

From general to specific:  
Implementation Plan for public sector  
directive

Romanian experience on UWWTD

Gheorghe Constantin

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Main objective of UWWTD

Environmental protection from the negative effects of the untreated urban waste water discharges and waste waters coming from certain industrial sectors (mainly food industry)

## Obligations under 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 had access to centralized water/wastewater services
- Almost 80% of wastewater was 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

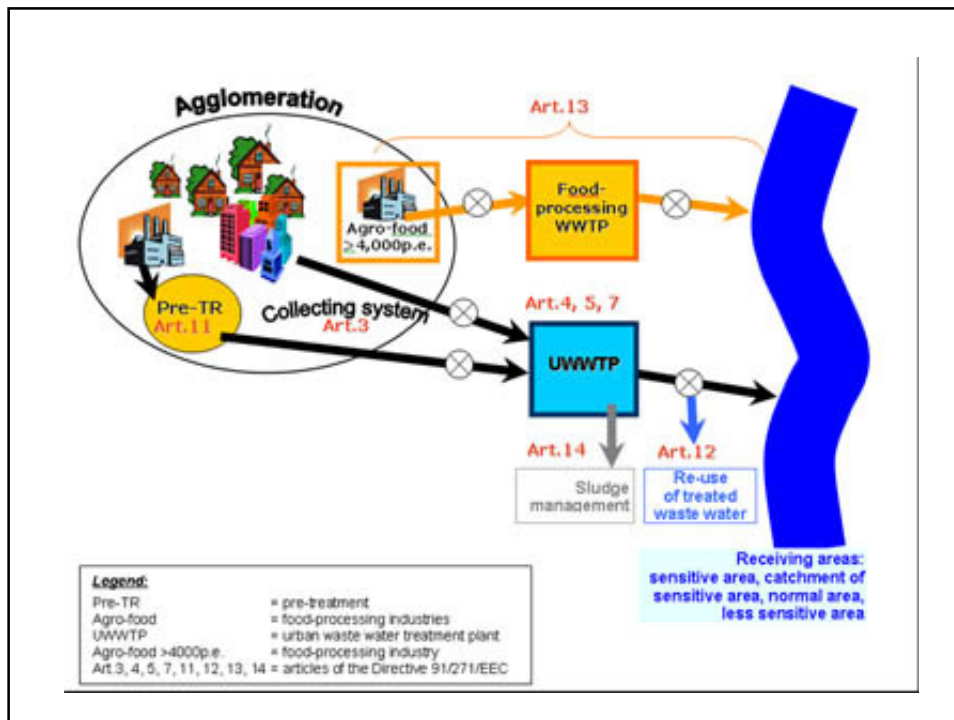


## Why an implementation plan?

- Because not fully complying with the provision of the UWWTD
- To highlight the obligations
- To provide background for not complying
- To establish a staged schedule for compliance and to commit on its implementation
- To provide a framework for commitments monitoring

## Implementation Plan for UWWTD

- Obligations according with UWWTD
- Existing situation
- Proposed implementation
- Costs



## Existing situation

- Transposition
- Competent authorities
- Regulation of the UWWT
- Existing UWWT utilities
- Management of wastewater from food industry
- Wastewater monitoring

## Proposed implementation

- Approach and objectives
  - done objective by objective
  - identification of the implementation stages on each objective
  - responsibilities
  - deadlines
- Transition periods

## Costs

- Administrative costs
- Technical conformation costs
- Financial resources
- Financial Plan

## Development of the Implementation Plan

- Under the coordination of the Ministry of Environment (Leadership)
- With the cooperation of all involved institutions
- Using all the existing data
- Involving local authorities
- Financing the necessary studies

## Preliminary actions

- Identification of the natural waters affected by high nutrient concentrations
- Development of a methodology for identification of sensitive areas
- Develop a situation concerning sewerage and wastewater treatment
- Assessment of the necessary works for the UWWTD implementation

## UWWTD in Romania

- Transposed by a Governmental Decision (which have been changed and modified)
- Responsible authorities
  - Ministry of Environment and Climate Changes
  - National Administration “Romanian Waters”
  - Ministry of Administration and Regional Development
  - Local authorities
  - Water and Waste Water Operators

## Romanian obligations 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 authorization 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 agglomerations with less 10000 i.e.
- **Estimated cost:9.5 billions Euro**

## **Approach for Definition of Agglomerations**

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

21

## **Principles**

- Sound technical and economic assessment of boundaries and options
- Intensive stakeholder involvement
- Quality assurance by MECC

22

## Agglomerations in the Implementation Plan

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

23

## Definition of agglomerations in the Master Plan

- **Identification** of all settlements at the county 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

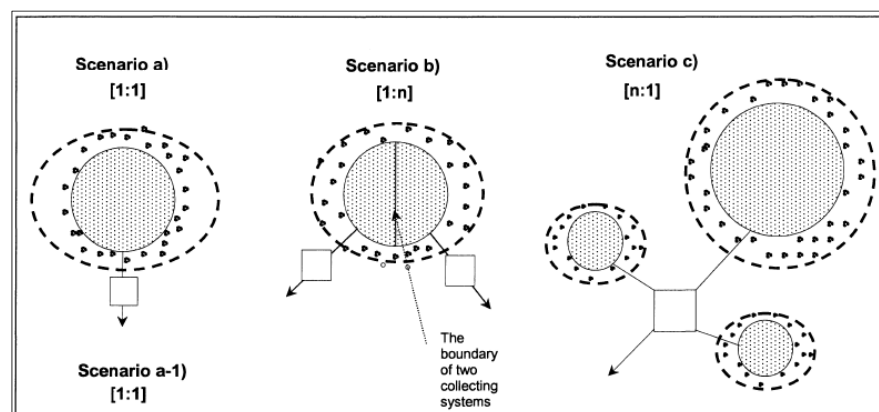
24

## 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

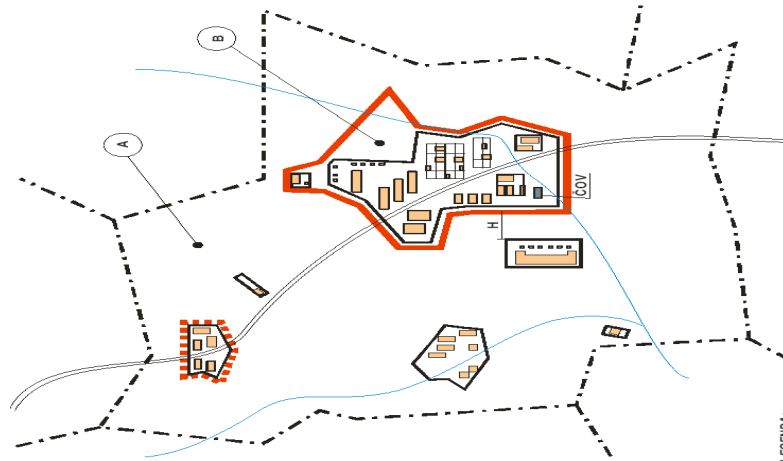
25

## Scenarios “Definitions of UWWTD”



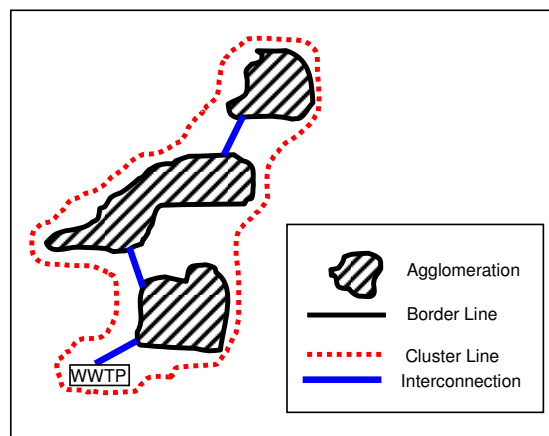
26

## Analysis of an agglomeration



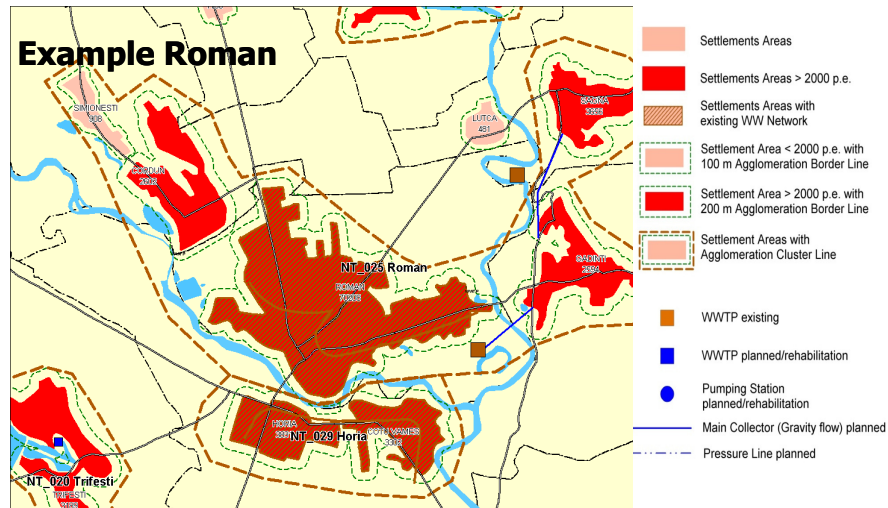
27

## Defining of a agglomeration



28

## Example for Agglomerations – Detailed Definition of Boundaries



page 29

## NEED TO COORDINATE WITH THE IMPLEMENTATION OF DRINKING WATER DIRECTIVE AND WFD

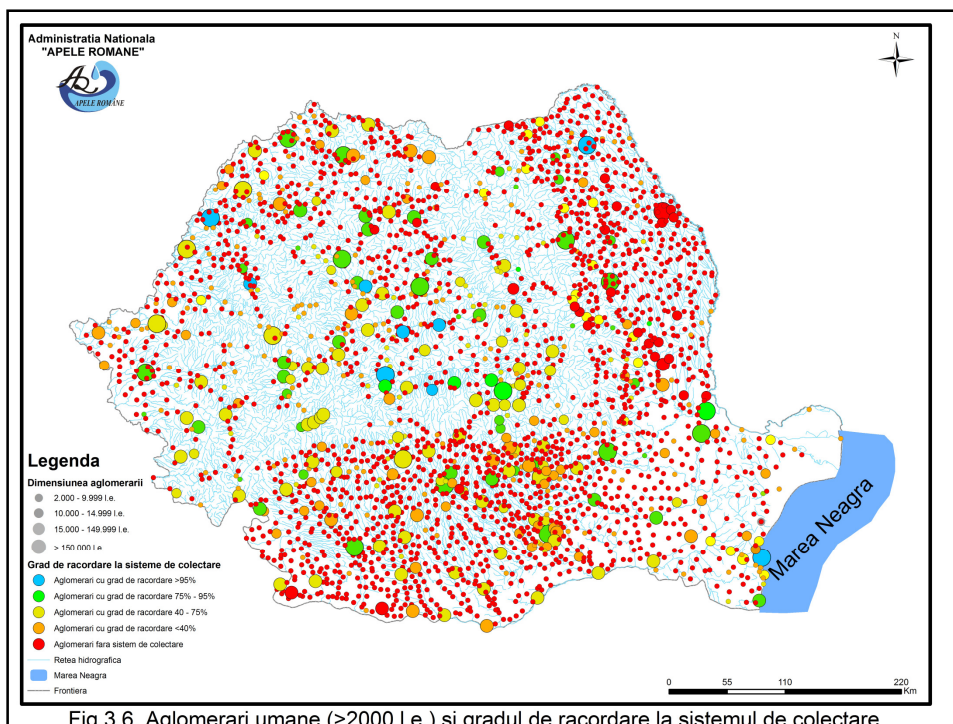
- Applying a river basin approach concerning water supply and waste water treatment
- Investment prioritization according with the pressure and impact on waters and aquatic environment
- Maximizing available funds effectiveness by carrying out regional systems for water supply and waste water treatment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

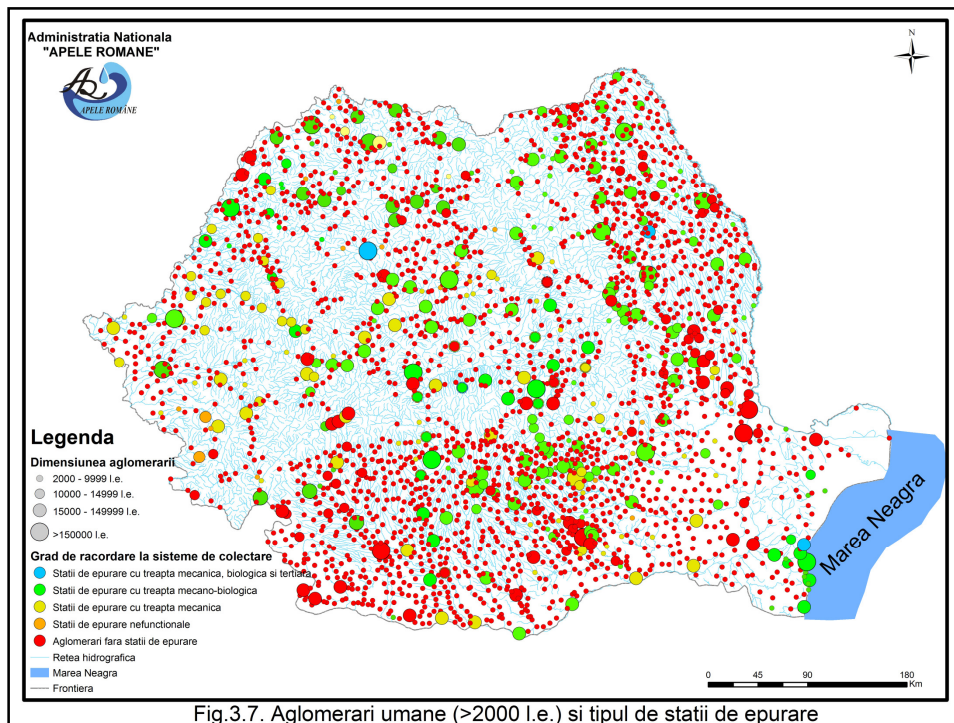
## Constraints

- Limited financial resources → high investment need;
- Limited period of time (2007-2018)

### Conclusion:

- Need for investment prioritization;
- Optimisation of investment cost at macro level – a must
- Regionalisation – part of the solution (economies of scale)





## Implementing financing strategy

- **Ensure EU funds adsorption**
- **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

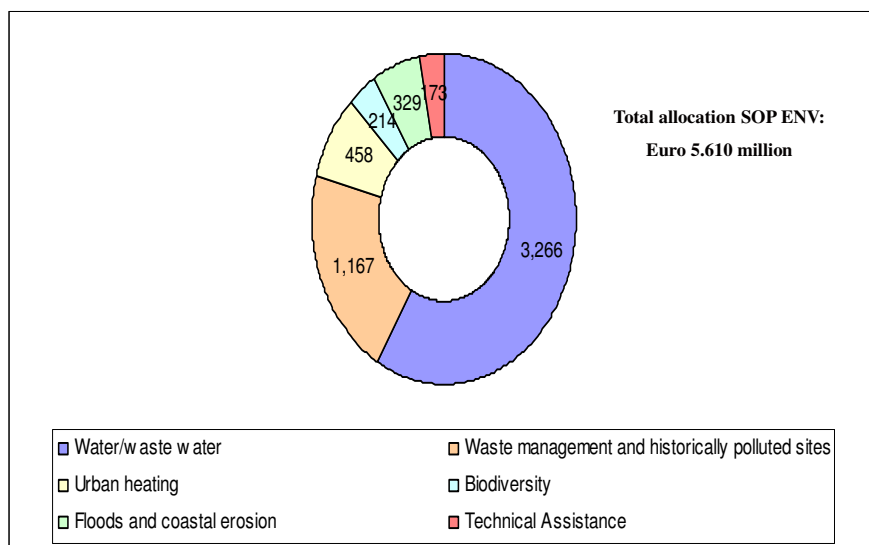
## National financing

- Foreseen in the implementation plan for 2004-2009 **-838 millions Euro**
- Provided in the period 2000-2009 **-809 millions Euro**

out of which:

- local and national budget -346 millions Euro
- loans -275 millions Euro
- operators budget -188 millions Euro

### Distribution of total financial contribution per Priority Axes - Community funding + national counterpart - (in million Euro)



## Specific objectives of the EU investments

- Provide adequate water and sewerage services, at accessible tariffs
- Provide adequate drinking water quality in all urban agglomerations
- Improvement in aquatic environment of the watercourses
- Improvement of the level of WWTP sludge management

## Priority for EU investments

- **Investments in order of priority:**
  - **WWTPs** in major agglomerations (sludge treatment facilities included)
  - **Wastewater network** in major agglomerations (extensions first, rehabilitation where critically important)
  - **DWTPs** (new or rehabilitation) where justified by insufficient quality and/or quantity)
  - **Distribution networks** (extensions and/or rehabilitation where critically important)
  - **Storm water** management facilities, where appropriate

## 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

41

## Existing financing of the water infrastructure

- **Total 3.145,958 millions Euro out of which:**

**2.000,998 mil. Euro (63,61%) from EU funds through:**

- FEADR - 258,209 mil. Euro
- Cohesion Fund - 878,895 mil. Euro;
- ISPA, World Bank, EBRD, EIB, SAPARD - 863,894 mil. Euro

**746, 776 mil Euro (23,74%) from the State Budget through:**

- Environmental Fund - 146,682 mil. Euro
- State Budget through the MECC - 462,298 mil. Euro
- State Budget through the MARD 137,796 mil. Euro

**367,899 mil. Euro (11,69%) from the local budgets**

**30,286 mil. Euro from Operator / Public-Private Partnership**

## Lessons learned

- Need to have a good implementation plan for clear commitments
- Involvement of all stakeholders but ensure leadership
- Use all available data
- Develop new data collection
- Adequate institutional mechanism in place - key
  - Need to define clear roles and responsibilities of various actors

## Conclusions

- Development of the wastewater infrastructure requires important financial resources
- Securing and using the financial resources requires a good implementation plan
- A careful planning could lead to a better ratio cost/benefits
- Strengthen the institutional capacity
- Tariff policy is a key issue for a sound investment
- Regionalization facilitate the investment

***Thank you for attention!***



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