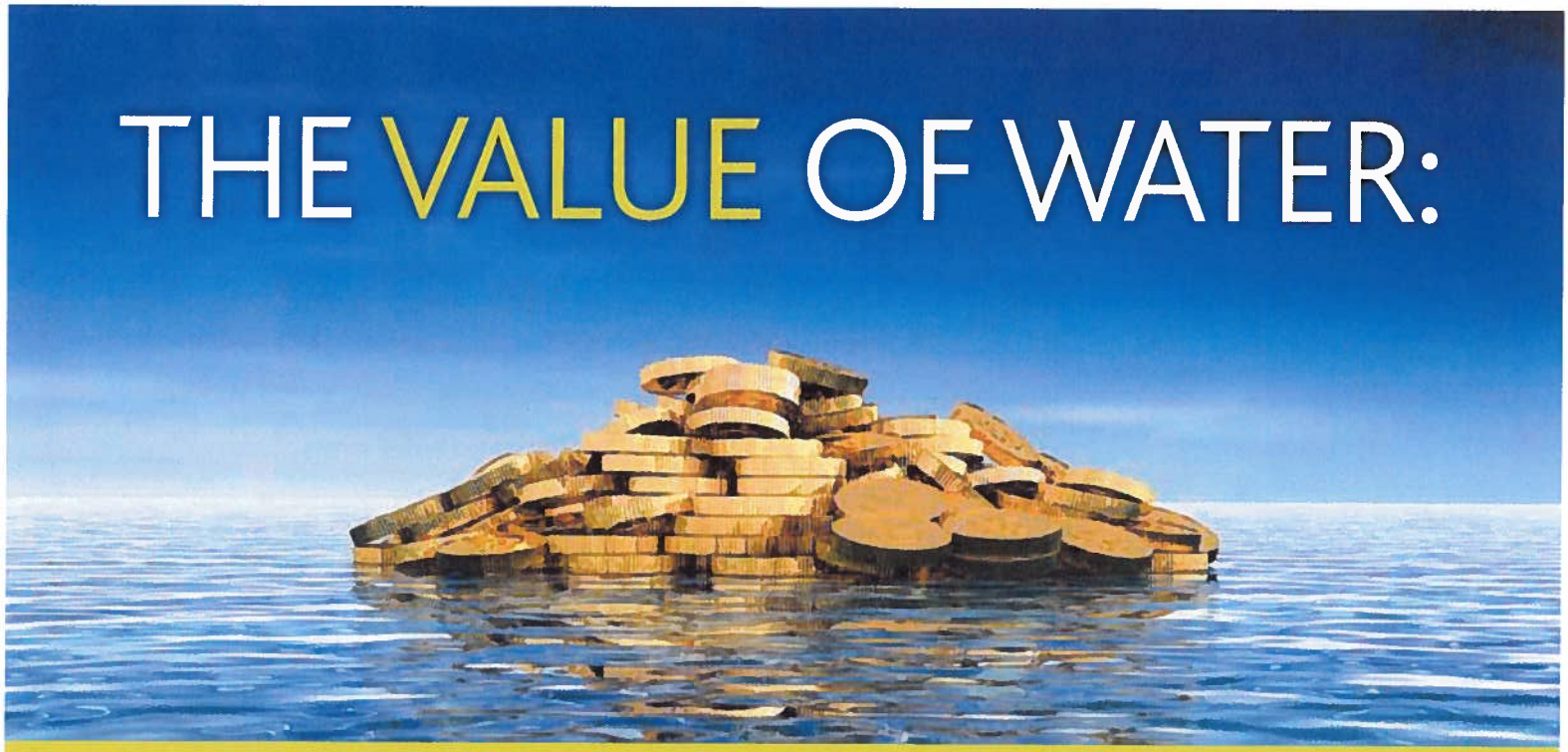
THE VALUE OF WATER:



WORTH EVERY PENNY - MAKING THE CASE FOR CONSERVATION-ORIENTED WATER PRICING IN CANADA

By Kirk Stinchcombe and Oliver Brandes (with assistance from Steven Renzetti)

Conservation-oriented pricing is a rate structure adopted by water service providers where costs are fully recovered. Individual customers are metered and pay for the volume of water they use. The price charged is sufficient to influence consumers' decisions about water use and to encourage efficiency.

Canadians pay much less for urban water services than people in most other developed countries. We are also among the highest per capita water consumers in the world. A new report by the University of Victoria's POLIS Water Sustainability Project titled *Worth Every Penny: A Primer on Conservation-Oriented Water Pricing* explores solutions to the water pricing dilemma.

The price charged for water services should achieve the following objectives:

1. generate enough revenue for water service providers to cover the full costs of services, including infrastructure maintenance and replacement;
2. signal the actual costs of supplying water and provide a financial incentive for customers to use it more efficiently; and
3. promote innovation by encouraging engineers, inventors and investors to develop more water-efficient practices and technologies.

Inevitably, society has to fund the infrastructure and services that store, treat and distribute water to our homes and businesses. Yet, Canadians typically pay for only a portion of these costs directly through their regular water bills. In fact, Statistics Canada figures show that, in 2007, expenditures by water service providers were, on average, 30% higher than revenues collected from water bills.[1] The remaining expenditures must be postponed, leading to the deterioration of urban infrastructure and system reliability problems. Alternatively, costs must be subsidized from other sources, including infrastructure grants from provincial and federal governments or municipal government general revenue. This keeps the retail price of water artificially low.

A better approach, environmentally and economically, is to begin charging households and businesses for the real costs of water services. Most people and organizations will change their behaviours simply because they recognize that conservation will save them money. The water service provider is interested in achieving these greater efficiencies because it will mean better use of scarce operational capital, deferred future expansion costs, and reduced environmental impacts.

Some fear that changing current pricing structures will lead to revenue instability. When a water service provider increases its reliance on volume-based pricing, its revenue may fluctuate more. Fortunately, there are many options to minimize the impacts of revenue variability and avoid budget shortfalls, including using 'rolling average' pricing, establishing reserve funds, and having part of the bill include a fixed component (a 'connection charge') that does not change with the volume consumed. Careful planning and revenue forecasting also go a long way towards mitigating this concern.

Pricing reform also does not have

to disadvantage low-income families. Inarguably, low-income people spend a disproportionate amount of their earnings on water bills, and steps need to be taken to ensure they can face this expense. But this challenge can be minimized. Service providers can provide people with a low cost 'lifeline block' of water to meet basic requirements. Incentive programs like product rebates can be targeted by income testing. In extreme cases, subsides can be made available. Experience from many jurisdictions around North America tells us that this problem, while important and legitimate, can be managed.

Moving communities to more effective water pricing will take time and courage on the part of municipal and senior government leaders. Most municipalities will want to take a gradual approach to implementing pricing improvements, sometimes over a number of years. This allows time to mitigate any potentially negative impacts and to build community support.

Provincial and federal governments can also play a role by providing policies and best management guidelines on matters such as asset management and financial accounting practices. They can also offer incentives via conditions for infrastructure grants, create supportive regulatory environments, and reduce legislative barriers around cost recovery.

Improving pricing makes sound sense from both business and environmental perspectives. Wasting water and simultaneously not generating enough revenue to fund the operation of water supply systems are in nobody's interest.

CONSERVATION-ORIENTED PRICING: KEY MESSAGES

- It makes sound sense from both environmental and economic points of view.
- It can lead to lower operating costs for water service providers and fewer environmental impacts, because less water needs to be treated, pumped and heated.
- It can help to defer the need to construct major new infrastructure, like dams and treatment plants, thus saving money and reducing environmental impacts.
- It can contribute to improved financial performance for service providers. The goal is to ensure that the amount of revenue from water bills is sufficient to cover the full costs of operating now and in the future.
- Potentially negative consequences for communities can be mitigated.
- It allows individuals much greater control over their water costs. Depending on how it is implemented, those who choose to conserve may actually see a decline in the amount they pay.
- It is a question of fairness. Why should prolific water users pay the same amount as those who do their best to conserve?
- There is no evidence that it leads to privatization of water infrastructure. In fact, more effective cost recovery can actually strengthen publicly owned utilities.
- Revenue generated by conservation-oriented pricing can be reinvested in the water supply system.
- Improved pricing provides a strong incentive to innovate. When water is valued more, engineers, inventors and investors are motivated to develop more water-efficient practices and technologies.
- Many other places around North America and the world are successfully doing it.

CONSERVATION-ORIENTED PRICING IN BRITISH COLUMBIA

British Columbia lags behind much of Canada in metering rates and, correspondingly, volume-based pricing. As of 2006 (the most recent year we have data for), only 32.6% of municipally supplied homes in BC had water meters, compared to the national average of 63.1%, and far behind places like Manitoba (97.2%), Ontario (91.2%) and Alberta (84.7%).[2]

Without meters, it is impossible to charge based on consumption and people have little financial incentive to conserve.

Not surprisingly, BC's average consumption is also quite high by national and international standards. In 2006, average residential per person consumption in the province was 448 litres per capita per day (Lcd), compared to the national average of 328 Lcd.

Still, there are many signs of progress around the province:

- The City of Kamloops – BC's fifth largest city - has commenced a four-year universal metering program.
- A number of Lower Mainland municipalities are implementing voluntary metering programs with some success. The City of Richmond, for example, is achieving uptake of about 5% of customers per year

1/4H
MEQUIPCO
#1

with this approach by offering price incentives.

- The Regional District of Nanaimo has implemented a rate structure designed based on analysis of the community's specific water demand profile. The result was an inclining block system that targets customers using excessive volumes.
- Despite some community resistance, the Village of Tofino on Vancouver Island has implemented significant per unit price increases to address its infrastructure deficit. It also employs seasonal surcharges to target discretionary outdoor use during summer. Although its average per unit price remains quite low by national standards, the City of Kelowna has combined an inclining block structure with monthly billing to target peak demand during the summer.
- Since at least 1995, the Capital Regional District, the bulk water supplier to municipalities in and around Victoria, has used full cost accounting to allocate the capital component of costs over the life of assets. Full cost accounting is important for efficient resource allocation and creates the right fiscal environment for conservation-oriented pricing.

Municipalities considering universal metering and pricing improvements have the advantage of being able to learn from the experience of these success stories, as well as many other examples from around North America.

CORIX
1/2I
#29

END NOTES

[1] Statistics Canada (2008). Local Government Revenue and Expenditures, CANSIM II Table 385-0024, Ottawa.

[2] Environment Canada (2009). Municipal Water and Wastewater Survey: Municipal Water Use 2006 Summary Tables, Ottawa.

To download a copy of *Worth Every Penny: A Primer on Conservation-Oriented Water Pricing*, visit *www.poliswaterproject.org*.

AUTHORS

Kirk Stinchcombe is Director of Econnics – Eco-Efficiency Specialists, based in Victoria.

Oliver M. Brandes is Associate Director at the POLIS Project on Ecological Governance and Project Lead at the POLIS Water Sustainability Project.