Danube Regional Project

Project Component on Water and Wastewater Utilities

Future Use of Information, Analysis and Tools Developed

András Kis

Effluent Discharge of Water and Wastewater Companies

• In many locations the most important source of transboundary pollution

• Pollution reduction driven by:
  – EU directives (UWWT, WFD)
  – Existing national regulation, including effluent charges - usually low effective incentive, though
  – Investment grants
  – Protest of downstream communities

• Still a very slow process. Why?
Barriers to Greater Effluent Control

- Very high cost of wastewater collection and treatment: Investment AND Operation
- Other, also expensive, competing goals related to e.g. service quality, maintenance of assets, network extension
- Limited local resources
- Limited access to low cost capital
- Limited prospects to change the status quo, e.g.
  - little incentive for management to take risk;
  - low tariffs to please voters

How to Facilitate Pollution Control?

- External assistance
- Increase service revenues
- Reduce existing costs

- Investment and operating costs related to reduction of emissions
- Other objectives, such as:
  - Better service quality
  - Network extension
  - Proper maintenance of assets
A Set of Reform Proposals to Encourage Efficiency and Increase Revenues

• Better data collection and management
• New tariff designs and tariff levels (cost recovery, fixed tariff etc.)
• Cost saving investments
• Cost saving reorganization
• External performance audits
• Community relation programs

ASTEC Model – Account Simulations for Tariffs and Effluent Charges

• Purpose: Automated calculation of the physical and financial consequences of changes in the operation of W&WW utilities
• Tool for structured analyses of operational changes, investment projects, and policy reform proposals
• Based on the spreadsheets of Excel, Solver, and Visual Basic
• “Freeware” (anyone can use it without paying for it), but needs a fair amount of learning before effective use
4

ASTEC User’s Surface

COPY PANEL

Number of service user groups 15

Copy scenario data

Delete scenario data 6

Run scenario 9

Local currency RON

Exchange rate (RON/EUR) 3.6

Exchange rate (RON/USD) 3

5.3 Full cost recovery

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2.2 Water use and tariff

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Use of ASTEC in Pitesti, Romania
Use of ASTEC in Pitesti, Romania

Changes introduced (examples)
- Leakage reducing investments
- Network extension
- Individual metering of apartments
- Separated storm water collection
- Effluent surcharge on industrial wastewater
- Cost recovery requirement
- Outsourcing of repair and maintenance

... and their impact on
- Produced and consumed water volumes
- Collected and treated wastewater volumes
- Prices
- Financial accounts (costs, revenues)
- Customer bills

Use of ASTEC in Karlovac, Croatia
Use of ASTEC in Karlovac, Croatia

Changes introduced (examples)

- Introduction of a monthly water fee
- WWTP investment (primary vs. tertiary)
- Reduce the gap between household and commercial tariffs
- Exchange rate fluctuations - EBRD loan
- Change in government fees paid by ViK Karlovac
- Reduced workforce

... and their impact on

- Produced and consumed water volumes
- Collected and treated wastewater volumes
- Prices
- Financial accounts (costs, revenues)
- Customer bills

Dissemination

- Workshops, seminars
- Basin-wide and country specific reports
- Two demonstration project reports
- Thematic papers
- ASTEC model; experience paper; user’s guide
- Information sheets
  - Translated to 8 languages
  - Sent to management of over 600 utilities
Use of the ASTEC Model after DRP

Factors increasing the chance of use
- Proactive management
- Staff speaks English
- Experience with Excel and computer based tools
- Proper data management within the company
- Large investments under consideration

How to Advance Use of ASTEC to Support Introduction of Reforms?

- Translation of the model and the User’s Guide
- Training workshops to water companies on
  - ASTEC use
  - data management
- Case by case assistance and training
- Further development of the model based on local needs
- Companies using ASTEC share their experience
- National interest groups, waterworks associations
Thank you

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