

Ontario Sewer and Watermain Construction Association



Full-Cost Recovery for Municipal Water and Wastewater Systems as an Outcome Goal for the Long-term Infrastructure Plan

February 2017



Recommendations to Save Money, Improve Environmental Outcomes, & Modernize Municipal Water System Management

1. Maintain previously legislated definitions of “full-cost recovery”¹ and “wastewater services.”² Maintaining these definitions will ensure that those municipalities that did voluntarily adopt full-cost recovery when it previously appeared in legislation will not be unduly penalized due to a language change.
2. Require municipal water systems that serve at least 10,000 people to recover all costs through user fees. Cost-recovery rates will vary by municipality due to a number of factors, including (but not exclusive to): legacy system costs; extracting water at source; treatment and distance of transmission; rising energy costs; varying costs for materials and labour; and, rising maintenance and construction costs that go with an aging infrastructure system. The province should allow for a five- to seven-year timeline for implementation.
3. In the lead-up to requiring full-cost recovery, make additional funding available to municipalities seeking to retrofit or rehabilitate water and wastewater infrastructure in order to accommodate a move towards system regionalization.
4. Any municipality seeking provincial funding for a water or wastewater infrastructure project must demonstrate that they have explored potential regional alternatives to provincial funding. The burden of proof should be placed on the municipality applying for funding to demonstrate that amalgamating with nearby water systems would not create greater economies of scale.
5. Provincial funding for municipal water and wastewater infrastructure should be eliminated where a financial solution is possible and cost-effective through regionalization, but not pursued. This approach will allow funding to be directed to those municipalities where need is truly the greatest.
6. Create incentives for larger systems to approach smaller neighbouring systems to find areas for physical amalgamation or greater administrative cooperation. Consider creating a “Regionalization Fund” that incentivizes a larger system operator to assist small system operators with problem issues in cases of emergency (i.e. broken watermains, sinkhole, collapsed sewer, etc.).
7. Allow small systems the opportunity to remain independent, even when a regional option is available, on the condition that the users of the system are willing to pay for its operations and upkeep moving forward.
8. Establish a municipal mentoring system, that can help smaller systems regionalize and how to improve operational efficiencies.

¹ Defined as costs associated with “source protection costs, operating costs, financing costs, renewal and replacement costs, and improvement costs associated with extracting, treating or distributing water to the public, and such other costs which may be specified by regulation.” Bill 175: Sustainable Water and Sewage System Act (2002), Royal Assent December 13, 2002, (37:3), Retrieved from Government of Ontario e-Laws website: <https://www.ontario.ca/laws/statute/s02029>.

² Defined as costs associated with “collecting, treating or discharging [of] wastewater.” *Ibid*.



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Ministry of Infrastructure
Mowat Block 5th Floor
900 Bay St.
Toronto, ON M7A 1C2

Re: Mandating Full-Cost Recovery for Municipal Water and Wastewater Systems

On behalf of our members, the Ontario Sewer and Watermain Construction Association (OSWCA) would like to submit a comprehensive proposal for why the province needs to move forward with mandating full-cost recovery for municipal water and wastewater systems and how this can be accomplished. This proposal includes:

1. Achievable goals for the next long-term infrastructure plan;
2. The case for mandating full-cost recovery;
3. An overview of the current state of water and wastewater infrastructure in Ontario;
4. Regionalization and how to accommodate small municipal operators;
5. Subsidization models for low- and fixed-income users;
6. How to implement; and,
7. Model legislation

By requiring municipalities to operate their water and wastewater systems on a full-cost recovery program, the province will: create consistent and sustainable jobs at the municipal level; ensure the sustainability of municipal operators to deliver clean drinking water and appropriately treat and dispose wastewater; and, will largely remove the need for provincial funding for municipal water and wastewater systems.

1. Achievable Goals for the next Long-term Infrastructure Plan

Municipal water and wastewater infrastructure continues to be woefully underfunded. While cumulative investment has increased over the last 15 years, this growth has primarily been occurring in large urban centers and high-growth municipalities. The great majority continue to operate their water and wastewater systems below cost, relying on development charges and hundreds of millions of dollars of annual federal and provincial funding to supplement their system needs.

Since the Walkerton water disaster in 2000, there have been many worthwhile provincial water policy initiatives, including: source water protection; training initiatives; the



Walkerton Clean Water Centre; and, the creation of WaterTap. But these measures focus on issues at the margins of the municipal water system conundrum and, in fact, ignore the primary problem: financial sustainability. Undercharging for water and wastewater is a complex issue that most municipalities struggle with. It runs counter to numerous infrastructure and environmental objectives but is a direct result of rising costs of living in the province. With the next generation of the Long-term Infrastructure Plan (LTIP) and Climate Adaptation Strategy now being considered, it is necessary for the province to build in long-term goals that compel municipalities to face this issue head-on.

The province is in a unique position to realize decades-old objectives. By mandating that municipalities operate their water and wastewater systems on a full-cost recovery model within 5-7 years, the province has an opportunity to:

- Create a sustainable funding source for water and wastewater infrastructure;
- Save hundreds of millions of dollars in annual transfers to municipalities³ and/or re-route these current investment dollars into areas of greater strategic importance;
- Enhance source water protection measures and improve water conservation efforts; and,
- Help to develop and modernize the management of small municipal water systems.

Water and wastewater infrastructure is wholly owned by the regions and municipalities that they serve. While operating these assets on a full-cost recovery model is not presently a requirement, many municipalities do utilize this pricing model. Mandating this as a requirement for all municipalities would therefore reward good stewardship. It would ensure that the residents of those municipalities who have achieved full-cost recovery are no longer double-paying, by covering the costs for their own water usage at the local level and then seeing their provincial tax dollars funneled towards municipalities where spending and accounting practices have not been as responsible.

While some municipalities would see their water rates increase over time, this is a necessary move. Water and wastewater infrastructure is *not* a luxury expense. Using LTIP to phase-in necessary changes is a smart and responsible move that will ensure the future of clean water delivery and proper wastewater disposal across the province.

³ This includes funding directed to municipal sewer and watermain infrastructure projects through the Ontario Community Infrastructure Fund and dedicated investments through the Clean Water and Wastewater Fund.



2. Why the Province Needs to Mandate Full-Cost Recovery

The financial sustainability of municipal water systems has been considered in numerous government and third-party reports,⁴ as well as in at least two pieces of legislation over the last 15 years.⁵ Expert recommendations have consistently identified the need for municipalities to operate their water systems at full-cost recovery, and there is near universal agreement with these recommendations at both the provincial and municipal levels. Yet, most municipal water systems are being purposely operated at a loss.

The province has yet to mandate full-cost recovery as an operating requirement and many municipalities prefer to keep the cost of water artificially depressed. It is a dangerous game being played, as water systems across the province are deteriorating and the costs to repair and replace them are increasing every year. The pricing stalemate that presently exists is simply passing responsibility for proper financial management on to future generations and with each passing year, the magnitude and cost of this responsibility grows.

There are many reasons why universal full-cost recovery remains elusive, but the most common obstructions are consumer pushback on cost-of-living increases and the corresponding lack of political will at the municipal level to increase water rates. These are two tricky political impediments, but the cost and potential public health impacts of ignoring the problem are much, much greater.

Charging artificially depressed rates is keeping the up-front cost to the consumer low, but it results in much greater reactive spending due to water and wastewater infrastructure failure. For example, in 2016 failing watermains caused a massive sinkhole in Ottawa costing millions to repair and even more in lost business opportunities,⁶ power outages to high rises in Toronto,⁷ and service disruptions in almost every community in the province. Similarly, stormwater and sanitary sewer failures over the last ten years have caused billions of dollars in property damage.⁸ These tangible costs also do not account for the more abstract expenses associated with the dumping of billions of liters of untreated sewage into local watercourses every year because of antiquated combined sewer overflow systems (i.e. costs associated with clean-up, lost economic opportunities from

⁴ For example: Fortin and Mitchell (1990); O'Connor (2002); Swain (2005); Drummond (2012); the ECO Annual Report (2014); Canadian Municipal Water Consortium (2015); Fenn and Kitchen (2016).

⁵ *Sustainable Water and Sewage Systems Act, 2002; Water Opportunities and Water Conservation Act, 2010*

⁶ "Massive sinkhole closes Rideau Street in downtown Ottawa: Rideau Centre mall, businesses evacuated and tourists asked to avoid area," CBC News, Jun 08, 2016, <http://www.cbc.ca/news/canada/ottawa/sinkhole-rideau-street-downtown-ottawa-1.3621949>

⁷ "Third power outage plagues Minto condominiums residents," City News, September 17, 2016, <http://www.citynews.ca/2016/09/17/third-power-outage-plagues-minto-condominiums-residents/>

⁸ Toronto 2005 & 2013, Peterborough 2004, Burlington 2014, etc.; Insurance Bureau of Canada, "4 Ways to Prepare for Water Related Damage," Insurance Bureau of Canada, <http://www.ibc.ca/qc/disaster/water>.



recreational area closures, additional water treatment costs when using these watercourses for source water, etc.). At some point, the *need* for rate increases must overcome the more vocal *want* for artificially low rates.

When looking at the average cost of water across the country and across the developed world, Ontario's rates rank amongst the lowest for residential and commercial users. Of the six most populated provinces in Canada, Ontario rates rank fourth in average price, only higher than British Columbia and Quebec, and decidedly lower than Alberta, Manitoba, and Saskatchewan.⁹ From a global perspective, Canada maintains the second-lowest average water rates across the 35 member countries in the Organization for Economic Cooperation and Development, only higher than South Korea.¹⁰ In this context, Ontario is maintaining some of the lowest rates in the developed world, despite the fact that many of its municipal systems are falling into disrepair and operating in a deficit position. While some may argue that the reason for our low water rates is due to the abundance of freshwater in Ontario's natural environment, this is faulty logic, as it does not translate into a low-cost supply of water. Water rates account for extraction from a source, treatment for drinking, transmission through watermains, sewage and storm-water collection, and treatment for discharge back into the source. It is a costly, yet critical, cycle that is vital to the health and safety of communities.

A provincial mandate requiring municipalities to operate their water and wastewater infrastructure on a full-cost recovery basis will create transparent, accountable, and financially self-sufficient water systems and will minimize the need for provincial subsidies. Over the long-term, the province needs to have the goal of removing itself as a funder of municipal water infrastructure.¹¹ This will save the province hundreds of millions of dollars annually and would make users more accountable for the water that they are using. This would be a complementary objective to the provincial Climate Change Adaptation Goals and would be a clear and demonstrable outcome objective of the next LTIP (i.e. to help eliminate the municipal water infrastructure deficit and scale back provincial subsidization of municipal water system costs).

3. An Overview of the Financial Sustainability of Water Infrastructure in Ontario

Many municipalities defer maintenance, rehabilitation, and expansion of their water and wastewater infrastructure because they do not have the necessary capital reserves to

⁹ Michael Fenn and Harry Kitchen, *Bringing Sustainability to Ontario's Water Systems: A quarter-century of progress, with much left to do*, OSWCA (May 2016), 52-53.

¹⁰ *Ibid.*, 54.

¹¹ There are likely to be instances when provincial assistance is needed in emergency situations or in small/remote communities where the user-base is not large enough to sustain the true cost of system upkeep; however, this is not the case for the vast majority of urban centers in the province.



pay for needed work. This approach has led to a growing water/wastewater infrastructure deficit, with provincial estimates in 2012 pegging its annual growth at close to \$1 billion.¹² This same year, the Association of Municipalities of Ontario (AMO) estimated that the accumulated water/wastewater infrastructure deficit had reached \$12.6 billion.¹³

Not only is the size of this deficit reaching unsustainable levels, it is also placing public health at risk. Justice Dennis O'Connor, in the Walkerton Commission Report, noted why deferring necessary work on water infrastructure is a serious problem:

Over the long term, safety depends on stable and adequate financing to maintain the water system's infrastructure and its operational capacity... Without adequate resources, corners will inevitably be cut, whether in the day-to-day operation of the facility, or in its long-term capital infrastructure. Ultimately, safety will be jeopardized.¹⁴

While the case for full-cost recovery has been made numerous times over the last sixteen-years, only 59% of responding municipalities to a recent survey from the Environmental Commissioner of Ontario (ECO) believed that their systems were operating on a cost recovery basis. Of the 293 municipalities issued the 2013-14 Water Survey, only 153 (52%) responded. Of the 153 respondents, 90 (59% of respondents and 31% of those issued surveys) indicated that they have achieved full-cost recovery. In his analysis of the survey results, the ECO noted that

...there seemed to be differing understandings amongst municipalities of what it means to have achieved full-cost recovery: some municipalities indicated that they do not rely on provincial/federal funding but use it if available; some stated that they had received provincial funding until recently, but this revenue stream had ended; and others explained that they still rely on senior-level funding for mid- and large-sized capital projects.¹⁵

What is clear from the result of this survey is that there remains a lack of understanding of what it means to truly achieve full-cost recovery because no standardized definition has even been put in place. Provincial leadership is needed here, to establish a clear definition of what full-cost recovery means and why it is necessary to achieve. Establishing a definition will force municipalities to accept what their asset management plans and financial sustainability plans reveal about the degree of cost recovery and reinvestment needed for their water and wastewater systems.

¹² Commission on the Reform of Ontario's Public Services, *Public Services for Ontarians: A Path to Sustainability and Excellence*, (Toronto: Queen's Printer for Ontario, 2012), 29.

¹³ Association of Municipalities of Ontario, *Towards a new Federal Long-Term Infrastructure Plan: AMO's Submission to Infrastructure Canada*, August 2012, p. 2.

¹⁴ The Honourable Justice Dennis O'Connor, *Part Two – Report of the Walkerton Inquiry: A Strategy for Safe Drinking Water*, Ontario Ministry of the Attorney General, (Queen's Printer for Ontario, 2002), 300

¹⁵ Environmental Commissioner of Ontario Gord Miller, "Fourteen Years After Walkerton: Drinking Water Systems Not at Cost Recovery," *Environmental Commissioner of Ontario*, 2014, <http://www.ecoissues.ca/Fourteen_Years_After_Walkerton:_Drinking_Water_Systems_Not_at_Cost_Recovery>.

4. Regionalization for Economies of Scale in Small and Rural Water Systems

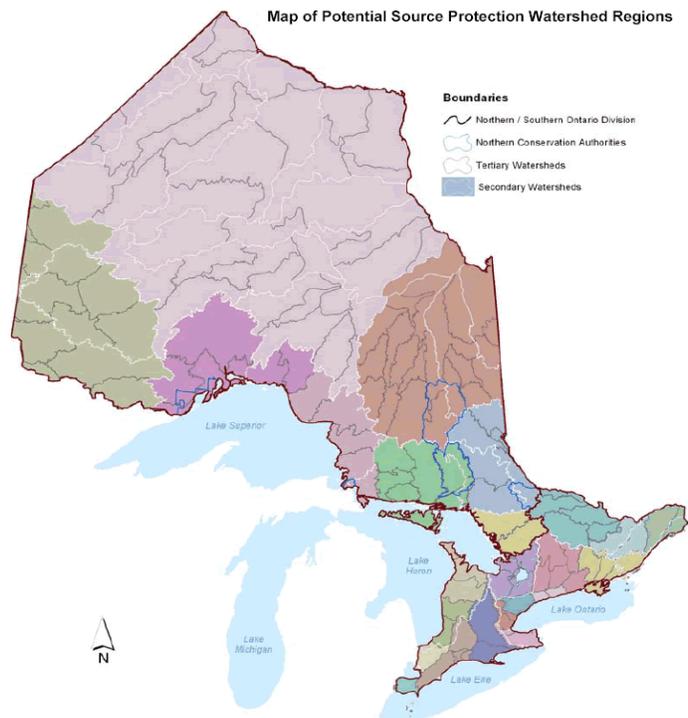
A common concern in establishing financial sustainability requirements is that some municipal water systems maintain user bases that are too small to fully account for the necessary costs of operating and maintaining it. More than 80% of the 677 drinking water systems in the province serve populations of less than 10,000 people,¹⁶ while 47% serve less than 1,000 people.¹⁷ A great many of these small systems are facing increasing financial pressures due to deteriorating infrastructure, shrinking user bases, and escalating costs to maintain and operate their systems. In spite of these pressures, there remains an obligation for local system operators to meet provincial regulations for water.

So, if the cost to operate and maintain these small systems is becoming prohibitive, alternate approaches to keep costs in check must be considered. Regionalizing the management and/or operations of small water systems is an alternate approach that can significantly improve the economies of scale.

Regionalization can mean many different things, from the physical consolidation of two or more water systems, to the bulk sale of treated water, to something much simpler, such as cooperative purchasing, contract operations, or billing. There are numerous examples across the province of regionalized management of water and wastewater infrastructure, making the general concept and potential barriers for implementation already well known and worked through.

Why Regionalize?

Many research and policy papers have been published detailing the benefits of, and paths to, regionalizing small



¹⁶ For the purposes of this paper, a small water system is defined as serving fewer than 10,000 people. The US Environmental Protection Agency (EPA), however, defines small systems as serving fewer than 3,300 people. The United States Environmental Protection Agency, "Small Drinking Water Initiative," https://www3.epa.gov/region1/eeco/drinkwater/small_dw_initiative.html.

¹⁷ Ministry of Infrastructure, *Building Together: Jobs & Prosperity for Ontarians*, Government of Ontario, (Queen's Printer for Ontario, 2011), 55.



water and wastewater systems.¹⁸ It is often extolled as the answer to creating more financially sustainable and efficient water systems, when operating small systems becomes impractical. Larger systems simply have greater technical, managerial, and financial capacity, and can ensure that existing and future regulations are being met without creating significant financial hardships. Water and wastewater systems with larger operating capacities and serving a larger number of people are in a better position to manage their assets and achieve full cost pricing. Larger systems can more easily self-finance necessary improvements, which will necessitate less provincial investment over the long-term.

Additionally, regionalized systems allow for planning for source water removal and post-treatment wastewater disposal on a watershed basis (as per the map included above), which reduces the environmental impact as discharge points are reduced and less land is utilized for treatment facilities. With fewer facilities to monitor, regulators can better focus on compliance and ensuring water quality.

Opportunities to Advance Regionalization

There are many misconceptions about what regionalizing a small water system entails. Concerns are often raised around how the smaller water system would “lose control” of system management and supply issues, and how “price gouging” may occur when a smaller system amalgamates with a larger municipal system. This generally speaks to a lack of knowledge of the different approaches to regionalization that are available.

There is not a one-size-fits-all approach, but rather a menu of options that can be considered by small system operators to create greater economies of scale in operations, management, infrastructure, or administration. While a full-scale amalgamation is the most ideal and cost-effective approach, there are opportunities to pool resources, administration responsibilities, and staff to improve efficiencies. Some of these opportunities may include:

- a larger system operator allowing for the bulk purchase of water at wholesale cost, allowing a small system operator to maintain control over distribution and billing;
- the bulk purchase and storage of needed treatment chemicals;
- the joint purchase of new technologies that will result in decreased administration costs over the long-term, such as automated meter reading and billing services;

¹⁸ National Research Council, *Safe Water From Every Tap: Improving Water Service to Small Communities* (1997); the National Council for Public-Private Partnerships, “NCPPP Position on the Water Infrastructure Report,”; the US Environmental Protection Agency, *Much Effort and Resources Needed to Help Small Drinking Water Systems Overcome Challenges* (2006 – among numerous other papers); Rural Community Assistance Partnership, “Affordability and Capability Issues of Small Water and Wastewater Systems: A Case for Regionalization of Small Systems,” among many others.



- shared lab testing services by a regionalized group to provide more in-depth analysis for water quality problems;
- the bundling of small system debt with a larger system operator to create greater bonding capacity and better rating for a small operator;
- having a larger operator provide engineering and construction management services; and,
- having a larger system provide emergency assistance to a smaller system operator.

Ultimately, municipalities need assistance to help launch discussions and coordinate regionalization efforts. The province needs to consider employing a consultant to consider where regionalized water and wastewater systems would make the most sense and then work with those identified municipalities in a mentorship role to help them move towards regionalizing. Additionally, incentive programs or planning grants should be considered that encourage municipalities to study where economies of scale can be found in their current system. For instance, the state of Pennsylvania offers planning grants to municipalities to create comprehensive water supply plans or to conduct feasibility studies for regionalizing water systems with neighboring communities.¹⁹ It²⁰

There is a lot of merit in exploring the potential for re-organizing and integrating water, wastewater and stormwater services and to do it on a regional or watershed basis. The alternative would be to transfer these responsibilities by contract to a public or private organization that could deliver water services on behalf of the participating municipalities, as occurred in the United Kingdom in the 1980s.

5. Subsidization Models for Low- and Fixed-Income Users

A common argument made against the move to full-cost recovery pricing is that many municipal residents are unable to absorb *any* cost increases for their water usage due to low- or fixed-incomes. While within this argument there is a legitimate concern, overall the argument is based on a false premise. Simply because a sub-set of the population cannot afford cost-of-living increases does not mean that a subsidized system should remain in place for *all* users. As a full-cost recovery report from the European Environment Agency notes, "...keeping water prices at an artificially low level may not be

¹⁹ The Commonwealth of Pennsylvania, *Small Water Systems Assistance Act, 1992*, P.L 10 (5), <http://www.legis.state.pa.us/WU01/LI/LI/US/PDF/1992/0/0005..PDF>. More detail on this and similar programs can be found through the National Research Council, *Safe Water from Every Tap: Improving Water Service to Small Communities*, (Washington, D.C., National Academy Press, 2002).



the best way to ensure the affordability of water services to low-income households. It may result in a vicious cycle of underfunded service providers, insufficient investment, collapsing infrastructure and deteriorating services that further reduce the benefits that users receive from them.”²¹

If full-cost recovery was mandated by the province, consumer pricing for water would be based on the condition of the local water and wastewater infrastructure and would therefore vary from municipality-to-municipality. Cost increases to the consumer may be necessary based on the level of neglect that the municipal system has experienced since it was installed; however, where systems have been properly maintained, increases would be minimal or not required at all. Where increases in the water rates are necessary, there are a number of different subsidization options that local operators may consider in order to ensure it remains affordable for low- and fixed-income households.

Examples of Existing Municipal Water Subsidization Programs:

- Guarantee a **base quantity** of water **at a low fixed rate**, with subsequent steep rate increases for anyone surpassing a set volumetric threshold that would be deemed for non-essential use (i.e. swimming pools, lawn-care maintenance, car washing, etc.).
- **Increasing block tariffs** (IBT), which implies stepwise price increases with increasing consumption. There are many possible versions of this approach (e.g. with uniform or variable block widths depending on household size, and combinations with a fixed charge). IBT systems provide a strong incentive for water conservation, especially in the 'luxury' part of water consumption (e.g. private swimming pools, garden watering, etc.).
- A **fixed fee surcharge** (e.g. City of London’s “Customer Assistance Program”) where a small charge is applied to each bill for all residential customers and used to discount low- and fixed-income consumer’s bills if they fit within certain criteria for assistance.²²
- Specific **exemptions** for low-income households **from paying sewage and wastewater treatment charges**. These reduce the cost-recovery rates but do not change incentives for water conservation.
- Additional low-/fixed-income subsidization strategies may include: lifeline rates; partnerships with social agencies; and pricing reforms, including seasonal surcharges, peak-load pricing, and tiered rates based on neighbourhood/zones.

²¹ European Environment Agency, *Assessment of cost recovery through water pricing*, EFA Technical Report, (no. 16, 2013), 23-24.

²² Any number of criteria may be applied to these types of programs, including: how often a household can apply for assistance funding, including a minimum threshold of usage volume, what type of usages are allowable (i.e. no pool or hot-tub filling, irrigation, car washing, or other discretionary uses)