DEMOWARE

Good practices in water reuse governance

Stijn Brouwer, KWR

DEMOWARE

Innovation Demonstration for a Competitive and Innovative European Water Reuse Sector

- Demonstrate the feasibility of innovative technologies
- Develop advanced monitoring and control options
- Asses the environmental and public health risk
- Develop business models and pricing strategies
- Identify governance barriers and response strategies
- Apply project outputs in a real case: Vendée Site
- Increase awareness of water reuse practices
- Develop a unifying identity / association

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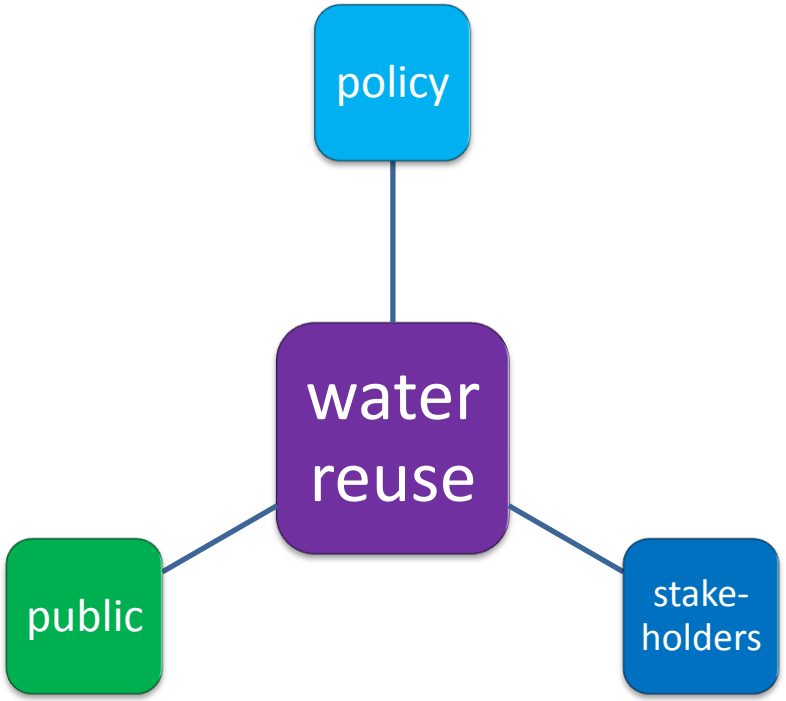
Governance for Water Reuse in DEMOWARE

Demonstrate response strategies dealing with governance barries in water reuse schemes



KWR Watercycle Research Institute

Cranfield UNIVERSITY

Assessment of governance challenges in European water reuse schemes

Torreele indirect potable reuse 	**Shafdan** unrestricted irrigation 	**Olympic Park** urban reuse 
Sabadell urban reuse 	**Torre Marimon** unrestricted irrigation 	**Capitanata** restricted irrigation 

Governance baseline assessment Capitanata

Policy and regulations:

- Various national and regional policy to regulate the use of recycled water
- Current quality standards are considered too strict and too rigid
- Despite current regulations and monitoring systems: lack of trust
- Fragmentation and bureaucracy

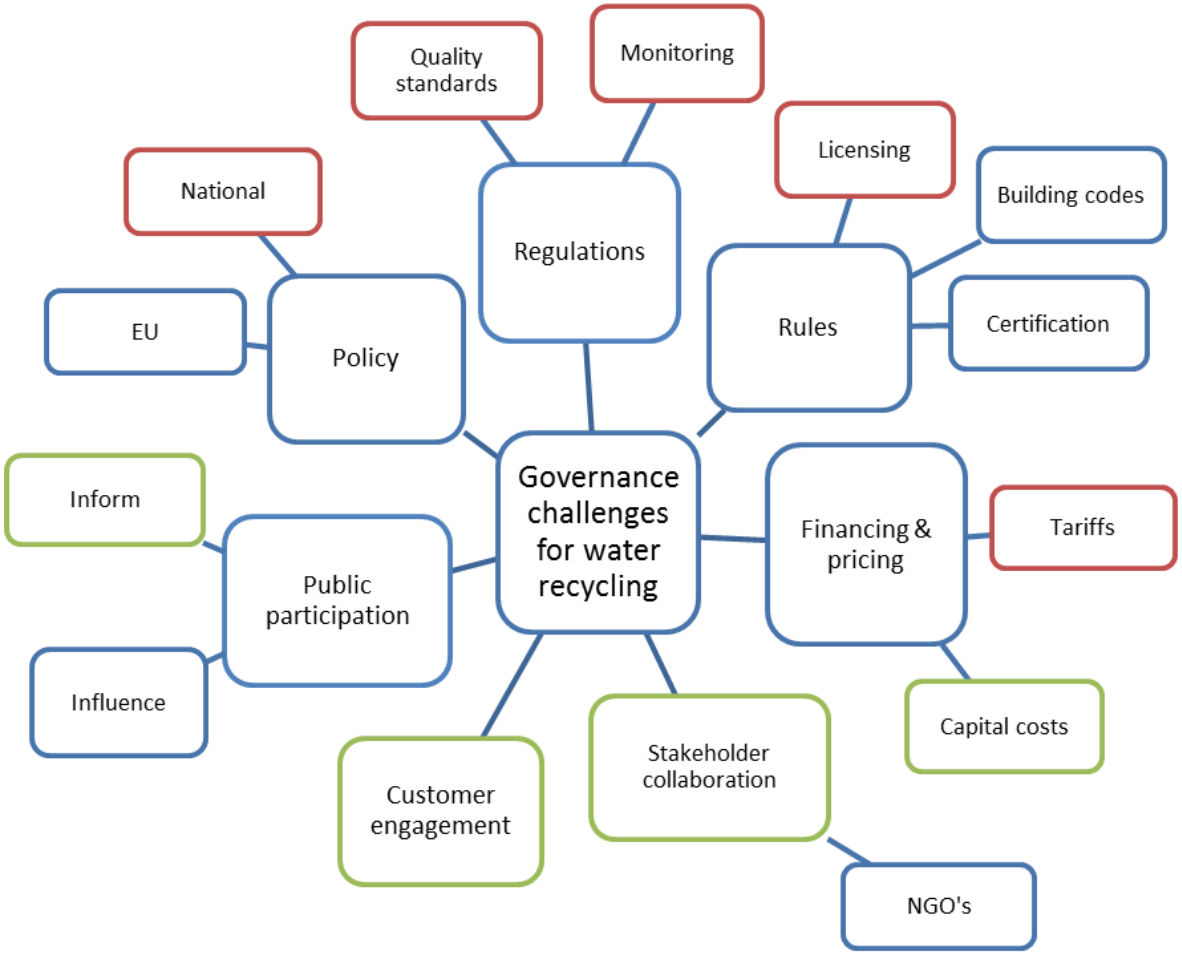
Financing and pricing:

- Constraining issue: too high costs of reused water
- Allowing different standards for different crops can decrease costs

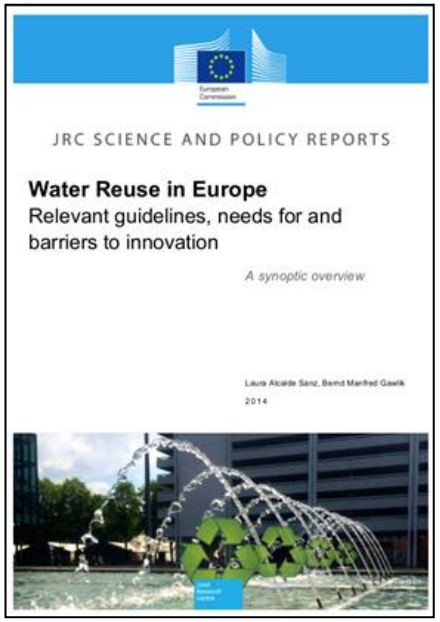
Stakeholder / public participation:

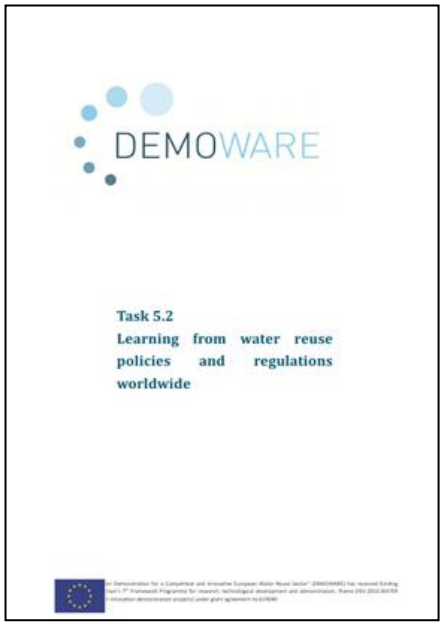
- The general public (including the farmers) are largely unaware of:
  - The advantages of reused water
  - The quality and safety of reused water (lack of trust)
  - The environmental need to search for alternative sources of water
- Enabling issue: sensitisation of the public, customer engagement and the creation of awareness is a precondition for the success of water reuse

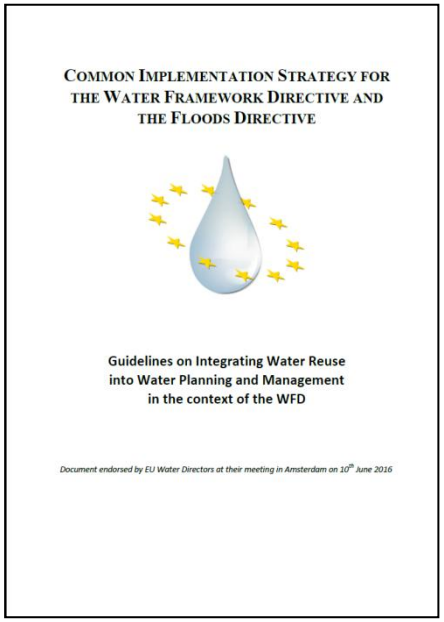
Enabling and constraining governance issues



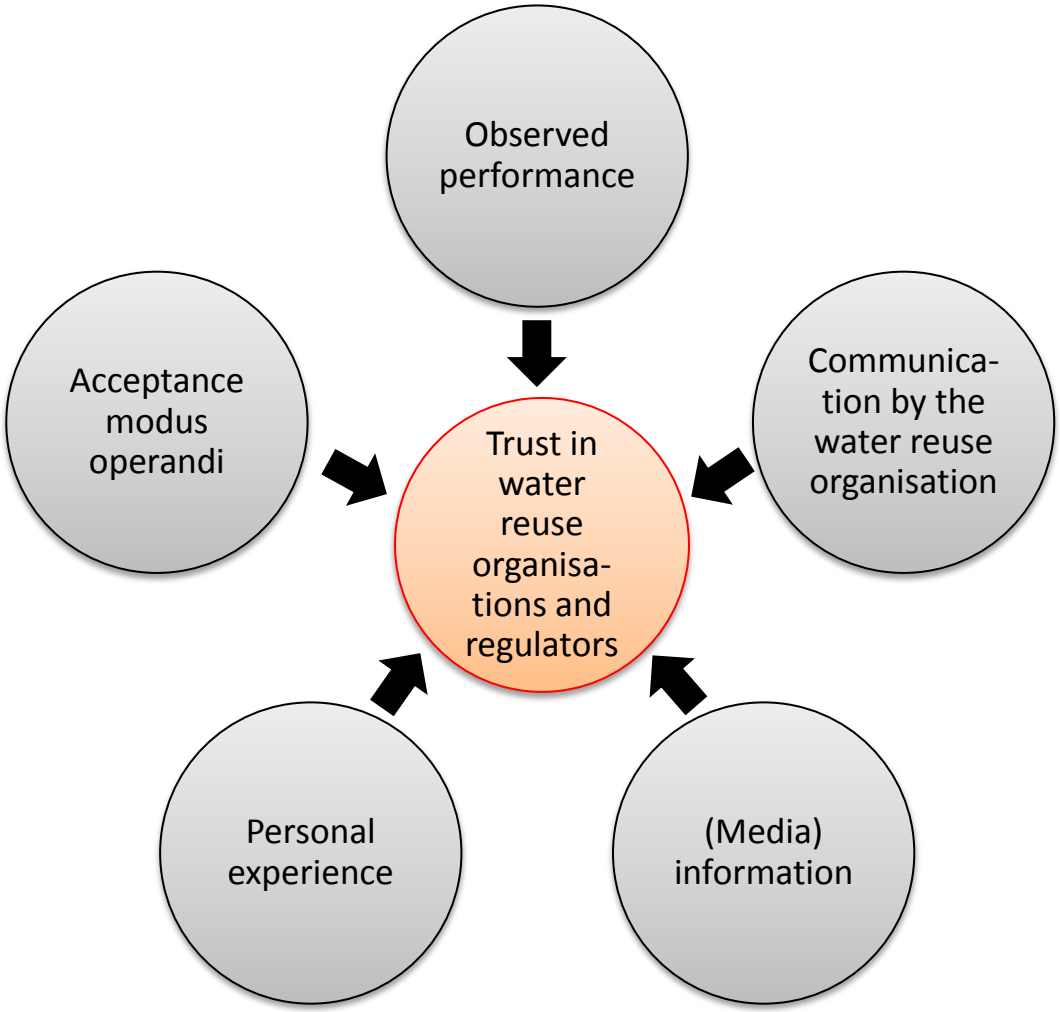
EU policy review







International review on public acceptance: trust is key



International review

public opposition is a key barrier

Project	Plan	Status
Toowoomba, Australia	Indirect potable	Scrapped
San Diego, United States	Indirect potable (reservoir augmentation)	Converted to non-potable use only
Tampa, United States	Indirect potable (river flow)	Scrapped
Western Corridor, Australia	Indirect potable (reservoir augmentation); Non-potable (industry)	Potable use suspended

public participation is key

Project	Operation	Participation
Singapore	Indirect potable (reservoir augmentation)	Public education campaign incl. demonstration facility and media tours (informing).
Windhoek, Namibia	Direct potable	(negligible)
Orange County, United States	Indirect potable (groundwater recharge)	Campaign of talks (informing) and surveys to gauge common concerns (consulting).
San Diego, United States	Indirect potable (reservoir augmentation)	Workshops with community leaders in early planning stages, surveys (consulting), and public outreach (informing).

D5.3 Tailored advice: Capitanata

Bari: 29-10-15

- Farmers *(6 traditional; 4 organic; 2 plant-breeders)*: sceptic.
- 11 Citizens: somewhat favorable

Need for:

- quality control (certification)
- education campaign

"Selling this message is like swimming upstream."

D5.3 Tailored advice: Capitanata

Recommendations:

- Don’t sell, but truly educate and inform the public
  - address solution (reuse) ánd problem (scarcity), sense of urgency
- Demonstrate and explain the advantages
  - compared to other options
- Invest in building public trust and systems of monitoring
  - regulations and control
- Organise active forms of engagement
  - focus groups with farmers and consumers

Last step: workshops and policy brief

Good practice guidance: governance of water reuse schemes

- policy relevant summary of the Demoware research findings

Input from practitioners:

- workshops with stakeholders at the water reuse schemes of Capitanata and Sabadell

Good practices

The key governance issues that need to be addressed for water reuse:

- Setting a legal framework with realistic quality standards and operating requirements, with a fit-for-purpose monitoring system
- Helping the economic viability of reuse schemes, through facilitating access to capital financing and competitive tarriffs.
- Gaining public acceptance and trust through stakeholder involvement and public communication

Good practices

Legal framework	Economic viability	Public acceptance
1. Clear and realistic quality standards and operating requirements	3. Facilitate access to capital financing	5. Promote stakeholder and public collaboration and involvement
2. A ‘fit-for-purpose’ monitoring system	4. Set competitive recycled water tariffs	6. Inform, raise awareness and educate

1. Clear and realistic quality standards and operating requirements

Challenge:

- Poorly harmonized European regulations
- National policy: lack of regulatory clarity on the governance and responsibilities related to reuse schemes.
- Quality standards considered too strict to be realistically achievable in a cost-effective manner.

1. Clear and realistic quality standards and operating requirements

Recommendation:

- Regulations that compromise between excessive precaution and insufficient safety
  - Provide a level of standardisation and supports public confidence
- Establish water quality standards and monitoring requirements based on the application of the reuse scheme
  - Water quality to be judged according to its appropriateness for use and not its origin
- Consider a risk management approach: Water Reuse Safety Plan

2. A ‘fit-for-purpose’ monitoring system

Challenge:

- Overly stringent monitoring requirements: a lack of capacity/resource to implement high-frequency monitoring and reporting for multiple quality parameters.
- Licensing: demanding and time-consuming processes for obtaining licenses and/or operating permits

Recommendation:

- Monitoring of output standards: final water quality (and soil and crop quality)
- Regional monitoring procedures tailored to different end-users or specific (area-based) risks
- Independent certification of the quality of recycled water

3. Facilitate access to capital financing

Challenge:

- Timely availability of capital funds
- Lack of access to funds

Recommendation:

- Government subsidies and capital financing
- Development taxes and strategic investments

4. Set competitive recycled water tariffs

Challenge:

- The high relative cost of producing water through reuse makes it difficult to be competitive (a.o. due to stringent regulations)
- Insufficient price differentials between reused and fresh water

Recommendation:

- Ensure recycled water price is more competitive through:
  - subsidies on tariffs
  - a separate tariff structure for sewage collection and water supply
- More accurate pricing and financial planning (inclusive of externalities):
  - full cost recovery for conventional water resources
  - quantify the range of benefits of water reuse

5. Promote stakeholder and public collaboration and involvement

Challenge:

- Insufficient collaboration with key stakeholders, such as authorities, customers and the public
- Lack of public acceptance is a key barrier
  - Need to establish public trust in regulation and monitoring, in the technical process, in the water reuse organisation, and ultimately in the quality and safety of the reused water itself

5. Promote stakeholder and public collaboration and involvement

Recommendation:

- Create multiple levels of public participation, from awareness raising to consultation and involvement in planning
  - Start early (before the planning of projects)
  - Two-way dialogue structure
- Build long-term collaboration with authorities and key stakeholders
- Ensure customer engagement with the users of recycled water (e.g. farmers) throughout the design and development process.

6. Inform, raise awareness and educate

Challenge:

- To build public acceptance and trust, people should be aware of the water cycle, the need to reuse water, and the associated benefits of reuse
- Need to raise public awareness of water reuse:
  - explain defacto water reuse
  - address the problem (water scarcity) and possible solutions, water reuse being one
  - show risks (health) and benefits (cost saving, environment) of water reuse

6. Inform, raise awareness and educate

Recommendation:

- Informing the public: providing objective and comprehensive information
- Through multiple communication channels (to reach a wide audience), e.g. technical information through leaflets, brochures
- More active forms of engagement
  - focus groups with community
  - public outreach programmes (e.g. site visits)
- A consistent communication strategy
  - communication needs to be linked to the perceptions and concern of the target group
  - tap into personal experiences
  - from the start of the planning process.

Workshop: round 1

- **In view of the EU ambition to realise the widespread implementation of water reuse schemes, which good practices do you consider most important for this region in the coming five years?**

➢ Place all 3  stickers

  ➢ *You are allowed to place all three stickers on one good practice, or divide them up between the different good practices.*

Workshop: round 2

- **For the successful adoption of which good practices, is most EU support required?**

➢ Place all 3  stickers

  ➢ *You are allowed to place all three stickers on one good practice, or divide them up between the different good practices.*

Workshop: round 3

- **In relation to the successful adoption of which good practice can your organisation make the biggest contribution?**

- *Write your name + the name of your organisation on a post-it*
- *Place the post-it on the particular good practice*

Thanks

- Grazie!

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DEMOWARE

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