

Progressive pricing

Challenge: Too little water

Adaptation response: Water efficiency and demand management

Description

Progressive pricing is an instrument to manage water demand and help reduce excessive water consumption through an economic dis-incentive. Progressive pricing means that water price rates per unit of volume increase, as the volume used increases. Thus the largest consumers of water pay higher rates for the volume of water consumed beyond a certain threshold.

Water consumption rates are usually divided into volumetric groups called blocks (e.g. block 1: 0 - 20 m³ /month, block 2: 20-50 m³ /month etc.). The first block is typically the lowest priced water volume range and often corresponds to volume estimated to be sufficient to meet the basic needs of an average household, and therefore has zero or relatively low price tariffs assigned to it. Tariffs per unit of consumption then increase step-wise - the higher the consumption rate (the block number), the higher the unit tariff. In this way, progressive pricing discourages wasting water and can provide a valuable source of revenue from the largest users, covering operational costs and supporting more equal access to water through cross-subsidization schemes.

Implementation

For successful implementation of progressive pricing, use of functional water meters is a precondition as they determine the exact consumption rates. Therefore, progressive pricing is usually implemented in places with a relatively well-established public water supply system that has meters installed in most households and commercial buildings and facilities. Regulators may consider local water consumption trends and key users when designing the pricing blocks. Water saving goals and revenue targets can also be established to monitor the effectiveness of progressive pricing approaches. Engaging the public through advertisements and public meetings can be used to inform citizens of the planned change in water pricing. This can include tips on how to conserve and avoid overuse of water, as well as information about the benefits of progressive pricing.

Environmental Benefits

- Mitigates risks of unnecessary over abstraction and water body depletion.
- Reduces, in many cases, energy use for pumping and treatment (thus mitigates greenhouse gases).

Socioeconomic Benefits

- Increases revenues.
- Provides disincentives wasteful water use, particularly for larger users.
- Makes water more affordable for poor households through targeted tariffs.
- Avoids costly expansions of water supply systems by addressing the demand.
- Rewards customers that reduce water-use with extra cost-savings.

Opportunities and Barriers

Opportunities:

- Progressive pricing promotes equity and can enhance affordability of water for poor and/or low-consumption households

- Reduced water use can be accompanied with potential revenues from the largest users that can be re-invested in water supply system

Barriers:

- Requires well-functioning water metering systems, which can be a challenge in some communities
- Designing tariffs and choosing the right block price distribution can be complex and in some instances create more costs for small consumers, for example if several poor households share a single water connection
- The pricing system requires a certain amount of high block users to provide enough revenue for utilities to cover costs and maintain the public water system
- The effects are not immediate as reducing demand requires a change in consumer behaviour, and often implementation of more water efficient technologies

Implementation considerations*

Technological maturity:	4-5
Initial investment:	1-3
Operational costs:	1-3
Implementation timeframe:	2-3

* This adaptation technology brief includes a general assessment of four dimensions relating to implementation of the technology. It represents an indicative assessment scale of 1-5 as follows:

Technological maturity: 1 - in early stages of research and development, to 5 – fully mature and widely used

Initial investment: 1 – very low cost, to 5 – very high cost investment needed to implement technology

Operational costs: 1 – very low/no cost, to 5 – very high costs of operation and maintenance

Implementation timeframe: 1 – very quick to implement and reach desired capacity, to 5 – significant time investments needed to establish and/or reach full capacity

This assessment is to be used as an indication only and is to be seen as relative to the other technologies included in this guide. More specific costs and timelines are to be identified as relevant for the specific technology and geography.

Climate Change Adaptation Technologies for Water

A practitioner's guide to adaptation technologies for increased water sector resilience

WATER ADAPTATION TECHNOLOGY BRIEF

UN Environment-DHI Centre
on Water and Environment



CTCN
CLIMATE TECHNOLOGY
CENTRE & NETWORK

UNEP DTU
PARTNERSHIP

Sources and further information

Baerenklau, K.A., Schwabe, K.A. and Dinar, A. (2013). Do Increasing Block Rate Water Budgets Reduce Residential Water Demand? A Case Study in Southern California. Water Science and Policy Center, University of California, Riverside. Available at: www.allianceforwaterefficiency.org/WorkArea/DownloadAsset.aspx?id=8600

Ricato, M. (n.d.). Water Pricing - Increasing Block Tariffs. Sustainable Sanitation and Water Management (SSWM). Available at: <http://www.sswm.info/content/water-pricing-increasing-block-tariffs>

MIT (n.d.). Establishing Pricing Policy. Massachusetts Institute of Technology. Available at: <http://web.mit.edu/urbanupgrading/waterandsanitation/funding/estab-price-policy.html>

Southwest Florida Water Management District (n.d.). Water Rates: Conserving Water and Protecting Revenues. Watermatters.org. Available at: <https://www.swfwmd.state.fl.us/conservation/waterrates/>

TWDB (2004). Report 362 Water Conservation Implementation Task Force Water Conservation Best Management Practices Guide. Texas Water Development Board. Available at: http://www.twdb.texas.gov/publications/reports/numbered_reports/doc/R362_BMPGuide.pdf

UNEP (2008). Increasing price with volume. Vital Water Graphics, An Overview of the State of the World's Fresh and Marine Water's. Available at: <http://www.unep.org/dewa/vitalwater/article138.html>