Scientific Perspective on the Water JPI SRIA RDI needs within Theme 5

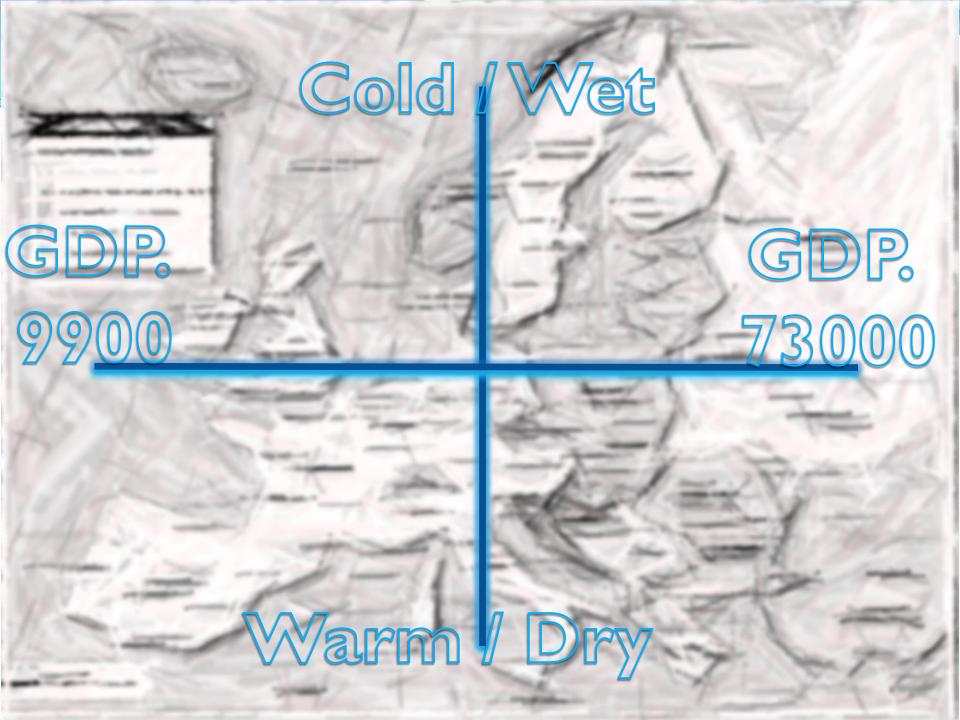


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Topics

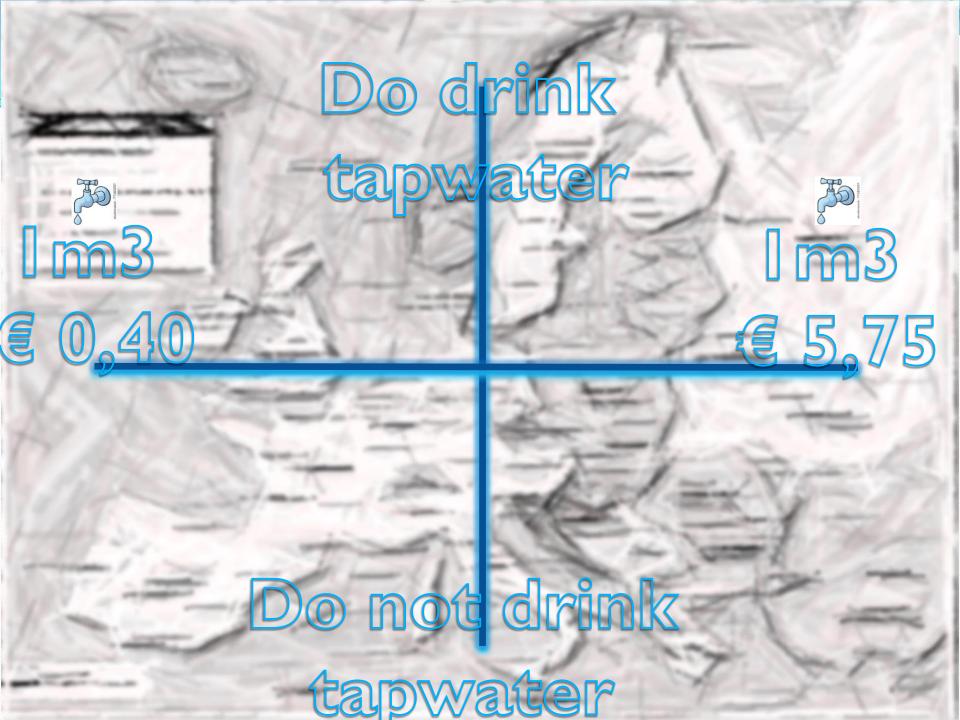
- One agenda....A challenge
- What did we promise and what did we achieve so far
- What has not been addressed and is still needed
- Is this addressed in CtWG and how?
- Some thoughts on issues not to forget





Flood standard 10-5 Debt 10%

> 80% agricultural water



What did JPI-Water promise and what was achieved so far

Important issues according to the vision

- Unbalances in water demand and availability (affects 130 million inhabitants (30% of population in Europe)
- Construction and maintenance of water-related infrastructure (Leakage of water from supply systems in parts of Europe is substantial)
- Worldwide 880 million people use an unimproved drinking water source and 2.5 billion people are without improved sanitation
- Emerging pollutants may have effects on human and ecosystems health.
- Droughts and floods have a clear impact on the status of European ecosystems (but losses are difficult to evaluate).
- Changes in land use are likely to also influence water quality.
- World economy: from a fossil fuel economy towards a more bio-based economy

Directions to go according to the vision

- Multi disciplinary approach (2eco, tech, soc).
- EU competitive water sector
- Enhancing the absorbing and self-purification capacity of the landscape and water ecosystems
- Providing each citizen with clean drinking water and proper sanitation
- Ensuring adequate technology deployment in the water sector

What did JPI water achieve so far.. (a.o). Calls and research

- Pilot call 2013: Emerging water contaminants anthropogenic pollutants and pathogens. 7 projects
- WaterWorks 2014: Research and Innovation for Developing Technological Solutions and Services (16 interesting projects):
 - for Water Treatment, Reuse, Recycling and Desalination;
 - for Water Resources Management;
 - to Mitigate Impacts of Extreme Events (Floods and Droughts) at Catchment Scale
- WaterWorks 2015: Stepping up EU research and innovation cooperation in the water area: "Sustainable management of water resources in agriculture, forestry and freshwater aquaculture sectors". In progress

Wat is still missing after the first 4 themes .(a.o)

- "Making the case"
- People and economy
- Measurement of / indicators for succes
- Cooperation on lab. facilities

Food for thought about making the case







Technology adoption:

- I. In a **few years** we have achieved that **six** of the world's **seven billion people** have a mobile phone
- 2. In many decades we have achieved that only 4.5 billion have a toilet,

Closing the Water Gap

- Last theme.... (should not be a bit a mix of forgotten issues)
- To bridge the gap between supply and demand by enabling sustainable management of water resources
- Not only on science and technology but also on "making the case"

Important needs for "making the case."

- Legislative measures (WFD, Water Blueprint, Water Scarcity and Droughts Strategy) need to be coupled with the implementation of measures for appropriate water treatment and management
- Commitment from different parties (joint fact finding in experiments; Integration of water policy with other public policies (agricultural, industrial, domestic, urban, regional planning, transport, energy, biodiversity => real interdisciplinary research)
- Understandable and meaningful results from the natural sciences
- Proof that it can be done: Not only assessments, but also solutions; provide show cases, living labs
- Where to invest: Articulate knowledge of ecology, social sciences, economics, geography, environmental sciences, geosciences and technology

How does Closing the Water Gap address these issues

Subtheme 5.1. Enabling sustainable management of water resources

- 5.1.1: Promoting water RDI infrastructures for a better understanding of hydrological processes on different scales (joint fact finding=>more commitment)
- 5.1.2 : Promoting adaptive water management for global change (after Paris the question is where2invest)
- 5.1.3: Implementing MAR and other NWRMs (proof it can be done, show solutions)
- 5.1.4: Innovating on practical, low-cost technologies treating wastewater to produce resources that are safe for reuse (proof it can be done, show solutions)
- 5.1.5- 5.1.7: Mitigating water stress in coastal zones; Securing freshwater in the Mediterranean and Baltic basins; Securing freshwater in the Danube (proof it can be done, pilots)

How does Closing the Water Gap address these issues

Subtheme 5.2. Strengthening socio-economic approaches to water management

- 5.2.1. Integrating economic and social analyses into decision-making processes (Commitment with different parties)
- 5.2.2. Connecting socio-economic and ecological issues (making the case (do not forget the legislation)
- 5.2.3. Promoting new governance and knowledge management approaches (making the case)

So..... It closes at least part of the gap

Thoughts on what should not be forgotten in the call (and the coming years)

- Joint programming is great but
 - ➤ Slow in adopting to fast developments, (last 12 months: SDG's, Paris,...Trump.....?, UN-WWDR: water and Jobs; role of water in conflicts)
 - World is rapidly changing difficult for agenda setting
 - > What does this mean for the financial instruments that we apply)
- Joint programming eases:
 - if there are joint problems (e.g. emerging pollutants, European legislation, WFD) or
 - ▶ If the need of large scale cooperation is indispensable (e.g. weather forecasting, eg ECMWF)



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