POLIS Project on Ecological Governance

watersustainabilityproject

econics

eco-efficiency specialists

Conservation-Oriented Pricing: Saving Water and Improving Utility Financial Performance

Kirk Stinchcombe MES, MBA, PMP

Federation of Canadian Municipalities

GMF Webinar Series, 20 January 2009

The Conservation-Oriented Pricing Project

Partners:

POLIS Project on Ecological Governance
watersustainabilityproject

econnics
eco-efficiency specialists

CANADIAN WATER NETWORK
RÉSEAU CANADIEN DE L'EAU

BRITISH COLUMBIA
The Best Place on Earth

POLIS Project on Ecological Governance
watersustainabilityproject

econnics
eco-efficiency specialists

Project Team

- Oliver Brandes, POLIS Water Sustainability Project
- Dr Steven Renzetti, Brock University, CWN
- Kirk Stinchcombe, econnics - eco-efficiency specialists
- Elizabeth Hendriks, POLIS Water Sustainability Project

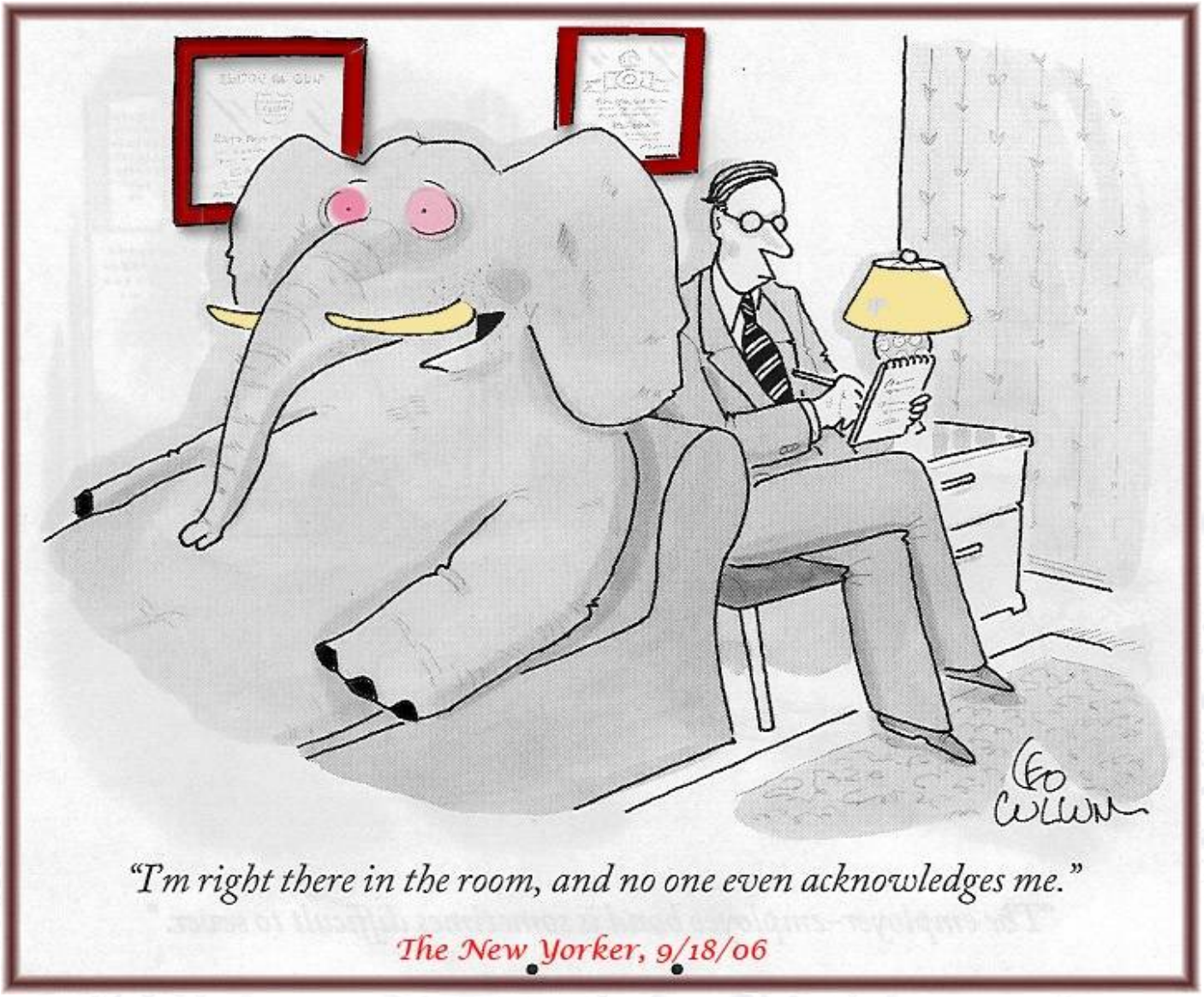
Project Mission

To raise awareness among local government water utility practitioners and decisions makers about the effect that pricing can have on water demand and financial viability;

To catalyze a national dialogue.

POLIS Project on Ecological Governance
watersustainabilityproject

econnics
eco-efficiency specialists



"I'm right there in the room, and no one even acknowledges me."

The New Yorker, 9/18/06

POLIS Project on Ecological Governance
watersustainabilityproject

econnics
eco-efficiency specialists

Presentation Overview

1. Canada's Current Situation
2. Setting Up a Conservation-Oriented Pricing System
3. Mitigating Potential Downsides
4. How to Get There From Here

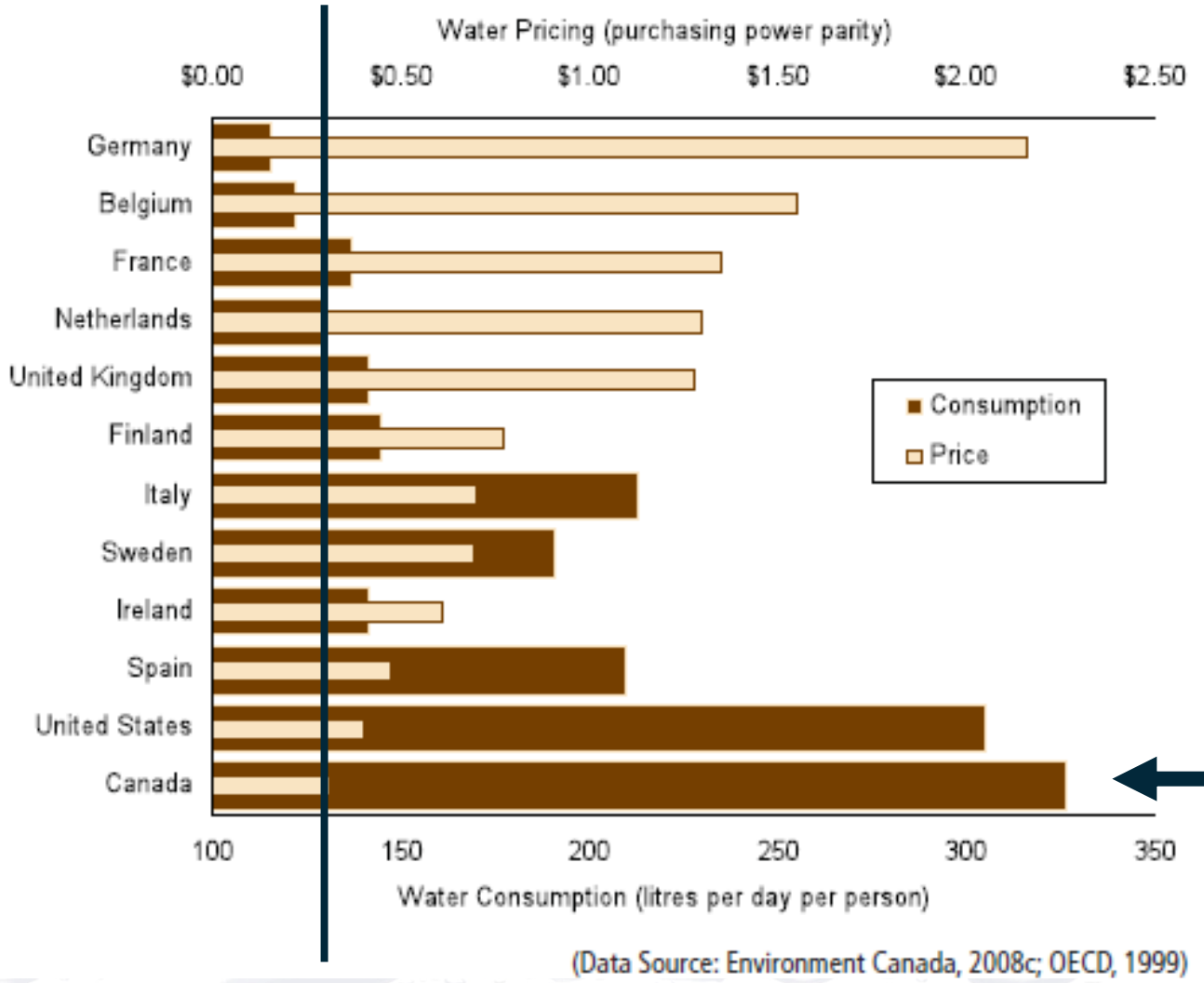
POLIS Project on Ecological Governance
watersustainabilityproject

econnics
eco-efficiency specialists

1. Canada's Current Situation

What the Price of Water Does:

1. provides enough revenue to at least cover the full costs of providing the service; financial stability;
2. provides a financial incentive for customers to use water efficiently;
3. provides information about how much water consumers demand; and,
4. promotes innovation.



Source: Council of Canadian Academies (2009). The Sustainable Management of Groundwater in Canada: Report of the Expert Panel on Groundwater, Ottawa, p. 115.

POLIS Project on Ecological Governance
watersustainabilityproject

econnics
eco-efficiency specialists

Conservation-Oriented Pricing: Three Prerequisites

1. Metered water use
2. Volume based charging
3. A rate sufficiently high to affect decision making

POLIS Project on Ecological Governance
watersustainabilityproject

econnics
eco-efficiency specialists

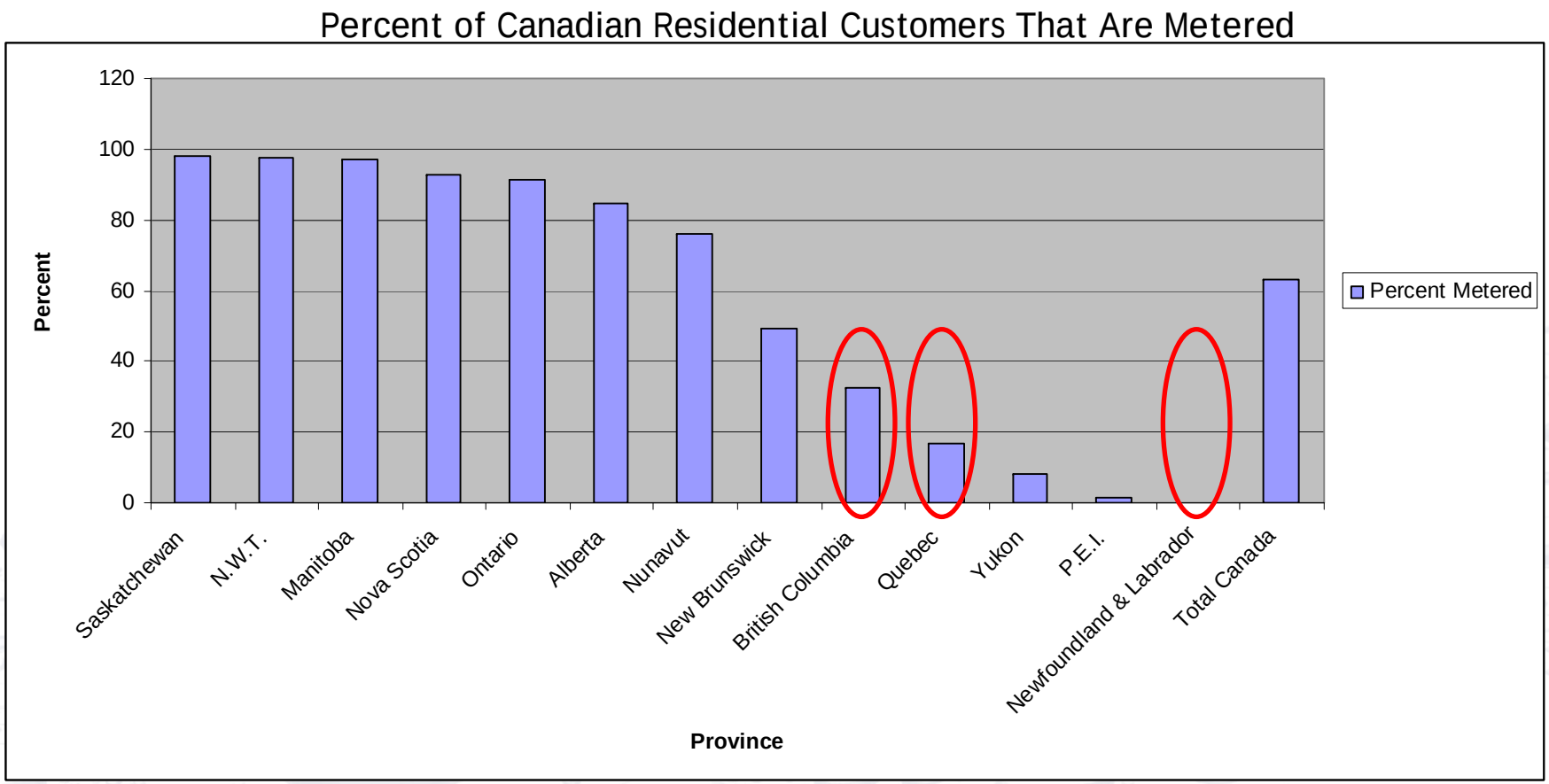
How Canada Fares: Metering

As of 2006, 63.1% of residential customers were metered…

POLIS Project on Ecological Governance
watersustainabilityproject

econnics
eco-efficiency specialists

But…there is significant variability from province to province



Responding Population = 27 927 531

Source: based on data from Environment Canada (2009). Municipal Water and Wastewater Survey: Municipal Water Use 2006 Summary Tables, Ottawa.

POLIS Project on Ecological Governance
watersustainabilityproject

econnics
eco-efficiency specialists

How Canada Fares: Volume Based Charging

As of 2004, 29.9% of Canadian residents are still billed on a flat rate or tax assessment basis.

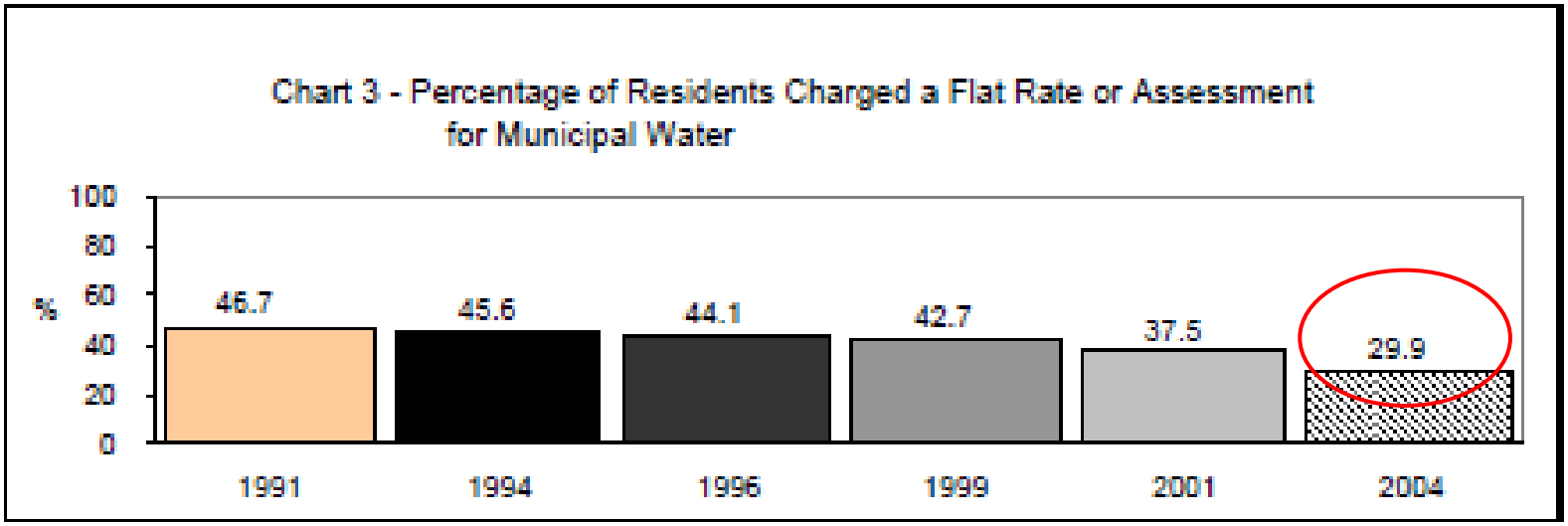
And, again, there is considerable province-to-province variability.

POLIS Project on Ecological Governance
watersustainabilityproject

econnics
eco-efficiency specialists

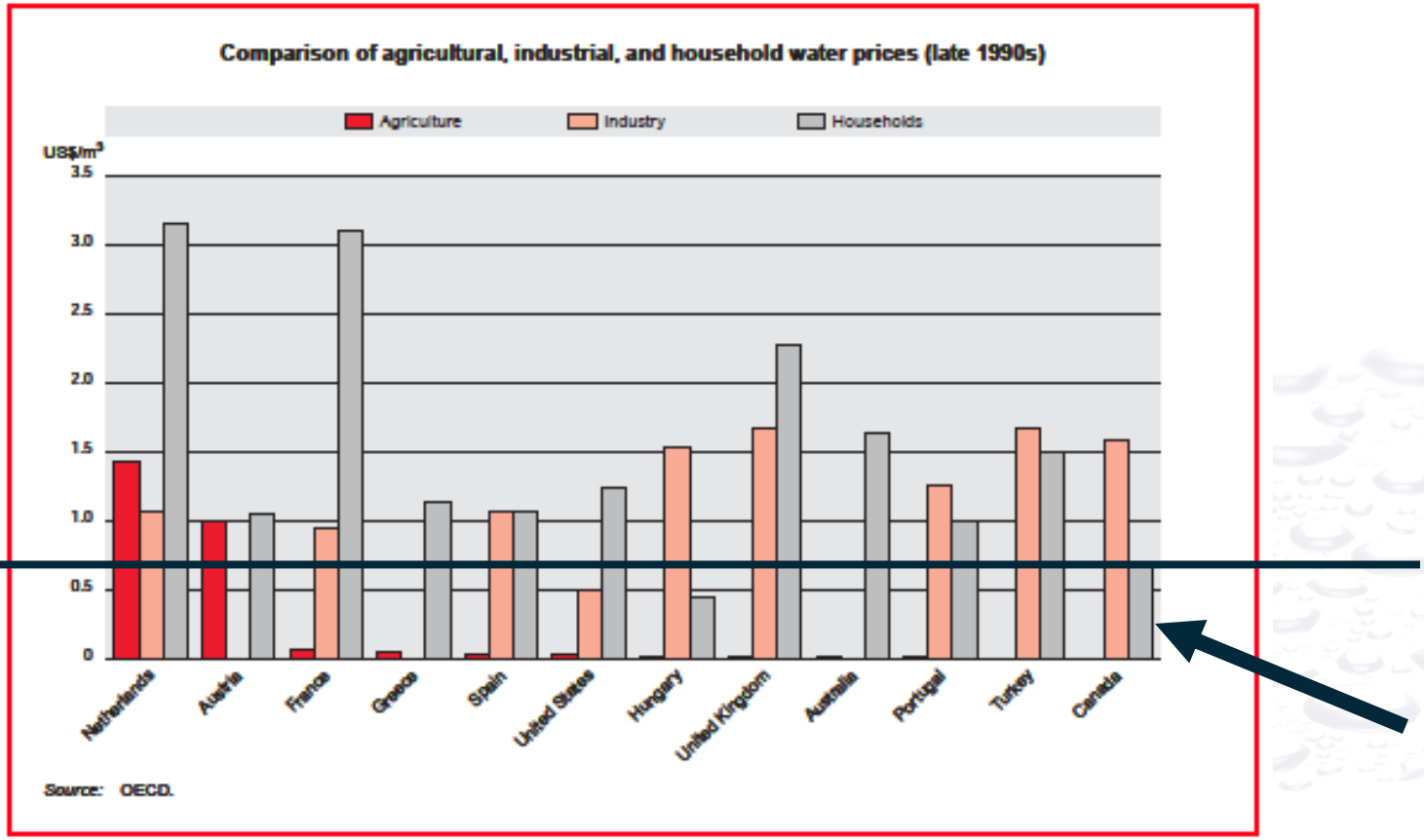
How Canada Fares: Volume Based Pricing

But… we are improving over time…



Source: Environment Canada (2008). Municipal Water Pricing Report (2004 Statistics), available at www.ec.gc.ca/Water/en/manage/data/e_MUP2008.pdf.

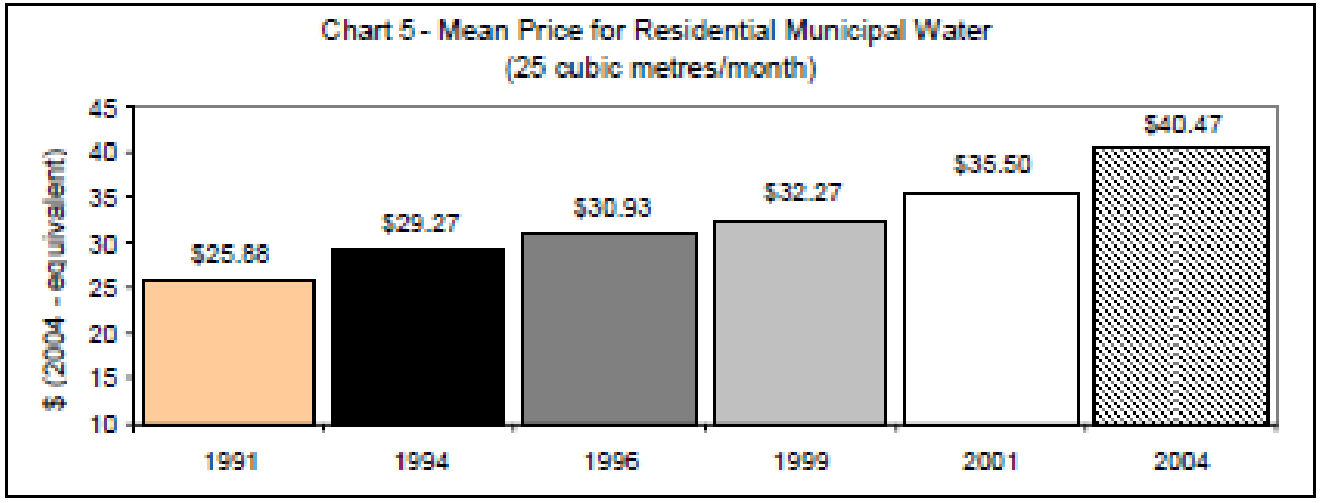
How Canada Fares: Meaningful Prices



Source: OECD (2003). Improving Water Management: Recent OECD Experience, OECD Observer Policy Brief, March 2003, available at: www.oecd.org/publications/Pol_brief.

How Canada Fares: Meaningful Prices

But… again, improving over time…



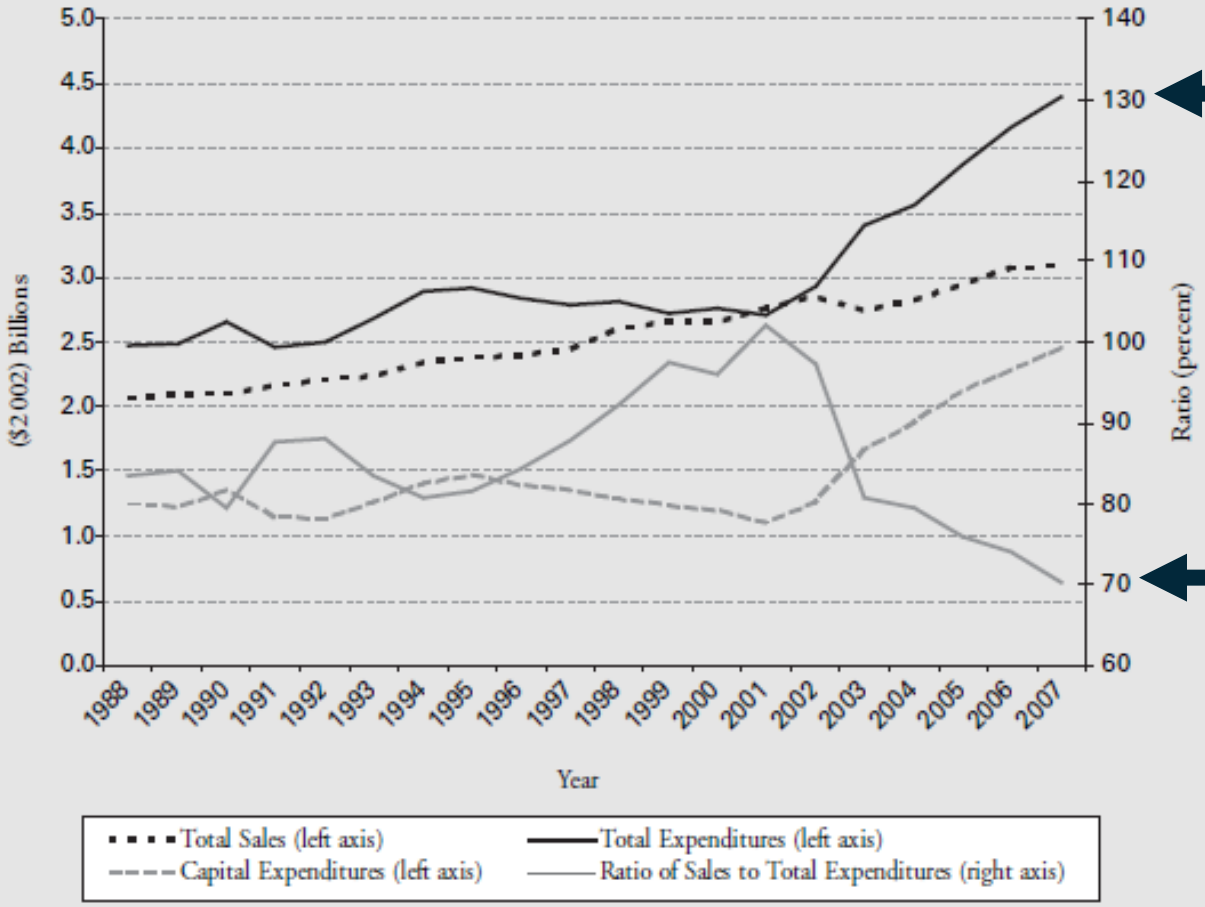
Source: Environment Canada (2008). Municipal Water Pricing Report (2004 Statistics), available at www.ec.gc.ca/Water/en/manage/data/e_MUP2008.pdf.

Vittel
BADOIT
Perrier
Citron Vert
Volvic
Vals

Potential Impacts of Water Under-Pricing

- Higher operating costs
- Higher capital costs over the long term
- Unnecessary environmental impacts
- Reliance on less efficient tools to curb excessive consumption
- Fairness: those who waste pay similar charges to those who conserve
- Stifled innovation

Figure 1: Revenues and Expenditures of Canadian Municipal Water Agencies, 1988 to 2007



Source: Statistics Canada (2008).

Source: Renzetti, Steven (2009). Wave of the Future: The Case for Smarter Water Policy, C.D. Howe Institute Commentary, No. 281, February 2009, p. 2.

POLIS Project on Ecological Governance
watersustainabilityproject

econnics
eco-efficiency specialists

2. Setting Up a Conservation-Oriented Pricing System

How Much Revenue Do You Need?

Determined by *Full Cost Accounting*

All the costs that a utility incurs are recorded and reflected in prices.

- Operations and maintenance
- Administration
- Overhead
- Financial costs (depreciation, debt servicing, etc.)
- Capital costs
- Regulatory costs

And sometimes…

- Soft costs
- Environmental externalities

Case Study 1: Seattle, Washington

Price Elasticity of Demand

$$E_{x_l,p_k} = \frac{\partial x_l(p,w)}{\partial p_k} \cdot \frac{p_k}{x_l(p,w)} = \frac{\partial \log x_l(p,w)}{\partial \log p_k}$$

The responsiveness of the quantity demanded of a good or service to a change in its price

POLIS Project on Ecological Governance
watersustainabilityproject

econnics
eco-efficiency specialists

Setting the Rate: Some Factors to Consider

- Likely impact of price change on community
- Price structure currently in place
- Impact on existing business systems
- How you will go about communicating the change to residents
- The *marginal cost* of supplying water

POLIS Project on Ecological Governance
watersustainabilityproject

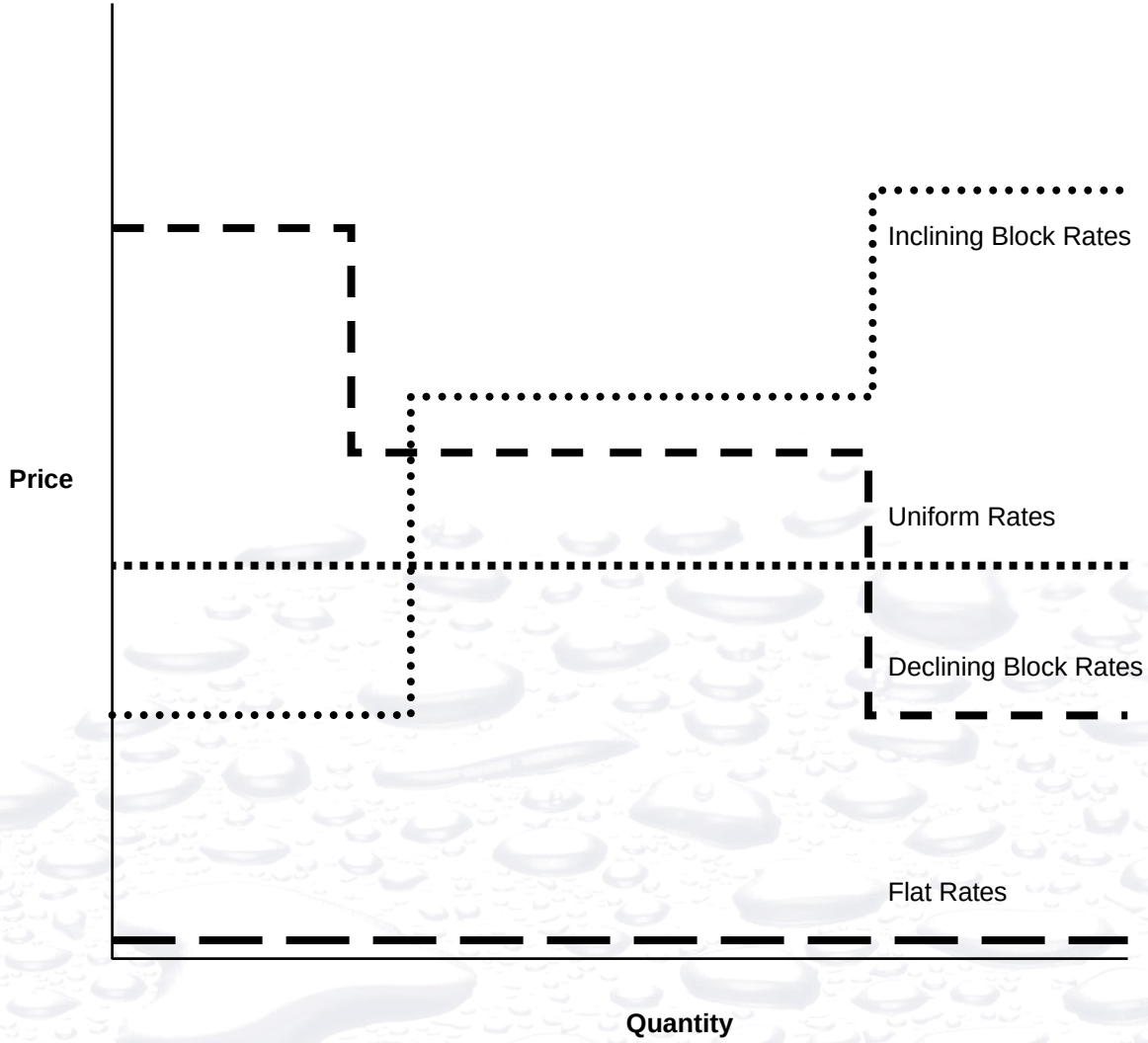
econnics
eco-efficiency specialists

Setting the Rate

Connection Charge

+ Variable (Per Unit) Charge

Total Bill


Price
Inclining Block Rates
Uniform Rates
Declining Block Rates
Flat Rates
Quantity

Case Study 2: Tofino, British Columbia

Photo: pinkcanoe, Nalu Collective

POLIS Project on Ecological Governance
watersustainabilityproject

econnics
eco-efficiency specialists

Setting the Rate: The Key Factor

Does the price accurately inform consumers about the costs of their water use and provide a signal that is sufficient to affect their decision making?

POLIS Project on Ecological Governance
watersustainabilityproject

econnics
eco-efficiency specialists

3. Mitigating Potential Downsides

POLIS Project on Ecological Governance
watersustainabilityproject

econnics
eco-efficiency specialists

The "Top 3" Challenges

- Impacts on low income families
- Revenue Stability
- Political Resistance

POLIS Project on Ecological Governance
watersustainabilityproject

econnics
eco-efficiency specialists

Mitigating Impacts on Low Income Families

- Provide "lifeline blocks"
- Targeted rebates and giveaways
- Non-financial tools (e.g. education)
- In some cases, subsidize (e.g. through levy on very high consumption)

Remember: <u>all</u> families get more control over their costs when price is linked to consumption

Case Study 3: San Antonio, Texas

Revenue Stability

1. Use of two part system (fixed and variable charges) can smooth revenue variability
2. Careful planning goes a long way (e.g. research on price elasticity, local conditions)
3. Use innovative pricing mechanisms (e.g. rolling average pricing)

POLIS Project on Ecological Governance
watersustainabilityproject

econnics
eco-efficiency specialists

Political Resistance

- Often motivated by fear that there will be “winners and losers”
- Exacerbated by a long history of water underpricing in Canada
- Consistently deliver the key messages in carefully planned communication

The Key Messages

- Conservation-oriented pricing makes solid sense from both financial and environmental perspectives.
- The negative consequences for communities can be easily mitigated (e.g. impacts on low income families)
- Conservation-oriented pricing allows individuals and families much greater control over their water costs.
- The objective is to cover the full costs of providing water services and no more. Someone ultimately has to pay these costs.
- Revenue is reinvested in the water supply system to repair aging infrastructure and protect water sources. Ultimately, this is an investment in the future of communities.
- The rest of the world is doing it!

POLIS Project on Ecological Governance
watersustainabilityproject

econnics
eco-efficiency specialists

4. How to Get There From Here

Key Steps on The Journey

1. Have a plan
2. Consider implications for billing systems
3. Get metered and charge by volume
4. Improve water use accounting
5. Fully account for expenditure
6. Consider starting with seasonal surcharges
7. Make it part of a complete program
8. Recruit the aid of senior government

Case Study 4: Guelph, Ontario

Photo: allencooper, Google Earth

POLIS Project on Ecological Governance
watersustainabilityproject

econnics
eco-efficiency specialists

Conclusion: Take the Long Term View

Moving forward will take careful planning, communication and consensus building within the organization and the broader community.

And don't forget… conservation-oriented pricing makes sound sense from both economic and environmental points of view!

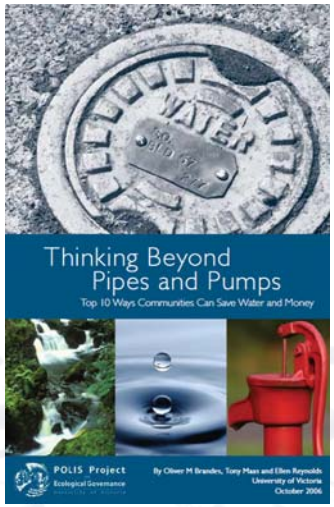
Remember: Pricing is just one tool in the toolbox

Pricing reform should be imbedded in boarder, holistic organizational reform and demand management efforts

POLIS Project on Ecological Governance
watersustainabilityproject

econnics
eco-efficiency specialists

Many more resources and tools are available from the POLIS Water Sustainability Project website



http://poliswaterproject.org/toolkit

Watch for the primer on conservation-oriented pricing in early Spring 2010!

POLIS Project on Ecological Governance

watersustainabilityproject

Key Supporters

Walter & Duncan GORDON FOUNDATION

University of Victoria

POLIS Project on Ecological Governance

watersustainabilityproject

econnics

eco-efficiency specialists

Questions?

Kirk Stinchcombe, Director
w: www.econnics.com
e: kirk@econnics.com
t: +1250 588 6851

facebook: search “econnics”