



FACT SHEET: WATER CONSERVATION

New water saving technologies and approaches offer a wide range of opportunities for Canadians to change their relationship to water from one dominated by consumption to one of conservation.

The Need for Water Conservation in Canada

Environment Canada has identified the following “threats” to water management systems in Canada.

- *Infrastructure limits* – costs for freshwater supply, wastewater collection and treatment are beyond communities’ resources to maintain them, and estimates of Canada’s infrastructure deficit (the amount of money required to update and maintain our existing water infrastructure) ranged from \$23 to \$49 billion in 2004.
- *Safety concerns* – raised by incidents of severe health impacts in Walkerton, Ontario and North Battleford, Saskatchewan demonstrate that the currently drinking water provision is “taxing management capabilities”.
- *Wild cards* – such as climate change, ecosystem deterioration, and new kinds of pollution (including endocrine disruptors).

Different Approaches to Water Management

There is a range of different approaches to water management, whose objectives span the spectrum from water exploitation to conservation. The progression from “getting more resources” to “thoughtfully governing those resources” charts a path towards a more conservation oriented and sustainable water future.

- **Supply-side management** is the traditional approach to water management in Canada, based in a philosophy of progress in which the only limiting factor on our future water access is technological ability and the funds needed for infrastructure. Engineering solutions (such as dams, pipes, canals, wells, desalination) dominate this approach, as planners attempt to create new capacity to meet future water needs. In the past supply side management has provided Canadians with a wealth of water, however the financial costs of new water supply solutions are “almost doubling every decade, and preliminary evidence is that the environmental costs are mounting even faster”.
- **Demand-side management (DSM)** combines sociopolitical, economic, and technological strategies to “save money, conserve water, and reduce environmental impacts”. This approach looks at water as an economically valuable good and considers conservation to be the best source of ‘new’ water. By reducing infrastructure costs and consumer demand “most water policy experts believe that cost-effective savings of 20 percent to 50 percent of water use are readily achievable”. DSM has been successful in energy and transportation fields, and in the short-term can provide a host of benefits in a cost-effective manner.

- **'Soft path' approach** offers the widest range of policy choices, by considering the services water delivers rather than looking at water solely as an end product. This approach has four guiding principles:
 - "Treat water as a service rather than as an end in itself"
 - "Ensuring ecological sustainability"
 - "Conserving quality as well as quantity"
 - "Backcasting" (creating a desired future and working backwards to the present that will make it possible) to develop new policy

The soft path addresses the water demands of Canadians, seeking to redefine the demands themselves, and thus paving the way for innovative solutions to water use and management.

Conservation Opportunities

Water plays an integral role in providing many of the ecological services that support Canada's high quality of life. Recognizing and acknowledging water's high value creates a number of opportunities to redesign communities for water conservation, reshaping the Canadian relationship to water for a sustainable future.

- **Socio-political strategies** include information and education programs (particularly effective are those that use social marketing to address barriers to behaviour change), water policy, permits for water use, landscaping ordinances, water restrictions, water saving plumbing codes, appliance standards and "water star" labeling programs, regulations and bylaws (such as turf limiting, and once-through cooling bans).
- **Economic strategies** include rebates for water conserving appliances and fixtures, tax credits for reduced water use, full-cost recovery policies for water services, high-consumption fines and penalties, pricing structures (seasonal rates, increasing block rates, marginal cost pricing, daily peak-hour rates, integrated sewer and waste water charges).
- **Technological strategies** include metering, landscape efficiency, soil moisture sensors, watering timers, micro and drip irrigation, cisterns and rain barrels, rain sensors, efficient irrigation systems, soaker hoses, leak detection and repair, water audits, pressure reduction, infrastructure and system rehabilitation, water efficient technologies (dual flush toilets, low-flow faucets, efficient washing machines and dishwashers), storm and waste water recycling and reuse (cooling and process water reuse, greywater for toilets and non-food irrigation, treating and reclaiming waste water for reuse).

The Destination: Ecological Governance

"Ultimately... communities must be designed *for* water conservation, not just retrofitted when we approach water limits". Water conservation is a vital component of "ecological governance", "where ecosystem health and processes are carefully considered at all levels of decision-making, both upstream and downstream throughout the watershed". As decision-makers begin to embrace a new water ethic as a necessary and fruitful part of a sustainable future in Canada, and begin building policies to support ecological governance, water conservation will move to centre stage.