

Going Soft on Water

A path forward for municipalities.

By Sheila Forsyth, Elizabeth Hendriks
and Leela Ramachandran

Municipalities face increasing water demands and conflicts as a result of growing populations, urban expansion, and industrial and agricultural applications. During this infrastructure deficit, communities can't afford huge capital costs to continually expand water treatment facilities and handling systems. Grouped with uncertainty about the impacts of climate change and concerns over the health of freshwater ecosystems, these conditions present a unique opportunity for innovative approaches to planning for sustainable water use.

Water conservation planning and the triple bottom line

Planners and water managers are beginning to move away from supply-side solutions that solve problems by expanding reservoirs, building bigger pipes and digging deeper wells. Instead, the largest source of "new" water for Canadians in the coming decades is expected to come from greater efficiency and conservation.

From an ecological perspective, water conservation creates opportunities to reduce energy consumption, sewage treatment, and greenhouse gas emissions. Comprehensive water demand management can significantly reduce costs through deferred infrastructure expansion and reduced energy demand. Protecting water resources can encourage new activities that stimulate economic development, such as landscaping businesses that specialize in water-conserving gardening (xeriscaping), or designing buildings and neighbourhoods for greywater reuse.

A vision, goals, and long-term strategic planning are required to ensure successful planning, implementing, and monitoring and achieve all of the benefits of water conservation.

Water soft path

Taking its name from Amory Lovins' energy soft path of the 1970s, the "soft path" for water is a planning approach to guide communities in developing a comprehensive plan for water management and conservation.

Water soft path (WSP) goes beyond current water conservation and demand management efforts, by simultaneously changing water-use habits, technologies and practices. Working within ecological limits, soft path planning looks 20 to 50 years into the future and proposes major changes in our water infrastructure and institutions. The focus is on designing and implementing policies and strategies today that will meet new water demand through more efficient use of existing supplies, reducing or even eliminating the need for further supply-side developments.

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Water soft planning starts with a detailed analysis of the "services" that water provides, WSP encourages planners to think of water in a new way rather than basing requirements on existing use patterns. This creative thinking leads to systems that provide security and prosperity but require much less water. Ecological sustainability is the cornerstone of this process, and should be considered throughout planning and implementation. Finally, water quality should match the needs of a given service (for instance, do we need to water a lawn or flush toilets with drinking water?). This analysis introduces municipal planners and citizens to a number of creative solutions for reducing demand for potable water demands and conserving supply.

A cornerstone of the WSP approach is backcasting and scenario building—creating a vision for a desired water future, then planning from the future back to the present. The backcasting process encourages planners to create various combinations of education, pricing, technologies and policies, and to predict the impacts of these scenarios into the future. By exploring and evaluating different scenarios, municipalities can develop water conservation strategies to meet their long-term goals.

Two key planning tools to facilitate the backcasting and scenario-building process are the POLIS Project's WaterSmart Scenario Builder (*see poliswaterproject.org*), and Friends of the Earth's (FOE) Water Soft Path Planning Guidebook (*see foecanada.org*). These interactive tools enable municipalities to build scenarios, populate them with specific efficiency and conservation measures, and compare the predicted outcomes. The output is a plan that includes water management targets, policy development and implementation activities, such as bylaws, incentives,

regulations, education and outreach.

Public consultation is also an essential element. Input from a range of stakeholders is needed to establish targets, define tradeoffs and select options. Successful implementation of the resulting plan depends on citizens, businesses and institutions doing their part.

Rather than prescribing a set of desired outcomes, WSP offers municipalities the flexibility to put together plans, policies and programs to meet their specific water needs and conservation goals. Water soft path solutions include reconsidering the use of potable water for services that can be supplied by non-potable water, designing communities with low water needs, and providing incentives and education to the public about appliances and products that reduce or even eliminate some of their water uses.

Workshop series

In response to a growing interest in and heightened need for water conservation among Canadian communities, FOE, POLIS, and the Federation of Canadian Municipalities' (FCM) Green Municipal Fund (GMF) are teaming up to equip municipal water practitioners with practical tools for creating effective water management plans, conservation programs and water quality initiatives. The team will bring these innovative

Credit: Adapted from Friends of the Earth

Modifying growth projections is one option in scenario building

Reiterate the WSP process as needed to establish a desired scenario

WSP Analysis For Sustainable Water Resource Management				
step 1 Commit To Vision And Water Uses	Community Vision • Identify key attributes of desired water future • Identify water use, services and water systems			
step 2 Collect Baseline Data	Baseline Demand • Identify and quantify water demands • Match quality to service		Baseline Sources • Identify and quantify existing and potential water supplies • Determine ecosystem needs and deduct from water supplies	
	step 3 Determine Growth Projection Determine Growth Projections • Extrapolate future water use demand based on growth projection			
step 4 Build Scenarios	Business as usual (BAU) • No additional conservation measures	Standard demand management (SDM) • Efficiency measures applied	Water Soft Path(s) (WSP) • Advanced efficiency measures applied • Match quality to service	Additional Scenarios
	step 5 Backcast Identify measures and timeframes to reach desired water future from step 1 for SDM and WSP scenarios, where possible			
step 6 Evaluate	• Compare backcasting results with community goals and vision • Consult with the community • Implement selected scenario or do further iterations of WSP process			
Community involvement and consultations can include talking with individuals, meetings, involvement with process and should involve as diverse a representation as possible.				

A water soft path analysis for sustainable water resource management.

solutions to municipalities in the fall and winter of 2009–2010 through workshops and a webinar, helping municipalities to work through a visioning and planning process to craft water conservation goals and plans that are locally appropriate (see gmf.fcm.ca).

Water conservation planning and water soft path approaches can be integrated not only into municipal water plans, but also into watershed plans and community sustainability plans, laying the foundation for sustainable water projects, programs, policies and bylaws. FCM's GMF

offers municipalities funding for sustainable community plans, water-related feasibility studies and pilot projects, and capital projects related to sustainable wastewater treatment. By partnering on this workshop series, FOE, POLIS and FCM aim to support municipalities in incorporating water conservation and water soft path into their ongoing work to build sustainable communities. [W](#)

Sheila Forsyth (not pictured) is a senior staff scientist with Friends of the Earth Canada.



Elizabeth Hendriks is the outreach coordinator for the Water Sustainability Project with the POLIS Project on Ecological Governance.



Leela Ramachandran is a capacity building program officer with the Federation of Canadian Municipalities' Green Municipal Fund.

 <p>RCCAO Constructing Ontario's Future</p>	<p>RESIDENTIAL AND CIVIL CONSTRUCTION ALLIANCE OF ONTARIO</p> <p>RCCAO Constructing Ontario's Future</p>	<p>RCCAO 25 North Rivermede Road, Unit 13 Vaughan, Ontario L4K 5V4 Andy Manahan, executive director E manahan@rccao.com P 905-760-7777</p>
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