate services market research**
- ✓ SC5-08-2017: **Large-scale demonstrators on nature-based solutions for hydro-meteorological risk reduction**
- ✓ SCC-02-2016-2017: **Demonstrating innovative nature-based solutions in cities**
- ✓ LCE-26-2016: **Cross-thematic ERA-NET on Applied Geosciences**

Water-related topics in other calls of Horizon 2020 WP 2016-2017 (some examples):



- ✓ SPIRE-01-2016: Systematic approaches for resource-efficient water management systems in process industries
- ✓ SFS-1-2016: Dealing with multiple and combined stresses: approaches to improve water and nutrient use efficiency in crop production
- ✓ SFS-47-2017: Management of soil water resources in the EU and China and its impact on agro-ecosystem functions
- ✓ RUR – 04-2016: WATER FARMS – Improving farming and supply of drinking water
- ✓ LCE 27 – 2017: Measuring, monitoring and controlling the risks of CCS, EGS and unconventional hydrocarbons in the subsurface

See also [SME](#) and [Fast Track to Innovation](#) instruments

For further information

- **Research Participant Portal**

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

- **Horizon 2020 Helpdesk**

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

- **Expert evaluators needed!**

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

- **Learn more about Horizon 2020**

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www.ec.europa.eu/research/horizon2020