

## InnWater Article

# #8 The delicate balance in tariff setting



INN WATER

Promoting social innovation to renew multi-level and cross sector water governance



### The triple goal of tariff setting

Are you pleased when you can buy something at a discount? Most people are. It's satisfying to pay less, and we rarely worry about the profitability of the shop. We might assume it's also beneficial for the producer or shop, otherwise they wouldn't offer the discount. In a competitive market with many producers and retailers vying for our attention and money, this assumption is usually correct. But what about public services with regulated prices, like drinking water and sewage services? Should we be as happy to pay a discounted price for these? The answer might be "yes" in the short term, but "no" in the long term. To understand why, it's important to consider the three primary goals of tariff setting.

"Tariff" is a term often used for the regulated price of public services. Unlike most products, the price of drinking water is not determined by the market. Instead, it is set by an authority responsible for overseeing water and sanitation services, whether it be a municipal, regional, or national body. While tariff-setting methodologies can be complex, the underlying principles are relatively straightforward:

- **Cost Coverage:** Tariffs should be sufficient to cover the costs of service provision, including operating expenses, long-term investments, and asset renewal. The latter ensures that future generations are not overburdened by the accumulated stock of reconstruction needs.
- **Efficiency and Affordability:** Only "justified" costs should be included in the tariff calculations to avoid unnecessary or inflated charges. E.g a high quality pipe or pump may be justified, but a luxury car for the management is not. This ensures that tariffs are as low as possible, making them more affordable for the average household.
- **Conservation Incentives:** In areas where water resources are limited, higher tariffs can incentivize water conservation. When prices rise, consumers typically reduce their consumption—taking shorter showers, installing water-efficient appliances, collecting

rainwater, and so on. Industrial users may explore technological alternatives to save and recycle water.

Balancing these goals is challenging. Excessively high water prices could lead to unpaid bills, disconnections, and reduced revenues for service providers, ultimately compromising service quality and availability. Significant price hikes may also undermine the social benefits of providing access to clean drinking water and advanced wastewater services. Specific tariff structures, such as increasing block tariffs, can be used to balance among the goals, but this is also a difficult exercise. Targeted assistance for vulnerable groups is usually a better way to ensure that water bills remain manageable.

## Politics vs. policies

The principles for tariff setting are well-defined, and the methodologies are well-established. Across Europe, many highly professional bodies are responsible for this task. When these authorities operate independently, free from political influence to undermine their methodologies, they can be highly effective in ensuring that efficient and sustainable service providers collect enough revenue to cover their costs while keeping tariffs affordable for the broader population.

However, issues arise when political interference comes into play. Enhancing political popularity often involves granting favors to voters, and reducing or freezing the price of water services is a common tactic. Examples from Hungary, Ireland, and various Latin American countries demonstrate this approach. While decision-makers may aim to provide cheaper services in the short term, the detrimental consequences often stay with us for the long term. Lowering or freezing prices is an easy way to gain popularity, but raising them again is a much more difficult and unpopular task.

What happens when tariffs are set too low to generate sufficient revenue? Initially, the impact may not be immediately visible. Water utility assets typically have a long lifespan, and delaying their maintenance or renewal by a few years may not immediately affect service quality or continuity. But over time, problems inevitably arise, including increased leakage, more frequent service interruptions, deteriorating drinking water quality, and more polluted effluent discharge.

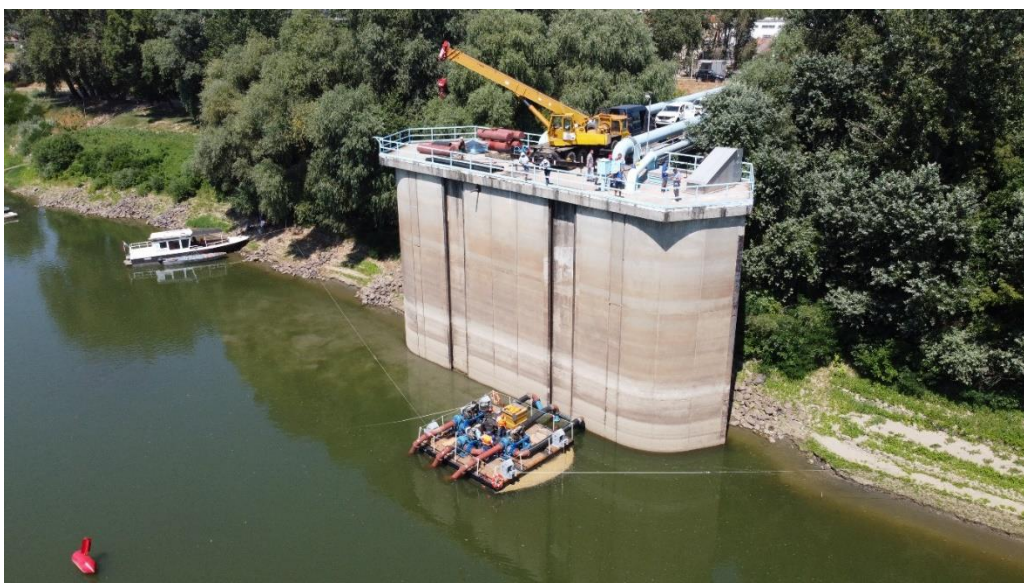
In such cases, the government may step in with external funding to supplement the tariff revenue collected by the water utility. While this type of intervention is economically suboptimal, given the critical social benefits of drinking water and sanitation services, it is still preferable to allowing the service to deteriorate further.

## Underfunded and climate impacted

One of the water utilities in the Middle Tisza pilot site, VCSM (Víz és Csatornaművek Koncessziós ZRt), serves the town of Szolnok and several neighboring settlements. Like most other water utilities in Hungary, VCSM has faced a steady financial decline since 2012, when the government universally froze water and sanitation tariffs and subsequently reduced residential tariffs by 10%. Since then, cumulative inflation in Hungary has exceeded 80%, significantly eroding the value of revenues for water service providers. Under these conditions, most water utilities have struggled to retain and recruit employees and have been forced to cut back on asset maintenance.

Climate change poses a long-term challenge for VCSM. The company relies on surface water from the Tisza River, and when water levels in the river drop to critically low levels – an increasingly frequent phenomenon due to climate change -, the extraction pipelines must be supplemented with temporary technology to ensure raw water can be abstracted. This situation occurred in the summer of 2022, prompting the implementation of a temporary solution, though it was ultimately not needed as water levels stabilized.

Alternatively, VCSM could invest in a permanent upgrade to its abstraction technology, costing approximately €8-10 million. However, due to the financial challenges described earlier, VCSM cannot afford this investment, even though it would significantly enhance its climate resilience. As a result, the decision to fund this water supply safety-related investment - requiring taxpayer funds instead of revenue from water tariffs - falls back on the government. Ideally, water utilities should have sufficient tariff revenues to invest into climate resilience, and the government's role should be to ensure that these investment needs are properly assessed, justified, and tariffs are set accordingly.



The temporary water abstraction solution is implemented on the river Tisza at Szolnok in the summer of 2022

## Contribution of the InnWater project to improved tariff setting

The microsimulation model of the InnWater project will provide assistance in coping with challenges that are similar to the above described themes. By integrating econometric analysis of water demand, the tool provides an advanced method for assessing the socio-economic performance of different tariff structures, ensuring that tariffs are not only cost-covering but also aligned with broader objectives like affordability and conservation incentives. The dashboard-driven simulations allow regulators to test various pricing and demand management strategies, helping to balance short-term affordability with long-term sustainability, in line with the requirement for setting tariffs that avoid underfunding while promoting efficient water use and maintaining service quality. Finally, the model's ability to visualize trade-offs between different regulatory frameworks enhances decision-making by facilitating discussions between stakeholders and policymakers.

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