Requirments for national planning documents as part of the Acquis: Programme for the implementation of the Urban Waste Water Treatment Directive

Gheorghe Constantin
Director
Ministry of Environment, Water and Forests

ECRAN Regional Workshop on Strategic Planning in Water Sector
Podgorica, 3-4 June 2015

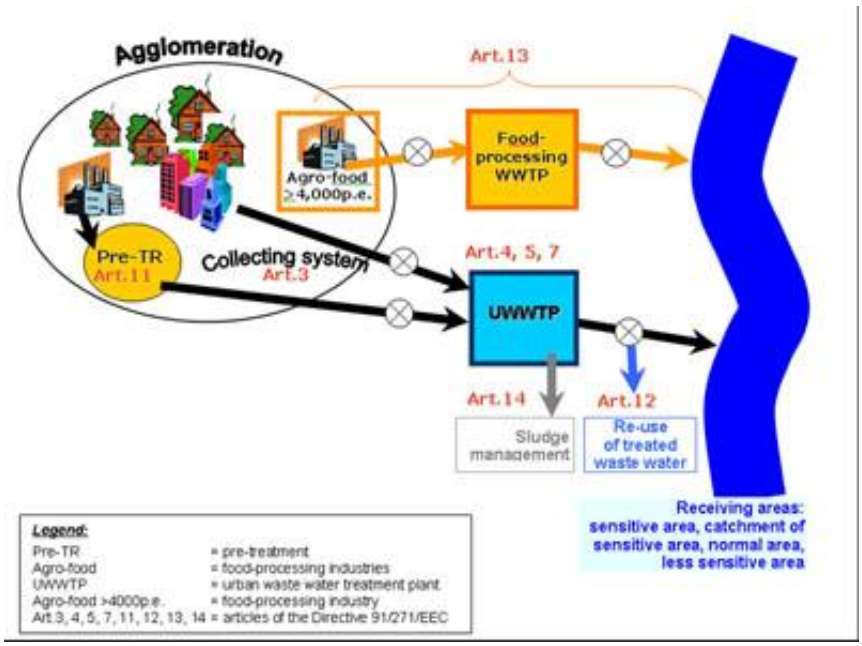
Requirements of the UWWTD

- The collection and treatment of waste water in all agglomerations of >2000 population equivalent (p.e.);
- Secondary treatment of all discharges from agglomerations of > 2000 p.e., and more advanced treatment for agglomerations >10 000 population equivalent in designated sensitive areas and their catchments;
- A requirement for pre-authorisation of all discharges of urban wastewater, of discharges from the food-processing industry and of industrial discharges into urban wastewater collection systems;
- Monitoring of the performance of treatment plants and receiving waters; and
- Controls of sewage sludge disposal and re-use, and treated waste water re-use whenever it is appropriate

Principles of the UWWTD

Four main principles are laid down in the Directive:

- Planning
- Regulation
- Monitoring
- Reporting



Problems of Romania related to the urban wastewater collection and treatment(I)

- Less than 50% of population have access to centralized water/wastewater services
- Almost 80% of wastewater discharged in natural receivers untreated or insufficiently treated
- Most of the existing water infrastructure – in poor status due to long term under-investments
- Excessive fragmentation of water sector systems and services
- Inappropriate maintenance and operating services in most small and medium agglomerations

Problems of Romania related to the urban wastewater collection and treatment(II)

- Lack of capacity to attract substantial funding for investment needs in majority of small and medium agglomerations
- Private sector – not interested to invest in short term
- High specific water consumption –more than 350 l/inhabitant and day

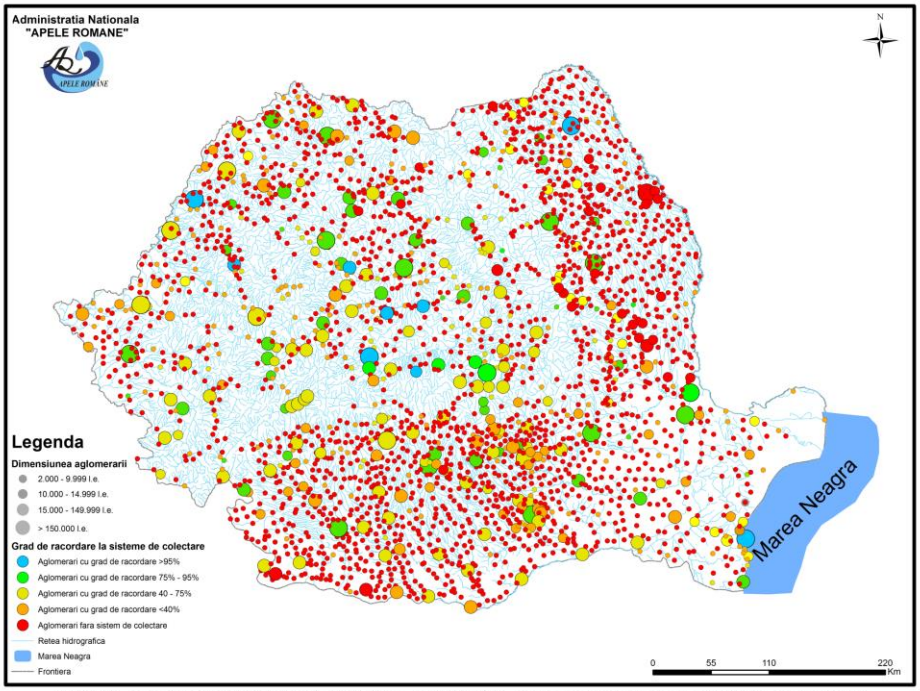


Fig.3.6. Aglomerari umane (>2000 l.e.) si gradul de racordare la sistemul de colectare

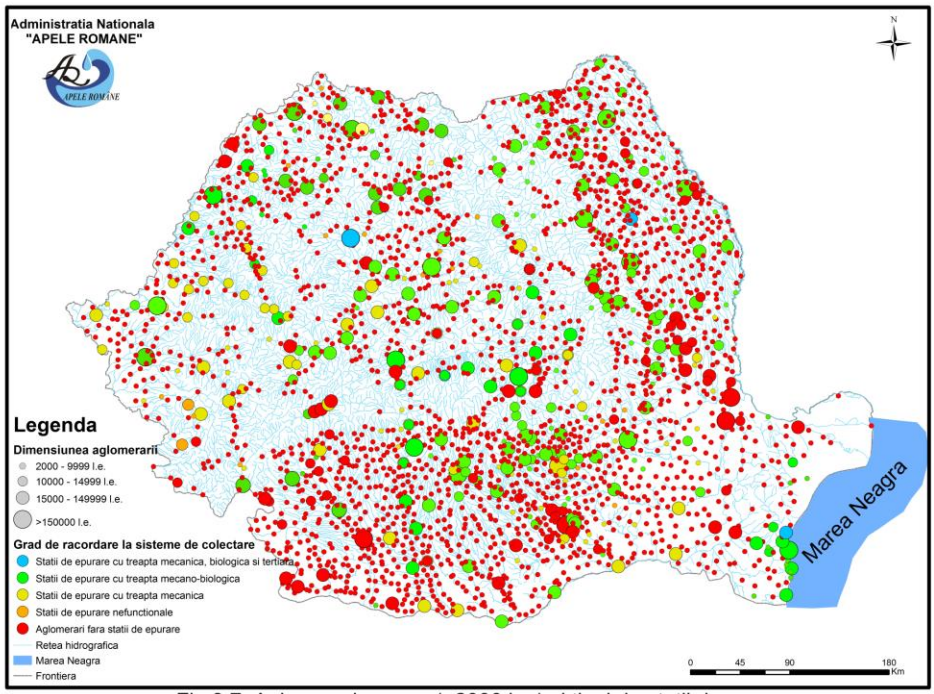
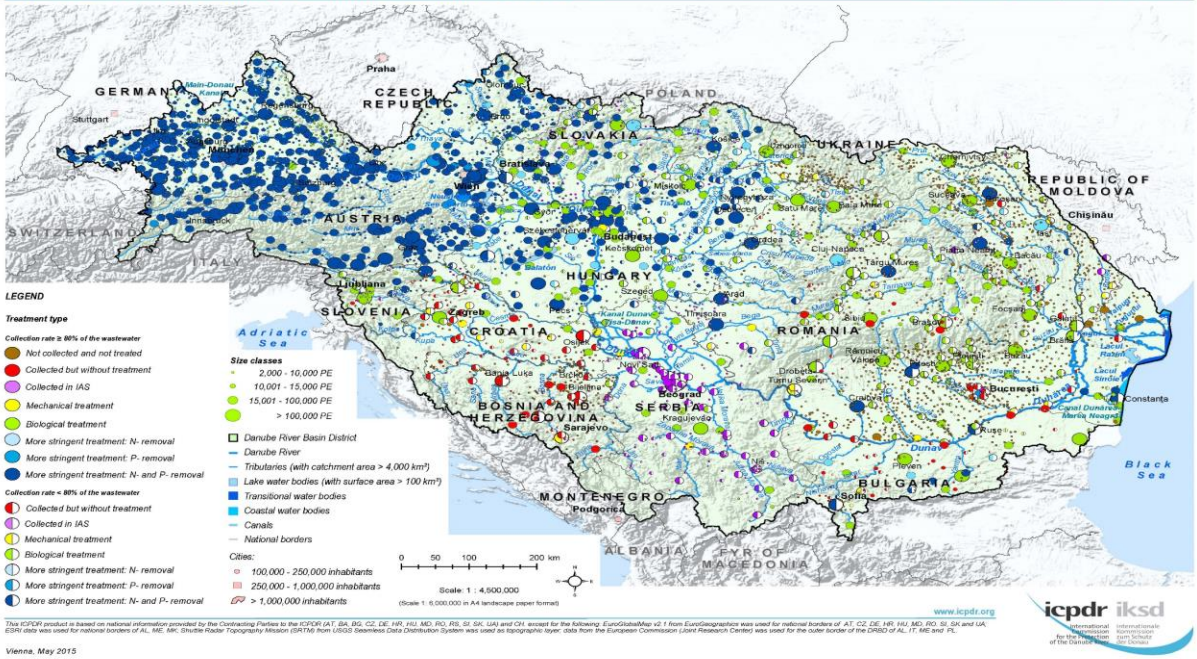


Fig.3.7. Aglomerari umane (>2000 l.e.) si tipul de statii de epurare

Urban Wastewater Treatment – Reference Situation 2011/2012

Draft DRBM Plan - Update 2015 - MAP 5

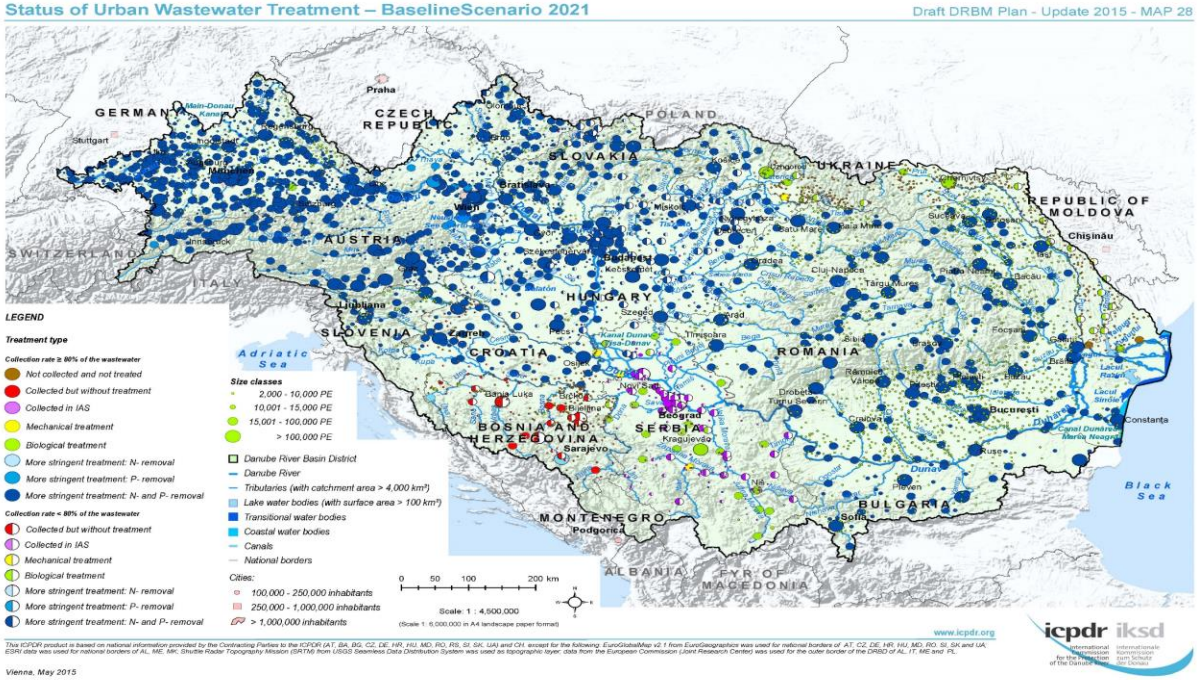


This ICPDR product is based on national information provided by the Contracting Parties to the ICPDR (AT, BA, BG, CZ, DE, HR, HU, MD, RO, RS, SI, SK, UA) and CH, except for the following: EuroGlobalMap v2.1 from EuroGeographics was used for national borders of AT, CZ, DE, HR, HU, MD, RO, SI, SK and UA; ESRI data was used for national borders of AL, ME, MK; Shuttle Radar Topography Mission (SRTM) from USGS Seamless Data Distribution System was used as topographic layer; data from the European Commission (Joint Research Center) was used for the outer border of the DRBD of AL, IT, ME and PL.

Vienna, May 2015

Status of Urban Wastewater Treatment – BaselineScenario 2021

Draft DRBM Plan - Update 2015 - MAP 28

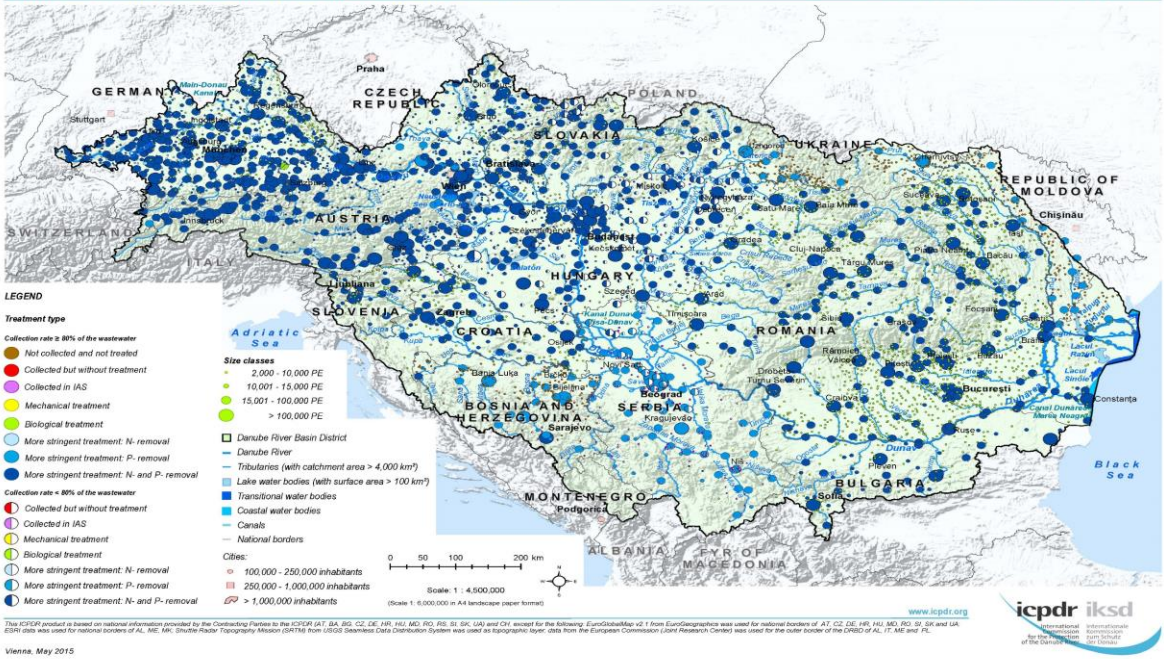


This ICPDR product is based on national information provided by the Contracting Parties to the ICPDR (AT, BA, BG, CZ, DE, HR, HU, MD, RO, RS, SI, SK, UA) and CH, except for the following: EuroGlobalMap v2.1 from EuroGeographics was used for national borders of AT, CZ, DE, HR, HU, MD, RO, SI, SK and UA; ESRI data was used for national borders of AL, ME, MK; Shuttle Radar Topography Mission (SRTM) from USGS Seamless Data Distribution System was used as topographic layer; data from the European Commission (Joint Research Center) was used for the outer border of the DRBD of AL, IT, ME and PL.

Vienna, May 2015

Status of Urban Wastewater Treatment – Midterm Scenario

Draft DRBM Plan - Update 2015 - MAP 29

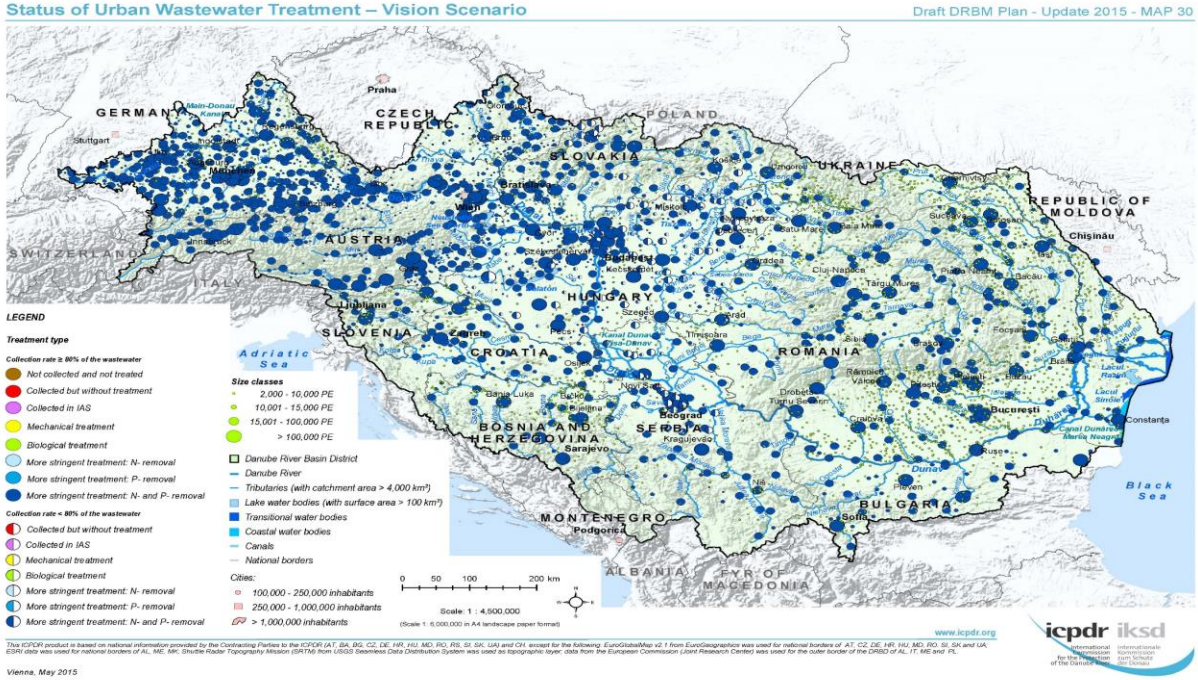


This ICPDR product is based on national information provided by the Contracting Parties to the ICPDR (AT, BA, BG, CZ, DE, HR, HU, MD, RO, RS, SI, SK, UA) and CH, except for the following: EuroGlobalMap v2.1 from EuroGeographics was used for national borders of AT, CZ, DE, HR, HU, MD, RO, SI, SK and UA; ESRI data was used for national borders of AL, ME, MK; Shuttle Radar Topography Mission (SRTM) from USGS Seamless Data Distribution System was used as topographic layer; data from the European Commission (Joint Research Center) was used for the outer border of the DRBD of AL, IT, ME and PL.

Vienna, May 2015

Status of Urban Wastewater Treatment – Vision Scenario

Draft DRBM Plan - Update 2015 - MAP 30



This ICPDR product is based on national information provided by the Contracting Parties to the ICPDR (AT, BA, BG, CZ, DE, HR, HU, MD, RO, RS, SI, SK, UA) and CH, except for the following: EuroGlobalMap v2.1 from EuroGeographics was used for national borders of AT, CZ, DE, HR, HU, MD, RO, SI, SK and UA; ESRI data was used for national borders of AL, ME, MK; Shuttle Radar Topography Mission (SRTM) from USGS Seamless Data Distribution System was used as topographic layer; data from the European Commission (Joint Research Center) was used for the outer border of the DRBD of AL, IT, ME and PL.

Vienna, May 2015

UWWTD in Romania

- Transposed by a Governmental Decision (which have been changed and modified)
- Responsible authorities

  -Ministry of Environment, Water and Forests

  -National Administration “Romanian Waters”

  -Ministry of Administration and Regional Development

  -Local authorities

  -Water and Waste Water Operators

Obligation related to UWWTD

- Designate sensitive areas (sensitive water bodies) in accordance with three specific criteria, and to review their designation every four year –**entire Romania is a sensitive area due to the Black Sea**
- Identify the relevant hydraulic catchment areas of the sensitive areas and ensure that all discharges from agglomerations with more than 10 000 p.e. located within the catchment shall have more stringent than secondary treatment
- Establish less sensitive areas if relevant- **it is not the case**;
- Establish a technical and financial programme for the implementation of the Directive for the construction of sewage collecting systems and wastewater treatment plants addressing treatment objectives within the deadlines set up by the Directive and the Accession Treaties
- Establish systems of prior regulation or authorisation for all discharges of urban wastewater
- Establish monitoring programs for both discharges from urban wastewater treatment plants and receiving waters.
- Information and reporting for the European Commission and public

Needed wastewater infrastructure in Romania according with UWWT Directive

- Building new urban wastewater treatment plants
- Upgrading the existing urban wastewater treatment plants
- Upgrading the existing local industry wastewater treatment plants
- Rehabilitation of the existing urban sewerage
- Building and/or extension of the urban sewerage.

Transition periods

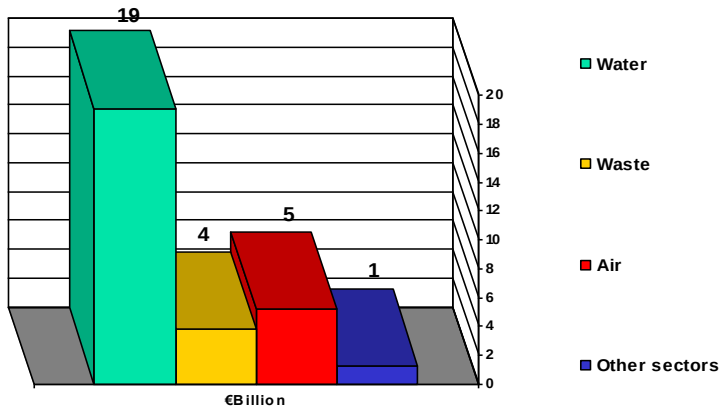
- Till **31 December 2013** for collection of wastewater in 263 agglomerations (61,9 % from biodegradable load)
- Till **31 December 2018** for collection in 2346 agglomerations (38,1 % from biodegradable load)
- Till **31 December 2015**, for urban wastewater treatment in 263 agglomeration with more than 10000 i.e. (including P and N removal)
- • Till **31 December 2018**, for urban wastewater treatment for 2346 aglomerations with less 10000 i.e.
- Estimated cost:9.5 billions Euro

Water sector – top priority

The most demanding environmental sector

- **19 billions Euro – total estimated investment costs for compliance with EU Water Directives**
- **App. 8.6 billions Euro needed by 2013 for water and wastewater, only 4 bil. Available within SOP framework**
- **App. 9.5 billions Euro needed for implementation of Urban Wastewater Treatment Directive**

Cost assessment - Romanian environmental sector



Approach for Definition of Agglomerations

- Definition in the Implementation Plan
- Definition in the Master Plan
- Detailed boundaries in the Feasibility Study

19

Agglomerations in the Implementation Plan

- Preliminary definition
- Mainly based on administrative borders
- Rough estimate of investment costs
- Inventory of agglomerations(annexes of Implementation Plan)

20

Definition of agglomerations in the Master Plan

- **Identification** of all settlements at thecounty level (maps and data base)
- **Defining** of agglomerations based on techno-economic assessment
- **Option Analysis** (central/de-central)
- Discussion with **stakeholders**
- Preparation of Long-term investment plan

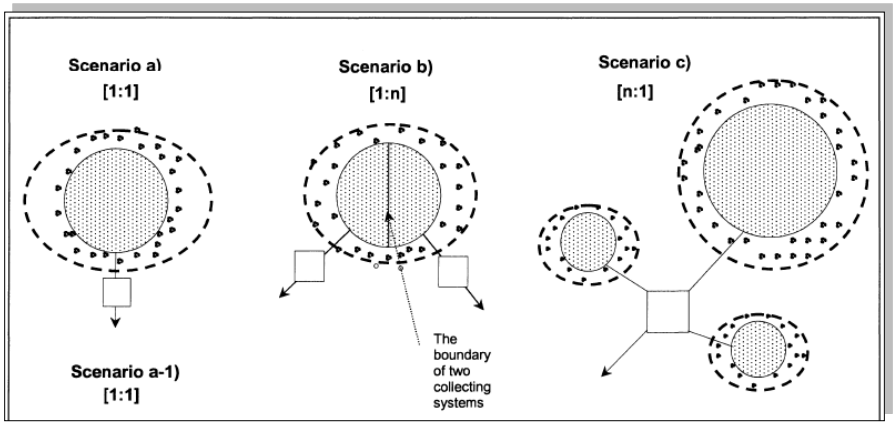
21

Final Definition of Agglomerations in the Feasibility Study

- More **detailed definition** of boundaries for **selected agglomerations** (priority investments) based on technical and economic cost analysis
- Detailed **option analysis**
- Preparation of **final/detailed maps** and data base on agglomerations

22

➡ Scenarios “Definitions of UWWTD”



23

Implementing financing strategy

- **Ensure EU funds adsorbtion**
- **Linking the strategy to the budgetary decision making process**
- **Ensuring that tariff policies are sustainable from economic and social point of view**
- **Increase the collection rate for water bills**
- **Rehabilitate and rationalize infrastructure by adjusting its capacity to present and future**
- **Optimizing capital and operational expenditure**

Financing Strategy(1)

- Total amount needed 9.5 billions Euro
- Financing sources:

-EU funds	40%
-National and local budget	30%
-Loans and PPP	20%
-Environmental Fund	3%
-Consumers (Operators)	7%

Financing Strategy(2)

- 2004-2006 ~ 175 millions Euro yearly
- 2007-2009 ~ 400 millions Euro yearly
- 2010-2015 ~ 900 millions Euro yearly
- 2016-2018 ~ 800 millions Euro yearly

Regionalisation

- Regionalisation of water services - mainly driven by pre-accession programmes (FOPIP and ISPA)
- Slightly different approach, but the same final objective
- Intend to best use of available resources

Advantages of regionalization

Improved technical capacity
Improved financial capacity
Improved lending capability
Improved investment planning
Optimization of available resources
Capacity to operate of existing regional systems
Capability to meet EU W & WW Directive
Tariffs leverage around the region

Harta Operatorilor Regionali de Servicii de Apa

Evolution of Consumption Indes Prices per services categories, between 2003 - 2013

Year	Total CIP per year	CIP drinking water	CIP sewerage
2003	112,70%	127,52%	129,00%
2004	108,10%	119,72%	120,54%
2005	107,80%	125,22%	130,58%
2006	103,80%	117,23%	122,25%
2007	106,35%	106,54%	111,06%
2008	105,40%	110,58%	115,41%
2009	103,46%	113,08%	124,12%
2010	104,49%	113,34%	123,93%
2011	103,14%	115,79%	131,22%
2012	104,95%	106,27%	110,75%
2013	101,55%	109,74%	120,74%

Source : National Statistics Institute

Selection of priority investments

Two step approach:

Step 1: Mandatory criteria

- Compliance date
- Association agreement

Step 2: Ranking

- Size of agglomeration (highest weight)
- Health improvement
- Environmental improvement
- Efficiency improvement

32

Need to coordinate with the implementation of Drinking Water Directive and WFD

- Aplying a river basin approach concerning water supply and waste water treatment
- Investment prioritization according with the pressure and impact on waters and aquatic environment
- Maximizing available funds effectiveness by carying out regional systems for water supply and waste water treatment
- Promoting integrated projects for water and waste water

Conclusions

- Development of the wastewater infrastructure requires important financial resources
- Securing the financial resources requires a a mixture of instruments provided by EU, national and local budget, IFIs and operators
- A careful planning could lead to a better ratio cost/benefits
- Tariff policy is a key issue for a sound investment
- Regionalization facilitate the investment