

PROJECT INFORMATION SHEET

WATER AND WASTEWATER UTILITY INVESTMENTS AND PRICING

REFORM PROPOSALS

INTRODUCTION

Reducing nutrient and toxic pollution from municipalities to Danube water bodies is a key objective of the UNDP-GEF Danube Regional Project (DRP), and one of the goals of regional and municipal water and wastewater utilities (MWWUs) in the Danube River Basin (DRB). Other MWWU goals include the provision of good quality water, reliable service, and the proper collection and treatment of wastewater. However, many MWWUs do not have the necessary resources to carry out large-scale investments to attain some of these goals. They must therefore set priorities, and the advanced treatment of wastewater frequently enjoys a lower priority than do the other goals.

Major pollution reduction initiatives will only be successful if they are preceded or accompanied by a series of reforms at the MWWU resulting in more efficient operations, including cost savings, carefully considered revisions in tariff levels and structures, and attractive and dependable service levels.. Reforms may be needed even when a wastewater investment is partly paid for by national or EU financial assistance programs, since the other part of the investment still has to be financed by the MWWU, and associated operating costs – all of which are typically the responsibility of the MWWU - are likely to rise.

This information sheet offers an “inventory” of reforms that – according to experience in both developed and transitional economies - can substantially increase the capacity of MWWUs to pursue multiple strategic objectives, including advanced wastewater treatment.

Reforms are organized into two groups: pricing (or ‘tariff’ reforms), and administrative and technical reforms. It is important to keep in mind, however, that these reforms will frequently reinforce each other, and full realization of the benefits of any specific reform often depends on the effective implementation of other reforms. Finally, not all reforms apply to all MWWUs equally, as some may find one group of reforms more suitable than others.

PRICING REFORMS

1. Set Full Cost-Recovering Prices

Pricing water and wastewater services to recover the full cost of providing those services is important both to support sustainable of water and wastewater services and to ensure efficient resource allocation and conservation. If revenues fall short of costs, then the MWWU will eventually have to reduce the quality of its services since it will not be able to finance repair, maintenance and replacement of the existing infrastructure, and in some extreme cases, not even operating costs. When determining the full costs of the MWWU, it is essential to properly-value existing infrastructure and take thoughtful account of the real depreciation of infrastructure with its use and over time. Application of cost-recovering prices is especially important before the water system commits to new services or expanded service levels. When prices do not fully reflect the underlying cost of providing the service, then customers will “over-consume”, which is not only inefficient and may result in over-exploitation of the water base, but in some cases it may also push the operating cost of the company to higher levels.

2. Establish Cost-Reflective Prices

Cost-reflective prices not only reflect the full costs of the MWWU of providing service but also differences in the cost of servicing different customers. These cost differences can result from a wide variety of circumstances such as: the customer’s line of business, the effluent produced by the customer, the seasonality of water use or a customer’s remote location. Whatever the reason, adjusting a customer’s price to reflect the full cost of service is necessary to properly conserve both water and other valuable resources. An ongoing problematic practice in transition economies has been to charge industrial customers more than households. This is probably the situation where prices are still distorted most, resulting in over-consumption by households and under-consumption or a shift to self-supply of water and sewerage services by industry.

3. Introduce Monthly Charges

Variable prices or tariffs are denominated in monetary units per volume of water (e.g. €/m³). Fixed tariffs are denominated in monetary units per unit of time (e.g. €/month). Since large parts of the costs of municipal water systems are composed of fixed costs, it makes economic and business sense to recover at least some of these costs through use of a fixed tariff and to recover the rest of the costs, including operating costs that vary with the amount of water used, with the variable tariff. Fixed tariffs are also attractive because they can stabilize revenue streams, which is especially important in areas with significant seasonal consumption.

Monthly fixed tariffs may also be justified from an equity perspective, since under a pure variable price scheme service users with low or intermittent consumption may be cross-financed by larger consumers e.g. weekend or summer home customers use small, periodic volumes of water but impose costs for continuous service.

4. Beware of, and Limit, the Financial Burden on Customers

Before introducing a new tariff design or a substantial increase in prices, the MWWU must carefully consider the financial viability of the customers. There is not a generally accepted rule-of-thumb figure for acceptable payment as a percent of income or some other measure. The willingness-to-pay consumers demonstrate varies widely with national, community, firm and household circumstances and the level and type of service involved.

If customers respond by reducing or dropping service, by delaying or refusing payment, or by petitioning public officials for relief, the water system can face grave financial difficulties. Graduality in the increase of tariffs, the introduction of cost-based tariffs, investment planning that balances the demand for various services against the prospective costs, and use of general programs of social protection to assist low-income households with payments for water and wastewater services, can all ease the burden on customers, while protecting the revenue stream of the MWWU.

5. Make Individual Tailored Contracts with Key Customers

These agreements set the terms of service, including price levels, for key customers, including municipalities and public institutions. They bind both the water system and the key customer together for an extended period. This protects the customer from unreasonable tariff increases and the water system from pressure to grant preferential tariffs to influential customers, customer defections, or sharp drops in service use. Individual contracts are especially important when a limited number of customers make up a large fraction of overall consumption, and when a drop in their consumption would substantially reduce the revenues of the MWWU.

RELATED ADMINISTRATIVE AND INSTITUTIONAL REFORMS

6. Start Public Information Programs

When the customers of the MWWU have a good understanding of the factors driving water and wastewater prices, then they are more likely to accept price increases. A public information program or campaign is especially useful before major investments and related price changes, or new tariff designs such as the introduction of a monthly charge, take place.

7. Keep Good Records

Good record-keeping, in addition to meeting local and international accounting standards, should also be designed to support financial and management systems and decision-making. Ideally, MWWUs should have an in-house data system containing good quality, time series data on a wide range of variables. The data system should include detailed data on customer accounts including consumption, billing and payment information. The cost data of the company should be organized not only according to traditional accounting categories, but also based on 'cost centers' of the company which may be defined according to customer categories, geographical areas served or services provided. Furthermore, the MWWU should carefully distinguish the nature of these costs: operating vs. capital costs, maintenance vs. repair, etc.

A well-maintained data system can provide valuable information for tariff studies, payment-recovery initiatives, demand forecasting, demand management decisions, financial planning and monitoring of the fulfillment of financial plans. Through a set of performance indicators, the data system can also help to measure the effectiveness of management decisions. The bottom line is that the data system should support design and implementation of the various other reforms described here.

8. Improve Collection of Payments

The advantage of the improved collection of bills is that the MWWU will get higher revenues and with less delay. In spite of this, many MWWUs do not have a plan of actions to pursue non-payers and late-payers. There are various strategies to improve collection and the MWWU should choose one or more based on local conditions, including the perceived effectiveness of the measures, related costs and technological obstacles. Some examples are shutting off the service, reduced water flow to non-payers, taking cases to court, publicizing the names of non-payers and requiring deposits in advance of providing service.

9. Participate in Benchmarking Studies

Benchmarking is the systematic measurement and comparison of the same set of indicators across several organizations. An example of an indicator is the labour cost per m³ of delivered water. By comparing your performance with that of other MWWUs, you can identify your strengths as well as your shortcomings, and improve the latter. To improve the performance of your organization, learn from the organization that did best with specific indicators.

10. Get Your Performance Audited

An alternative to benchmarking is to get your performance audited by an independent consultant, and to derive a plan of reforms based on the findings. Performance auditing is not the same as financial auditing for tax purposes. The latter examines whether accounting is properly done and if it properly reflects the operation of the company, especially the costs and revenues. In performance auditing, the emphasis is on the effective operation of the company. Both benchmarking studies and performance audits can set the stage for a reform plan which will reduce costs and/or improve revenues.

11. Provide Incentives for Good Management

The owner of the MWWU, most frequently the municipality, can provide incentives for the management of the company to encourage reductions in the cost of service and/or improve the quality of service without increasing costs. If the management is effective, and tariffs reflect the cost of service, then these incentives will more than pay for themselves. There are numerous ways to provide incentives. One is to award contracts for management of the MWWU on a competitive basis. The management fee can reflect achievements in improving operating efficiency. Contracts should ensure adequate time for the introduction of reforms and their impacts. Another is to create a compensation package for appointed managers in which one of the factors is meeting performance targets.

12. Measure Water and Wastewater Flows and Quality

The measurement of water and wastewater flows in their respective networks, and the metering of consumption, are essential elements of tariff reforms and performance enhancement.

Metering of water use is required for cubic meter-based tariff designs that provide a direct incentive to conserve water resources. Metering also helps assure the customers that they are paying only for the water they use and this greatly aids acceptance of increased tariff levels. This practice extends to retrofitting water meters in apartment buildings.

Measurement of water and wastewater flows helps establish the location and amount of water losses and infiltration and is a key to identifying the most cost-effective investments in the water and wastewater network.

13. Incremental Budgeting and Investment Planning

In order to make good choices on resource allocation including, especially, long term investment planning, activities and projects should be examined in an incremental way and then prioritized. Only when technically independent projects are characterized in this way, and then prioritized for implementation, can we be assured that the cost-effective

and, even better, efficient choices are being made. In this way, water systems can determine if a project – even a politically popular project - is excessively costly. The incremental methodology provides the basis for setting cost-reflective tariffs and the basis for appealing mandated, but excessively costly and burdensome investments.

MORE ON REFORM PROPOSALS

A DRP report (Assessment and Development of Municipal Water and Wastewater Tariffs and Effluent Charges in the Danube River Basin: Volume 1: An Overview of Tariff and Effluent Charge Reform Issues and Proposals) covers many of the reform proposals summarized above in greater detail.

The DABLAS program has issued a report (Best Practice in Water and Wastewater Tariff Setting: Lessons for Water Systems in Transition Economies) that also recommends a set of tariff and institutional practices for further consideration.

DRP developed an Excel-based model called ‘ASTECC’, capable of broadly examining the interaction of an MWWU's service prices with investment strategies, cost structures, customer behaviour and physical conditions. ASTECC has been successfully used in several cases as a decision support tool to test reforms related to new tariffs designs, investment strategies and corporate changes.

Some of the reforms discussed above have been introduced in two locations: Pitesti, Romania and Karlovac, Croatia. The related experiences, including ASTECC analyses, are summarized in two DRP project reports and an information sheet.

All of these reports and tools are or will shortly be available on the ‘Municipal Water Supply and Wastewater’ section of the DRP website: http://www.undp-drp.org/drp/themes_municipal-ws-ww.html

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