

# Common Vision and Adapting the strategies of the **WATER** and **FACCE JPI**



Bonn, 21<sup>st</sup> June 2017  
Vera Steinberg  
BLE – Federal Office for  
Agriculture and Food,  
Germany

# Opening

## Welcoming Addresses

- Klaus Budde, BLE
- Maurice Héral, ANR
- Heather McKhann, INRA



## Wednesday, 21<sup>st</sup> June 2017

Time	Item	Moderator
09.00-09.15h	Welcome Coffee and Registration	
09.15-09.30h	Opening Welcome  Organisational Issues	Representative from BLE (Klaus BUDDE) Representative from WATER JPI (Maurice HERAL) and FACCE JPI (Heather MCKHANN) Vera STEINBERG
09.30-10.15h	Short introduction to WATER JPI and FACCE JPI  Expectations of the Workshop	Representative from WATER JPI (Maurice HERAL) and FACCE JPI (Heather MCKHANN) Vera STEINBERG
10.15-11.00h	Session one: JPI Visions and SRIAs of both JPIs	Bjørn Kaare JENSEN

## Wednesday, 21<sup>st</sup> June 2017

Time	Item	Moderator
11.00-11.15h	Coffee Break	
11.15-12.30	Session two: Commonalities and Differences, Gaps to fulfil	Esther DIEZ CEBOLLERO
12.30-13.30	Lunch Break	
13.30-15.00h	Session three: Possible synergic activities and shared strategy	Heather MCKHANN
15.00-15.15h	Coffee Break	
15.15-16.30h	Session four: Common vision: identified key messages, targets, time line, process	Maurice HERAL
16.30-17.00h	Wrap up of the meeting and organizational Information	Vera STEINBERG
17.00h	End of the meeting	

# Common Vision and Adapting the strategies of the WATER and FACCE JPI Workshop

## Water JPI

Maurice Héral, ANR

Bonn

21<sup>st</sup> June 2017



# Joint Programming

- Is a new way to address RDI problems with (at least) European dimension
  - An initiative of **European Member States** and the **European Commission**
  - For tackling major, common, European & International societal challenges in a structured way, through:
    - coordinating national / regional, public, research, development and innovation programmes in Europe
    - Developing Joint multilateral activities
    - **aligning** national research programmes in an effective manner,
    - making better use of Europe's limited public RDI funding
    - and extending links to various international initiatives.



## Joint Programming Initiatives

# 10 JPIs launched since 2008



**Water Challenges for a Changing World**



**Healthy and Productive Seas and Oceans**



**More Years, Better Lives - The Potential and Challenges of Demographic Change**



**Antimicrobial Resistance- The Microbial Challenge - An Emerging Threat to Human Health**



**Connecting Climate Knowledge for Europe**



**Global Urban Challenges, Joint European Solutions**



**Agriculture, Food Security and Climate Change**



**Cultural Heritage and Global Change: A New Challenge for Europe**



**A Healthy Diet for a Healthy Life**



**Alzheimer and other Neurodegenerative Diseases**

# Implementation Plan Principles

- **Variable geometry**

Water JPI partners only participate in activities of their specific interest

- **Flexibility**

This supports the development of activities responding to partners' needs and opportunities

- **Responsiveness**

The Water JPI provides an enabling environment: the water challenge is tackled through specific and tailored activities



# Joint Programming in Water

- 2010 – Start of the discussions around Water JPI
- December 2011 – Water JPI officially adopted by European Competitiveness Council
  - 2011 – 2014: Chaired by Spain, co-chaired by the Netherlands
  - Since November 2014: Chaired by France, co-chaired by Ireland, with the support of Spain and Italy
- February 2013 – Water JPI and CSA WatEUr (Coordination and Support Action of the Water JPI) official launch meetings in Madrid

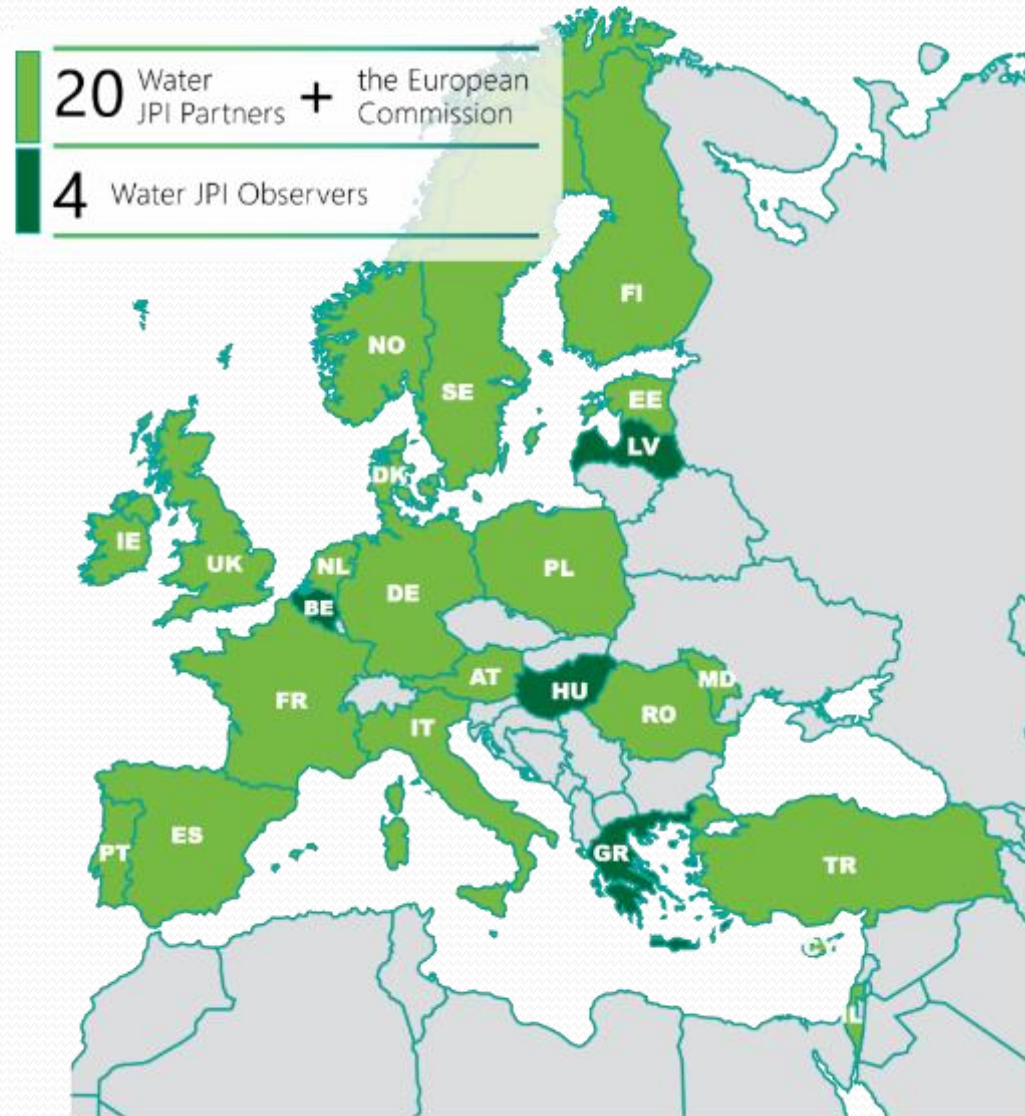
# The challenge to be addressed

« Achieving Sustainable Water Systems for a Sustainable Economy in Europe and Abroad »

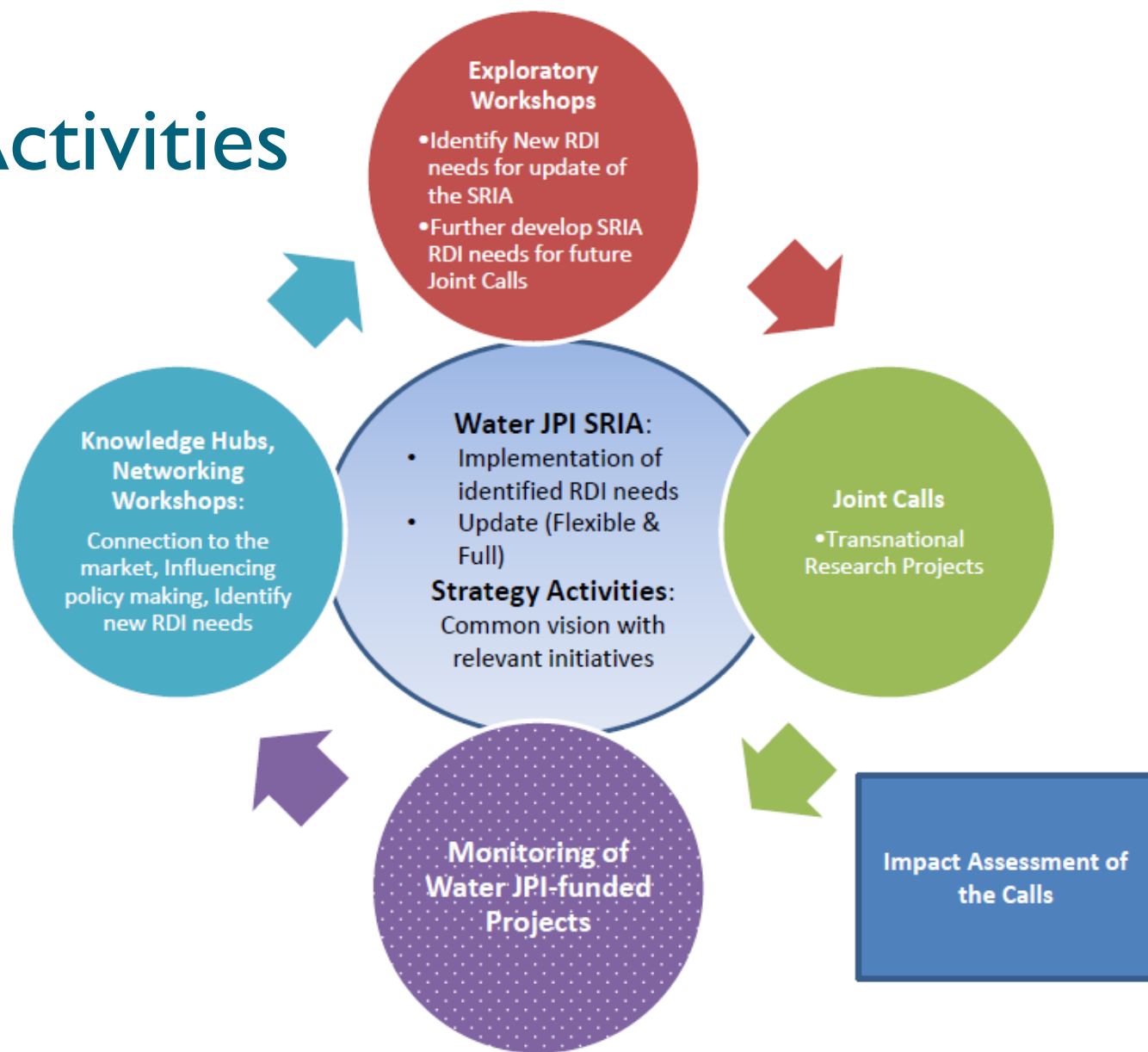


## Water JPI Partner Countries

Water JPI partners currently represent 88% of the European National Public RDI investment on water



# Thematic Activities



# Water JPI Horizontal Activities

- Strategy Activities  
(Foresight, Consultative workshop, Consultation)
- Mobility and Infrastructures
- Horizontal Activities Workshops

- Towards a common vision
- Updating the SRIA
- Enlarging the Water JPI membership
- Engaging stakeholders
- International cooperation
- Updating the mapping
- Outreach & dissemination

# Timeline of the Water JPI

## LEGEND



Public Consultation



Supporting Project Funding Award/Starting Point



Supporting Project Duration



Supporting Project Endpoint



Joint Funding Call



Key Document



Workshop

2009

2009 - 2010  
Preparatory work to build the Water JPI

2011  
Publication of the Water JPI Vision Document

2011

2011  
Maturity template submitted to the EC

2010  
Initial EU water RDI mapping survey

2010

2011  
Setting-up of the first Advisory Boards

2011  
Adoption by the European Council of Competitiveness

2012

2012  
Award of WatEur CSA (2012-2016) FP7 supporting project

2013  
First Water JPI Experts Stakeholders Workshop on the SRIA

2013

2013  
Publication of the Water JPI Communication Strategy

2014  
Publication of the Water JPI SRIA 1.0

2014  
Change in Leadership

2014  
Water JPI Implementation Plan 2014-2016

2014  
Publication of the Water JPI Mapping Report

2014

2014  
Award of WaterWorks2014 ERA-NET Cofund (2015-2019) H2020 supporting project

2015  
Water JPI Joint Cofunded Call on water treatment and reuse, resources management and mitigation of water related extreme events

2015  
Second Water JPI Experts Stakeholders Workshop on the SRIA

2015

2015  
Second Water JPI Workshop on Alignment

2016  
Submission of IC4Water CSA proposal (2017-2021) H2020 supporting project

2016  
Water/FACCE JPIs Joint Cofunded Call on Water Quality & Agriculture

2019-2020

2016  
Water JPI SRIA 2.0 & its related public-friendly Introduction document

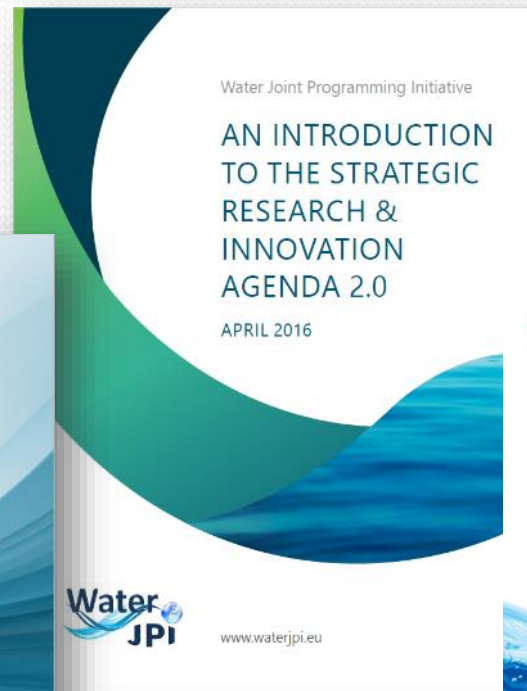
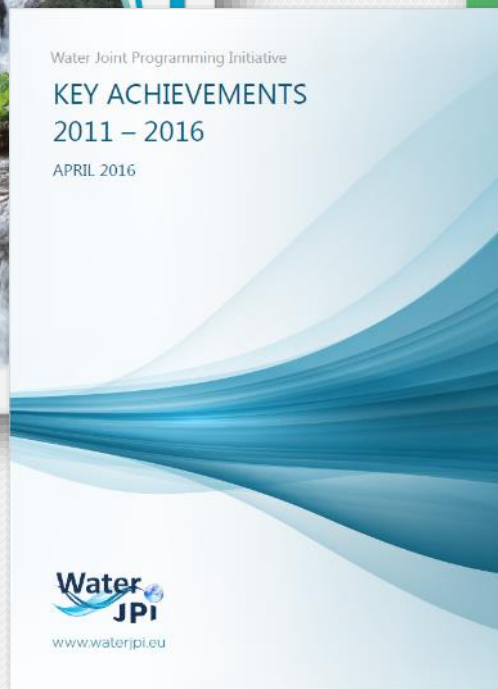
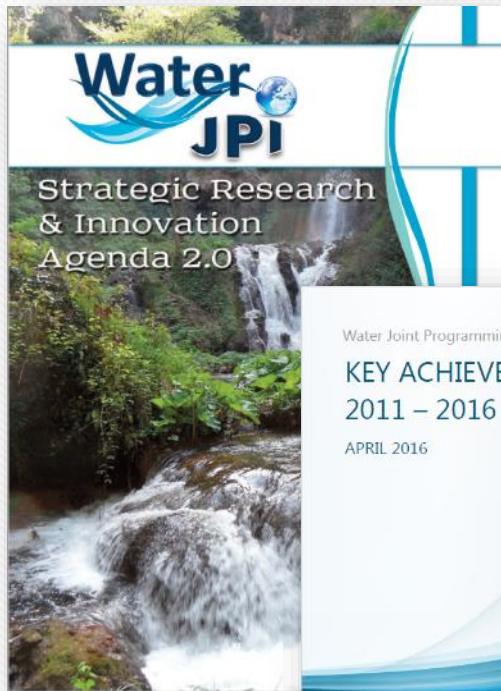
2016

2015  
Award of WaterWorks2015 ERA-NET Cofund (2016-2020) H2020 supporting project

2015  
Renewal of the Advisory Boards



# Key Achievements







# The Water JPI Strategic Research and Innovation Agenda

SRIA 2.0, April 2016

*More in Session I*





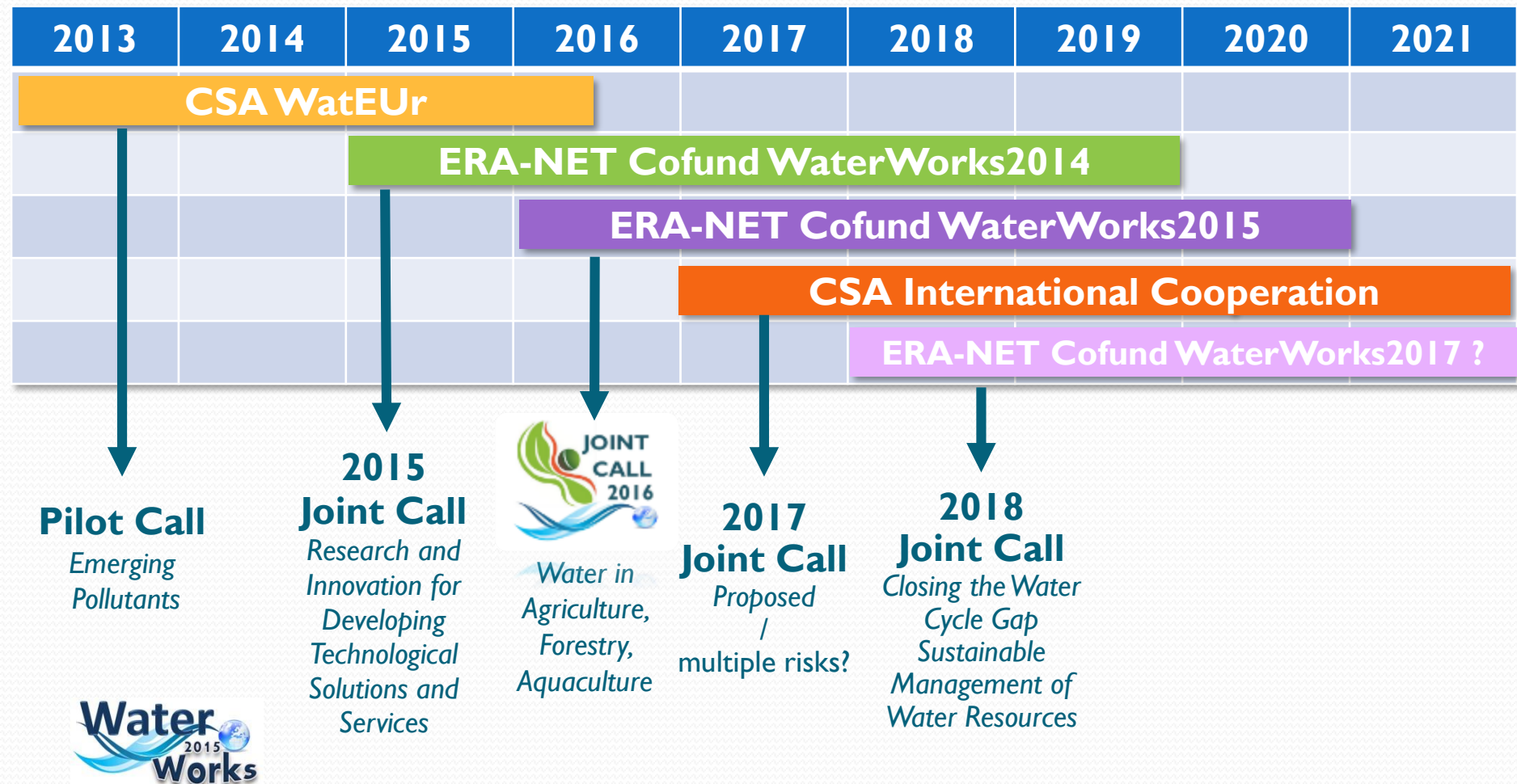
# Water JPI first Implementation Actions



Since 2013

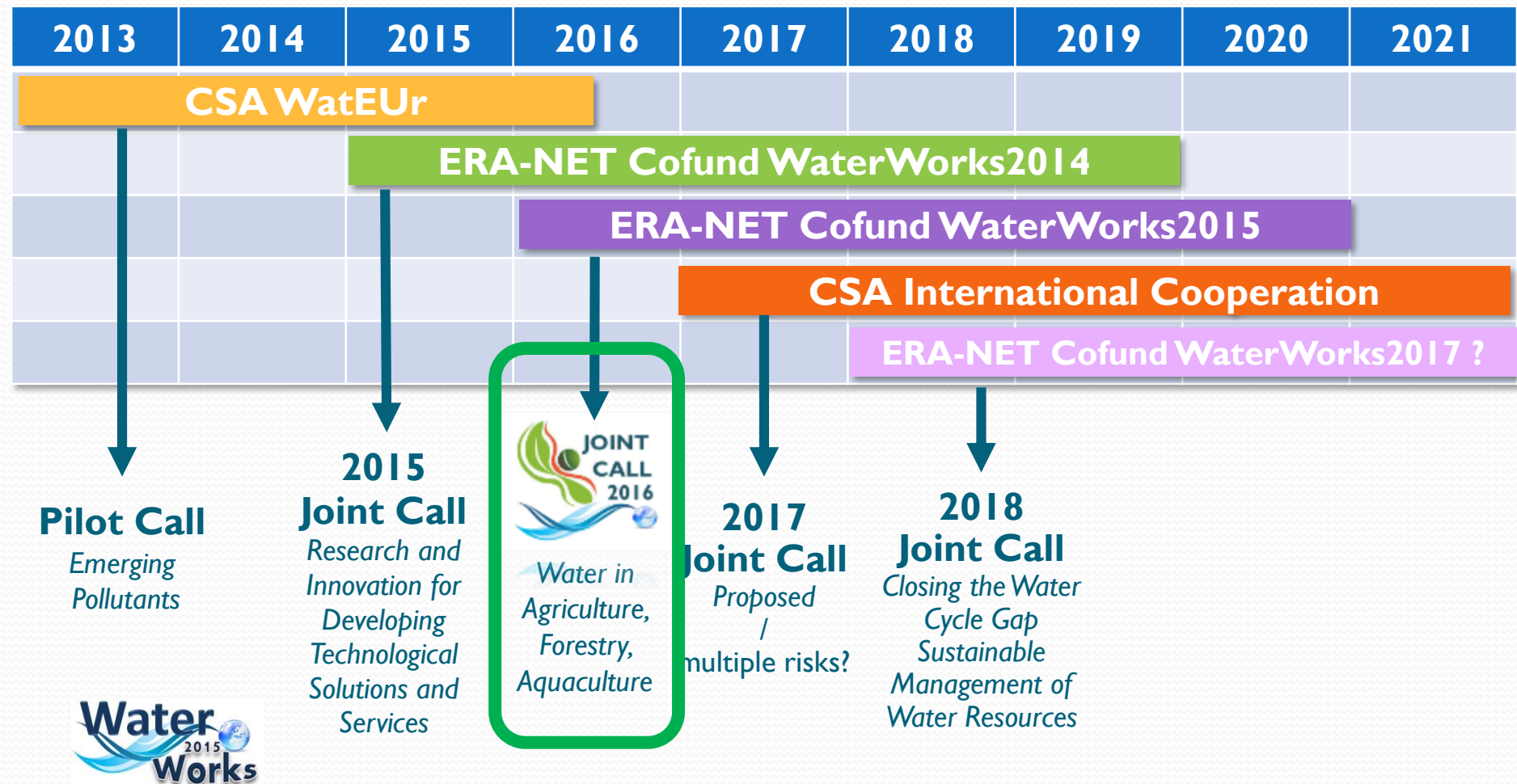
# Timeline of WATER JPI & Joint Calls

- In support of the Water JPI Implementation



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- In support of the Water JPI Implementation



# 2016 Joint Call

*Sustainable management of water resources in agriculture, forestry and freshwater aquaculture sectors by:*

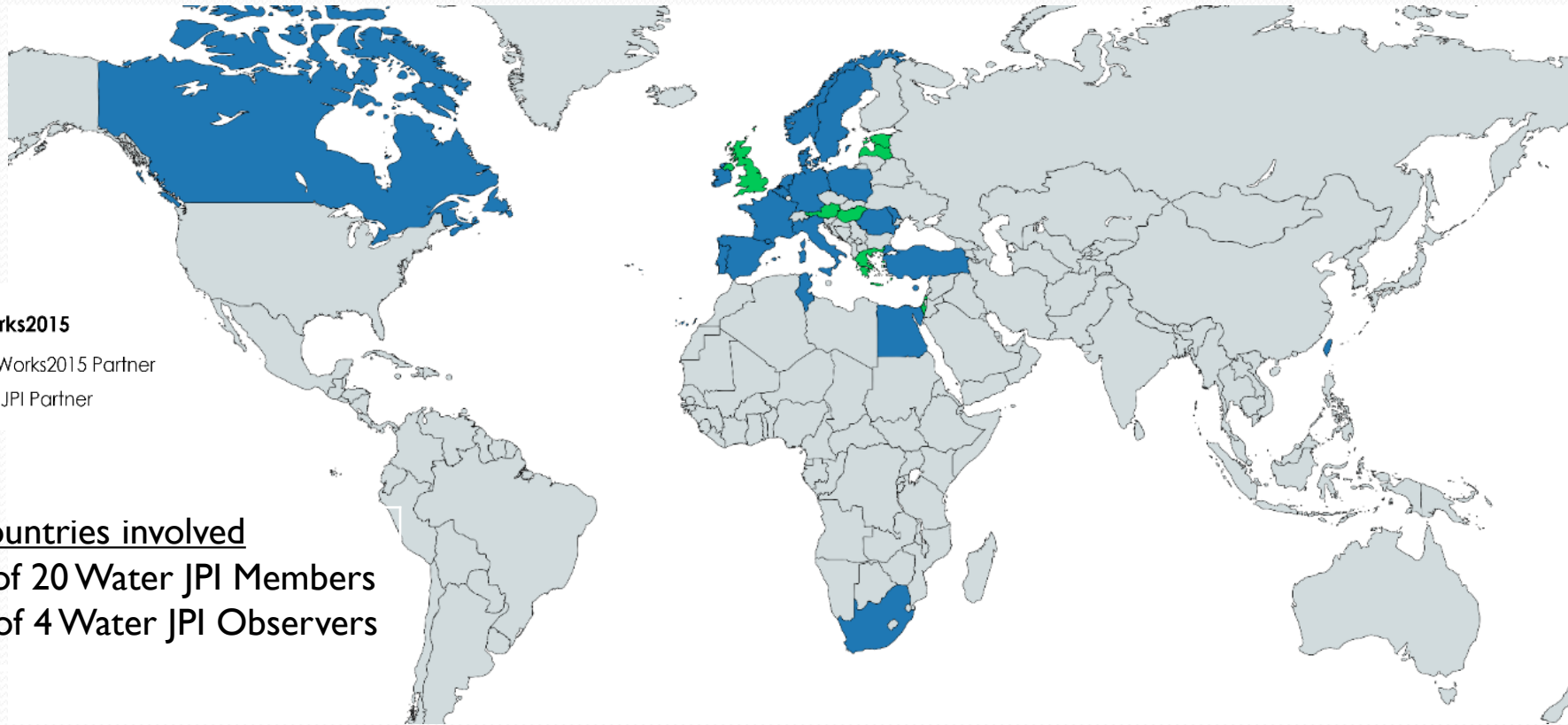
1. Increasing the efficiency and resilience of water uses
2. Monitoring and reducing soil and water pollution
3. Integrating social and economic dimensions into the sustainable management and governance of water resources



- The first inter JPI cooperation
- A path for future cooperation to
  - Gain synergies
  - Explore thematic overlaps between the Water JPI SRIA and the FACCE JPI SRA
  - To be extended to other JPis or related initiatives



# Countries involved



## WaterWorks2015

- WaterWorks2015 Partner
- Water JPI Partner

## 22 countries involved

- 16 of 20 Water JPI Members
- 1 of 4 Water JPI Observers

## Associated Countries involved

Moldova and Turkey (since the beginning),  
South Africa (since WaterWorks2014),  
Egypt and Tunisia

## Third Countries involved

Canada and Taiwan

6 organisations belonging to both JPIs,

15 from the Water JPI,

3 from the FACCE JPI

# Joint calls 2013-2016

## Pilot Call

*Identification and prevention of emerging freshwater contaminants*

*Control, mitigation and methods for treatment and removal*

*Impact on ecosystems services and human health*

**€ 9 million**

**7 funded projects**

## 2015 Joint Call

*Water Treatment, Reuse, Recycling and Desalination*

*Water Resources Management*

*Mitigate Impacts of Extreme Events (Floods and Droughts) at Catchment Scale*

**€ 14 million**

**16 funded projects**

## 2016 Joint Call

*Increasing the efficiency and resilience of water uses*

*Monitoring and reducing soil and water pollution*

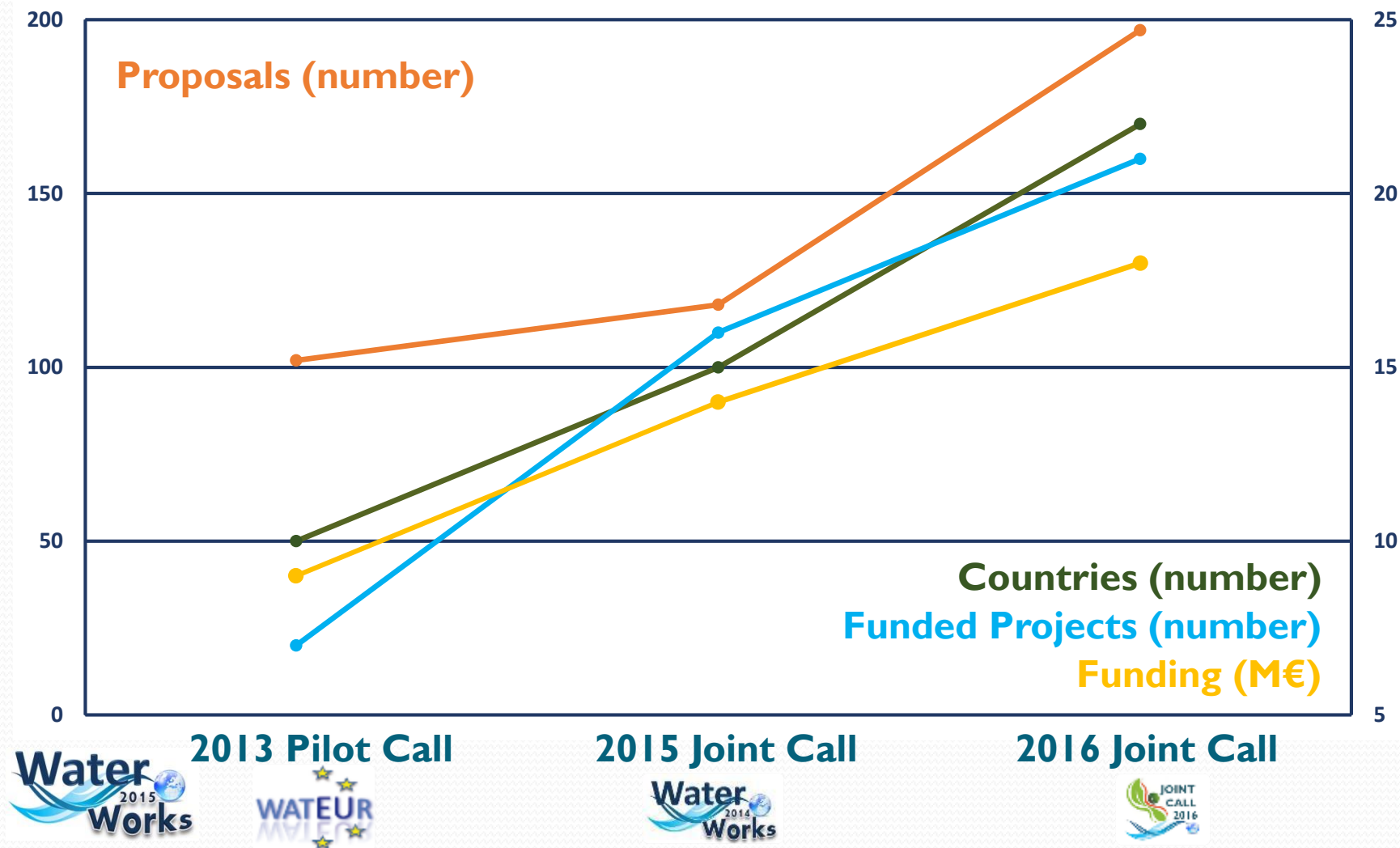
*Integrating social and economic dimensions into the sustainable management and governance of water resources.*

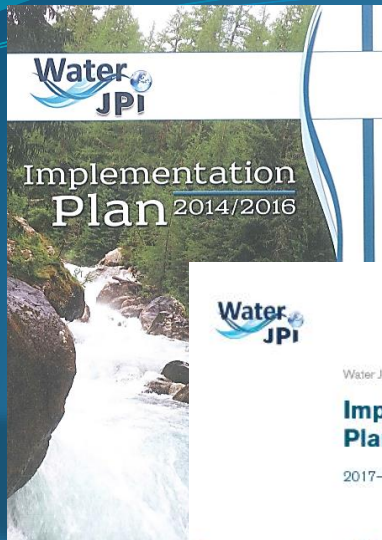
**€ 18 (of 25) million**

**21 funded projects**



# WATER JPI Joint Calls: Evolution





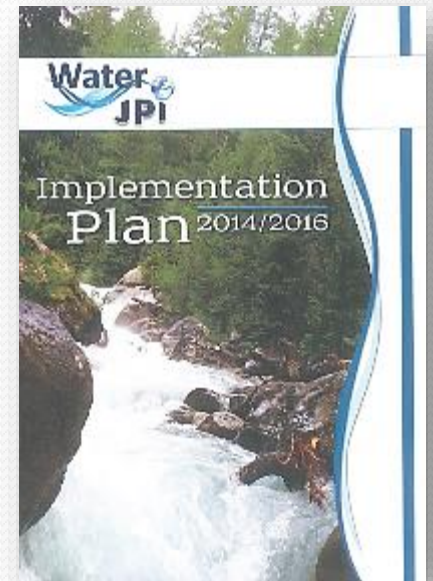
# Water JPI Implementation Plans



2014-2016 & 2017-2019

# IP Activities and Plan

- IP 2014 – 2016 – the launch of the Water JPI
  - Interfacing with society
  - Empowering RDI actors
  - Improving the efficiency of RDI programmes
- Water JPI Activities
  - SRIA development & Mapping
  - Alignment
  - Joint Calls
  - International Cooperation
  - Outreach & Dissemination



# IP Activities and Plans

- IP 2017 – 2019 - the development of the Water JPI
  - presents priority items that are to be implemented and lists specific goals for the three-year period
  - permits planning ahead for agreed joint activities
  - outlines the efforts to be deployed
- Water JPI Activities
  - Joint Calls
  - Thematic Annual Programming Actions
  - Knowledge Hubs
  - Good practices workshops
  - International cooperation
  - Impact assessment methodology





# Timeline: Water JPI Implementation Plan

## Timeline of the JPI Water Implementation Plan

For the full list of activities, please see Table 2.1



### 2017-2019

**Water-18**  
Update the Water JPI SRIA

**Water-24**  
Share strategy on international cooperation with other JPIs, Article 185 initiatives

**Water-32**  
Identify RDI needs to efficiently implement the UN SDGs

**Water-34**  
Plan and Set up the second Water JPI Knowledge Hub

**Water-35**  
Review the methodology and update the 2014 mapping exercise

**Water-47**  
Global Impact Assessment

**Water-37**  
Communication and dissemination

**Water-39**  
Develop knowledge and innovation

**Water-46**  
Development of the interactive platform to facilitate access to mobility schemes and research infrastructures

**2020+**

**Water-33**  
Networking workshop between the funded projects under the 2017 Water JPI joint call and other relevant EU projects/initiatives

### 2017-2018

**Water-26**  
Develop the international cooperation on water challenges

### 2018-2019

**Water-05**  
Impact assessment of the 2013 pilot call

**Water-17**  
Preparation of the next Water JPI Vision Document to 2030

**Water-21**  
Update the SRIA: building the SRIA 3.0: Consultations

**Water-20**  
Build the SRIA 3.0: Stakeholder Experts' Consultative Workshop

### 2017

**Water-01**  
Exploratory Workshop

**Water-06**  
Knowledge Hub Workshop 1

**Water-10**  
Common vision with the FACCE JPI

**Water-41**  
Alignment Workshop

**Water-25**  
Develop an action plan for the valorisation of water research beyond Europe

**Water-42**  
Review of national mirror/stakeholders' groups as a tool to progress alignment

**Water-30**  
Water JPI 2017 joint call on UN SDGs (multiple pressures)

**Water-44**  
Roadshow in Estonia to raise awareness of the Water JPI

### 2018

**Water-05**  
Monitoring of 2013 pilot call project (final review)

**Water-06**  
Knowledge Hub: Workshop 2

**Water-07**  
Exploratory Workshop

**Water-09**  
Networking workshop between 16 2015 joint call projects and other relevant EU projects/initiatives

**Water-06**  
Set up Water JPI Knowledge Hub

**Water-38**  
Second Water JPI international conference in Helsinki in spring 2018

**Water-45**  
Mobility workshop to facilitate the development of the interactive platform

**Water-13**  
Water JPI joint call on "Closing the Water Cycle Gap"

**Water-27**  
Revision of the international cooperation mapping

**Water-29**  
Coordination with other JPIs, policymakers and European public Research and Development Initiatives

**Water-36**  
Improve water-related project databases

**Water-43**  
First Water JPI Thematic Annual Programming Cluster

**Water-02**  
2019 Water JPI joint call

**Water-03**  
Develop a common vision between the Water JPI and the other relevant initiatives (e.g. BiodiVERsA, FACCE & Climate JPIs)

**Water-19**  
Full update of the Water JPI SRIA (v3.0)

**Water-04**  
Exploratory Workshop

**Water-10**  
Common vision with the FACCE JPI – Workshop 2

**Water-12**  
Networking workshop between 2016 joint call projects and other relevant EU projects/initiatives

**Water-41**  
Alignment workshop

**Water-45**  
Infrastructure workshop to facilitate the development of the interactive platform

### 2019

**Water-15**  
Develop a common vision with the Climate JPI and Belmont Forum

**Water-16**  
2nd Water JPI Thematic Annual Programming

**Water-28**  
Definition of public-private partnership cooperation models with the water economic sector

**Water-29**  
Coordination with other JPIs, policymakers and European public Research and Development Initiatives

# Planned activities: 2017 - 2019

## Thematic activities

- Joint Calls: 2017 on UN SDGs, 2018 on the SRIA Theme 5 (*closing the water cycle gap*)
- Exploratory Workshops: 2017 (*Ecosystems*), 2018 (tbc) & 2019 (tbc)
- Knowledge Hubs: Theme 4 (*Water-wise Bio-based Economy*) & UN SDG / International Cooperation
- Strategy: Common vision with FACCE JPI / UN SDGs
- Alignment of on-going projects: Theme 2 (*Emerging pollutants*) and Theme 3 (*Competitiveness in the Water Industry*)

## Non-thematic activities

- Alignment
- Mobility/Infrastructure
- SRIA 3.0 and updated Mapping
- International Cooperation

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## Non-thematic activities

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- International Cooperation





# To know more about Water JPI



- A website: <http://www.waterjpi.eu/>
- A newsletter
- A LinkedIn group
- Un secrétariat en France (ANR):
  - [waterjpisecretariat@agencerecherche.fr](mailto:waterjpisecretariat@agencerecherche.fr)
  - tel.+ 33 | 78098120



# Introduction to FACCE-JPI





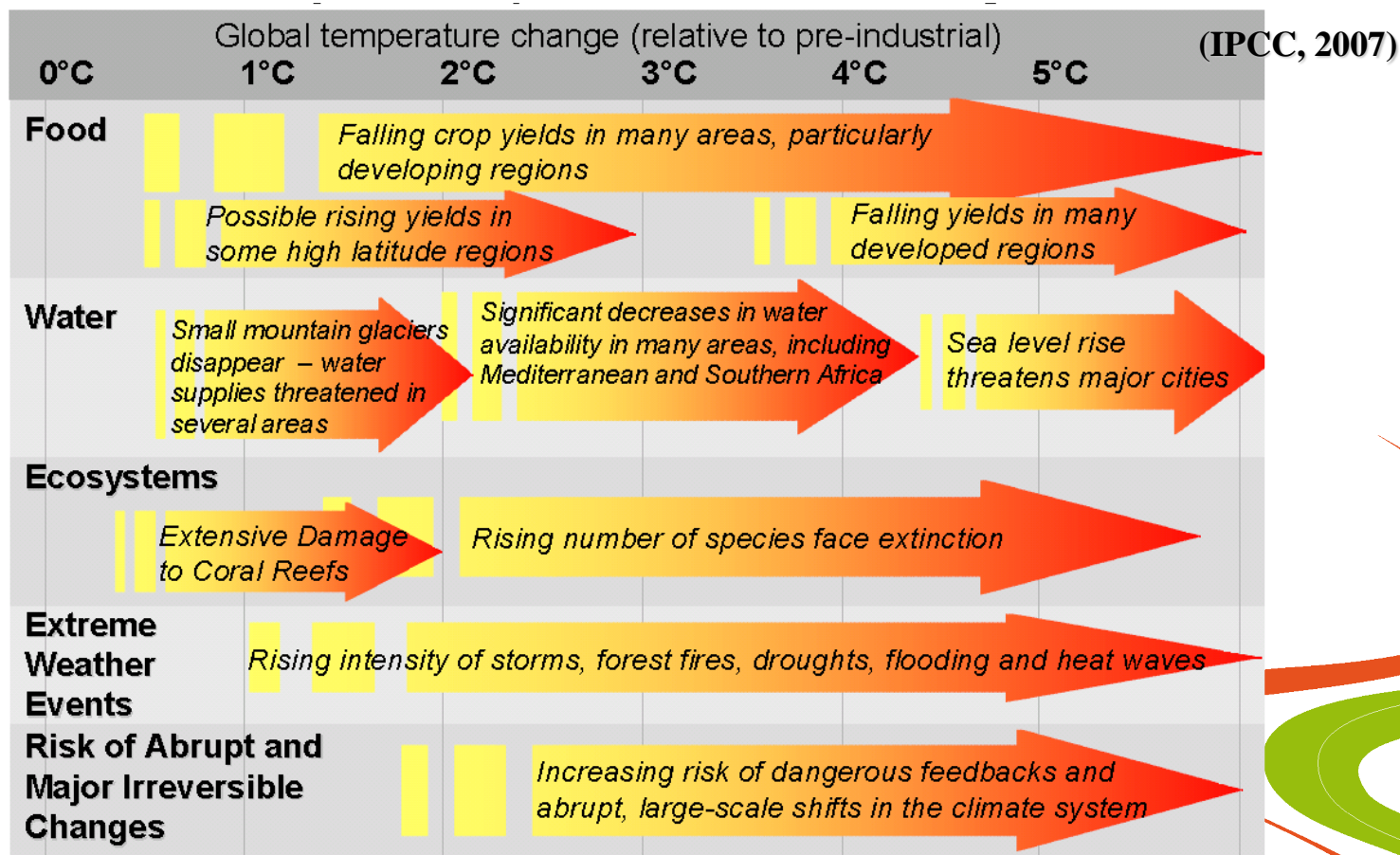
# An Introduction to the Joint Programming Initiative on Agriculture, Food Security and Climate Change (FACCE-JPI)

**Workshop : Common Vision and Adapting the strategies**  
**Bonn, Germany**  
**21 June 2017**

**Heather McKhann**  
**Coordinator, FACCE-JPI Secretariat**



# Projected impacts of climate change



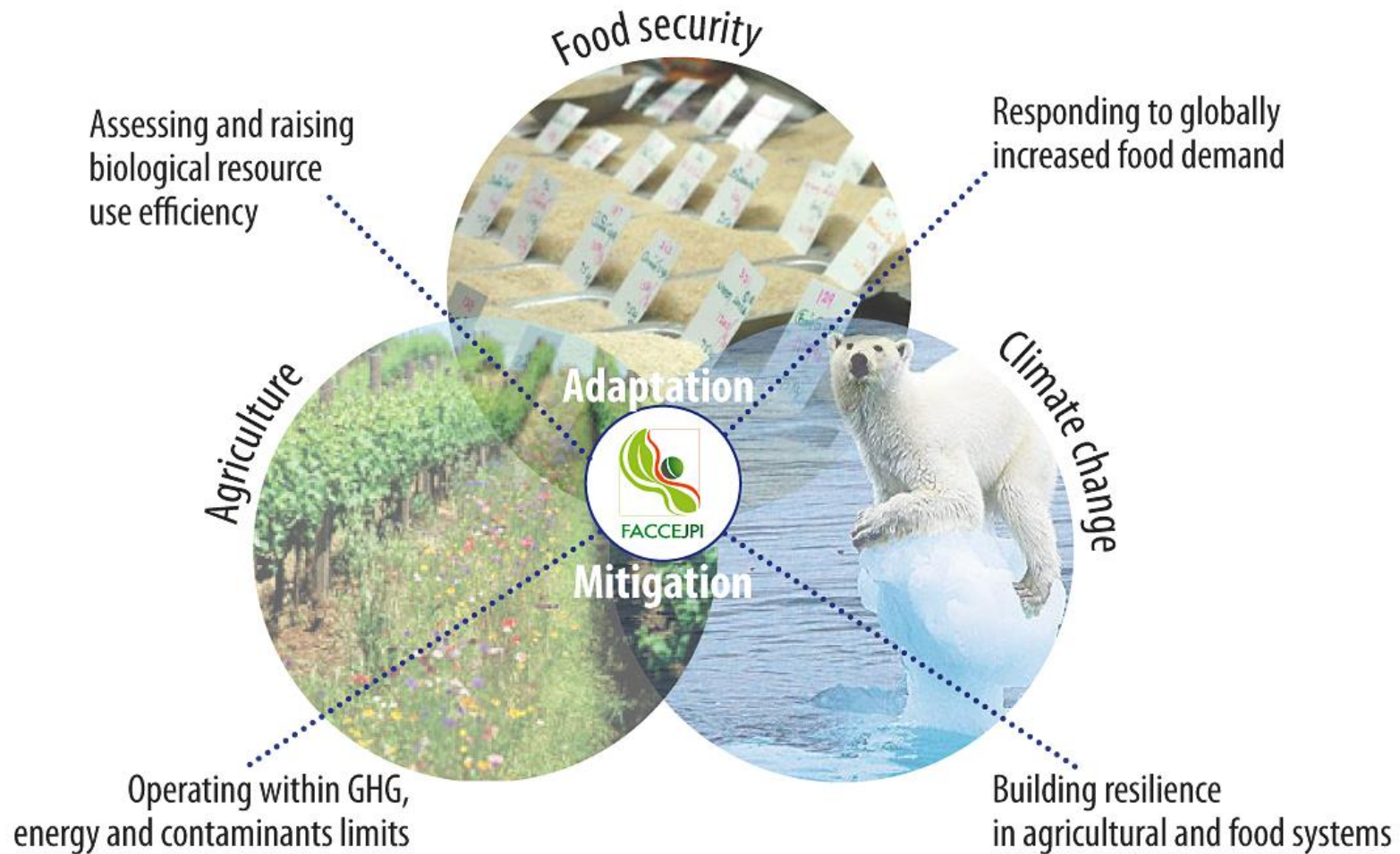
And also, higher food prices, increased market volatility, increased food and nutrition insecurity...

# FACCE-JPI: Key Facts

- Launched by European Council of the EU in 2010
- 21 Member-Countries (of which New Zealand as Associate Member); 2 observers (EC, EU Standing Committee on Agricultural Research)
- Managed by 1 Governing Board ; 2 Advisory Boards (independent scientists and stakeholder organisations)
- Secretariat coordinated by France and financially supported by the EC
- Alignment of national research programmes at the intersection of agriculture-food security-climate change
- Mobilised resources so far: €104 M
- Link with H2020 Societal Challenge 2 (Food Security, Sustainable Agriculture, Water, Bio-economy) and Societal Challenge 5 (Climate Action)



# 1. FACCE SCOPE





FACCEJPI

# 22 Participating Countries

**17 EU Member States + 4 Associated Countries+ 1 Third Country**



Austria



Belgium



Czech Republic



Denmark



Estonia



Finland



France



Germany



Ireland



New Zealand



Italy



The Netherlands



Norway



Poland



Romania



Spain



Sweden



Switzerland



Turkey



UK



Cyprus



# FACCE-JPI permanent governance

## GB

- FACCE-JPI Decision-making body
- Communication with national actors
- Working Groups | Chair, 2 Vice-Chairs
- Meetings 3/year
- 5000 € entry fees

## SAB

- Scientific advice, ScRA, identification, evaluation of JPI activities
- 12 high-level experts
- 1 Chair + 2 Vice-Chairs
- Meetings ≥ 2/year

## Secretariat

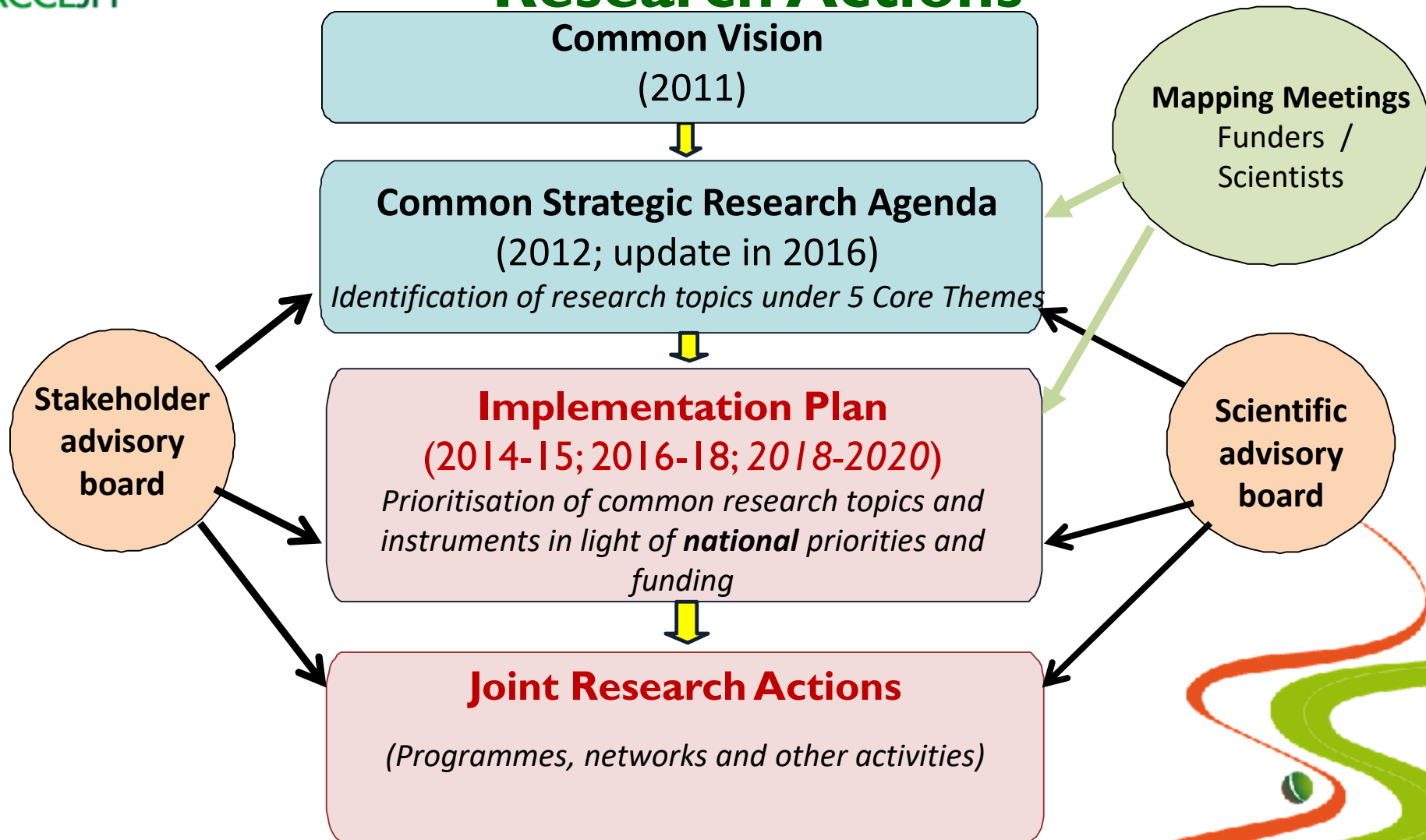
### Executive body

- Proposes strategy
- Management
- JPI coherence
- Links with ERA-NETs for implementation

## StAB

- Stakeholder advice on strategic documents and on joint actions
- 22 member organisations
- 1 Chair + 2 Vice-Chairs
- Meeting ≥ 2/year

# Working Method: From a Common Strategic Research Agenda to Joint Research Actions





FAC

# 2016



Agriculture, Food Security  
and Climate Change



FACCE JPI  
Strategic Research Agenda  
Revised edition, 2016

[www.faccejpi.com](http://www.faccejpi.com)



Agriculture, Food Security  
and Climate Change



FACCE JPI  
Implementation Plan  
2016 – 2018

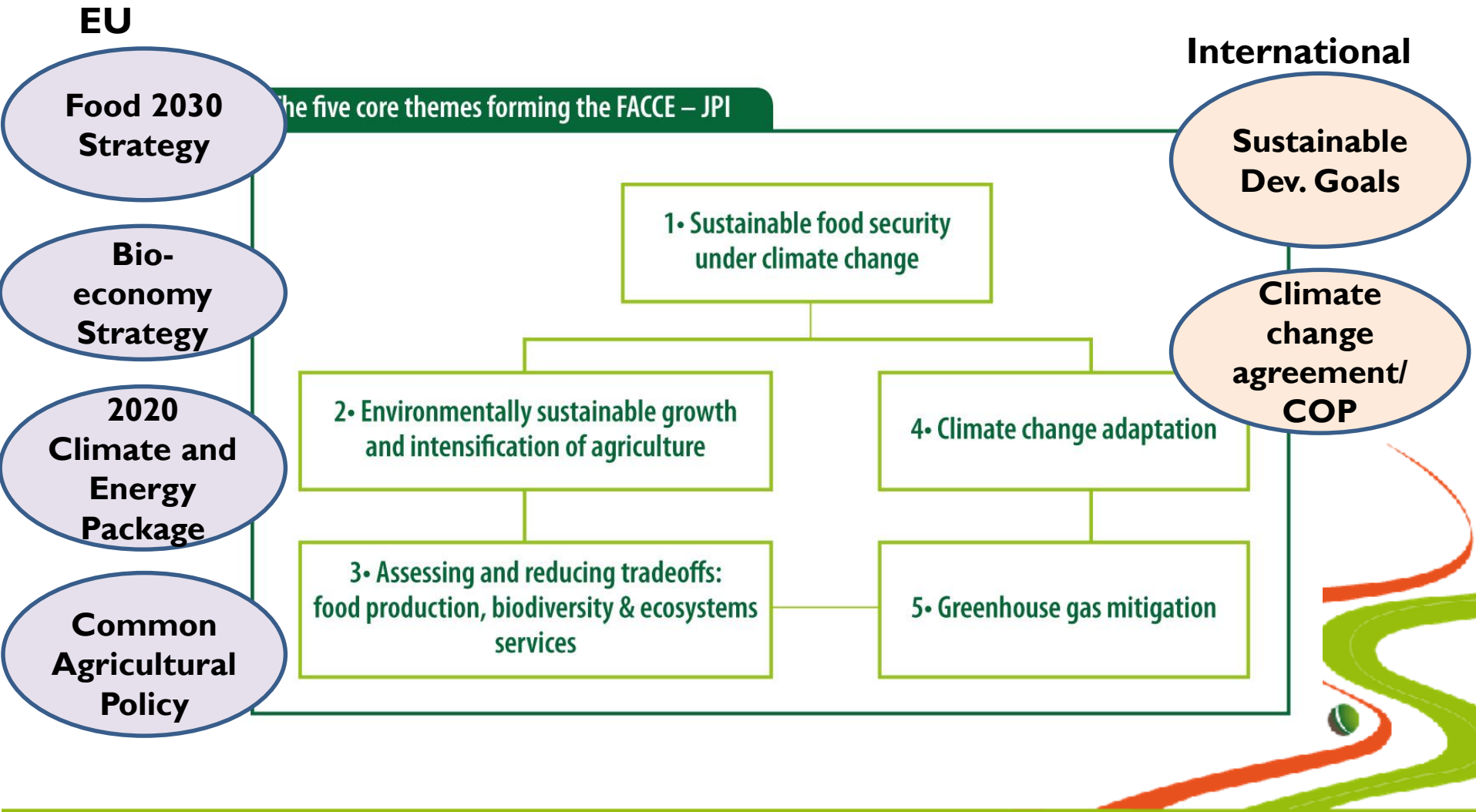
[www.faccejpi.com](http://www.faccejpi.com)

## FACCEJPI

## Agriculture Food Security and Climate Change

# FACCE-JPI's Strategic Research Agenda:

## 5 Core Themes that provide evidence for EU and int. policies



# FACCE-JPI Implementation Plans:

## 3 types of joint actions

**Actions that allow to align *already funded* research at national levels**

- Knowledge Hub  
(Participating countries' funding)
- Knowledge Network  
(Participating countries' funding)
- Thematic Annual Programming Network  
(Participating countries' funding)

**Actions that allow to invest jointly in *new* transnational research**

- European Research Area Networks  
(Participating countries+ EC co-funding; H2020)
- Joint calls for research proposals - some with international partners  
(Participating countries' funding)

**Actions that allow to explore *emerging* joint research areas**

Exploratory workshops  
(Participating countries' funding)



# Overview of ongoing FACCE-JPI activities (2012-2017)

10 joint research actions worth €104M – 6 of which involve international partners  
(75 collaborative research projects)

**Core Theme 1. Food security under climate change**

**Knowledge Hub** on modelling the impacts climate change on food security (MACSUR) - **partnership with AgMip (€13M, 300 researchers)**

**International call (Collaborative Research Action)** on food security and land use change **with the Belmont Forum (Australia, Brazil, India, Japan, S. Africa, USA) (€6.2M, 7 projects)**

**Core Theme 2. Sustainable intensification of agriculture**

**Knowledge Network** on sustainable intensification (KNSI)

**FACCE ERA-NET Cofund** on Sustainable agriculture for food and non-food systems (SURPLUS) **with NZ (€14.7M, 14 projects)**

**Thematic Annual Programming Network** on organic matter sequestration in ag. soils (TAP)

**Core Theme 3. Biodiversity & ecosystem services**

**Joint call with the BiodivERsA ERA-NET (€10M, 10 projects)**

+ **Exploratory workshops** (on food and nutrition security, ICT, biorefinery, etc.)

**Core Theme 4. Adaptation to climate change**

**FACCE ERA-NET + on Climate Smart Agriculture (€15.8M, 11 projects)**

**ERANET Cofund with Water JPI** on sustainable water management (WATERWORKS 2015) **with Canada, Brazil, USA, China, Vietnam, India, Taiwan, Tunisia, Egypt, S. Africa (€25.5M\*, 21 projects)**

**Core Theme 5. GHG mitigation in agriculture**

**Multipartner call** on agricultural GHG mitigation **with 3 GRA countries (USA, Canada, New Zealand)(€5M, 11 projects)**

**FACCE ERA-NET Cofund** on monitoring and mitigation of agricultural GHG (ERA-GAS) **with New Zealand (€14M\*)**





# Selected joint actions under consideration for 2018-20:

Cooperation with other EU/international partners will be sought

**Core Theme 1. Food security under climate change**

**Core Theme 2. Sustainable intensification of agriculture**

**Core Theme 4. Adaptation to climate change**

**Core Theme 5. GHG mitigation in agriculture**

**Knowledge Hub** on modelling the impacts climate change on food security (MACSUR Phase 3, possibly in coordination with JPI Climate AXIS ERA-NET

**Joint action with JPI HDHL and JPI Oceans** on plant and animal production for enhanced FNS and resilience to climate change

**FACCE ERA-NET Cofund** on Sustainable Crop Production (SUSCROP) possibly with Canada

**European Joint Programme on Soil** possibly in coordination with the GRA and 4/1000 programme (CIRCASA CSA)

**FACCE ERA-NET Cofund** on Climate Change and Food Systems possibly in coordination with the Belmont Forum CRA on Food Security and Safety

**FACCE ERA-NET Cofund Additional activities** (SURPLUS)

**FACCE ERA-NET Cofund Additional activities** on mitigation of GHG in agri. and livestock (ERA-GAS) possibly with the GRA



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**FACCE ERA-NET Cofund Additional activities (SURPLUS)**

**Joint action** on Coping with climate change induced pressures on ecosystem functions and services in agricultural landscapes possibly with BiodivERsA

**FACCE ERA-NET Cofund Additional activities** on mitigation of GHG in agri. and livestock (ERA-GAS) possibly with the GRA

# Key goals of FACCE's European/international cooperation strategy

- Promote greater **complementarity and structuring** of research to tackle global challenges more efficiently and effectively
- Improve the **visibility and impact** of FACCE-JPI's work on policymaking and innovation in Europe and beyond
- Facilitate the **exchange of information, mutual learning** and capacity building with similar initiatives in other regions



# Key FACCE-JPI Partners

(at programmatic and institutional levels)



## European initiatives and partners

JPI Water, JPI Healthy Diets for a Healthy Life, JPI Climate, JPI Oceans, and Selected ERA-NETs (e.g., SusAN, Susfood, ICT Agri)

## International initiatives and partners

Belmont Forum, **GRA\*\***, GACSA, 4 per 1000 initiative, AgMIP, TempAg, Wheat Initiative, PRIMA, Int. Bio-Economy Forum

## Third countries

**New Zealand\***, USA, Australia, Canada, Japan, China, Brazil, India, South Africa

***Structuring of R&I at EU level, strengthening of the European Research Area, increased innovation and impact within the EU***

***Complementarity of R&I at global level, increased visibility and impact at the international level, mutual learning with partners***

***Complementarity of R&I at global level, "science diplomacy" and mutual learning with non-EU countries***



**Thank you for you attention!**

Website: [www.faccejpi.com](http://www.faccejpi.com)

For further information: [heather.mckhann@inra.fr](mailto:heather.mckhann@inra.fr)



# Expectations of the Workshop

- Within WVP 6 of WaterWorks2015:
  - **Additional Activities on Strategy**
- T6.1: Common Vision and Adapting the strategies of the WATER and FACCE JPI
- Developing a framework and an action plan to
  - develop the **common vision**
  - giving **input** for the update of SRIAs and implementation plans

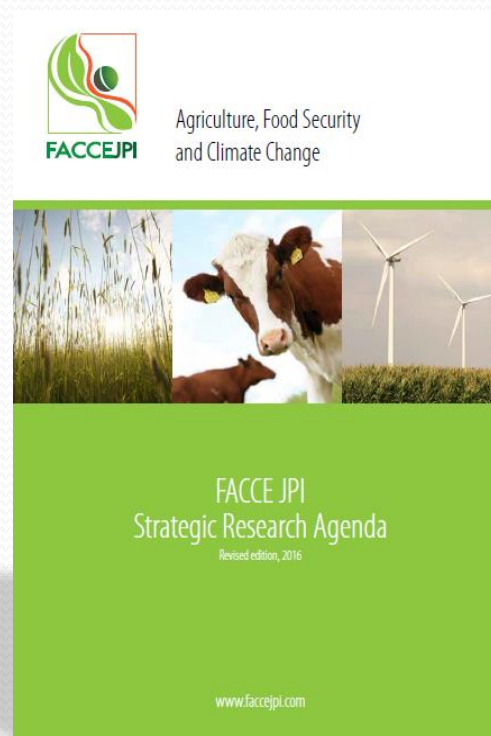
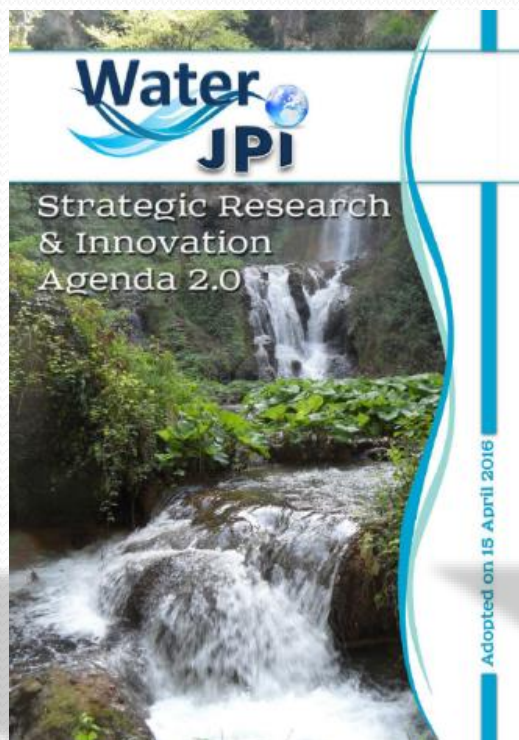


# Networking

- Water-related and agriculture-related projects funded under H2020
- Interactions of the projects?
- Possible synergies?
- Do we duplicate work?

# Session I – Bjørn Kaare Jensen

## JPI Visions and SRIAs of both JPIs



# Water JPI - Vision

- The vision aims to provide an integrated, dynamic and responsive approach to water resource management which will enhance the European society and economy

# Water JPI - Vision

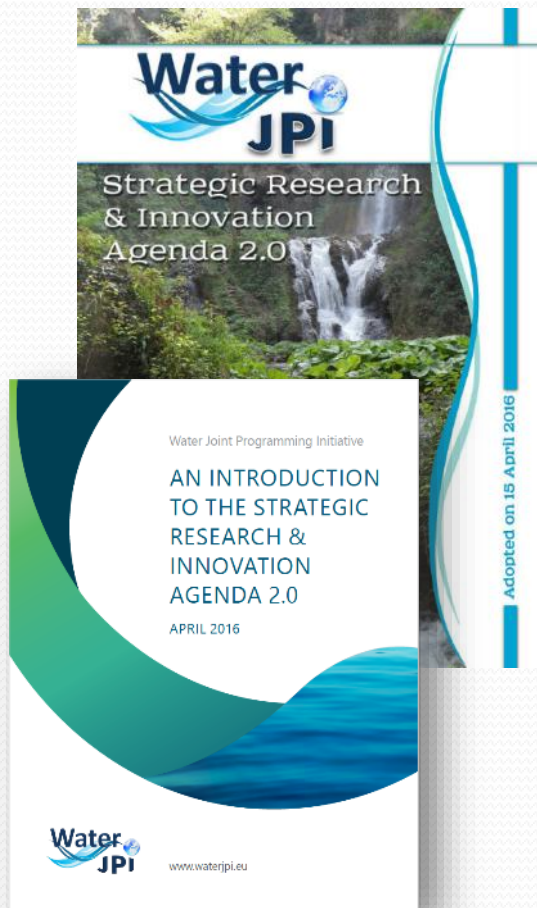
- [...] Developing and using the best technologies to **treat drinking water and wastewater** and to reduce the energy that is used in these treatment processes requires increasing research efforts [...]

# Water JPI - Vision

- [...] The challenges facing water in Europe cannot be fully addressed by any individual country working alone. The Water JPI will **facilitate and foster cooperation** between countries on water research so that big challenges can be addressed and resolved. [...]



# Strategic Research and Innovation Agenda (SRIA)

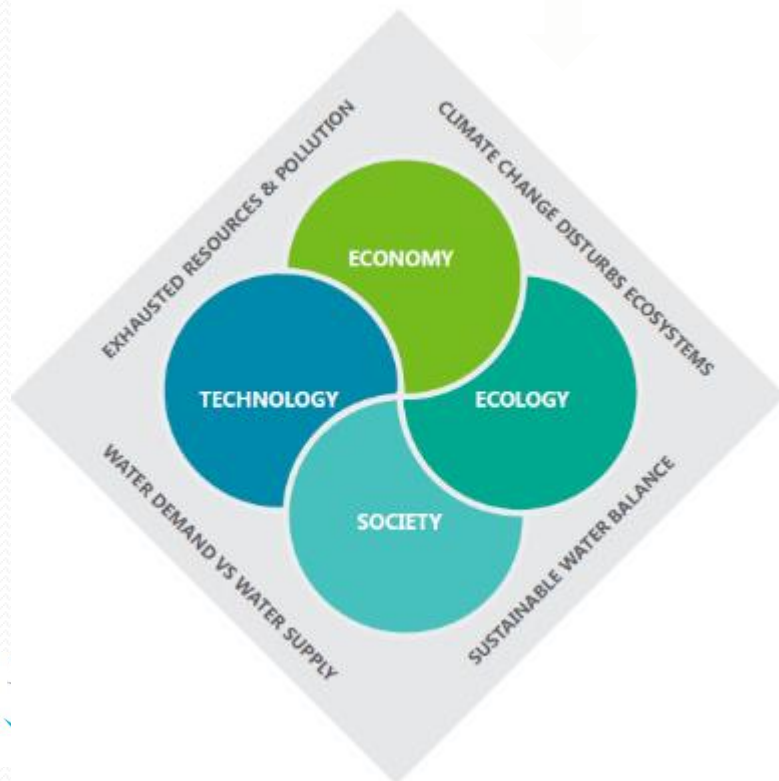


- Conceived as a participatory, inclusive, shared and forward-looking strategic document that lays out Research, Development and Innovation (**RDI**) **needs** in Europe in the field of water
- Conceived as an instrument **to guide European research and innovation**

➡ **Objective: to be the European reference document on water stakes that will framework H2020 calls, etc.**

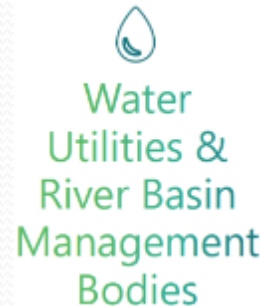
# SRIA Process

A document built through a **multi-actors**  
and **transdisciplinary** approach...  
... for the use of **all stakeholders**



# SRIA 2.0 Publication

- A technical version



- A public friendly version

An Introduction to the Strategic Research & Innovation  
Agenda 2.0



- An interactive glossary (under progress)

# SRIA Structure

## Vision Document

(5 themes)



**Theme 1**  
Improving  
Ecosystem  
Sustainability  
and Human  
Well-being



**Theme 2**  
Developing  
Safe Water  
Systems for  
Citizens



**Theme 3**  
Promoting  
Competitiveness in the  
Water  
Industry



**Theme 4**  
Implementing  
a Water-wise  
Bio-based  
Economy



**Theme 5**  
Closing the  
Water Cycle  
Gap  
Improving  
Sustainable  
Water  
Resources  
Management



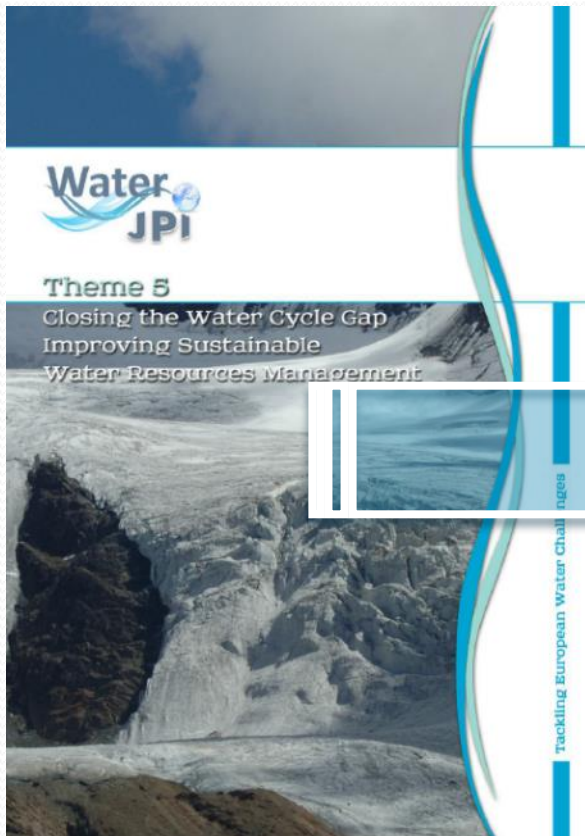
## SRIA 2.0

(5 themes and 11 sub-themes)



# SRIA Structure

For each theme and subtheme:  
identification of expected theme impacts, RDI needs and related objectives





**Theme 5: Closing the Water Cycle Gap – Improving Sustainable Water Resources Management**

In many regions of Europe, it may be difficult to reconcile water supply and demand in both qualitative and quantitative terms. The aim of this initiative under this theme is therefore to bridge the gap in “supply-demand” by enabling the sustainable management of water resources. Innovative strategies and approaches will be developed where appropriate.

**Rationale**

Europe is not an arid continent, but water scarcity has become a concern for millions of people. Water scarcity affects at least 13% of the European population and 12% of the territory<sup>1</sup>.

In quantitative terms, the availability of water for different uses is threatened by increasing episodes of drought. According to data provided by the European Commission, droughts since 1960 have cost the European economy about EUR 100 billion. Lackages in the water supply infrastructure, the considerable exploitation of freshwater for agricultural purposes and the lack of appropriate water saving technologies will increase pressure on limited water resources in many regions. To make matters worse, water consumption for public, industrial and agricultural use is expected to increase by 10% by 2020<sup>2</sup>. Although southern regions are more severely affected, central and northern regions are also affected by droughts.

Other pollutants, organic matter, heavy metals and other chemical byproducts pose a serious threat to water availability. Despite the efforts of local authorities to curb water pollution, the concentration of nutrients and heavy metals is high in many waterbodies.

In response to this situation, legislative measures have been put in place by the European Commission (WFD, Water Directive, Water Scarcity and Drought Strategy). Experience shows that the enforcement of some of the measures and recommendations put forward by these policies is not an easy task due to the size of water production plants. Legislative measures need to be coupled with the implementation of measures for appropriate water management, and this is where RDI activities can have a crucial role. As detailed below, there is a need for new integrated concepts relating to water quality, water efficiency, water conservation, etc. Observation and modelling of water resources are also required to improve understanding of hydrological processes and to analyse the effect of management measures. Socio-economic approaches are also needed to investigate questions of participation, behaviour and the costs and benefits of proposed measures.

The research will need to draw on knowledge of ecology, social sciences, economics, geography, environmental sciences, geosciences and technology in various space-time dimensions and on different scales and by integrating water policy with other public policies (agricultural, industrial, domestic, urban, regional planning, transport, energy, biodiversity). In the context of increasing tensions around water, tools for monitoring, forecasting, providing information and decision making are needed to anticipate and manage such tensions and avoid conflict.

<sup>1</sup>WFP (European Commission) Directorate General for the Environment (DG ENV), Water Scarcity and Drought in the European Union, Available at: <http://ec.europa.eu/environment/water/water-scarcity/water-scarcity.htm>

**70**

There are three broader down into two subthemes:

**5.1. Enabling sustainable management of water resources;**

**5.2. Strengthening socio-economic approaches to water management.**

The research needs and objectives for each subtheme of Theme 5 are detailed below. It is worth noting that the cross-cutting RDI needs identified in Table 3 are also integral and of relevance to the theme.

**Expected Theme Impacts**

Domain	Description
Social	The diversity of pressures and impacts on water bodies suggests that policy and water policy are in fact a complex of a wide range of “micro-political” dialogues with stakeholders interested in clean water and healthy water ecosystems. The impacts of water crises are not equally distributed in society, and they can be a source of conflict between different water users. Improved water management will eliminate societal tensions.
Economic	Economic instruments such as taxes and subsidies can act as incentives for prudent water management. They constitute a vital complement to water regulation, and they can assist in rebalancing water between competing user demands. Regulatory measures and short-term solutions to overcome water scarcity (e.g. water banking) will be included in the assessment of costs related to scarcity or drought and the assessment of economic vulnerability of users and sectors.
Technological	Improvement of the resilience for storage of water resources (regular maintenance, DCS, inter-also) will be accompanied by, or combined with, combined socio-economic and physical water needs.
Environmental	Both water quantity and water quality are key factors in aquatic and riparian ecosystems. A decrease in available water resources (impervious environmental flows) can have a negative impact on a healthy ecosystem. Other impacts include the loss of biodiversity and the degradation of landscape quality.
Policy	Regulatory measures are essential tools to ensure compliance with environmental standards for water quality and quantity. Economic policy instruments are available to support these regulations, as expressed in the 2012 US Water Drought. Understanding the mechanisms leading to improved water management will lead to better policy design and adaptation.

**Subtheme 5.1. Enabling sustainable management of water resources**

**Rationale**

Building sustainable water management is a pre-condition for achieving water systems fit for a sustainable economy in Europe and abroad. From an RDI perspective, this requires improving our understanding of integrated water management through further analysis involving surface water, groundwater and soil management, erosion and pollution control, flood management and wastewater.

The integrated model of the active water cycle, including all compartments (surface soil, groundwater) and water use (vegetation, humans), have yet to take into account scenarios of



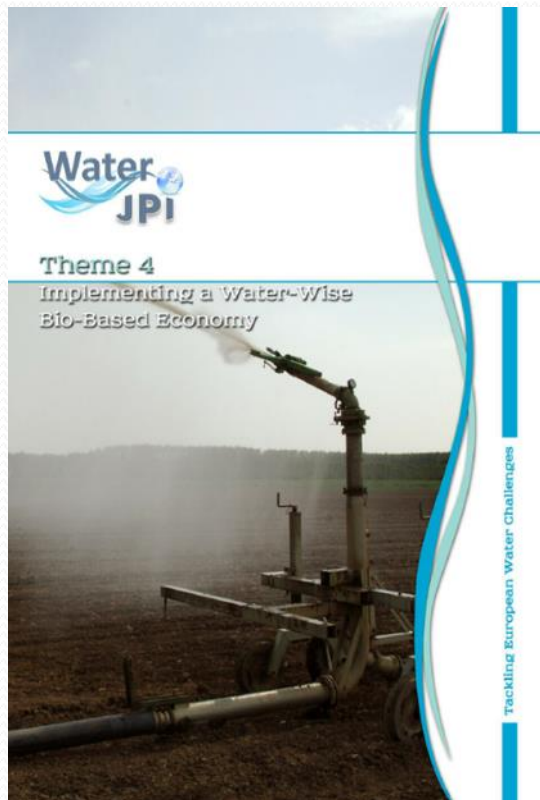
# Theme 4

## Implementing a Water-wise Bio-based Economy

### Subthemes

- ❑ 4.1 Improving the efficiency of water use for a sustainable bio-economy sector
- ❑ 4.2 Reducing soil and water pollution

### Expected Impacts on



Social



Environmentally-friendly sustainable farming operations



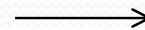
Economic



Productivity of agriculture, forestry and aquaculture sectors



Technological



Innovation in technologies for more sustainable agricultural and forestry practices



Environmental



Use and protection of European natural resources and optimisation of the water-energy nexus



Policy



Relevant to EU Regulations & Policies (Bio-economy Strategy, Common Agricultural Policy, “Maximisation of water reuse in the EU” Roadmap...) and to UN Sustainable Development Goals (2, 6, 9 and 12)

# FACCE JPI - Vision

- An integrated **European Research Area** addressing the challenges of **Agriculture, Food Security and Climate Change**

# FACCE JPI - Vision

- An integrated **European Research Area** addressing the challenges of **Agriculture, Food Security and Climate Change** to achieve sustainable **growth** in agricultural production to meet **increasing world food demand**

# FACCE JPI - Vision

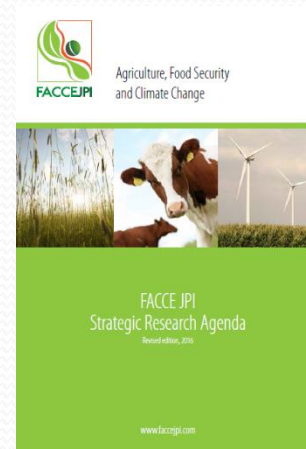
- An integrated **European Research Area** addressing the challenges of **Agriculture, Food Security and Climate Change** to achieve sustainable **growth** in agricultural production to meet **increasing world food demand** and contributing to **sustainable economic growth** and a European **bio-based economy** while maintaining and restoring **ecosystem services** under current and future climate change.

# FACCE JPI - Mission

- To achieve, support and promote **integration, alignment and joint implementation** of national resources in Europe under a common research strategy to address the diverse challenges in agriculture, food security and climate change

# FACCE JPI - SRIA

- It sets out the strategic priorities for trans-disciplinary and innovative European research on Agriculture, Food Security and Climate Change.
- It provides a framework for the alignment of existing programmes and joint research efforts to achieve the twin objectives of food security and combating climate change.





# FACCE JPI - SRIA

- 5 Core-Themes:
  - Sustainable food security under climate change
  - Environmentally sustainable intensification of agricultural systems
  - Developing synergies and reducing trade-offs between food supply, biodiversity and ecosystem services
  - Adaption to climate change
  - Mitigation of climate change
- 29 Priorities

# FACCE JPI - SRIA

- The FACCE-JPI Strategic Research Agenda is the result of a **dialogue** between high-level international scientists and stakeholders
- It defines short, medium, and long term **research priorities** and sets out joint actions for each of these core themes.
- It aims to reinforce **infrastructures and platforms**, training and capacity building in Europe and knowledge exchange.
- It also foresees **evaluation and monitoring** of its activities.

# Factors

## **JPI Visions and SRIAs of both JPIs**

- Developments in the strategies of the Water and FACCE JPIs need to respond to a number of External and Internal Factors

# JPI Visions and SRIAs of both JPIs

- External Factors
  - Changes in the perceptions of end-users
  - Economic context
  - Evolution of the JPI Process
  - Progress in related initiatives (H2020, EIPs, etc.)
  - Scientific/technological Breakthroughs

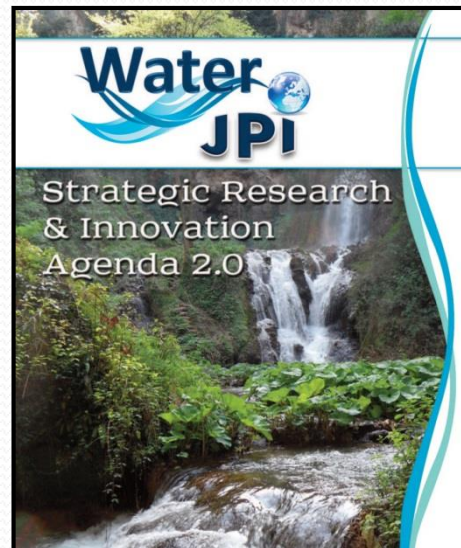
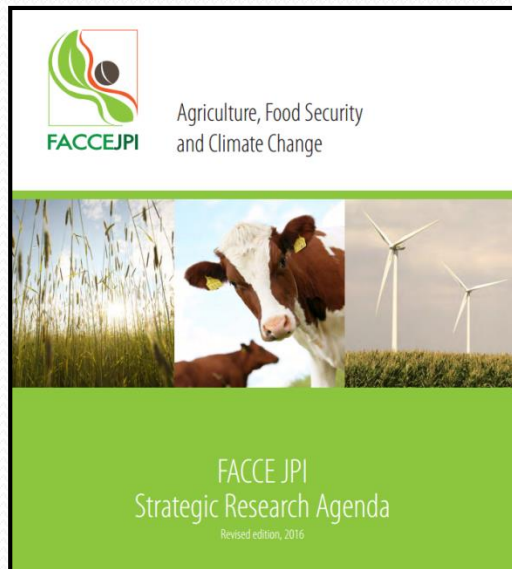
**Any other external factors which come to your mind?**

# JPI Visions and SRIAs of both JPIs

- Internal Factors
  - Coordination of the participant programmes
  - Evolution of the partnership
  - Partner's view on the common vision

**Any other internal factors which come to your mind?**

# Session 2: Commonalities, differences, gaps



Aims of this session:

- To get a better understanding of **commonalities and differences**
- To **prioritise** common RDI topics
- To identify RDI **gaps**



# Methodology

**11h00 - 11h20:** **Presentation** on commonalities/ differences, research gaps. Q&A and additional comments

**11h30 – 12h10:** **Working groups** discussions

- Action 1: To prioritise commonalities (1, 2, 3)
- Action 2: Identification of RDI gaps

**12h10 – 12h30:** **Plenary session.** Main results, Q&A and recommendations

**Info sources:** Word file, RDI topics forms

# Commonalities, differences (Word file)



- **Pollution**
- **Water-energy-food nexus**
- **Food security**
- **Ecosystem services**
- **Environmental technologies**
- **Bioeconomy**
- **Climate change adaptation/mitigation**
- **Sustainable intensification**

# WaterWorks2015

- FACCE and WATER Joint call on **sustainable management** of **water resources** in agriculture, forestry and freshwater aquaculture sectors
- Aim: combine basic and applied approaches, promote collaborative RDI, trans-disciplinary research, mobility and international cooperation in the water area.
- 3 challenges addressed:
  - Increasing the **efficiency** and **resilience of water uses**
  - Monitoring and reducing **water pollution**
  - Integrating **social** and **economic** dimensions into the **sustainable management** and **governance** of **water resources**

# Commonalities

- **Assessment** and **valuation** of **ecosystem services**
- Strong focus on environmental technologies, including issues related to adoption and users' acceptance
  - **Precision agriculture, smart water systems**
  - Water **reuse** for agricultural purposes
- Climate change adaptation and mitigation
  - **Adaptive water management** in a context of extreme events (floods, droughts)
- Consideration of **big data** issues
- **Water scarcity**

# RDI gaps

- Soil pollution
  - Not explicitly mentioned in any of the SRIAs
  - Heavily impacted by pollutants seeping through layers
- Integration of the food nexus within the Water JPI's SRIA
- Further consideration of SDGs

# Exercises in working groups

- **Exercise I:** Try to prioritise all the common issues presented so far:
  - 1: **top priority** --- RDI issues to be addressed in the short term (1-2 years)
  - 2: **medium priority** --- RDI issues to be addressed in 3-4 years
  - 3: **low priority** --- RDI issues to be addressed in the long term (over 4 years)
- **Exercise II:** Identify RDI gaps



# Session 3

## **Possible synergic activities and shared strategy**

- Presentation by Heather

# Session 4 – Maurice Héral

## **Common Vision:**

- **Identified key messages**
- **Targets**
- **Time line**
- **Process**

Future

# Common Vision: identified key messages, targets, time line, process

- Identified key messages of the Workshop
- Next steps or next activities planned within the JPIs
- Are there any other relevant documents to consider when updating the SRIAs (which have not been mentioned yet)?
- Common Vision: which aspects would you
  - focus on and target
  - but also try to avoid?

# Common Vision: identified key messages, targets, time line, process

- Which research areas within your field has not been considered yet enough/where do you see research demand?
- Is there anything you would like to point out which is important to keep in mind for future work of FACCE and Water JPI?
- As this is the last session: are there things you would like to add/Is there anything you missed during the Workshop regarding the SRIA (space for feedback)?

# Common Vision: identified key messages, targets, time line, process

- 4 Groups
- Please find paper and questions/topics on your tables
- We meet back at 16.15h for a Wrap-up: every group shortly presents main findings
  - one designated rapporteur
- Please indicate clearly if you refer to Water or FACCE JPI
- A clear handwriting makes it easier for us... 😊

Common Vision: identified key messages, targets,  
time line, process

## Group Work





# Wrap up – what did we do?

- Overview of both JPIs
- JPI Visions and SRIAs
- Commonalities and Differences
- Gaps to fulfill
- Possible synergic activities
- Key messages, targets, time line, process

# Wrap up – what is next?

- Distribution of Minutes
- Input for updating the SRIA of the Water JPI
  - Online SRIA Tool for Water JPI
- Hopeful fruitful alignment/cooperation
- Strengthening networks

A photograph of three goldfish jumping out of a pool of water, creating a large splash. The fish are orange and yellow, and the water is white and frothy. The background is white.

***Thanks to all!***

***See you...***

Vera Steinberg, BLE, Germany  
[Vera.steinberg@ble.de](mailto:Vera.steinberg@ble.de)