

# Auditing performance and sustainability of water infrastructures in Estonia

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## Why this audit?

- The biggest investments in environmental field are done into water infrastructures (in period 2004-2012 approx 50%)
- Long-term sustainability of water infrastructures?
- Many waterworks do not meet the quality requirements (despite the fact that most of them have been financed by the state)
- Water infrastructures relation to achieving environmental objectives (good quality of water bodies) is unclear
- End of the EU financing period (2007-2013) and the beginning of the new period (2014-2020)

## Main audit questions

1. **Is wastewater treated properly and environmental objectives achieved?**
2. Does drinking water meet the quality objectives?
3. **Is a good quality water service available for everybody and it's long-term sustainability ensured?**
4. Are the water infrastructures project financed properly?

## Criteria and methods (1)

### 1. Is wastewater treated properly and environmental objectives achieved?

Criteria 1: all wastewater treatment plants' (WWTP) effluents meet the quality objectives (set up in urban wastewater treatment directive and national legal acts, e.g phosphorus, BOD) and sewage sludge is treated

Methods: Analysis of all WWTPs in big agglomerations (>2000 p.e; n = 62) and selection of small WWTPs (n = 60; approx 10% of total) whether these do meet the water permit requirements in period 2009-2012

Analysis of 20+20 WWTPs on sewage sludge treatment (treatment, recycling, content control etc)

## Criteria and methods (2)

### 1. Is wastewater treated properly and environmental objectives achieved?

Criteria 2: state is controlling the activities of WWTPs (water effluent quality and volume, environmental fees, sludge treatment etc)

Methods: Comparison of self-monitoring reports (done by WWTPs by themselves) and state control monitoring data (identifying differences)

Analysis of state authorities activities while differences in monitoring reports and breaches have been identified (5 cases)

## Criteria and methods (3)

### 1. Is wastewater treated properly and environmental objectives achieved?

Criteria 3: state/local authorities are aware of WWTPs problems and they provide solutions/financing to solve these problems

Methods: More detailed analysis of 10 + 10 WWTPs which did not meet the water quality requirements in period 2009-2012 (water quality data, feedback from supervision and financing authorities, interviews with enterprises)

Analysis of water infrastructure financing criteria (regulations, procedures) and investments' needs into waterworks

## Criteria and methods (4)

### 1. Is wastewater treated properly and environmental objectives achieved?

Criteria 4: water permitting authorities are analysing the impact of WWTP effluents to the water bodies and strengthen the requirements of permits if needed

Methods: selection of water bodies which have been identified to be in moderate/bad status (from regional water management plans) or the status of which has been reduced (information from state monitoring reports), and which main source for pollution is urban wastewater (approx 10 cases)

Analysis of water permits and interviews with permitting authorities

## Criteria and methods (5)

### 3. Is a good quality water service available for everybody and it's long-term sustainability ensured?

Criteria 1: water price is covering the costs for providing the water service for all citizens

Methods: analysis of water price regulation by Estonian Competition Authority (expert work)

3 case studies with water service enterprises

Questionnaire for water service enterprises



## Criteria and methods (6)

### 3. Is a good quality water service available for everybody and it's long-term sustainability ensured?

Criteria 2: a good quality water service is available for everybody

Methods: analysis of water price – the perspective for increasing the water price *versus* social acceptance (comparison of water prices of enterprises and total net income and costs for housing by member of household in different regions)

Availability of water services in newly built areas (in 8 sub-urban local authorities)

Analysis for reasons why citizens haven't joined the water networks (analysis of prices for joining the networks, questionnaire for enterprises)

## Lessons learnt so far

- Relation of urban wastewater treatment objectives to environmental objectives (Water Framework Directive)
- Water price regulation by Competition Authority is a very new issue (since 1 Nov 2011), therefore there are some “tensions” among water service enterprises
- Water service sustainability is much wider issue than just covering the water service costs by water tariffs
- Environmental objectives *versus* financial/economic sustainability *versus* social acceptance
- Some issues cannot be resolved within the water sector (e.g sludge recycling, administrative situation, trends in population)

# Thank You!

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