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New perspectives for European water research

27 September 2012 - Venice, Italy

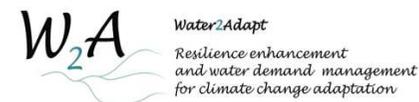


European Research Area

Outlook for the further and follow-up
research (JPI), policy
implementability of the results
(WFD CIS SPI, EIP)

Giuseppina Monacelli

ISPRA – Italian national institute for environmental protection and research
Department for inland and marine waters





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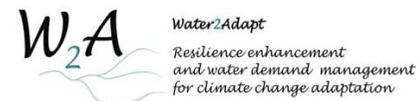
In **2008** the European Commission presented a new policy:

Towards joint programming in research

with the meaningful subtitle

Working together to tackle common challenges more effectively

challenging countries to develop initiatives on joint programming with the purpose of increasing the efficiency and impact of national public funding in strategic areas. Joint programming targets public research programmes first and foremost, which means public-public cooperation in the direction of the definition and implementation of common research agendas with jointly agreed-upon multi-annual activities and funding mechanisms.





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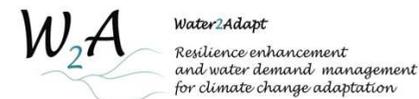


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<http://www.waterjpi.eu>

The Council of the European Union decided to launch the **Joint Programming Initiative “Water Challenges for a Changing World”** on 6 December 2011 as a contribution to the reduction of fragmentation of efforts by Member States and mobilisation of skills, knowledge and resources, with a view to strengthening Europe's leadership and competitiveness on water research and innovation.





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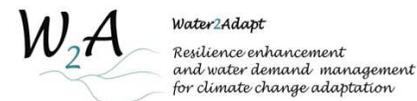
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OBJECTIVES BY 2020

This Joint Programming Initiative will mobilise existing RDI programmes to harmonise their research agendas and infrastructures, defining common research needs and developing synergistic joint activities that increase their efficiency by avoiding duplications

- Involving **water end users** for effective results uptake;
- Attaining **critical mass** of research programmes;
- Reaching effective, sustainable **coordination** of European water RDI
- Harmonising National water RDI **agendas** in Partner Countries
- Harmonising National water RDI **activities** in Partner Countries
- Supporting **European leadership** in science and technology





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Current European leadership in water research

**Europe is a leader in the water world industry and
invests 500 M€ yearly in public research and
innovation activities focusing on water**

Concept	Europe	USA	Japan
Production of Scientific papers (%)			
1996-2000	25	34	4
2001-2005	27	31	4
2006-2010	29	26	4
Multinational European Authorship (%)			
1996-2000	2.9	-	-
2001-2005	3.6	-	-
2006-2010	4.7	-	-
Production of PCT international patents (%)			
1995	48	38	7
2010	35	24	12





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Europe invests an estimated amount of 500 million € per year to fund public research and innovation activities in water.

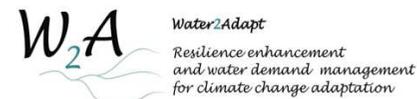
While European countries invest 370 million €, the European Commission invests 130 million €.

The Joint Programming Initiative will actively cooperate with the European Commission to provide the European society with the maximum return of these investments.



The Initiative responds to the great challenge of

**Achieving Sustainable Water Systems for a
sustainable Economy in Europe and Abroad**





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The Joint Programming Initiative **Water Challenges for a Changing World** aims at tackling the ambitious challenge of achieving sustainable water systems for a sustainable economy in Europe and abroad with a



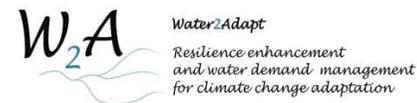
economy

ecology



society

technology





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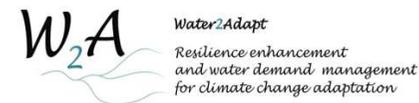
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Economic challenges

The European water market will have an estimated turnover in 2015 of 43 billion \$. The worldwide turnover will amount to 246 billion \$ (source: Global Water Intelligence Report 2011)



The European water sector is of prime economic importance, as it offers jobs for thousands of citizens across Europe. Investments in water technology around the world increase every year, in a market which has become very competitive





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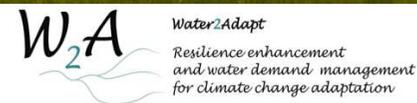
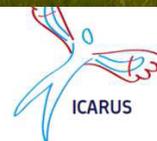
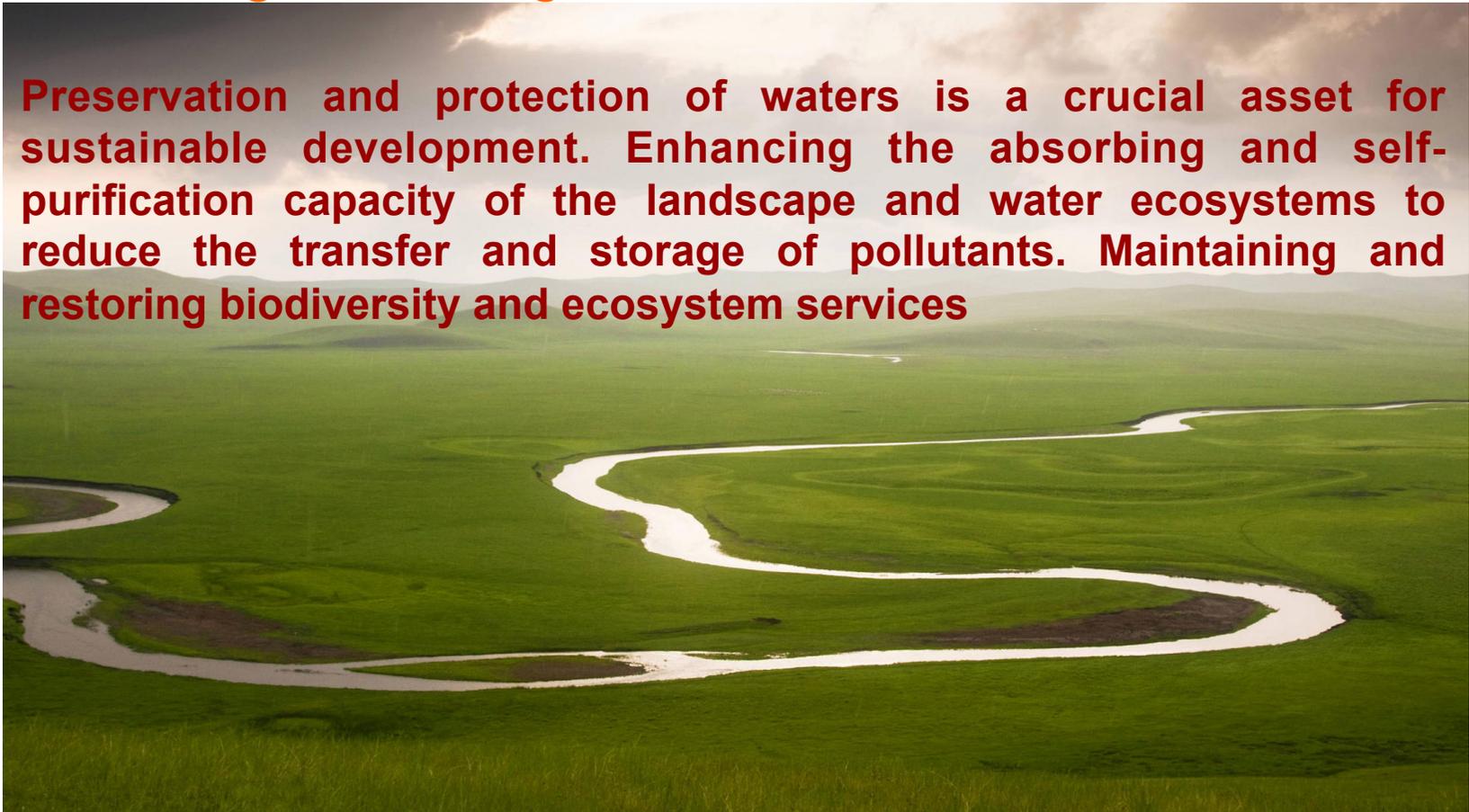
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Ecological challenges

Preservation and protection of waters is a crucial asset for sustainable development. Enhancing the absorbing and self-purification capacity of the landscape and water ecosystems to reduce the transfer and storage of pollutants. Maintaining and restoring biodiversity and ecosystem services





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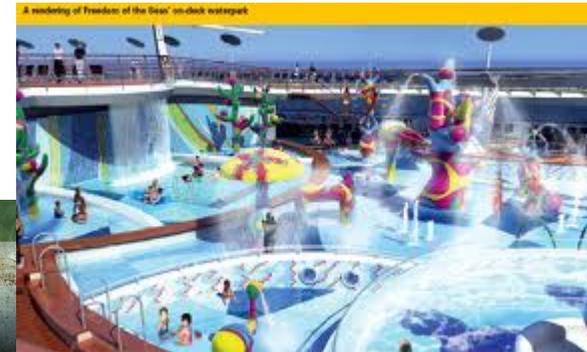
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Societal challenges

Water is a natural resource necessary for societal well-being



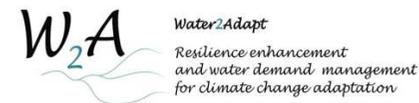
Water fulfils a multitude of services and functions for a sustainable livelihood



Water re-use and nutrient recovery from municipal, industrial and agricultural waste water offer economic advantages and societal gains



**Providing each citizen with clean drinking water and proper sanitation.
Securing protection from new and emerging water pollutants and from water hazards**





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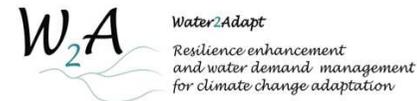
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Technological challenges

Specific innovations in monitoring technologies and developments in information systems and methodologies are required to address the complexity of water systems and water issues.



Many capital-intensive water infrastructure require research to improve design and maintenance, maximize societal benefit and moderate costs





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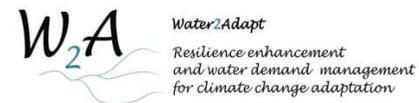
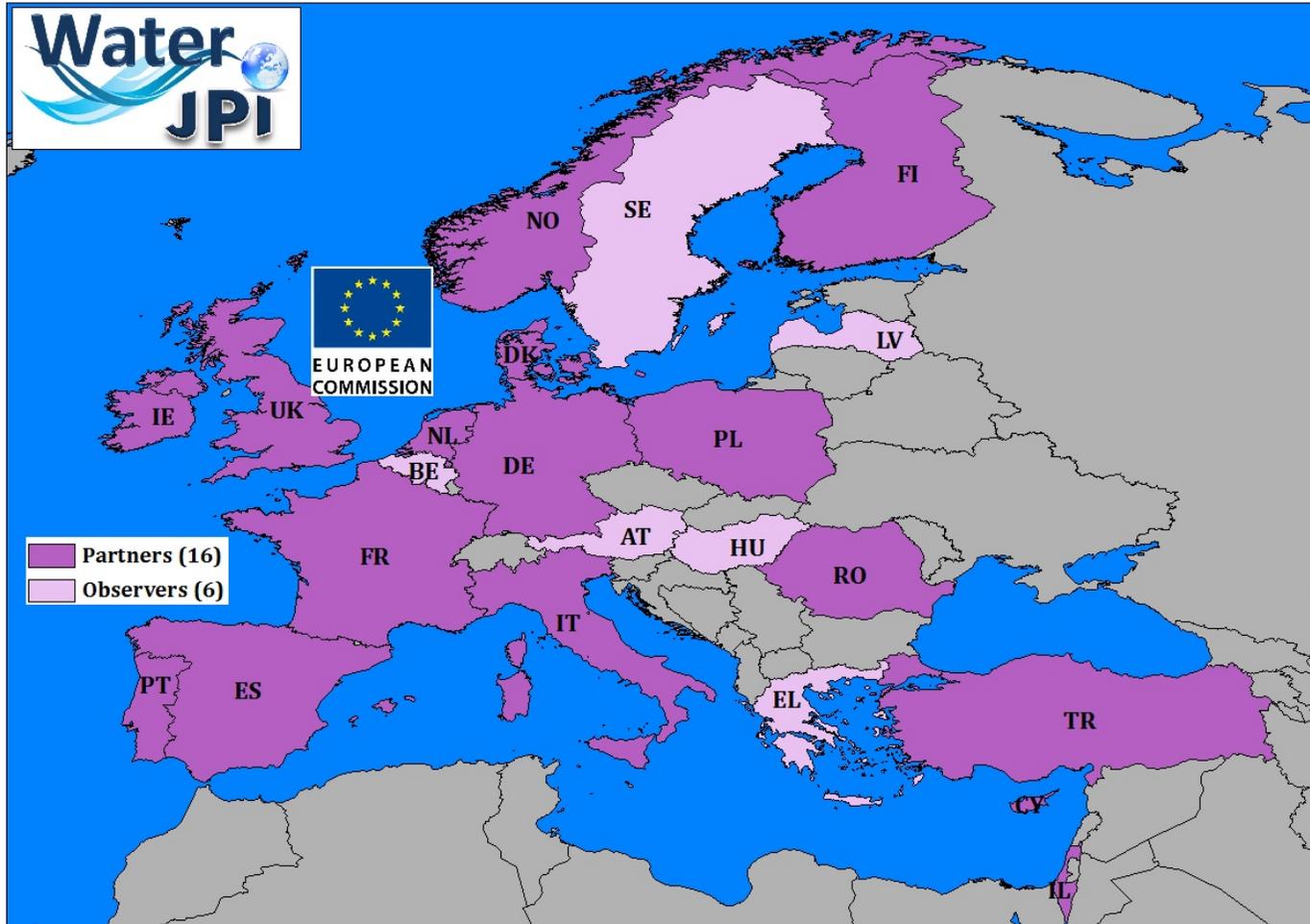
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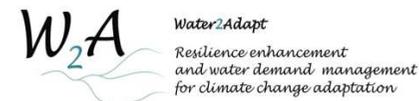


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FIRST RESULTS

- Vision Document
- R&I Mapping on Water in Europe
- Governance Structure (GB,EB, SAG,STB)
- Cooperation with the Framework Programme :
DG R&I / Environment / Environmental Technologies
- Position Document on the European Innovation Partnership on Water
(EIP)





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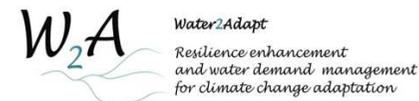


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VISION DOCUMENT

- Trends & Drivers
- The Great Water Challenge
- A Common Vision Towards Achieving Sustainable Water System
- JPI Objectives
- Research Questions Being Addressed
- Working Together to Tackle the Water Challenges More Effectively
- Fragmentation of the European Water
- The International Scene
- Water Joint Programming in the European context
- Added Value of the Joint Programming Initiative





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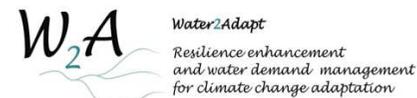
Trends & Drivers in water management and research

**880 million people use an unimproved drinking water source
and 2.5 billion people are without improved sanitation** (2008,
WHO & UNICEF)

Droughts and floods have a clear impact on the status of
European ecosystems causing billions € of damages to the EU
economy

Changes in land use are likely to also influence water quality

Biomass production will have a major effect on the water system.





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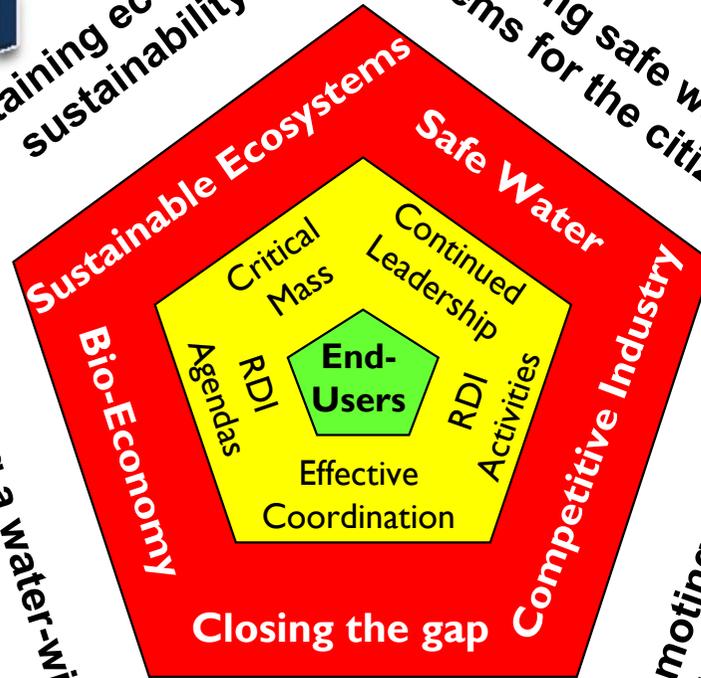


Maintaining ecosystem sustainability

Developing safe water systems for the citizens

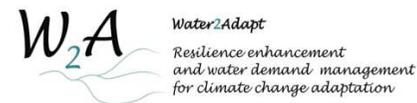
Research questions addressed

Implementing a water-wise bio-based economy



Promoting competitiveness in the water industry

Closing the water cycle gap





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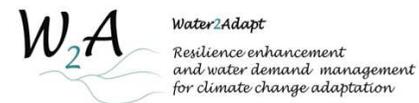
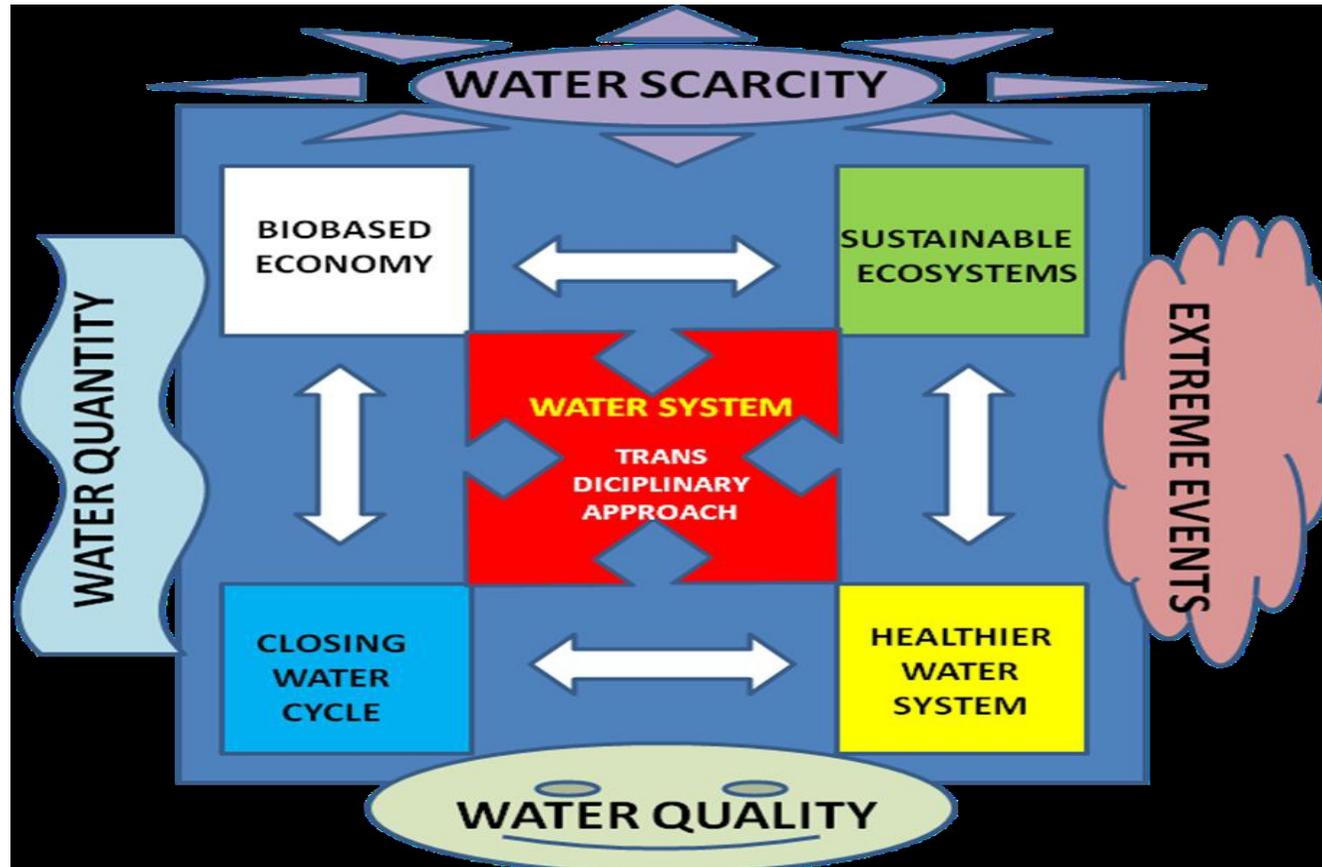
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At EU level several programmes and organizations fund initiatives on water following their research agendas.

EC Directorate-General Research and Innovation

WISE-RTD association

European Water Association

Technology Platforms

ERANets

European Environment Agency

EC Directorate-General Environment

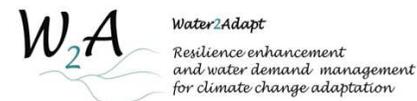
European Water Partnership

LIFE+

**EUREKA
ACQUEAU**

EurAqua

COST





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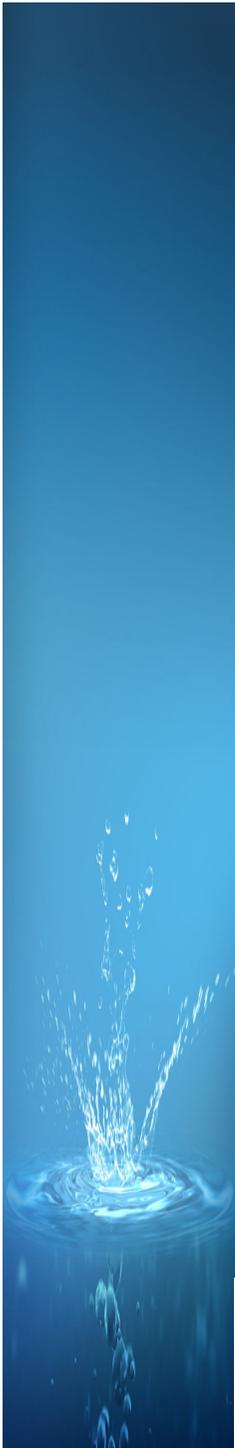
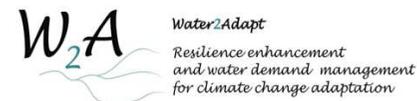
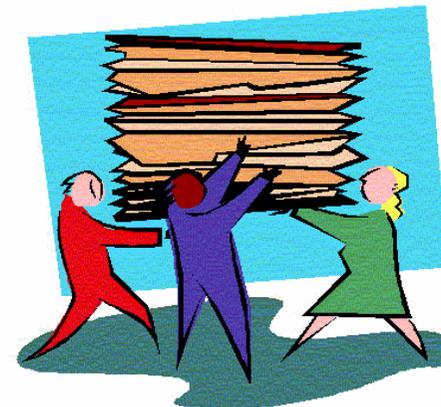
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Strategic research and innovation agenda

The SRIA embodies a collective and shared strategy, fed by national strategies and fitting the objectives of European RDI Programme owners. The SRIA elaborates a bigger picture, and is based on shared prioritization.

**A group of committed and
motivated research managers**





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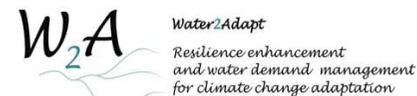
GOVERNANCE

Governing Board (GB)

It deals exclusively with water related policy issues; its strategic decisions are based on advice provided by the **Stakeholders Advisory Group** and **the Scientific Board**.

Executive Board (EB)

To implement the strategy defined and issued by the GB





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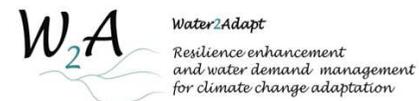
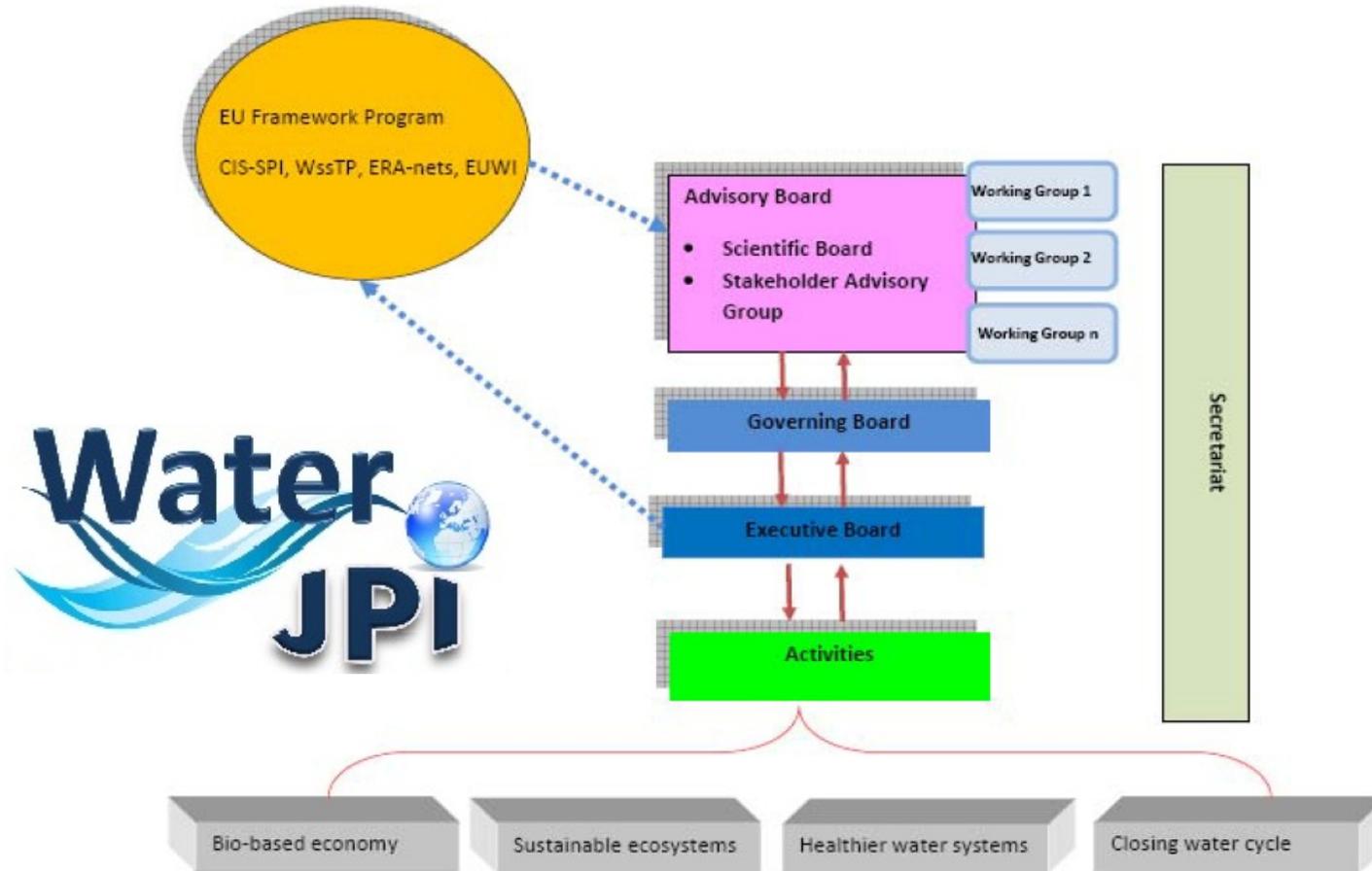
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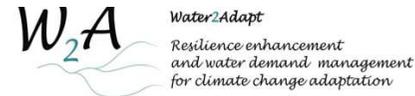
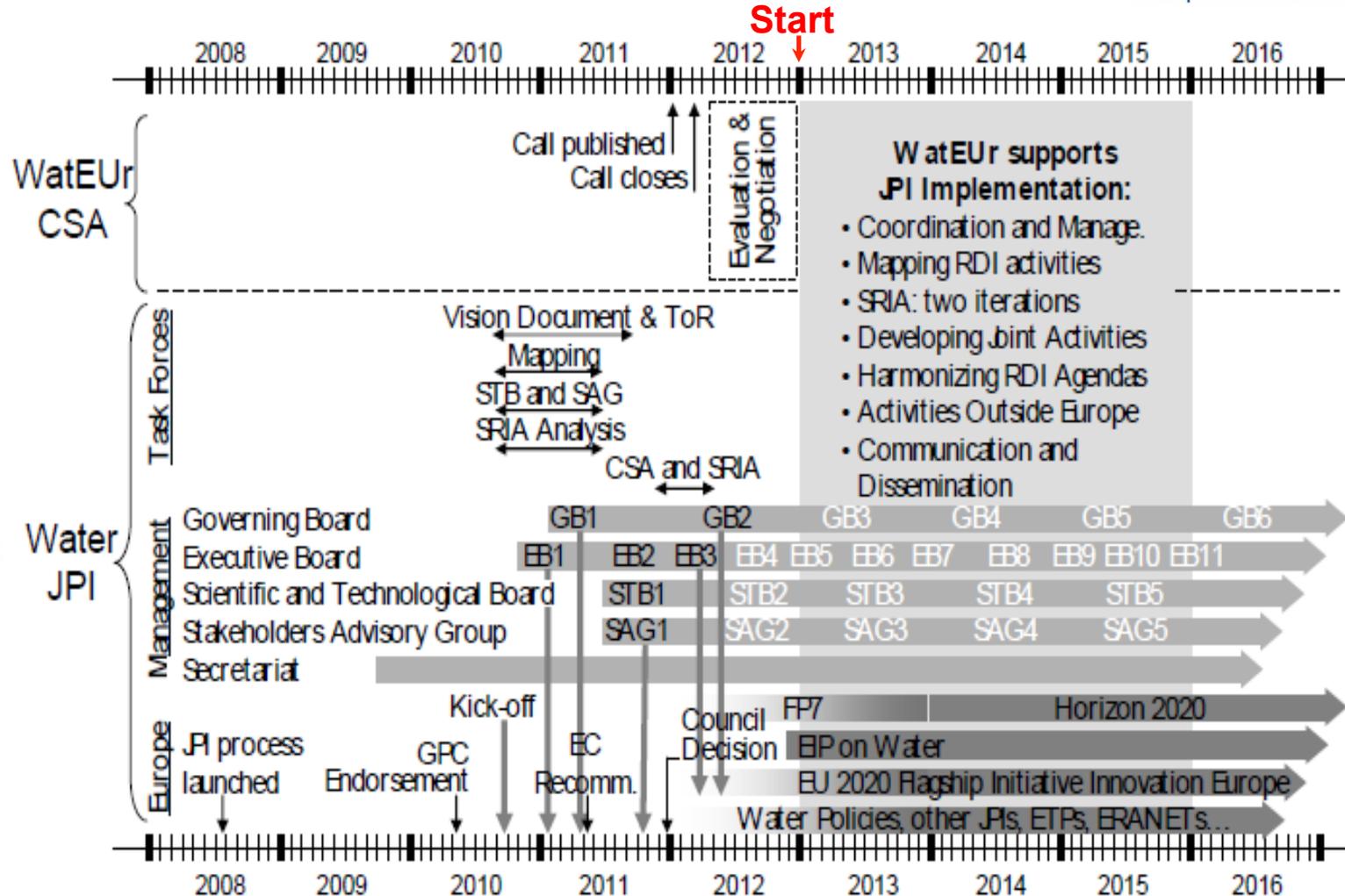
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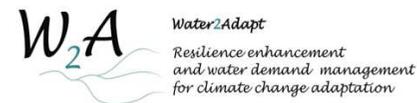
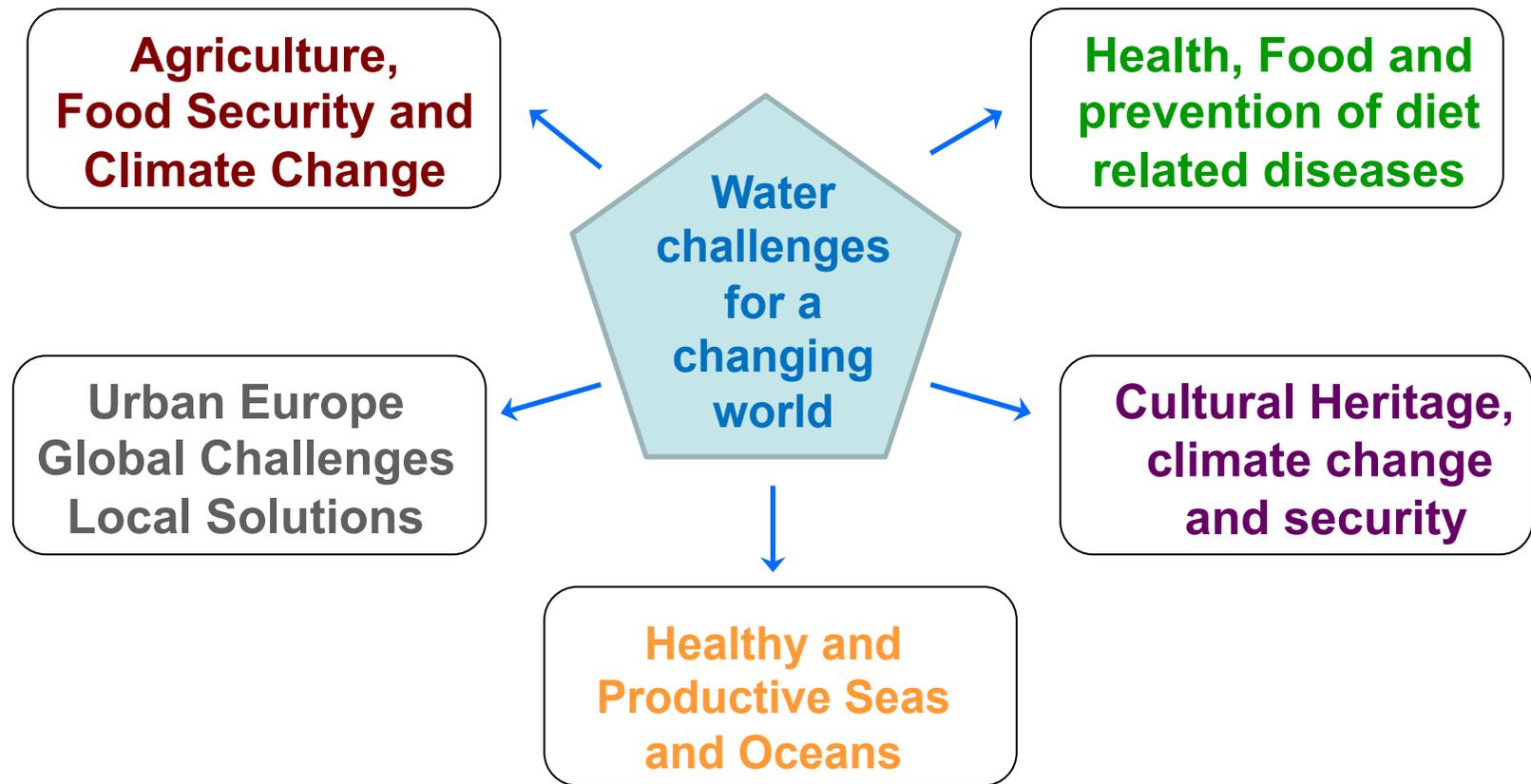
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Links with other JPIs





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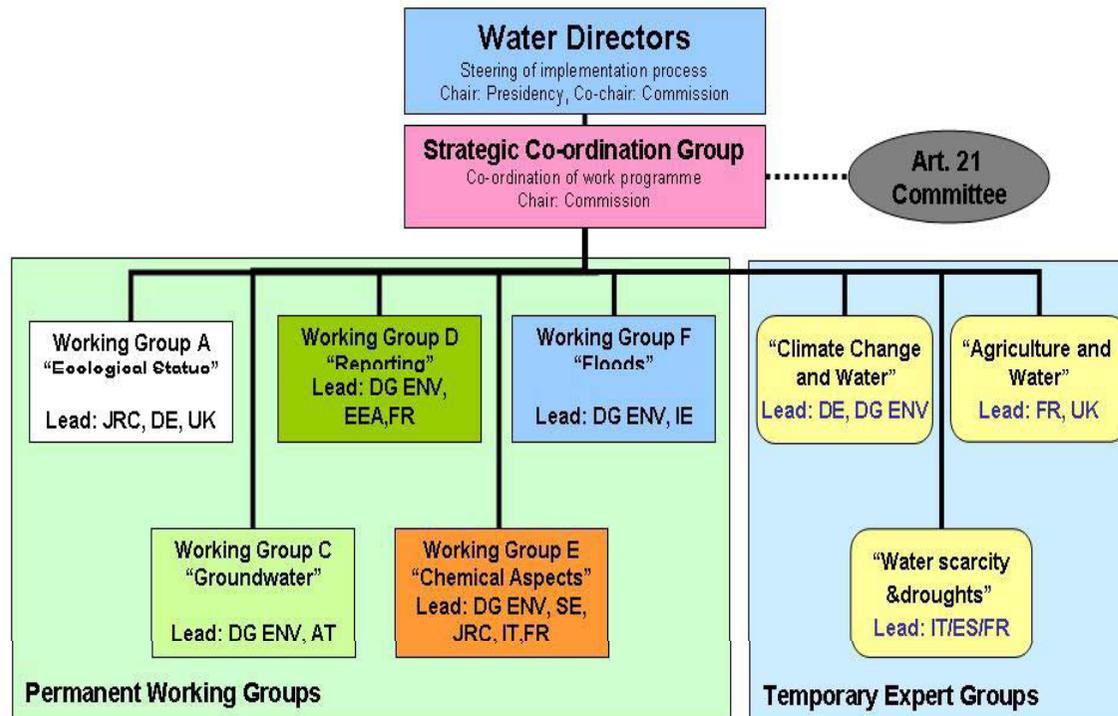
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JPI WATER Links with WFD CIS

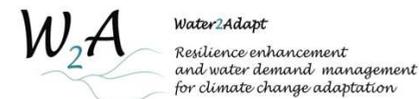
Ad hoc Activity on Water Science-Policy Interface (SPI-CIS)



Ad hoc activities:

- Biodiversity
- Economics
- Hydromorphology

Science
Policy
Interface





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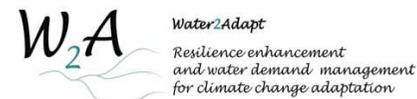
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SPI Mandate: 3 Tasks over 2010-2012

**Compile feedback from users and future research needs
Ensure efficient transfer and uptake of scientific knowledge**

Task 1: inventory of research and implementation needs from CIS groups

- **Inventory of the needs** for each CIS WG (based on a **questionnaire** followed by discussion within or back to back with regular meetings of the WGs)
- **Compilation of the needs** from the different WGs





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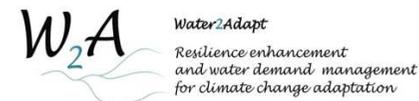
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Task 2: identify available research and research gaps

- Inventory of available research results relevant to CIS research and implementation needs
- Discussion of research gaps on a yearly basis within each CIS Working Group or Activity
- A list of priority research topics to be communicated to the CIS Strategic Coordination Group once a year, as well as to relevant funding organisations (DG RTD, **JPIs**, ERA-NETs, others)

Task 3: improve transfer and usability of research outputs

- Organisation of Water Science meets Policy events (possibly linked to a Water ERA-NET)
- Compilation of synthesis (2 pages) to translate results from existing RTD projects into “Science-Policy Briefs” (posted on website and CIRCA)
- Contributing to demonstration of applicability (pilot zones)





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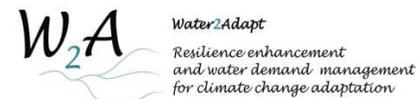


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In 2010, a questionnaire was sent to CIS groups and allowed to identify research and implementation needs induced by WFD implementation. The first results were presented and discussed in the “1st SPI event” that was organized by EC DG RTD and ONEMA on 30 September 2010. Then a new consultation was launched.

The main objectives of this consultation were to:

- Update and specify **research needs** on the basis of the “1st SPI event” outcomes (**task 1**)
- Collect information on **available knowledge** in order to prioritize research gaps (**task 2**)
- Identify **priority topics** for dissemination and knowledge transfer (**task 3**)





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SPI-CIS UPDATE AND SPECIFICATION OF THE RESEARCH AND IMPLEMENTATION NEEDS

The update exercise is based on a draft table of research needs

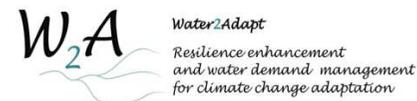
An extraction of the research needs has been made
according to the following guidelines:

Update the list of research areas/issues

- Add any research area or issue that was not identified in 2010
- Remove any research area or issue that is not relevant any more

Specify the list of research areas/issues

1. Priority of the given research for the WFD (or other related/
sister directive)
2. “Urgency” for receiving usable results
3. Knowledge importance
4. Literature





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CIS “science-policy interface” - 3rd event

WHEN SCIENCE MEETS POLICY: SUCCESS STORIES

Making better use of knowledge for WFD implementation

Brussels, Belgium, 14-15 November 2012

Main objectives:

- 1)** The CIS-SPI outcomes: presentation and discussion. Demonstration of the added value of science-policy interface: some success stories
- 2)** Elaboration on structures, mechanisms and actors to ensure an active and dynamic science-policy interface
- 3)** Investigation on methods and tools for knowledge brokering and information design to address efficiently the different targets (EU, national, river basin)

Please mark
your agenda

14-15 November
Brussels, Belgium

More information, including agenda and website to come soon



Water2Adapt
Resilience enhancement
and water demand management
for climate change adaptation





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Istituto Superiore per la Protezione
e la Ricerca Ambientale

Giuseppina Monacelli
**“Outlook for the further and follow-up research (JPI),
policy implementability of the results (WFD CIS SPI, EIP)”**

27 September 2012 -Venice, Italy



European Research Area

JPI WATER Close cooperation with the
Water Supply and Sanitation Technology Platform (WssTP)

This Technology Platform is led by industries in collaboration with academics, research organisations and water users. The European industry is very well represented in WssTP, which is equally committed to meet global challenges and regional demands ensuring water and sanitation services

- WssTP's role is to voice industry needs, guiding research and development to innovations.**
- The JPI's role is to harmonise national public research programmes, so that updated, ambitious, realistic, challenging and problem-solving objectives and research topics are investigated.**





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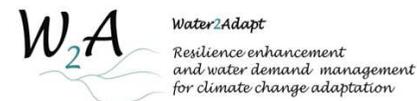


European Research Area

JPI WATER Links with EIP Initiative

The EIP on Water was proposed by the European Commission
on the 10th of May 2012 (
Commission Communication on the European Innovation
Partnership on Water).

The **overall objective** of the EIP on Water is **to support and facilitate the development of innovative solutions** to deal with the many water related challenges Europe and the world are facing, as well as **to support economic growth by bringing such solutions to the market**. At the same time, innovations are considered to be an important tool to develop adequate and state of the art European water policy.





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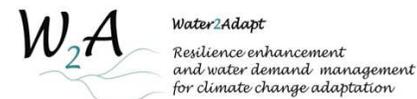
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JPI WATER Links with EIP Initiative

The EIP on Water will centre on **removing barriers to innovation** and connecting the supply and demand sides of water related innovations. The **activities** of the EIP on Water will be structured around challenges in the areas of **urban water management**, **rural water management** and **industrial water management**, as well as addressing cross cutting themes. The EIP on Water will be based on a multidisciplinary approach, identifying in which areas innovations are needed to develop solutions – research, technology, governance, ICT, financial or others. This approach will ensure a **maximum coordination with** and use of the activities and outputs of existing European or national initiatives, such as the **Joint Programming Initiative on Water**, European Technology Platforms, Eco-Innovation Action Plan etc.





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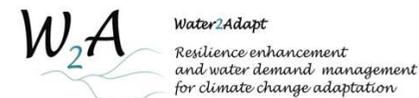


European Research Area

Steering Group of the European Innovation Partnership on Water 1st meeting, 4 September 2012

Decided on the following **priority areas** of action and cross cutting themes for the EIP on Water:

- 1) The water-energy nexus
- 2) Water governance
- 3) Financing for innovation
- 4) Resource efficient urban water supply and wastewater treatment
- 5) Balancing supply and demand
- 6) Integration of rural water management and land-use planning
- 7) Water supply and sanitation for small rural communities
- 8) Best practices in industrial water management





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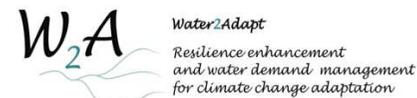


European Research Area

Steering Group of the European Innovation Partnership on Water 1st meeting, 4 September 2012

Requested the **Task Force** to further define the focus and scope of the **priority areas of action** at their first meeting, based on the following selection **criteria**:

- Make the greatest contribution to the objectives of the partnership
- Broad innovation potential
- Competitive advantage of EU industry and job creation potential
- Attractiveness for investors and entrepreneurs
- Likely to benefit particularly from the partnership approach
- Potential to impact public awareness / consumption patterns





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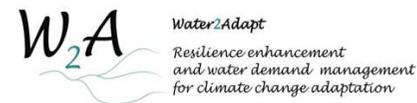
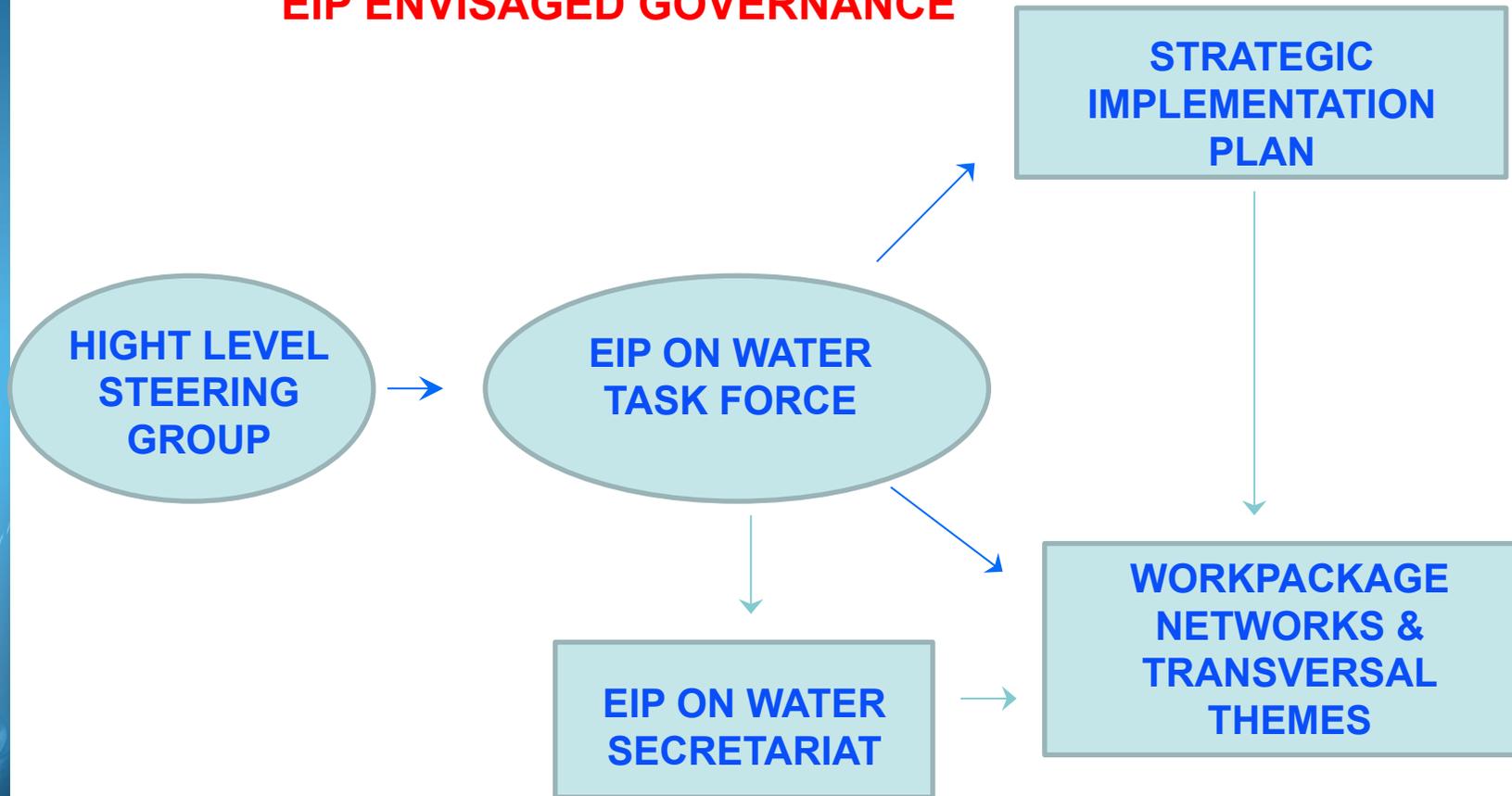
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EIP ENVISAGED GOVERNANCE





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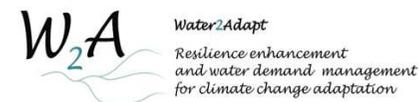
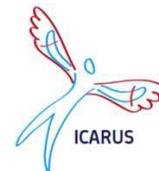
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Envisaged WP on URBAN WATER MANAGEMENT

R&Development on innovative solutions to be applied on:

- Water and Energy
- Water efficiency (at urban level and in buildings)
- Water Quality
- Water infrastructures
- Public health
- ICT
- User awareness

WP to be coordinated by “Smart Cities and Communities Initiative”





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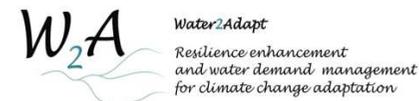
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Envisaged WP on RURAL WATER MANAGEMENT

innovative solutions to be applied on:

- Influence and competitiveness among water availability, agriculture, biodiversity and land use
- Role of rural areas in mitigating hydrological extremes (floods and droughts)
- Water management at farm level and sustainable pressures on water bodies

To be coordinated with EIP agriculture





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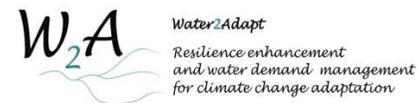
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Envisaged WP on INDUSTRIAL WATER MANAGEMENT

Main focus on:

- Innovation of the industrial processes for a more efficient use of water resources (ICT, new technologies, reduction of energy costs and pollution)
- Encourage the opportunities for the industries and in particular for the SME to disseminate and implement technologies using less water

To be coordinated with EIP raw materials





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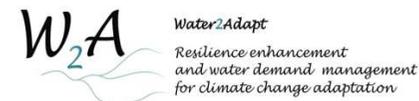
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European Research Area

Envisaged OUTPUTS

- Innovation Sites
- Dissemination of innovative solutions
- Remove obstacles to innovation in the water sector
- Water “Market Place”





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**MANY THANKS
for your kind attention**



European Research Area

