

**EU legislation and EU water projects
(Mediterranean region)**



Contents presentation

- EU Water legislation: WFD and UWWTD
- EU Water Projects in Mediterranean area



European Union legislation on waste water treatment and nutrient removal

Key directives:

- Urban Waste Water Treatment Directive
- Water Framework Directive



History of Water Policy

- First wave of legislation 1975
- Binding quality targets, quality objective legislation on fish waters, shellfish waters, bathing waters and groundwaters
- Second wave of legislation 1988-early nineties addressing urban and agricultural pollution in water : the Urban Waste Water Treatment Directive and the Nitrates Directive, addressing water pollution by nitrates from agriculture.

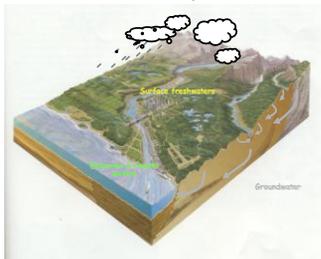


History of Water Policy

- EU Rethink 1995: Third Wave
- Whilst EU actions of the past such as the Drinking Water Directive and the **Urban Waste Water Directive** can be considered milestones, European Water Policy has to address the increasing awareness of citizens and other involved parties for their water. At the same time water policy and water management are to address problems in a coherent way. This is why the new European Water Policy was developed in an open consultation process involving all interested parties
- The result is The EU **Water Framework Directive**.

Water Framework Directive

- Applies to all surface and groundwaters and dependent waterbodies
- The most significant piece of European legislation to date dealing with water quality and quantity



Water Framework Directive - integrated river basin management for Europe (2000/60/EC)

- Directive 2000/60/EC of the European Parliament and the Council of 23 October 2000
- Establishes a **framework** for community action in the field of water policy
- May mean extensive changes in regulations and monitoring programme
- The Directive is legally binding and is to be reflected in national legislation within three years
- Common approach with respect to interpretation, goals, legislative principles and methods



Recommendations of the WFD

- It combines protection of ecological status with long-term water use and sustainable development

- Demand management and reduced water consumption, through the use of water charging and other economic incentives as well as the use of less water consuming technology, re-use of waste waters, changes in crop choices and development of efficient irrigation systems must be explored

- An incentive for finding solutions, which build on a genuinely better balanced between exploitation of available resources and protection and improvement of the natural resources and natural ecology



Recommendations of the WFD

- Water cannot be abstracted, transferred or diverted in large quantities without a throughout examination of the possible environmental impacts

- This is likely to reduce transfer of water and give incentives towards a mix of other instruments, including demand management, charging, recycling and re-use of water, development of less water consuming technologies and agricultural practices, land use policies, etc.



Incorporates existing legislation

- The Bathing Water Directive (76/160/EEC)
- The Birds Directive (79/409/EEC)
- The Drinking Water Directive (80/778/EEC) as amended by Directive (98/83/EC)
- The Major Accidents (Seveso) Directive (96/82/EC)
- The Environmental Impact Assessment Directive (85/337/EEC)
- The Sewage Sludge Directive (86/278/EEC)
- **The Urban Waste-Water Treatment Directive (91/271/EEC)**
- The Plant Protection Products Directive (91/414/EEC)
- The Nitrates Directive (91/676/EEC)
- The Habitats Directive (92/43/EEC)
- The Integrated Pollution Prevention Control Directive (96/61/EC)



UWWTD: Treatment objectives



- Basically "secondary treatment" (i.e. biological treatment involving organic carbon removal)
- Additional N and P removal - "advanced treatment" in "sensitive areas", i.e. basically water bodies being eutrophic or tending to be eutrophic
- Exceptions possible in "less-sensitive areas", i.e. certain marine areas, and in high mountain areas



UWWTD: Requirements secondary treatment



Parameters	Concentration max. annual means	Minimum reduction %
BOD5	25 mg/l O2	70 – 90
COD	125 mg/l O2	75
Total suspended solids	35 mg/l	90

- Either the concentration or the percentage of reduction shall apply
- 24-hours samples
- Minimum annual number of samples depending on size of treatment plant, plus maximum number of non-complying samples



UWWTD: Requirements for discharges in sensitive areas/ Advanced treatment



Parameters	Concentration	Efficiency (% of reduction)
Total Phosphorus 10.000 -100.000 p.e. > 100.000 p.e.	2 mg/l	80%
	1 mg/l	80%
Total Nitrogen 10.000 - 100.000 p.e. > 100.000 p.e.	15 mg/l	70 – 80%
	10mg/l	70 – 80%

- Either concentration or the percentage of reduction shall apply
- One or both parameters are to be applied depending on local conditions
- Total N = org.N + NH₃/NH₄-N + NO₂-N + NO₃-N
- Annual mean of samples to comply




Water Framework Directive - Main principle

It requires that all inland and coastal waters within defined river basin districts must reach at least good status by 2015 and defines how this should be achieved through the establishment of environmental objectives and ecological targets for surface waters. Aim to have sufficient supply of good quality surface water and groundwater.






Water Framework Directive – Key elements

- Protecting all waters and all impacts on these waters
- Good quality ('good status') to be achieved, as a rule, by 2015 - linked to a non-deterioration clause
- Water quality defined in terms of biology, chemistry and morphology (surface waters) and of chemistry and quantity (groundwater)
- Monitoring programs for surface and groundwater
- Water management based on river basins
- Economic instruments: economic analysis, and getting the prices right (to promote prudent use of water)



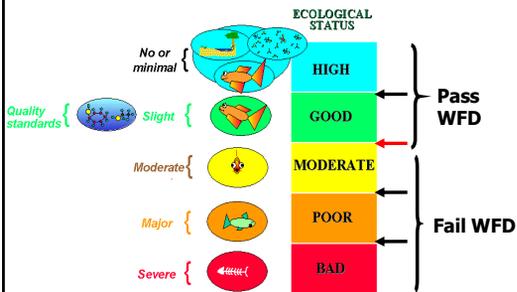



Water Framework Directive – Key elements – cont.

- Participation by citizens, municipalities, NGOs in developing river basin management plans
- Streamlining water legislation and providing one coherent management frame for water legislation



Ecological Status for Surface Waters



Important milestones

- | | |
|-------------|--|
| 2003 | Districts defined, legislative proposals |
| 2004 | Characterization pressures, discharge, economic analyses |
| 2006 | Monitoring Assessment
Management plan proposal |
| 2008 | Discussion of management plan |
| 2009 | Management plan in operation and published |
| 2012 | First interim report |
| 2015 (2020) | Environmental (emissions) goal achieved |
| 2027 | Last deadline for reaching goal where delays have been granted |

Strategic administrative approach

At European Union level

- Division of Europe into Ecoregions

National Responsibility

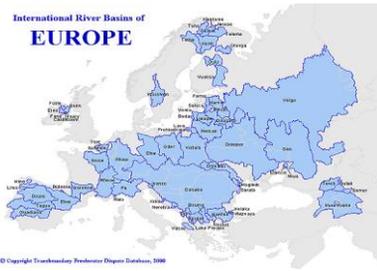
- Identify River Basin Districts – National & International
- Nominate Competent Authorities
- Transposition of Directive in National Regulation
- Report to EU Commission
- Resource the implementation activities and achievement of the objectives



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WFD is based on Transnational River Basins

International River Basins of
EUROPE



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Transnational River Basins

- Legislation focused also on the need for international collaboration for certain river basins which cross (Member State) boundaries
- About 60% of the EU's surface area lies in river basins that cross at least one national border
- Let's look at a example of transnational cooperation



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EEA: European Environment Agency



- Body of the EU
- Provide sound, independent information on the environment
- Major information source for those involved in developing, adopting, implementing and evaluating environmental policy, and also the general public
- Membership is open to countries that are not Member States of the European Union
- Currently, the EEA has 32 member countries and six cooperating countries (Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Montenegro and Serbia)



Eionet: European environment information and observation network

- Partnership network of the EEA and the countries involved
- Responsible for coordinating national networks involving many institutions (about 300 in all)
- Responsible for supporting the collection and organization of data and the development and dissemination of information



How to get the information??: Water Information System for Europe



- Development by EU and EEA in 2007
- New, comprehensive, shared European data and information management system (interactive internet tool) for water, including river basins
- The system should be fully implemented by 2010



WISE aims

- Efficient management of all water-related information at EU level
- Coherence between various reporting mechanisms and needs phasing out paper-based reporting
- Access to information / data for various purposes and needs



References

This presentation is based on the material provided by the EU in the form of websites and brochures.

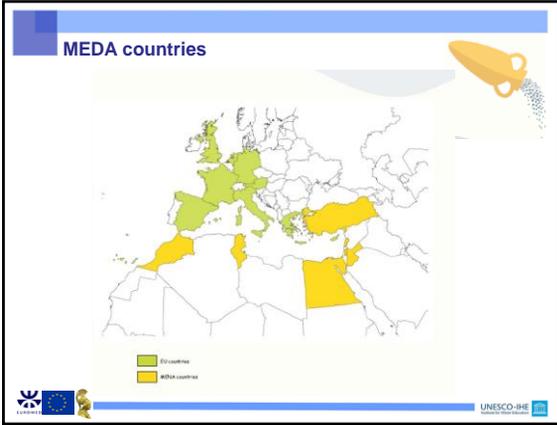
- <http://www.eea.europa.eu/>
- <http://ec.europa.eu/environment/water>
- <http://www.eionet.europa.eu/>
- and the Water Notes on the implementation of the WFD (<http://water.europa.eu/>)

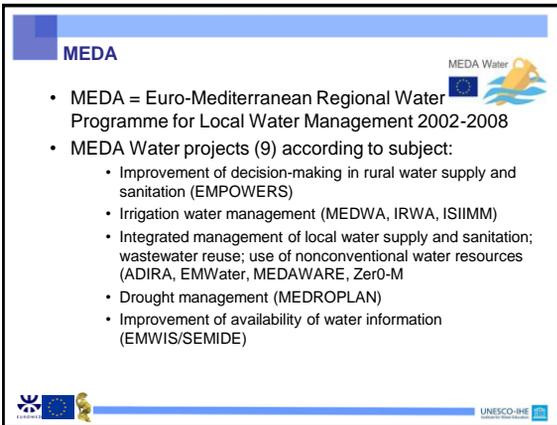


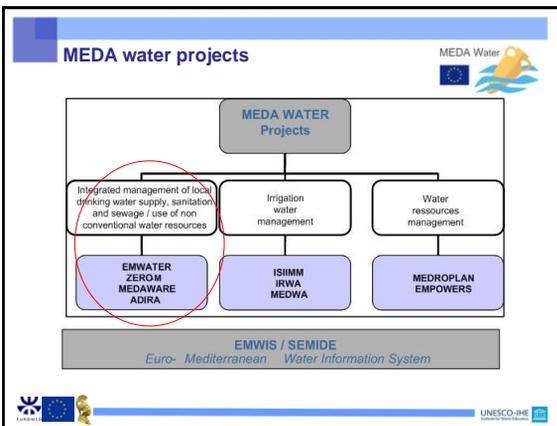
EU water projects

Mediterranean









ADIRA



- To develop concepts to supply rural areas with fresh water produced from sea or brackish water. This will alleviate water shortage in areas with scarce water resources
- Egypt, Jordan, Morocco and Turkey, Greece and Spain

Information on Sites




MEDA EMWater



- Efficient management of wastewater, its treatment and reuse
- Jordan, Lebanon, Palestine, Turkey, Germany, Italy.




MEDAWARE

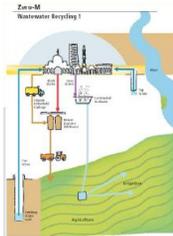


- The promotion of efficient wastewater treatment systems and sustainable wastewater reuse in agriculture
- Cyprus, Jordan, Lebanon, Morocco, Palestine and Turkey




ZERO-M

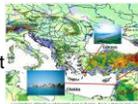
- Zer0-M aims at testing and refining concepts and technologies for a close-loop usage of all water flows in small communities: the Zero Outflow Municipality
The target countries are Egypt, Morocco, Tunisia and Turkey.



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MEDITATE (SMAP)

- MEDITATE = MEditeranean Development of Innovative Technologies for intergAted waTer managEment 2004 - 2007
- Countries: France, Jordan, Lebanon, Spain, Syria, Turkey
- Water Management (projects)
 - Capacity building
 - Collection, treatment, disposal and re-use of waste water
 - Data collection, analysis, monitoring
 - Networking, participation and partnership building
 - Prevention of salinisation and treatment of brackish water
 - Waste water treatment systems



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The European Union Framework (II)

- LIFE Third countries
- EU water initiative and its Mediter. Comp. (MED-EUWI)
 - The joint MED-EUWI / WFD process
- The European Strategy for the Marine Environment
- EXACT
- ENP: the Neighbourhood Policy
 - European Neighbourhood and Partnership Instrument ENPI, replaces MEDA
- The Horizon 2020 Initiative



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MED EUWI

EUWI MED
EUROPEAN WATER INITIATIVE

- MED EUWI = EU Water Initiative Mediterranean component: Joint platform for stakeholders
- Financing: projects via MEDA programme
- Themes
 - Water supply and sanitation,
 - Integrated water resources management,
 - Water, food and environment interaction
 - Non-conventional water resources
 - Transfer of technology, transfer of know how, capacity building and training



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EXACT (Netherlands Ministry of Foreign Affairs)

- EXACT = Executive Action Team 2002-2007
- Countries: Israel, Jordan, OPalestinianT
- Topics:
 - Small-scale Treatment Facilities for Domestic Use
 - Artificial Recharge with Surface Water
 - Groundwater Modelling

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ENP: European Neighbourhood Policy: objectives



- To supporte our neighbours' economic reform processes and offering significant economic integration
- To deepen political cooperation, on the basis of shared values and common interests
- To promote security and stability by working with neighbours to address development, environment, non-proliferation and counter-terrorism issues
- Country Action Plans

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ENPI European Neighbourhood and Partnership Instrument



- Convergence with EU Water Policies, a “policy driven” financial instrument
- Will support in the period 2007–2013 the implementation of the ENP Action Plans
- Follow up of MEDA
- Countries:
 - Ukraine, Moldavia, Belarus, Georgia, Armenia, Azerbaijan, Syria, Lebanon, Israel, the Palestinian Authority, Jordan, Egypt, Libya, Tunisia, Algeria and Morocco



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Horizon 2020

- Reduce pollution Mediterranean sea
- 2007-2013: 1st phase
- Action/ working groups:
 - Investments for Pollution Reduction (PR);
 - Capacity Building (CB) for achieving H2020 objectives;
 - Review, Monitoring and Research (RMR).
- countries:
 - Albania, Algeria, Bosnia Herzegovina, Croatia, Egypt, Israel, Jordan, Lebanon, Montenegro, Morocco, occupied Palestinian territory, Syria, Tunisia, Turkey



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http://ec.europa.eu/environment/enlarg/med/horizon_2020_en.htm
- Communication establishing an environmental strategy for the Mediterranean (also in French and Arabic)
http://eur-lex.europa.eu/LexUriServ/site/en/com/2006/com2006_0475en01.pdf
- European Neighbourhood Policy
 - Includes, actions plans + ENPI Strategies and indicative programmes
http://ec.europa.eu/world/enp/index_en.htm
- Euro-Mediterranean Partnership
 - Includes ENPI Regional Strategy Paper
http://ec.europa.eu/comm/external_relations/euromed/index.htm
- Assessment and prospects for cooperation in the Mediterranean water sector”, Final Report, 21 July 2008 :
http://www.emwis.net/topics/reg-coop/Rapport_final_EN.pdf



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