



Outcomes from the Workshop on circular economy and water re-use

EUROPE-INBO 2016

What solutions and what role in the River Basin Management Plans ?

October 21, 2016, Lourdes, France

Context and objectives




- Pursuing the goal to play a more active role for EUROPE-INBO, CEENBO, MENBO in the 2016-2018 CIS, through better coordination between CIS works and Networks activities
- **Promote works and exchanges on current subject of interests of Europe-INBO members, namely circular economy and reuse of treated waste water**
- Preparatory works with ONEMA and Network representatives
- **Balance presentations between European framework and feedbacks from local projects**

Introduction session



- * Welcoming address by **Laurent Bergeot, Adour-Garonne Water Agency, France**
- * Circular economy and re-use, setting the scene and current works at European level, **Thomas Petitguyot, European Commission, DG ENV**
- * The approach in France, **Ludovic Hauduroy, French Ministry of Environment, Energy and Sea**
- * The approach in Spain, **Teodoro Estrela, Jucar Hydrographic Confederation**



European Commission

Water reuse in Circular Economy



- **EC Communication: "Closing the loop – An EU action plan for the Circular Economy"** (December 2015):
 - **Section 4. From waste to resources:** boosting the market for secondary raw materials and **water reuse**.
 - List of follow-up initiatives ([Annex](#)):
 1. **Reuse in integrated water planning and management** → [CIS Guidelines](#).
 2. **Minimum quality requirements for water reuse for irrigation & GW recharge** → [legislative proposal](#).
 3. **Water reuse in industrial activities** → [BREFs](#) (Best Available Techniques Reference Document).
 4. **Support to research and innovation**
 5. **EU funds for investments in water reuse**



Water Reuse in Canary Island

Type of resource	1993	1997	2004	2012
Water reuse	1,0	17,5	35,0	95,0
Desalination	37,0	76,0	130,0	188,0
Goundwater	262,4	326,0	273,0	40,0
Surface water	21,1	24,1	50,0	24,1

Canary Islands sources, Miom³/year

Operational cost: 0,25-0,30 €/m³
 Storage and transport: 0,10-0,15 €/m³
 Management: 0,10 €/m³
 Price of reclaimed water : 0,45-0,55 €/m³

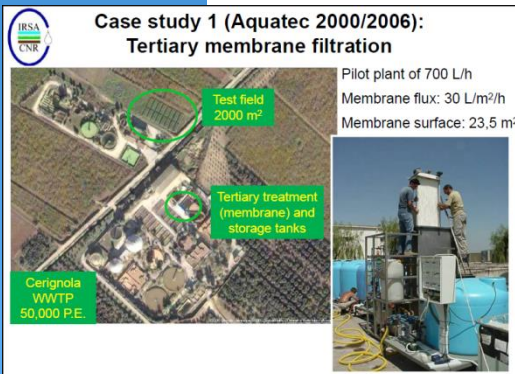
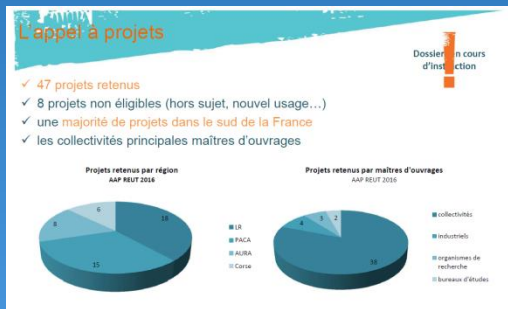



Theme 1: Recovery and re-use of wastewater

Presentations:

*France: A call for proposal on re-use projects at basins level,
Rémi Touron, Rhone Mediterranean Water Agency

*Italy: Experimental activities on reuse in Puglia region,
Alfieri Pollice, IRSA CNR, Water Research Institute



What are the pre-conditions for integrating re-use measures in the RBMPs ?

What policies and tools (financing, technical, governance...) at basin level to include and ensure the development of re-use projects integrated with the RBMPs and Programme of measures ?

How to engage citizens, stakeholders in the process ?

Theme 2: Recovery and re-use of wastewater

Presentations:





*Economic issues concerning treated waste water allocation. The case of study of Valencia,

Enrique Cifres, REMOC

RESEAU INTERNATIONAL DES ORGANISMES DE BASSIN
INTERNATIONAL NETWORK OF BASIN ORGANISATIONS
RED INTERNACIONAL DE ORGANISMOS DE CUENCA

Enrique Cifres, Dr. Eng
MEMBO Advisor
Oct 2016

Reuse of treated water from ALBUFERA SUR WWTP



1. TERTIARY TREATMENT AT ALBUFERA SUR WWTP
2. ENVIRONMENTAL REUSE PIPELINE
3. ARTIFICIAL WETLAND AT TANCAT DE MILIA
4. Balsa Regulacion Diaria

This Project allows treated wastewaters to meet required quality for agricultural purposes and environmental use by means of artificial wetland.

What are the examples and lessons learnt on the ground ?

What are main the limits and difficulties, constraints identified to actually develop circular economy in water management ?

What are recommendations, solutions, improvements to propose ?

Main outcomes (1)

Main findings at European level

- WWR is already a reality in Europe (1 billion m³/y in 2006) mostly in Spain and Italy
- WWR development potential is high as it represents less than 2,5% of total treated WW
- WWR is expected to grow in Europe in the next planning period (up to 6 billion m³/y in 2025)
- * → *EU Guidelines on Integrating Water Reuse into Water Planning and Management issued in 2016*

Socio economic

- water scarcity is the major driver and contributes to higher social acceptance (Jucar, Segura)
- Social acceptance is correlated to education level of consumers, and to the distance to WWproduction (the closest the highest)
- Reluctance against agricultural products from WWR can hide other strategic considerations

Main outcomes (2)

Financial

- Price of reclaimed water is covered by all the users as it is considered as a global resource pressure alleviation.
- Several kind of incentives implemented : no additional costs to farmers, less pollution fees to polluters(Spain), definition of minimal thresholds for water costs (Italy), marketing advantage in private sector (advanced technology, ethic...)

Innovation challenge

- Call for projects to support technology, governance models... in the RMC river basin
- Public Information and awareness rising events
- Greater involvement of local Authorities and private owners

legal

- Need for common minimal quality requirements standards
- But high diversity of local situations that implies RBMP specific regulation
- Need for better frame emerging practices

Main outcomes (3)

Pending issues for integrating WWR in the RBMP:

- Risk analysis on the long term : micro-pollutants, soil & plant accumulation, antibiotic...
- Specific facilities investments cost recovery : need to identify the benefiter and the water system
- Define the best scale to plan WWR : identify criterias, favorable conditions ...
- Give keys to local authorities to consider WWR in local management plans
- Agricultural markets (contracts & insurance)
- Labelling for agricultural products

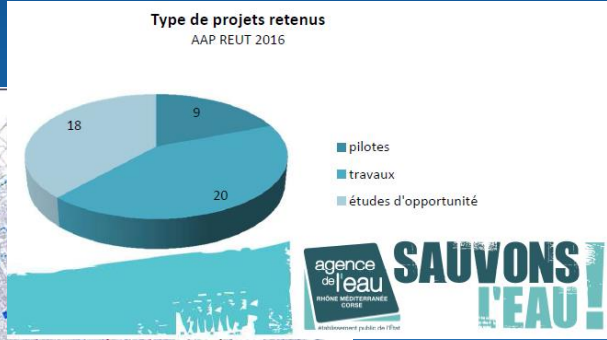
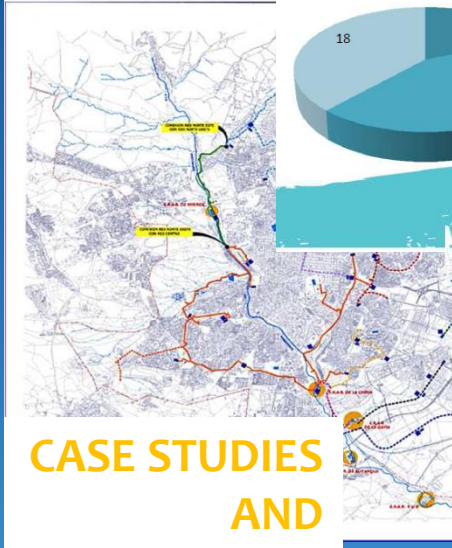
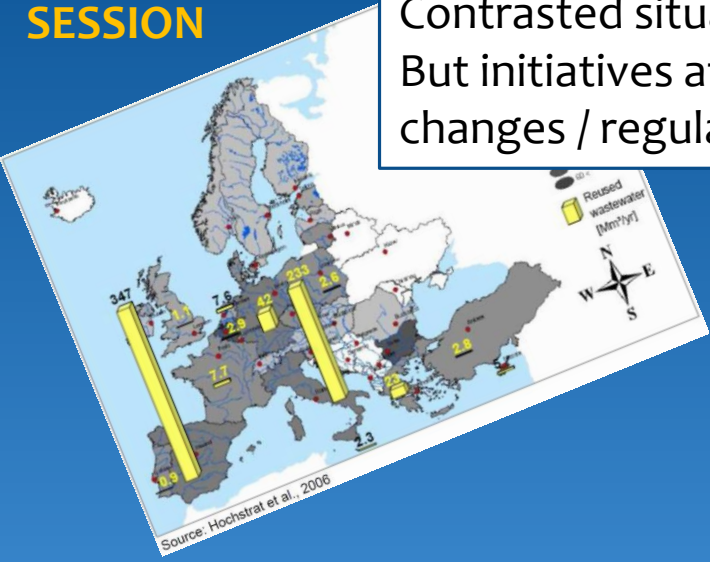
Main outcomes (4)

Pending issues for circular economy :

- WWTP of the future : an upside down vision of the whole sector (in and out) : users downstream, no more wasted matters but added value products....
- REUT part of circular economy
- Rethink conceptual models for fees calculation and cost recovery mechanisms
- Develop initiatives and projects in the basins

INTRODUCTION SESSION

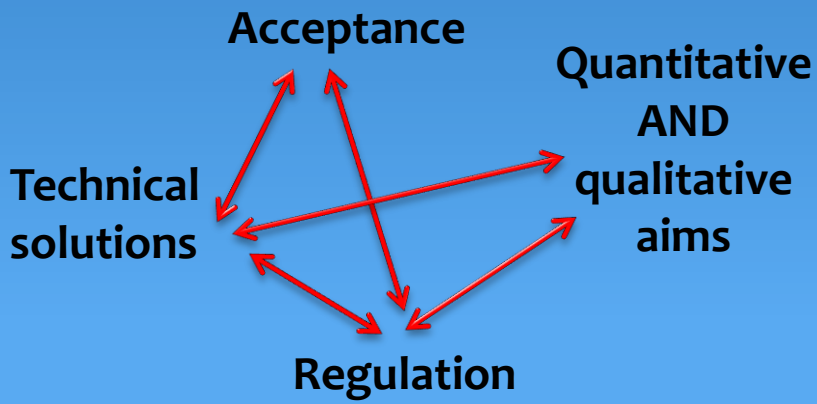
Evolution at EU level
 Contrasted situations in MS
 But initiatives at MS level /
 changes / regulations ...



CASE STUDIES AND DISCUSSIONS



= Debates on :



Key messages :

- Widen the scope => Circular economy (N, P, Energy, Chain of values...)
- Build the framework (involvt stakeholders, Funding, innovation, communication tools...)
- Have an economic insight (Willingness to pay, incentives, cost recovery...)
- Integration needed into the Planning process and RBMPs

Thank you for your active participation !

All communications, photos, concept notes, agenda:
etc...

<http://www.riob.org/events/19-22-octobre-2016-lourdes-france/communications-papers-858/workshop-on-circular-economy-and/>