


most part it is also not subject to the winds of political change. While primarily an advisory body, the IJC makes decisions regarding specific projects that will affect water levels in transboundary watersheds, oversees specific agreements and conducts studies on issues of significance at the request of either country. The politically appointed Commissioners are mandated to act independently, not as representatives of their governments.

In response to questions about whether our water is in jeopardy under trade agreements like NAFTA, the federal government has taken a position that bulk removals of water from Canadian basins are not allowed. Under NAFTA, we are obligated to treat foreign companies the same way we treat Canadian ones. So the best approach by the provincial and federal governments is to make sure we have tight rules for Canadian uses of the resource, and mandate a conservation-oriented approach. Ontario and Quebec are currently working with the eight US States around the basin on a new standard for water withdrawals from the Great Lakes. The agreement may put a stronger emphasis on conservation and help to manage in-basin withdrawals, but

it might actually make it easier to remove water from the basin (and there is a strong push to do so from thirsty communities on the US side). We should be looking to our governments to make sure conservation and ecosystem protection are strongly emphasized in such agreements.

The real bottom line is that our level of consumption is irresponsible and may be unsustainable. Our general bias is toward supply-side approaches: projecting how much water we need and tapping into more sources to supply it. According to a 2002 report by the Organization for Economic Cooperation and Development (OECD), between 1980 and 1997, total water withdrawals in Canada increased 26 per cent. In contrast, total water withdrawals in the US fell 5 per cent during the same period, despite substantial economic growth and a large population increase. 

Brenda Lucas is Programme Manager of the Fresh Water Resources Protection Programme with the Walter & Duncan Gordon Foundation.

Please visit www.corporateknights.ca/water for additional resources on topics discussed in this article.

Further reading:

Unnatural law

www.unnaturallaw.com

Environment Canada Freshwater website:

www.ec.gc.ca/water

Great Lakes Water Quality Agreement

www.on.ec.gc.ca/glwqa

International Joint Commission

www.ijc.org

Council of Great Lakes Governors

www.cglg.org

OECD Environmental Data Compendium 2002

www.oecd.org/dataoecd/8/19/2958157.pdf

OLIVER BRANDES

TRICKLE-UP: DEMAND-SIDE WATER ECONOMICS

Canada, a nation abundant in freshwater resources, is now facing a formerly unthinkable water management issue: scarcity.

Environment Canada reports that seasonal droughts, infrastructure problems and increased consumption are some of the many reasons that one in four municipalities reported water shortages between 1994 and 1999.

Supply-side management is the dominant approach to satisfy urban water needs throughout Canada. This approach responds to rising demands by seeking out new sources of water and expanding infrastructure capacity. The supply-side approach has brought many benefits to society. However, continuing on this path is increasingly expensive and environmentally unsustainable. Demand-side management (DSM) is a viable and emerging alternative to the existing status quo approach.

The potential

Demand-side management (DSM) complements supply-side management and seeks to avoid many of the high costs and problems associated with excessive water use by reducing, or at least capping, water demands.

Demand management taken to its full extent as a comprehensive, integrated and long-term approach, improves overall productivity of water use and delivers water services matched to the needs of end users.

Many municipalities in Canada are already undertaking some demand management measures such as education to promote water conservation, limited rebate programs, and watering restrictions. These measures, however, are often implemented in a limited and ad hoc manner—viewed as temporary, until additional supply is secured. This limited approach and the current situation of unsustainably high and generally inefficient urban water use in Canada suggests that many municipalities are missing the full potential of conservations as the next best and cheapest source of ‘new’ water. “DSM has significant potential to reorient urban water management on to a more sustainable path,” said Warden Lloyd Hines from Guysborough Nova

Scotia and Chair of the Federation of Canadian Municipalities’ Standing Committee on Environmental Issues. “Additional quality research about the various demand management measures, successful case studies, policies and programs from Canada and abroad will help municipalities move in this direction.”

The gridlock

Some of the many benefits associated with DSM include: the reduction of environmental impacts, an increase in the capacity of utilities to maintain drinking water quality standards, the avoidance of supply limitations, and the deferral of capital costs for infrastructure expansions. Although these benefits are significant, barriers such as overcapitalization, low prices and a supply-side engineering bias, restrict the widespread adoption of urban water demand management in Canada.

Other barriers, such as inadequate data collection, inappropriate government subsidies, lack of funding for DSM, and inflexible policies entrench current practices and result in high urban water use. The interconnected and interrelated nature of these barriers creates a gridlock that resists the adoption of a comprehensive approach to demand management

in Canada. “Canada could be a real leader in developing urban sustainability. But to liberate the potential for innovation in how we use water, we first have to dismantle a whole range of perverse financial incentives and institutional barriers that stand in the way,” says Dr Michael M’Gonigle, Eco-Research Chair and Professor of Law and Policy at the University of Victoria.

Governance

Governance refers to more than just government; it includes broader institutions and social decision-making processes involving other critical pillars of modern society such as business and ‘civil society.’ However, governments still have a critical role—especially as leaders signaling the critical importance of our water resources. The bottom line is that municipal, provincial, territorial and federal governments must emphasize a comprehensive, long-term and integrated approach.

Important themes for the various levels of government include: integration of demand management into all aspects of water policy; critical need for coordination [among all levels of government and across the private and public sectors] to ensure effective planning and implementation of DSM and the fundamental need for sufficient capacity—staff,

training, data collection; and research funding—to undertake effective DSM programs at the local, regional and national levels. Fundamentally, all levels of government must accept that although solutions by their nature are local, a national approach is gravely needed.


Towards a sustainable society

Urban water demand management is a key element in the transition toward a sustainable society. DSM embodies two of the fundamen-

Dematerialization refers to reducing resource flows through society by increasing efficiency and productivity, for example by installing low-flow fixtures. The second, substitution, involves replacing the use of scarce resources with alternatives, for example by replacing potable water with stored rain water for garden irrigation.

tal shifts required to make this transition possible for industrialized societies such as Canada. The first, dematerialization, refers to reducing resource flows through society by increasing efficiency and productivity, for example by installing low-flow fixtures.

The second, substitution, involves replacing the use of scarce resources with alternatives, for example by replacing potable water with stored rain water for garden irrigation.

Demand-Side Management holds the potential to shift Canadian cities and urban water utilities onto a sustainable path, with reduced costs and significantly less environmental impacts. The science is clear. Solutions exist. The urgency increases daily. The time for action is now. 

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Further reading:

Water Demand-Side Management
www.waterdsm.org

POLIS Project
www.polisproject.org

SUSAN HOLTZ

THE SOFT PATH FOR WATER:

OIL AND WATER DO MIX

‘Water soft paths’ started not with water issues at all, but energy. Specifically, the hot button conflicts about energy in the 1970s.

New proposals for huge undertakings like nuclear facilities and oil development in the North raised concerns for environmentalists and local citizens, who urged slowing or cancelling such mega-projects until their impacts could be considered. On the other hand, politicians and industry proponents, worried about price hikes and security after the 1973 OPEC oil embargo, pressed hard for a quick go-ahead on new energy supplies.

The logjam between these competing perspectives was broken by analyst Amory Lovins in his October 1976 article in *Foreign Affairs*.

SOFT PATH:

A SOLUTION THAT RELIES ON EFFICACY OVER SACRIFICE. IN OTHER WORDS YOU CAN HAVE YOUR CAKE AND EAT IT, TOO (IT MIGHT NOT BE THE CAKE YOU ENVISIONED, BUT IT’S A CAKE ALL THE SAME).

Coining the term ‘soft energy paths,’ he and subsequent researchers developed an energy planning approach that took into account both carefully calculated requirements for energy services and energy economics. But this enormously influential analytical work also made environmental considerations a core value. As the best way to reach all objectives, environmental, security-related, and economic, it stressed conservation and efficiency as the priority means of adding new energy ‘sources,’ and, as they became cost-effective, appropriately scaled renewable technologies.

Two decades later, the soft energy path work has influenced decisions about controversial technologies like nuclear power, changed mainstream energy planning, and

focussed attention on demand reduction and renewable alternatives that were once dismissed as impractical.

And—not least—some analysts, notably Lovins himself, Peter Gleick and his colleagues at the Pacific Institute, and, in Canada, David B. Brooks, recognized that the soft path approach could be applied to the complexities of water management.

Parallels: Energy and Water Issues

Water, like energy, is essential to life, but in human society both provide a variety of services in addition to biological life support. Natural geographic distribution varies enormously. But people’s actual access revolves around economic, social, and technological factors.