

[One colossal waste](#)

Oct 8, 2009 by Nancy Macdonald



Twice a year, raw sewage spews from the drains and toilet, flooding Sophie Bourassa's antique store in Montreal. When the water recedes, the basement of *Quelque Chose* is left with a carpet of "twigs, dirt and human excrement." A single storm in July left her ankle-deep in sewage and with a \$5,000 bill for damages. Bourassa is not alone. Some 100 homeowners and several nearby businesses, including a flower shop, a jeweller, and a high-end baby shop, have gone through the same ordeal. (The florist even tried to staunch the flow by sandbagging his drains with heavy bags of potting soil—to no avail. The bags shot straight into the air from the pressure.) Bourassa's insurer has left her in the cold, and her landlord cited a no-fault clause against water damage in the lease. The city, which last year denied 2,697 claims after major overflows, called the July storm an "act of God" and dismissed Bourassa's claim, leaving her to foot the bill. "It's not an act of God," she says. "It's an act of the sewers being too old."

On that point, the city seems to agree, although the blame, it says, belongs with past administrations. "For decades there was no investment at all in water infrastructure," says city hall spokesperson Bernard Larin, noting Montreal plans to invest \$350 million in sewer and water infrastructure this year. It's a good start. Currently, a staggering 40 per cent of Montreal's water is being lost through cracks and breaks in antiquated water mains and pipes. Cracks aside, every day Montreal wastes the equivalent of Paris's daily drinking water supply, and residents share part of the blame. Montrealers are billed for water through their property tax; by design, the system encourages waste. Residents don't see a bill and no matter how often they fill the pool or water the lawn, their rate stays flat. No surprise, Montrealers use more than double what most other Canadian cities do.

In fairness, it's not just Montreal. Vancouver still does not have household water meters, and has no plans to get them. There, residents pay a flat annual rate of \$360 for water, about \$30 a month, per household. British Columbians—routinely treated to gushing praise for their green taxes, green jobs, green buildings and green mayors—are the biggest pigs in the country when it comes to water, beating even Quebec in a tight race for the ignominious national title for household water use. More than a third of Canadian cities, meanwhile, use decreasing block rates. The more you use, the less you pay for the unit of water. "It's madness," says law professor Robert Glennon, author of *Unquenchable: America's Water Crisis and What to Do About It*.

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In fact, Canadians are the heaviest water consumers in the world, the direct result of having some of the world's cheapest water prices, says Brock University economist Steven Renzetti. Canadians pay roughly one-fifth what Germans do, and a quarter what the French do. "The reason for the price difference," says Renzetti, "is that European water agencies don't subsidize water agencies to the extent we do." The average Canadian, meanwhile, uses almost three times the German average, and more than twice the French. Swedes use five times less water than us—with no discernible impact on quality of life. And our consumption is increasing—a full 25 per cent over the past 30 years, five times higher than the OECD average increase of 4.5 per cent. In some developed countries, the U.S. and Britain included, water use has declined. Not in Canada. Our freshwater withdrawals more than double the OECD average, according to the Conference Board of Canada, which awarded us a D for water consumption in its recent environmental report card.

Public subsidies fund much of that waste. And even with all the subsidies, municipal utilities, experts explain, are so woefully underfunded they can't afford to maintain the system. Nationally, 20 per cent of the country's treated water is being lost to leaks. But don't pity Canada's utilities their aging infrastructure. They account fully for neither their costs nor their impacts on the environment, and they don't signal to consumers the true cost of providing service. The result? High rates of consumption, crumbling infrastructure and a steep and growing environmental debt.

It's much the same story with energy consumption. Canadians, with some of the cheapest electricity rates in the developed world, are also among its highest per capita energy users. Costing taxpayers billions in subsidies, energy prices, like water prices, are so low as to be virtually symbolic; in places, utilities cannot cover the full cost of production. And as long as government maintains prices at artificial levels, waste will continue.

As it is, global electricity use is soaring from power-hungry gadgets like laptops, iPods, cellphones, video game consoles and flat-screen TVs—even bigger energy hogs, it turns out, than some refrigerators. In the U.S., households have gone from three to 25 consumer electronic products in the past 30 years, driving galloping consumption. Energy use by computers and consumer electronics is predicted to double by 2022, and increase threefold by 2030, imperilling efforts to reduce greenhouse gas emissions, according to the Paris-based International Energy Agency. Currently, the average Canadian consumes more than twice the rich-country average for electricity use. And already our electricity sector is responsible for 16 per cent of our CO₂-equivalent greenhouse gases, which have increased by 22 per cent since 1990 (transportation, by comparison, is responsible for 25 per cent).

Canada's current low-price/high-subsidy resource policies also lead to higher public debt and taxes. They are an inefficient subsidy to big consumers—the more you consume, the larger the subsidy—and undercut the environment. A growing number of economists and environmentalists argue that in an era of climate change, energy challenges and fiscal restraints, Canada should rethink this design. By lowering public assistance and sending price signals to consumers, we could encourage more sustainable resource use.

The pattern is clearly visible within the country, too: where prices are low, consumption is high. Quebec, which has Canada's second-lowest electricity prices (after Manitoba), has the highest rate of per capita consumption. True, other factors help to explain higher rates of consumption, including industry—which is lured to the province by its cheap rates. P.E.I., which lacks energy resources and has to buy and import electricity, pays the highest rates in the country—almost 2½ times what Quebec does—and records the country's lowest per capita consumption. Steep electricity costs have pushed some P.E.I. businesses to install wind turbines on their property; 18 per cent of the province's electricity now comes from wind. The pattern can also be seen with water. The country's heaviest water consumers, B.C. and Quebec, pay the lowest rates.

In Canada, most electricity prices are based not on the value of electricity, but its cost. In all provinces except Ontario and Alberta, prices are determined by energy boards. (With the exception of Alberta, power is provincially owned; in four provinces, investor-owned companies also generate some electricity.) The boards approve rates based on the estimated cost of supply, including a "reasonable" rate of return—a "highly inappropriate" way to set pricing, says

noted Montreal economist Marcel Boyer. “If you want Hydro-Québec to realize a 9.5 per cent rate of return on its capital, you simply fix the price in such a way that they can cover expenses, plus the 9.5 per cent return.” Sure, Quebec may be rich in hydro power, but Ontario, which, in the ’60s ran out of low-cost hydro power, is not. Currently, the province subsidizes electricity to the rate of \$7.9 billion annually, roughly 10 per cent of total government expenditures, according to Jack Gibbons, head of the Ontario Clean Air Alliance. Why? Because “they’ve always done it this way,” says Gibbons, a past commissioner of Toronto Hydro. This has two immediate consequences: electricity consumption is inflated by its artificially low price, and investments in energy-efficient equipment and use of alternative energy are deterred by electricity’s low cost and availability. In Australia, by way of contrast, water scarcity was a key driver behind the invention of the Corona dual-flush toilet, now used around the world.

This is a big issue, say economists. If British Columbians, for example, paid rates resembling those in neighbouring Alberta, where electricity prices are 50 per cent higher, they would react to the price and use electricity more wisely, freeing up greater quantities for export. We’re not just talking about efficiency or local wealth creation, but of subsidizing the consumption of a clean power source that might otherwise be exported to places where it is scarce. Roughly 95 per cent of B.C.’s population runs on hydro power—but Alberta and much of the U.S. run on coal and gas. Economist Pierre-Olivier Pineau has priced the revenue potential. With a 50 per cent rate hike (which would put B.C. rates on par with the rest of the region), additional profit would top \$430 million, after compensating low-income households, says the professor of management at the business school HEC Montréal. B.C. Hydro’s financial mandate, “having costs among the lowest in North America”—i.e., selling electricity at a discounted price to please customers at the expense of potential wealth and the environment—is “absurd,” says Pineau. It’s “like selling gasoline at cost, rather than market price,” the way oil is currently priced in Venezuela.

To top the irony, taxpayers are now being asked to fund government programs to encourage them to “slow the flow.” With electricity priced to go, consumers can’t seem to be bothered to turn off the lights when they leave the room. Entire government bureaucracies have been built up to remind them. B.C.’s Power Smart program—a mix of commercials, billboards, PSAs, T-shirts, gala dinners, home inspections and buy-back schemes—runs taxpayers north of \$95 million a year. Quebecers pay \$200 million for an equivalent program.

Elsewhere, the resource calculus is changing rapidly. This summer, California, which in February declared a state of emergency due to water shortages, undertook major price increases and supply cuts. “The era of cheap water,” as one California water official put it, “is over.” This year, water prices spiked in 30 Chinese cities, where demand for scant water resources has exploded with rapid industrialization. Prices rose by 25 per cent in Shanghai and Zhengzhou (Shanghai is planning a second increase of 22 per cent). Luoyang, in central Henan province, is debating a rate hike of 40 to 48 per cent.

As any undergraduate economics student will tell you, the most effective way to allocate and conserve a valuable commodity is pricing. But, for too long, we have relied on technology and public infrastructure projects to meet new supply-side demands—building bigger dams, desalinating salt water—rather than focusing on demand management and trying to wring out systemic inefficiencies, says Sandra Postel, director of the Global Water Policy Project. Addressing the demand side can make a difference. The San Francisco-based Pacific Institute figures that, simply by employing current water-saving practices and new pricing schemes, California—a water-poor state with a volatile supply—could meet all of its needs for decades to come.

Low earnings lead to low investment, and low investment leads to Toronto, whose \$1-billion-plus backlog of repairs highlights the danger of letting needed upgrades back up in an era of climate change and extreme weather events. (In 2005, a single storm cost \$400 million in infrastructure damage in just two hours.) Or worse, it leads to Montreal, whose ailing sewer and water system now needs an impressive \$4-billion overhaul. Where to find the money? “Montreal is hoping the province and the federal government step in,” says local economist Jean-François Minardi, of the Fraser Institute. That would mean taxpayers in Calgary would be asked to help foot the enormous water bill Montreal households have run up over the years—a “crazy passing of the buck,” according to Renzetti. “You don’t have to be too cynical to think, if you’re a municipality: ‘Geez: should we raise water rates, and possibly annoy people? Or should we go cap in hand to the province or the federal government?’ ” he says. We’ve built in a strong incentive to “delay spending your own money in hopes of getting other people’s money.”

To that, add a “huge” environmental debt, says Pineau. The largest source of pollution discharged into surface water in Canada is none other than the three trillion litres of sewage we generate annually—a mix of water, human waste, toxic chemicals, heavy metals, excreted pharmaceuticals and pathogens (such as cholera, typhoid and hepatitis B). “There is an awful big difference between what you can put in the Seine versus what you can put in the St. Lawrence,” says Renzetti.

And yet, currently, we don’t pay for the true cost of delivering the resources or treating these problems. The average Canadian household pays \$28 per month, roughly half an average cellphone bill—or half an average monthly water bill in Britain. Why install a low-flow shower head that can reduce consumption by 70 per cent? A quarter of us pay a flat rate for water and could never recoup the investment, even after a lifetime of use. “We don’t voluntarily misuse water,” says Boyer. “But we are price responsive: if you send consumers a price that is so low, they don’t care—of course they misuse it.” (Water consumption in the metered community of Clovis, Calif., is 33 per cent lower than in neighbouring Fresno, where water use is un-metered.) “If provincial governments passed legislation ordering utilities to fully account for costs, and reflect those in prices, a 30 to 40 per cent increase is likely,” says Renzetti. “Notice,” he adds, “that would only move them closer to the global average.”

Some fear it’s dangerous to use market mechanisms to address the water crisis. “Wealthier families will be able to continue to waste more, and poorer households will be penalized and potentially denied the right to safe, clean drinking water,” says Meera Karunanathan, national water campaigner with the Council of Canadians. The same argument is made about electricity. In reality, those benefiting from low prices are the ones using heavy loads of water and electricity: industrial users and people with big houses, two-car garages, heated swimming pools. At present, small-scale consumers actually subsidize large-scale consumers and industrial users. (A recent study in *Canadian Public Policy* showed that high-income households in B.C. receive more than \$500 per year as an electricity subsidy, while low-income households get \$200.) So how to protect the poor? Help them with a direct subsidy, says Boyer. “But don’t do it for the whole population,” he adds. “That’s the wrong policy.”

Government intervention is also contributing to the global food problem: agricultural subsidies encourage food production on a massive scale that’s contributing to appalling waste. Throughout human history, “surplus” has been the holy grail of food production, says Tristram Stuart, author of *Waste: Uncovering the Global Food Scandal* (which hits bookstores in October). The problem now, he says, is that “surplus is being created in rich countries to such a huge extent that an enormous amount of food is wasted.” Although the cost of food is determined by fundamental patterns of supply and demand, the supply system relies mightily on government intervention, used to combat a raft of threats, real or not, including rural poverty, declining land values, market instability, and food security. Although rich countries are moving steadily away from production incentives (which, in Europe, have led to the accumulation of “butter mountains” and “wine lakes”), the trillions spent supporting farmers have a powerful effect on global markets by depressing prices.

We are in a situation of excess production, says Minardi, which helps drive down market prices and can lead to absurd situations. In Quebec, for instance, generous subsidies continue to encourage pork production—despite a crisis of overproduction in North America. Meanwhile, globally, \$34 billion is spent in subsidies to reel in fish worth just \$85 billion, according to Vancouver-based economist Rashid Sumaila, head of the UBC Fisheries Centre. Subsidies, he says, sustain a global fishing fleet “more than double the size the oceans can support,” driving commercial fishers further and deeper—even as top marine scientists warn of fisheries’ widespread collapse within 30 years if current practices continue.

The OECD estimates that, last year, its member countries spent \$290 billion on farm subsidies; this was slightly more than a fifth of farmers’ total earnings. Ottawa doled out \$5.5 billion to farmers through a complicated and overlapping supply-management system and government-sponsored insurance, subsidies to gas, equipment, feed, water and fertilizers. The EU, meanwhile, spent \$78 billion, more than half its annual budget; its Common Agricultural Policy is the largest agricultural aid program in the world, costing each EU citizen \$192 per year (nearly \$800 for a family of four). And the dizzyingly complex \$337-billion U.S. Farm Bill—revisited by Congress every five years—sets the ground rules for the American food system, and, to a large degree, the world’s. U.S. subsidies maximize production of five commodity crops: corn, soy, cotton, wheat and rice—“meaning farmers will produce more than the market is actually demanding,” Stuart explains. “And they can sell their cereals for less than what it costs them to grow, because the government meets the difference between the market price and the cost price.”

Retail food prices have hit historic lows: between 1974 and 2005, food prices on world markets fell by 75 per cent in real terms. Until 1952, Americans spent more than 20 per cent of their income on food. Last year, that portion hit an all-time low of 5.6 per cent. “Without these programs, you would see less production,” which has helped bring down prices, says Sean Cash, professor of rural economy at the University of Alberta. Waste, meanwhile, has risen in kind. Currently, a third of all food in U.K. homes—one of every three potatoes, an annual 61,300 tonnes of tomatoes, and some 20 million tonnes in all—was being wasted, up from two to three per cent in the 1930s. In the U.S., about \$52 billion worth is chucked in the bin every year. In Toronto, the average household throws out one of every four purchases. The city, which is experiencing difficulty finding viable landfill locations for its garbage, spends nearly \$10 million a year ridding itself of that waste.

Canada, it turns out, takes top honours for most trash generated, according to the Conference Board of Canada’s OECD report card; Canadians, it found, generate almost twice the amount of trash as Japan, the best performer in the category. Creating and wasting so much food in rich countries, meanwhile, contributes to water depletion, soil erosion and deforestation in the developing world. Nearly one-tenth of the West’s greenhouse gas emissions are released growing food that will never be eaten.

Too often, subsidies shield Canadians from the true cost and value of the resources we consume. Many hearken back to an era when supply seemed inexhaustible and emissions and greenhouse gases had yet not entered the equation. But the billions spent supporting farmers, fishers and public water and energy utilities have led to higher taxes and overproduction; they have driven down prices and stifled innovation and conservation. Some have required still more government intervention to try to correct behaviour that artificially low prices passively encourage. The U.S. is now debating a new tax scheme—the so-called “fat tax”—to discourage people from eating the corn-based junk foods that benefit most from subsidies.

But humanity is converging on the need to make some uncommonly difficult public policy trade-offs. That Montreal’s main source of water “use” is water loss through pipes and water mains is a national shame. “Montreal is an old city,” some will counter. So is Paris.

Pricing produces greater technological innovations and clearer behavioural changes than either carrots or sticks. Some consumers need to be “hit over the head with a two-by-four,” says Glennon. “Price signals do that.”

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