Water meters
New technology signals change

by Laura Eggertson

When St. John's lawyer Linda Bishop was house-hunting five years ago, she ran across an unfamiliar contraption in the basement of some of the properties she was touring.

It looked like a dial for the furnace, but it was in the wrong place. Puzzled, Bishop asked her mother, who was helping her peer around the corners, what the strange-looking little box was for.

"Oh, that's a water meter," her mother told her.

Bishop's unfamiliarity with the equipment, which is a standard feature in 66 percent of homes across Canada, is not as surprising as it seems. St. John's is one of several municipalities, including the Greater Vancouver Regional District, which do not use meters to charge consumers for water. Although there are meters in some older homes in St. John's, they are not connected. Instead, residents pay a flat tax for water regardless of whether they conserve or splurge – a choice that recently earned them the dubious distinction of being named the highest daily per capita users of municipal water.

The University of Victoria's POLIS Project on Ecological Governance conducted a survey of 20 urban municipalities, titled *Flushing the Future? Examining Urban Water Use in Canada*. St. John's residents, the largest consumers, use 659 litres each day – compared to low-end users like Charlottetown (156 litres per person per day).

That finding has stimulated debate among city councillors about instituting a metering system in St. John's. "What's being floated now is the idea that perhaps, in the future, we could take a new subdivision and put meters in and monitor their consumption, and the cost," says Bishop, the city's senior legal counsel.

The pilot project would give the municipality a way of assessing whether meters encourage conservation, when ratepayers see the impact of their consumption on their pocketbook. It would also provide a concrete cost-benefit comparison of flat rate taxing vs. meters.

When combined with a reasonable pricing policy, meters can reduce consumer demand for water, says Duncan Ellison, executive director of the Canadian Water and Wastewater Association in Ottawa. He cites studies demonstrating that if people receive water bills telling them how much water they have used and at what price, the message about cost hits home.

"Unless you have a meter, you can't send that kind of message," says Ellison. Sophisticated new meter technology that is linked to a computer gives municipalities the possibility of introducing marginal cost pricing, says Ellison. That would allow municipalities to charge homeowners less for a base amount of water, with additional water charged at a higher rate. The cost could also vary during winter, when people use less water than in summer, when they are dousing lawns and washing cars.

The City of Brandon, Manitoba, has recently adopted just such a sophisticated meter technology, supplied by Mississauga-based Neptune Technology Group. The city spent $2 million replacing 12,000 old units with an automated system. The new meters contain transmitters that emit a signal, sending data via radio frequency about the amount of water a household uses. Municipal staff drives by in a vehicle containing an RF reader, a receiver that is specially coded to pick up the radio frequency. Their receivers record the data on a computer, which then generates a bill back at the city's treasury department.

Instead of taking meter readers 960 hours to read all the meters in Brandon homes, it now takes them just 10 hours. This means bills are more current, says Jeff Sim, Brandon's public works manager. Without staff having to access homeowners' properties, reading meters is also less invasive. And it saves the city money on salaries, since the number of staff in the meter-reading department went from nine down to five.

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The city had been struggling to keep up with the need to replace old meters, which lose their accuracy, often under-reporting water use, once they are 20-25 years old, says Sim. The loss in accuracy meant the city was bleeding revenue.

"We were putting a lot of money into changing over the old water meters anyway, plus we had the labour and the administrative time spent answering calls – people complaining about an estimate, or not understanding their bill," says Sim.

Other municipalities using the Neptune technology include Centre Wellington, Ontario, Athabasca, Alberta and Cincinatti, Ohio.

In Brandon, the new system is designed to be cost-neutral; it will pay for itself within 10 years, says Sim. It is also helping to inspire conservation. The new meters include a low-flow reading that indicates a leak in toilets or taps. "Everyone now has got a very accurate meter and a very accurate view of how much water they are using," says Sim.

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