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# EMWIS Coordination Committee Seminar

25-26<sup>th</sup> June 2008 MADRID  
Wastewater Reuse Report

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Wastewater Reuse Working Group (MED WWR WG)



# Mandate of the WWR WG

- Assess status of the situation in EU and non-EU Med countries.
- Obtain overview of issues at stake (clear definition of applications reuse, scoping, safety issues and sustainability).
- Recommend more specific action to be taken at EU level.
- Provide a forum for exchange of experience between countries in the Mediterranean.

*WWR WG convened twice in March and October 2007*





# Participant countries

## ■ EU

- **Malta** Malta Resources Authority
- **Spain** Ministry of the Environment
- **Italy** Ministry of Environment and protection of Land and Sea, Directorate General for the quality of life
- **Cyprus** Ministry of agriculture, Natural resources and Environment
- **France** MEDD/AESN





# Participant countries

## ■ Non EU

- **Palestine** Palestinian Agricultural Relieve Committee
- **Egypt** National Research Centre
- **Jordan** Jordan University
- **Israel** Water Quality Research laboratory, Ministry of Health
- **Tunisia**



# Participant organisations

- Coalition Clean Baltic
- British Water / Aqua Europe
- WECF
- EUREAU
- MAP / WHO/MED-POL
- RMSU/MEDA Water
- EIB
- Institut für Verfahrenstechnik
- DG Environment

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# WWR WG tasks

- preliminary appraisal of status of wastewater reuse:
  - *applications clearly defined*
  - *existing policies, legislation and standards examined.*
  - *current practices on reuse applications assessed*
- synthesise the information gathered.
- recommend follow-up action.





# Contents of the report

- Key definitions and applications.
- A summary of social, environmental and economic benefits and risks, associated with wastewater reuse.
- Assessment of the importance of wastewater reuse in the EU-MED region.
- Appraisal of reference legal frameworks and guidelines for safe reuse in different countries.
- Correlation of wastewater reuse to the EU legal framework for the Environment.
- Economic issues
- 26 case studies from EU and non-EU countries.
- Key recommendations.





# Current status of treated wastewater reuse

- WW reuse an accepted practice in Europe and Mediterranean.
- Majority of Med countries reuse treated wastewater for agriculture and environmental enhancement.
- Few countries have developed comprehensive standards for reuse and/or encourage reuse applications.







# Findings

- Around 1 Billion m<sup>3</sup>/annum wastewater treated and reused in Europe.- equivalent to 2.4% of all treated wastewater.
- Reuse rates are high in some countries Cyprus (100%), Malta (60%); lower in others: Greece, Spain Italy (between 5% - 12%).
- Applications: agriculture (75%) environmental enhancement (8%), industry, urban, groundwater recharge (6%)- urban/coastal, north-south patterns.
- Regulations/standards in many countries (WHO)- but not an EU level.
- Treated wastewater reuse: valuable alternative resource (especially in the context of adaptation to climate change and water scarcity)
- Economics: more work needed to assess the right economic instruments which will be conducive towards WFD objectives.





# Economics

- Overall economic impact of drought in last 30yrs – €100billion.
- Annual average impact doubled between 1976-1990 and between 1991-2006.
- a 20% wastewater reuse target in the EU may have reduced the economic impact by €20 billion in the last 30 years
- Data on economic externalities still lacking. More effort needed to measure the true economic value of treated wastewater reuse.
- Setting appropriate tariffs for treated wastewater provides an important incentive mechanism to encourage its reuse.





# Information needs

- Reference water reclamation technologies
  - Considering national/regional and global experiences
- Institutional backgrounds
  - Organisational arrangements and legal aspects
- Consistency with national and regional policy
- Consistency with water quality guidelines, standards and regulations
- Other legal aspects i.e. env/civil/financial liabilities
  - Precautionary principle in water reuse





# Conclusion and key recommendation:

- Development of a European and Mediterranean guidance framework
- Provide consistent approach to the management of health and environmental risks.
- Recommend ways of applying wastewater reuse to policy measures and to the achievement of objectives, set by the WFD legal framework (already existing in EU countries)
- BAT for the application of wastewater reuse in different circumstances.
- Improving public awareness and educating stakeholders on good practice and on the benefits of sustainable resource management.
- Using lessons learned from existing facilities as a tool for improving economic efficiency of the reuse process.





Thank you!

