



Environmental Services

One of a Series of White Papers

on the

Financial Sustainability of Local Governments in Eastern Ontario

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1. Executive Summary

This report covers major aspects of the Environmental Services responsibilities of local government in Eastern Ontario. These responsibilities are:

- Water and wastewater treatment
- Water distribution
- Wastewater collection
- Storm water collection
- Solid waste management (collection and disposal)
- Waste diversion.

For the most part, these responsibilities are vested in either single¹ or lower tier municipalities; relatively few upper tier municipalities (counties) have these responsibilities. However there are several upper tier municipalities (County governments) in Rural Eastern Ontario – the geographic area that includes the 13 counties and single tier municipalities represented by the Eastern Ontario Wardens Caucus – that carry some or all of these service responsibilities. Data presented on a county-by-county basis reflects the expenditures by any municipality within those county boundaries – whether those services are delivered by lower, upper or single tier municipalities. This report also includes environmental services information from the 10 separated cities and towns that are part of the Eastern Ontario Mayors Committee.

This report reviews both capital and operating considerations for environmental services and concludes with recommendations that could help to ease the increasing burden these municipalities face in discharging these responsibilities.

Across Rural Eastern Ontario, there has been more than **\$2.06 billion** invested in Environmental Services assets to the end of 2012. More than **\$736 million** was invested in the first eight years (2000 to 2008) following the Walkerton tragedy. The book value of these environmental assets is now \$1.4 billion, suggesting that more than **\$600 million** in value has been lost (\$2.06 minus \$1.44 billion).

¹ Single tier municipalities are cities, towns or counties – whether urban or rural – that have one level of governance; Two-tier municipalities have two levels of governance: an upper tier (usually a county) and several lower tier municipalities (usually townships, towns or villages).

This lost value can be thought of as the **minimum capital infrastructure deficit** in environmental services; however, there are also significant **unfunded liabilities and legacy costs** – likely to be a minimum of **\$100 million** – that must also be considered. And these costs do not include costs for new or expanded landfills. As a result, the **combined capital infrastructure deficit** in Environmental Services is likely to be in excess of **\$700 million**.

Taking anticipated annual capital maintenance expenditures plus capital expenditures to address the infrastructure deficit into account, Rural Eastern Ontario should be investing at least \$131 million a year in Environmental Services assets. Currently, the region is investing roughly \$85 million a year (on average), suggesting an **annual capital investment shortfall of at least \$46 million**. Annual landfill monitoring requirements (post closure costs) will add at least another \$1 million to this amount for the next 10 years, rising thereafter.

Operating expenditures for Environmental Services are roughly **\$226 million** a year across Rural Eastern Ontario. These expenditures have more than doubled since 2000, increasing at an average compound annual growth rate (CAGR) of **5.9 per cent** a year. These cost increases have been driven by a changing mandate at the Ministry of the Environment, changing regulatory regimes, energy and staffing cost increases, utilization of expensive technology-intensive solutions, and added responsibilities for municipalities having to absorb legacy systems into their operations. If past experience is a guide to the future, these operating expenditures are projected to increase to roughly **\$400 to \$410 million** a year by 2020.

Nearly **two thirds of annual operating expenditures** (63%) are on Water, Waste Water and Sewer services (2012); these expenditures account for roughly **\$142 million** of annual operating expenditures. More than a quarter of annual expenditures (29%; **\$57 million**) are made on solid waste management (collection through to disposal) and the balance (roughly 13%; **\$26 million**) is devoted to waste diversion.

Rural municipalities hold **\$127 million in environmental reserves**, \$94 million of which is for wastewater, storm water and waterworks systems. Just \$22.5 million is for solid waste disposal and only \$7 million is for waste diversion.

Landfills dominate solid waste management responsibilities in many of Eastern Ontario's rural municipalities. Municipalities in Rural Eastern Ontario have **nearly 500 landfills** (90% of all landfills in the region); roughly 200 of the landfills – almost all of which are municipal – are open but more than 300 are closed. In addition to monitoring responsibilities in perpetuity, municipalities also face significant costs associated with closing landfills when their capacity is fully utilized, and in replacing this capacity.

For municipalities facing landfill closures in the next several decades, **total closure and post-closure costs** are likely to be in the **\$95 to \$135 million range**. After dedicated environmental reserves are taken into account, **net (unfunded) closure and post-closure costs** are likely to be in the **\$100 million** range. These costs do not include costs to expand existing landfills (if that is an option), establish new landfills, address associated regulatory submission costs or enhanced regulations for closed (or open) landfills.

Rural Eastern Ontario is **diverting roughly 29%** of the regional total of solid waste (82,000 of 279,500 tonnes: 2011) which is slightly below its population percentage in the region (Rural Eastern Ontario has roughly 36% of the regional population). In addition to delivering an environmental benefit, strategies to increase the percentage of solid waste diverted from landfill would also extend the life of local solid waste disposal sites (landfills). However, it appears that both in Eastern Ontario and across the Province, diversion rates have reached a plateau. From the perspective of rural municipalities, new approaches and ideas must be considered to increase waste diversion rates, extend the useful life of landfills, and keep costs of diversion strategies reasonable.

Net costs per tonne for waste diversion are significantly higher in Rural Eastern Ontario than in urban areas; this is likely due to smaller volumes of material available to take to market and the higher costs of aggregating materials from geographically-dispersed populations. **Waste diversion costs across Rural Eastern Ontario are higher** than the (2011) provincial average in all types of communities (as defined by Waste Diversion Ontario).

Cost increases across most areas of municipal service have exceeded the Consumer Price Index over the past decade; the costs of Environmental Services are no exception. Anticipated continuing cost increases will put pressure on locally-generated revenues (property taxes and user fees and charges) which have already increased at a compound annual growth rate (CAGR) of 6.1% in the 2000-2011 period.

Because of the highly-regulated nature of Environmental Services, deferral of capital expenditures is not a viable strategy for addressing the impending gap between operating costs and revenues. User fees and charges already account for a quarter of total Own Purpose Revenues and have increased significantly in recent years, in part to fund Environmental Services. Neither can municipalities count on assessment growth to close the expenditure-revenue gap. **Real assessment growth** is estimated to have accounted for just **two (2) per cent a year** – 20% of the total assessment growth over the 2006-2012 period. A sector-wide increase in the overall values of building stock has accounted for 80% of the increased assessment base in Rural Eastern Ontario.

Recommendations

Keeping municipal government affordable for local ratepayers will require local governments to change the trajectory of both service delivery costs and the revenues available to pay for these services (*see EOWC White Paper on Municipal Affordability*). Local governments will also need to become more proactive in supporting the efforts of their own ratepayers to improve the economic circumstances of the region, its households and businesses (*see EOWC White Paper on Municipal Affordability*). This White Paper contains information that will help guide the EOWC's efforts related to possible advocacy programs, policy development, and in-region operational changes, all related to environmental services. The following recommendations cover some actions that local governments might take on their own or through the EOWC, as well as those which might be undertaken in partnership with upper levels of government.

Recommendations for EOWC and Constituent Municipalities:

E-1: It is proposed that the EOWC continue to actively support the development of a region-wide economic development strategy with the long-term objective of stimulating growth as well as jobs across the region, which will in turn stimulate growth in the region's property tax base. The ultimate goal is to increase total assessment as well as the proportion of assessment from industrial, commercial and institutional operations. (This same recommendation is found in the *Municipal Affordability White Paper*).

E-2: It is proposed that the EOWC encourage its members to consider collaborative approaches to providing regulatory compliance services for Environmental Services. These collaborative approaches could include joint tenders for environmental engineering services, cross-municipal contracts where qualified municipal staff could support multiple municipalities in the same general area, or the creation of a special purpose body to provide these services across Eastern Ontario. [*Note: cross-municipal means beyond the boundaries of a two-tier county system*].

E-3: It is proposed that the EOWC encourage its members to consider collaborative approaches to waste diversion. These collaborative approaches could include shared or cross-municipal contracting, regional eco-industrial supply chains (waste material suppliers linked to buyers/customers) or regional processing hubs. These approaches would be applied to the collection, aggregation and reintroduction to markets of materials which would otherwise go to landfills. The express purposes of these approaches are to increase revenues from these materials, reduce net costs of diversion or solid waste management, or extend the useful life of landfills.

Recommendations for the Province of Ontario:

U-1: It is proposed that the EOWC encourage and support the Province of Ontario in its continued efforts to contain the growth in program and service delivery costs, including those that are mandated to municipal government. In Environmental Services, the EOWC encourages the Province to consider:

- a) The relative costs and benefits (in terms of public safety and human health) associated with further additional regulation and monitoring of landfills where there has been no evidence of off-site migration.
- b) Empowering municipalities to determine the timeframe and method of effecting any improvements or changes to environmental assets required as a result of a Ministry order, where is no imminent danger to human health or the environment.
- c) Adjusting the conditions under which an amendment to an Environmental Compliance Approval (ECA) is required so that these costly amendment processes are required only when the change taking place is required to protect human health or the natural environment, and where there is no imminent danger to human health or the environment. Specifically, a simple administrative process would be used in circumstances where the only change is having documentation on file agree with long-standing practice that has previously been reviewed and approved by the Ministry of the Environment.

The Ministry is also encouraged to shorten timelines for routine approvals and provide greater predictability on the length of time that approvals are expected to take. These changes would reduce municipal uncertainties in planning and budgeting for approval-dependent work.

- d) Simplifying forms and submission processes associated with environmental services, to a) focus on only those data required by the Province for regulatory compliance and related financial or legal purposes, and b) make it easier and less expensive for municipalities and the Ministry to track environmental compliance.

Examples:

- Simplify the annual Waste Diversion Ontario data call to focus only on volumes of different types of material being diverted and/or disposed of, associated financial data, and data that is required to determine funding support. Any and all other information would be deleted from the data call. Over time, municipalities expect enhanced support for waste diversion and a simplified method of calculating that support on a municipality-by-municipality basis.
- Convert requirements to submit waste manifests from a paper to an electronic (web-based) system.

- Move to a single Ministry of the Environment (web) portal through which all municipal environmental services documentation could be submitted. For example, data for landfills, waste diversion, hazardous waste and other environmental compliance data requirements should all be submitted through a single portal.

U-2: It is proposed that the Province continue to work with the Association of Municipalities of Ontario (AMO) and goods producing sectors, to enact a Waste Reduction Act, making individual producers responsible for end-of-life management of their products, including compensation to municipalities for collecting and disposing of wastes requiring disposal in municipal landfills. Until such a compensation system is achieved, it is further proposed that the Province provide enhanced funding support for waste diversion in rural or remote parts of Ontario. The enhanced support would be designed to offset the higher costs of diversion (due to lower volumes and higher transportation costs) in communities with more widely dispersed populations or workplaces.

It is further proposed that the Province provide leadership in encouraging continued reductions in the extent of waste generated through the Ontario economy. Examples include ways to reduce the total extent of packaging or eliminate it altogether; increased standardization of packaging to increase versatility of use; increased use of returnable/reusable packaging; or increased use of recyclable or biodegradable materials.

U-3: It is proposed that the Province partner with municipalities to undertake joint market development projects (province-municipalities) to determine how best to aggregate, find markets, build demand or the supply chain for different types of materials diverted from landfills in Rural Eastern Ontario. In this case, the emphasis is on finding business models, transportation solutions, and customers for diverted materials so as to reduce net costs of operating landfills, extend their useful life, and increase total diversion across the region. This work is expected to complement and support initiatives which examine the economic viability of Material Recovery Facilities (MRFs) across the province.

U-4: It is proposed that the EOWC work with the Association of Municipalities of Ontario (AMO) and the Province of Ontario --- particularly the Ministry of the Environment --- to explore immediate or near-term opportunities for:

- a) Alternative, safe ways to utilize legacy assets such as closed landfills or lagoons to generate revenues which could be applied to ongoing compliance costs or cover other costs of municipal services. (Example: landfill gas capture/energy generation, energy from waste, material processing/reprocessing)
- b) Expedited or fast-track methods through which approvals to expansions of existing landfills can be obtained. (Examples could be significant increases in threshold conditions that

trigger Environmental Assessments, practical application of reasonable use guideline re: groundwater).

U-5: It is proposed that the Province establish a dedicated pilot project research fund, led by the Ministry of the Environment, through which the Province, the private sector, the scientific and research community, and municipalities could co-sponsor projects to:

- Deliver Environmental Services more cost-effectively (for example: make use of natural ecological services such as natural/biological filters or attenuation processes rather than requiring expensive, energy-intensive high-tech solutions; test new technologies for effectiveness in addressing health and environmental protection associated with water, waste water and sewer services, storm sewers, and solid waste management services). The objective of these projects would be to provide credible scientific and technical data to support Ministry of the Environment regulatory changes required to introduce scientifically, technically and financially sound approaches or technologies into Ontario's environmental services regime. A key element of regulatory change would be to introduce expedited, less onerous approval processes for new and innovative technologies that are validated through the pilot project process.
- Make better use of existing municipal Environmental Services assets (for example: ways to safely remediate or re-purpose landfill sites or similar assets, utilize these assets for public recreational purposes, mine landfill sites for materials which can be recycled, used as substitutes for non-renewable materials, or used to generate energy for other municipal or public purposes.) The purpose of these projects would be to provide credible scientific or technical data to support the development of formal business cases or (re)development proposals for specific sites so they can be turned to new purpose.

U-6: It is proposed that the Province (particularly the Ministry of the Environment) consult more extensively with and engage municipalities and the EOWC on legislative or regulatory changes, or on changes in processes or funding that will affect services mandated to municipal government. In particular, the EOWC requests more extensive consultation with its members than is provided by simple website posting of draft changes.

It is further proposed that the Province direct other Ministries or provincial agencies, boards and commissions to consult more extensively and engage municipalities and the EOWC on other legislative or regulatory changes, or changes in processes or funding that will have implications for the costs of environmental services mandated to municipal government. Examples include MPAC (re)assessment of environmental facilities and assets, natural resource policies, licensing for aggregate extraction, or protection of endangered species.

U-7: It is proposed that the EOWC work in partnership with the Province of Ontario to design and implement as soon as possible a permanent, predictable, non-competitive infrastructure fund designed specifically for small, rural and remote areas. (This same recommendation is found in the *Municipal Infrastructure White Paper*. *The White Paper contained a series of recommendations for the design and operation of such a permanent fund, including giving municipalities the responsibility to set their own priorities, a funding tie-in to completion of asset management plans, and related accountability provisions*).

U-8: It is proposed that the Province adopt a policy of assessing the financial implications of, and providing additional funding, to support municipalities when new environmental regulations are being introduced, or when existing assets are being reviewed for compliance with new/more recent environmental legislation or regulations.

It is further proposed that any new or modified environmental legislation or regulations be accompanied by a long-term provincial commitment to fund 100% of any and all new capital or operating costs associated with implementation or management of affected environment assets or services delivered by municipal government.

It is further proposed that, for legacy assets (those whose siting or operating conditions were originally approved by the Ministry of the Environment or introduced before Ministry approval processes were introduced), any orders for physical improvements or increased monitoring be funded 50:50 by the Ministry (Province of Ontario) and the municipality. This co-funding model would apply in the absence of any new (post-2013) legislative or regulatory changes, whether or not there is an imminent danger to public health or the natural environment.

The Eastern Ontario Wardens Caucus expresses its appreciation to Environmental Services staff from the following municipalities who contributed to the discussions and formulation of recommendations in this report: City of Kawartha Lakes, Northumberland County, Prince Edward County, Front of Yonge Township, South Frontenac Township, and City of Kingston.

2. Introduction

Following the completion of the landmark analysis of the [overall financial sustainability](#) of local governments in Eastern Ontario in February 2012, the Eastern Ontario Wardens Caucus commissioned several follow-up projects to:

- Examine selected priority areas in greater detail, and
- Update key variables so the work would remain current and could be used with confidence as a support to future EOWC work.

The EOWC identified five priority areas for further attention, each of which is being addressed using a White Paper format:

- *Municipal Affordability* – an examination of operating conditions for municipalities
- *Ratepayer Affordability* – an examination of the financial circumstances of local economies and the rural residents who bear most of the cost of service delivery
- *Municipal Infrastructure* – an examination of the conditions influencing the overall state of municipal infrastructure and municipalities' ability to invest in and maintain these assets
- *Social Housing* – an examination of the financial circumstances of upper/single tier municipalities in addressing these community needs, both in terms of local demand for service and the financial implications of associated capital infrastructure requirements
- *Environmental Services* – an examination of the financial circumstances of single/lower tier municipalities in addressing these responsibilities, on both the operating and capital fronts.

The White Papers on Municipal Affordability and Municipal Infrastructure were released in the late summer of 2013 while the Paper on Ratepayer Affordability and Social Housing were released in early 2014. This Environmental Services will be released in the early summer of 2014.

Each of these White Papers has two new features not included in the original financial sustainability analysis. First, the White Papers have added *financial projections* to allow the EOWC and other stakeholders to understand what the financial future holds in the year 2020 if recent trends continue. Second, the White Papers contain *recommendations* for action to address the challenges envisaged as a result of the projections.

Methodology: Projections have been made based on simple straight-line extrapolation from the actual experience in three time periods: 2000-2011, 2007-2009 and 2009-2011. Most data is from the annual municipal Financial Information Returns (FIRs).

Figure 1 - For the purposes of the White Papers, "Eastern Ontario" was defined as the area bounded by the 13 member governments of the Eastern Ontario Wardens Caucus and the 90 lower tier municipalities within those boundaries. The 10 Separated Cities (and Towns) within or adjacent to those governments, and the City of Ottawa are not included in these analyses.



3. More than \$2 Billion in Environmental Services Capital Assets

3.1 Value of Environmental Services Assets by End of 2012

In most two-tier local governments in Eastern Ontario, environmental services² are the responsibility of municipalities (townships/towns and villages) rather than the county level of government. Single-tier municipalities (cities, towns and some counties) also have responsibility for environmental services. Across Rural Eastern Ontario, slightly more than **\$2.06 billion** has been invested in environmental services assets up to the end of 2012.

Figure 2 - Value of Environmental Services Assets across Eastern Ontario - By Sub-Region (2012)

Environmental Services Assets - By Sub-region	Value of Capital Assets (2012) At Cost (What Was Paid)	2012 Book Value (What They Are Worth)	Net Book Value of Capital Assets as Percentage of Cost of Capital Assets (2012)
Rural Eastern Ontario	2,062,278,309	1,441,805,262	0.70
Separated Cities	2,144,956,862	1,412,848,808	0.66
City of Ottawa	6,026,455,191	4,539,174,114	0.75

Separated towns and cities in Eastern Ontario are responsible for a very similarly sized environmental services asset pool (\$2.15 billion) and the City of Ottawa has a much larger asset base (\$6.03 billion). Across the region as a whole, there is \$10.2 billion in environmental services assets.

3.2 Capital Expenditures Average \$85 Million a Year

In the first eight years following the Walkerton tragedy (2000-2008), more than \$736 million was invested in environmental services – largely related to water, wastewater and storm sewer systems. Another \$629 million was invested in environmental services in the region’s separated towns and cities. Capital expenditures (“Additions and Betterments”) in 2012 were \$112 million in Rural Eastern Ontario alone, with a ten year average of roughly \$85 million a year. The chart below shows capital expenditures in selected years (2000-2008 and 2012) indicating how capital expenditures have grown since 2000 in this area of municipal service.

Summary by Sub-Region	2000	2002	2004	2006	2008	2012
Rural Eastern Ontario	56,020,496	45,884,574	100,659,533	81,869,822	128,751,677	111,960,496
Separated Cities	43,237,060	44,972,832	72,434,572	67,343,667	107,231,469	126,068,675
City of Ottawa	85,703,829	89,500,159	81,948,069	187,185,747	166,954,451	251,725,382
Total - All Eastern Ontario	184,961,385	180,357,565	255,042,174	336,399,236	402,937,597	489,754,553

² Environmental services include: Wastewater collection/distribution, Wastewater treatment and disposal, Urban storm sewer system, Rural storm sewer system, Water treatment, Water distribution/transmission, Solid waste collection, Solid waste disposal, Waste diversion.

3.3 Capital Infrastructure Deficit Exceeds \$600 Million

The book value of Rural Eastern Ontario's environmental services assets is now **\$1.4 billion**, suggesting that more than **\$600 million** in value has been lost (\$2.06 billion - \$1.44 billion). This lost value can be thought of as the minimum capital infrastructure deficit in environmental services for municipalities in Rural Eastern Ontario. As is described in a subsequent section of this report, there are additional factors (primarily unfunded liabilities for solid waste disposal facilities) that must be taken into consideration when estimating the capital infrastructure deficit or projecting future capital investment needs. Taking these factors into account raises the estimated minimum capital infrastructure deficit to at least \$700 million.

It can be said that municipalities in Rural Eastern Ontario have been able to preserve roughly 70% of the value of their environmental assets. These municipalities have been able to preserve a higher percentage of asset value than is the case for transportation infrastructure (70% compared to just 57% for transportation infrastructure).

There are several special factors influencing municipalities' apparent ability to preserve asset values in environmental services:

- Municipalities in Rural Eastern Ontario have large numbers of closed landfills which may have been fully amortized and therefore do not show up in their accounting records (even though they still carry significant ongoing monitoring responsibilities and associated costs. These obligations are held in perpetuity even if the site has exhausted its capacity and usefulness).
- The last decade saw major investments in rural water, waste water, water and sewer and related systems. The depreciation expenses of these assets will rise in coming years.

While municipalities in rural Eastern Ontario have been able to maintain an average of 70% of the value in their environmental services, there is significant variability from county to county. These variations are likely due in large measure to the number of closed landfills in each municipality as well as recent construction of water/waste water and sewer systems.

Recent large capital investments in Environmental Services assets suggest a correspondingly large future responsibility for maintaining these assets – often in perpetuity – as well as responsibility for annual operating costs. Given the relatively small populations and large geographic areas of responsibility, municipalities in Rural Eastern Ontario will be challenged to carry these costs.

3.4 Annual Capital Investment Shortfall of at least \$46 Million

Although Rural Eastern Ontario has seen a significant increase in capital investment in environmental services assets over the last decade (estimated at roughly \$85 million a year), the region has not been able to make the full necessary investment in *ongoing maintenance* of these assets.

Necessary investments fall into two categories:

- a) Anticipated annual capital maintenance expenditures that are part of good asset management practices. For Environmental Services, these expenditures are based on the original cost of the asset and an *average* 30 year useful life. For Rural Ontario, this suggests that municipalities should be investing \$69 million a year just to maintain the assets they have.
- b) Addressing the capital infrastructure deficit. If municipalities in Rural Eastern Ontario chose to address the deficit over a 10 year period, they would need to invest \$62 million a year for this purpose.

Taken together, these capital investments total \$131 million a year. Note that this expenditure profile does not provide for any future/additional asset acquisition. Currently, the region is investing roughly \$85 million a year (on average over the last decade), suggesting an **annual capital investment shortfall of at least \$46 million**. Annual landfill monitoring requirements (post closure costs) will add at least another \$1 million to this amount for the next 10 years, rising thereafter.

The expectation of \$46 million a year as the minimum annual capital investment shortfall is driven by four factors:

- The pattern of annual capital expenditures since 2000 showed a steady climb (due to the need for new capital investment to protect water supplies and ensure a safe supply of potable water). How much of the average \$85 million a year in capital expenditures is devoted to current annual capital maintenance is unknown but is likely considerably less than \$85 million. As a result, \$85 million a year being devoted to capital maintenance is almost certainly an overestimate.
- Some assets were capitalized (becoming part of the “at cost” asset value) but cannot amortized (e.g. land for landfills). As a result, these assets may have very little long term market but will still need to be replaced. This type of erosion of value is not accounted for using Financial Information Return (FIR) data; future capital needs will therefore be higher.

- Because much of the recent capital investment has been in new assets (e.g. waste water collection and treatment, water treatment and distribution), amortization expenses will rise over the coming decade. In addition, these built assets (e.g. pipes, buildings and equipment) will need replacement sooner than natural assets such as landfills, so annual capital maintenance expenditures may be higher than for other types of assets. Increasing provincial requirements for expensive, advanced technologies at landfills will increase annual capital maintenance investment requirements for these assets as well.
- Minor capital expenditures, included in municipalities' annual operating budgets are not included in this calculation but are significant. It is likely that operating budgets are absorbing some expenditures that might normally be capitalized and would therefore be subject to amortization. As a result, amortization expenses – and therefore the need for capital replacement – is likely to be higher is suggested by the Financial Information Return (FIR) capital expenditure data.

Figure 3 - Net Capital Expenditure Surplus or Shortfall for Environmental Services (2012)

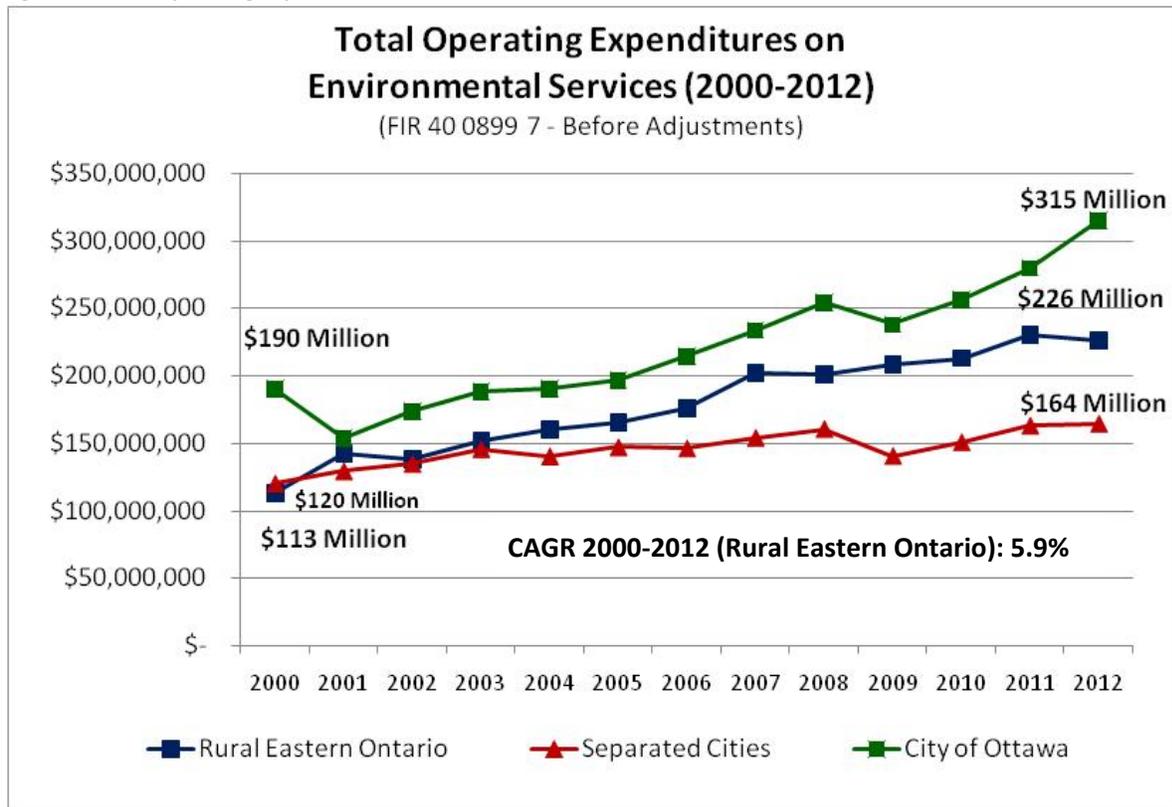
Capital Investment Requirements - Environmental Services (\$ million as at December 31, 2012)							
	Total Value of Capital Assets at Cost [A]	Estimated Annual Capital Expenditure to Preserve Asset Value [B]*	Estimated Capital Infrastructure Deficit [C]	Estimated Annual Expenditure to Address Deficit [D]**	Total Required Annual Capital Expenditure [E = B + D]	Current Annual Capital Expenditure [F]***	Net Capital Expenditure Surplus or Shortfall [E-F]
Rural Eastern Ontario	\$ 2,062	\$ 69	\$ 620	\$ 62	\$ 131	\$ 85	\$ (46)
Separated Cities	\$ 2,144	\$ 71	\$ 732	\$ 73	\$ 145	\$ 76	\$ (69)
City of Ottawa	\$ 6,026	\$ 201	\$ 1,487	\$ 149	\$ 350	\$ 131	\$ (219)
Total - Eastern Ontario	\$ 10,232	\$ 341	\$ 2,840	\$ 284	\$ 625	\$ 291	\$ (334)
* Based on estimated average 30 year life of Environmental Services assets							
** Based on addressing Environmental Services assets over a 10 year period							
*** Based on annual average for 2000-2008 plus 2012							

4. Operating Expenditures for Environmental Services Top \$225 Million a Year

4.1 Operating Expenditures Increasing at Nearly 6% a Year

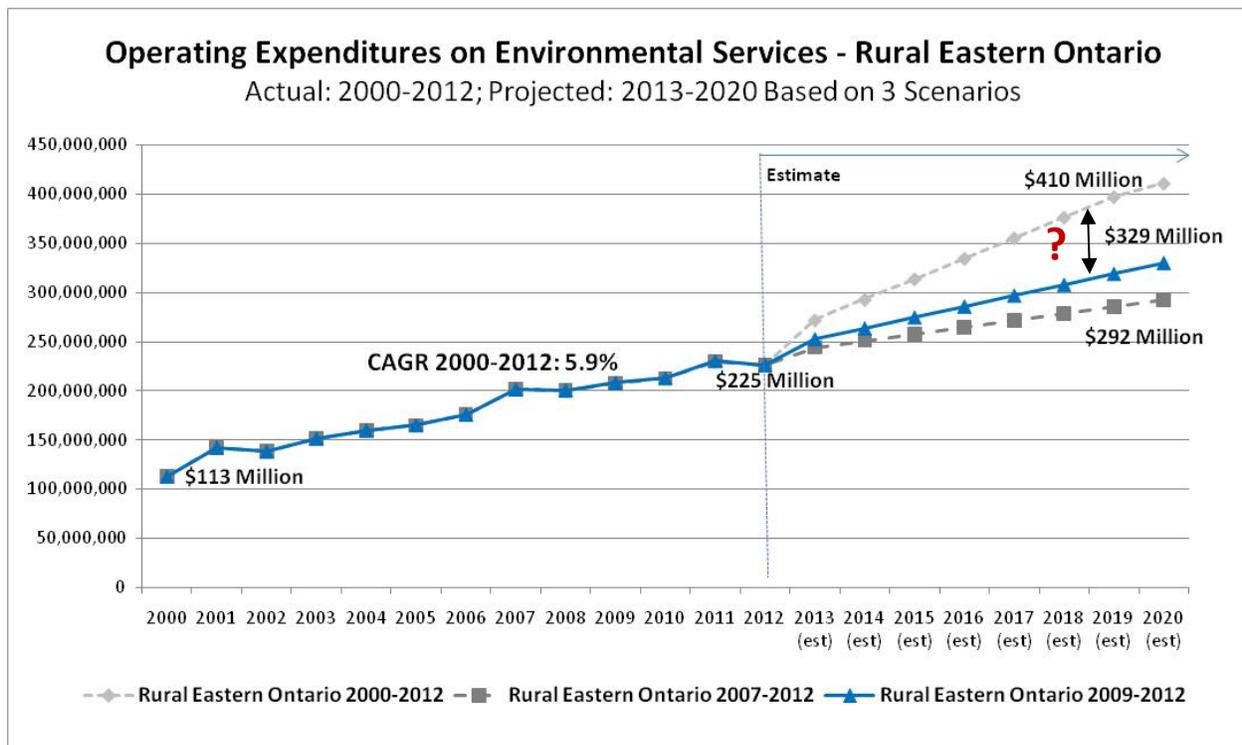
- Municipalities in Rural Eastern Ontario are now spending more than \$225 million a year on operating expenses associated with environmental services. This expenditure line has doubled since 2000, increasing at an average of compound annual growth rate (CAGR) of 5.9% a year.
- Expenditures by Separated Cities and Towns are now \$162 million a year, having increased at a much slower rate over the past 11 years (2.64% annually). The City of Ottawa spends \$280 million a year, with expenditures having increased 47% since 2000 (4.3% annually).

Figure 4 - Total Operating Expenditures on Environmental Services (2000-2012)



4.2 Annual Operating Expenditures Expected to Approach \$410 Million by 2020

To estimate what might happen to operating costs for the balance of the decade, projections were made based on rate of change of expenditures in three periods (2000-2012, 2007-2012, and 2009-2012). These projections suggest that if the longest time frame is used for projecting (2000-2012), operating expenditures in Rural Eastern Ontario will reach exceed \$410 million by 2020. If the shortest time frame is used (2009-2012), operating expenditures will reach \$329 million by 2020. Consultation with municipal staff with broad and extensive experience in delivering environmental services across Rural Eastern Ontario suggest that the main factors that have driven cost increases in the past are continuing to push costs higher; as a result, local governments should expect to see operating costs rise to closer to the \$410 million mark by 2020 rather than \$329 million.



If by 2020, Environmental Services expenditures do reach \$410 million a year across Rural Eastern Ontario, the cost on a per-household basis would be roughly **\$1,023** per household, nearly 65% above the 2011 expenditure levels (**\$621** per household). This is significantly above the **\$878** per household projected for 2020 in the EOWC's Municipal Affordability White Paper.

4.3 Multiple Factors Are Driving Up Costs

The factors driving costs up in environmental services are:

- Changes in regulatory regimes that have increased monitoring frequency and associated costs, increased staffing requirements and associated costs, and increased numbers of directives for changes at the municipal level – often changes to the management of assets or operations that have either been closed down for years or have been operated successfully in the existing mode for many years. There are costs associated with all of these arbitrary directives. In addition, the Ministry of the Environment’s approvals processes for projects utilizing legacy assets in new ways (e.g. use of landfill gas for energy generation) are neither timely nor straightforward. This increases municipal costs for introducing better ways to provide environmental services and delays more cost-effective use of municipal assets.
- A change in the Ministry of Environment’s mandate to focus on a strictly regulatory and enforcement role, with a dramatically reduced mandate of working collaboratively with municipalities to find more innovative, cost-effective ways to protect public safety and the environment. This shift in relationship between municipalities and the Ministry to a more adversarial one (with associated costs of legal representation) leaves municipalities with few options for containing costs and no mechanism for introducing innovations that have long since been adopted in other more progressive jurisdictions.
- A change in the way the Ministry of Environment interacts with municipal staffs, delving into details of municipal operations that go far beyond the regulatory requirements, often focusing on documentation-related details that have little or no influence on operational effectiveness. While having no operational impact, many of these changes trigger major expenses for municipalities (example: minor corrections to paperwork that trigger a need for a new Environmental Compliance Approval... and its associated costs). Further, there appears to be a difference in philosophy between the compliance officers who work with municipalities each day, and the Approvals Branch. The result is an atmosphere of uncertainty and unpredictability in the relationship between the Ministry and municipalities.
- Expectations of much more extensive placement of monitoring wells, more costly annual monitoring expenses, and completion of extensive annual reports, even if there is a multi-year track record of safe operation. While there has been interest in Smart Monitoring at the Ministry, there are few places where these regimes have been approved or introduced, especially without the addition of even more compliance requirements that outweigh the original intent of the plan.

- Energy cost increases, since energy is one of the biggest input costs in environmental services (e.g. pumping stations, fleets, motors). Ironically, the Province wishes to reduce greenhouse gas emissions but is missing an opportunity to limit emissions – and associated costs – from energy use in environmental services.
- Requirements for expensive, technology intensive solutions when approaches using natural processes could be deployed with the same effectiveness and at less cost. An example is a requirement for leachate collection when natural attenuation is available and could address the requirement on-site at considerably less cost
- Additional municipal responsibilities for legacy systems, including closed landfills which must still be monitored even after closure, and small communal systems that cannot be replaced by new, centralized systems. In addition, the Ministry of Environment expects that any unanticipated environmental issues – and the associated costs – will be addressed solely by municipalities.

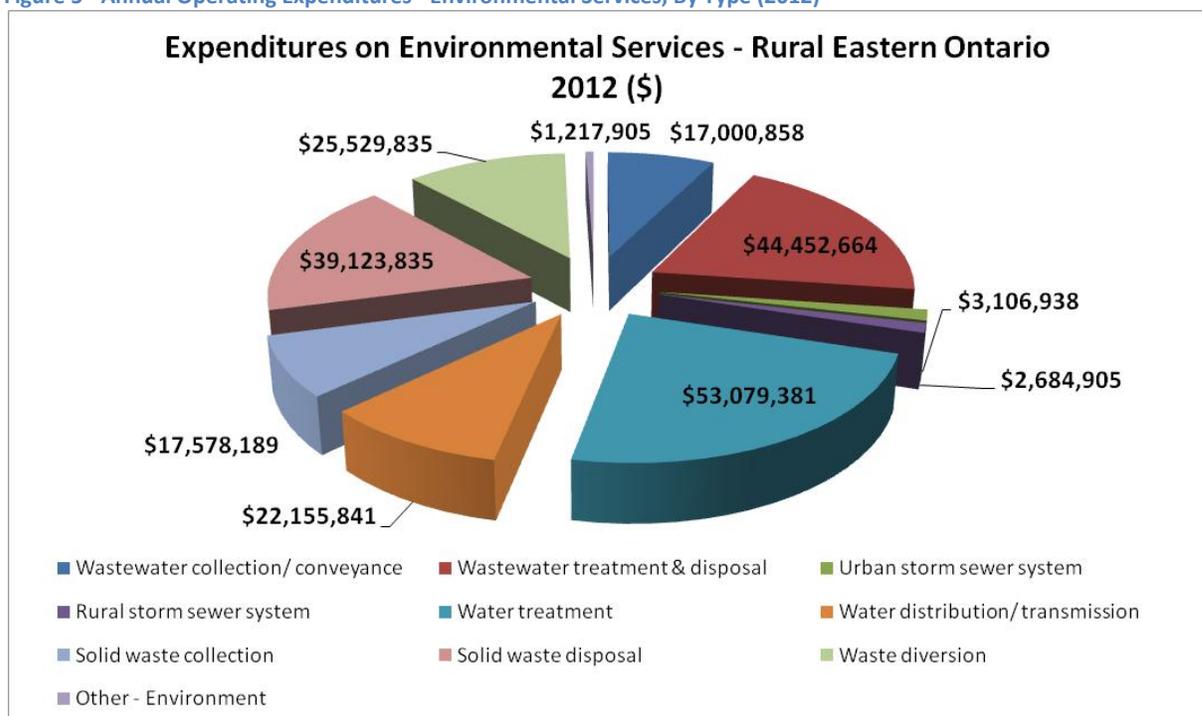
The recommendations included in this report suggest ways the rate of increase of operating costs might be slowed.

5. Largest Operating Expenditures are for Water/Waste Water, Sewer Services

5.1 Nearly Two-Thirds of Expenditures are on Water, Waste Water and Sewer Services

- More than half (63%) of expenditures by municipalities across Rural Eastern Ontario are made on water, waste water and sewer services³. These types of expenditures account for roughly \$135 million of annual operating expenditures. More than a quarter of annual expenditures (25%) are made on solid waste management (collection through to disposal) and the balance (roughly 11%) is devoted to waste diversion.

Figure 5 - Annual Operating Expenditures - Environmental Services, By Type (2012)



Year Over Year Change (2011-2012):

The proportion of expenditures directed to water, wastewater, sewers and storm sewers has increased over the 2011 to 2012 period, rising from 58% to 63%. While the percentage of expenditures directed to solid waste collection and disposal increased in 2012, the absolute costs increased in both of the two largest expenditure categories.

³ This analysis uses the expenditure categories defined by the provincial Financial Information Return (FIR).

Figure 6 - Annual Operating Expenditures (2012) - Environmental Services, by Major Category (note: figures are before adjustments between functions, allocation of program support) 2011 and 2012

Type of Expenditure	2012 (\$)	2012 (%)	2011 (\$)	2011 (%)
Wastewater, storm sewers, water	\$ 142,480,687	63	\$ 135,365,125	58
Solid waste collection and disposal	\$ 56,702,024	25	\$ 68,138,626	29
Waste diversion	\$ 25,529,835	11	\$ 26,441,438	11
Other Expenses	\$ 1,217,905	1	\$ 1,593,389	1
TOTAL – RURAL EASTERN ONTARIO	\$ 225,930,351	100	\$ 231,538,578	100

The dominance of annual operating expenditures on water, waste water, sewer/storm sewer services across Rural Eastern Ontario increased from 2011 to 2012, rising from \$14.8 million over twelve months. Expenditures on municipal solid waste were flat and waste diversion costs were up slightly.

Type of Service	2011 (\$M)	2012 (\$M)	2011 (%)	2012 (%)
Water, waste water, sewer/storm sewer services	\$127.7	\$142.5	61	63
Municipal solid waste	\$58.5	\$56.7	28	25
Waste diversion	\$23.4	\$25.5	11	11

6. Landfills Dominate Solid Waste Management in Rural Eastern Ontario

6.1 Nearly 500 Landfills in Rural Eastern Ontario

- Based on data available from the Ontario Ministry of Environment Landfill Information website⁴, there are **542 landfills** in Eastern Ontario with Certificates of Approval/ Environmental Compliance Approvals. Nearly two-thirds (**63%**) of these landfills are **closed** or not in active use as a landfill; 203 or **37% are open**.

In **Rural Eastern Ontario**, there are 488 landfills, of which **426** are the responsibility of municipal government. In other words, 90 per cent of the landfills in Eastern Ontario are in Rural Eastern Ontario; 7% are in the separated cities and towns in the region. The City of Ottawa has 3% of all landfills.

- Of the 488 landfills in Rural Eastern Ontario, **87%** are owned and operated by **municipal government**. Only 13% are owned and operated by private firms or other organizations (such as provincial ministries or federal departments).
- Within Rural Eastern Ontario, there are **181 open landfills**, almost all of which are likely to be the responsibility of municipal government. A later section of this report estimates the numbers of these landfills that may require closure processes in the not-too-distant future. This is more than ten times the number of open landfills in the separated cities and towns.

Figure 7 – Landfills across Eastern Ontario (2013) by Jurisdiction, Type and Operational Status

Source: http://www.ene.gov.on.ca/environment/en/monitoring_and_reporting/limo/landfills/

Sub-Region	Total	Municipal	Private	Other	Open	Closed
Rural Eastern Ontario	488	426	49	13	181	307
Separated Cities	37	17	15	5	14	23
City of Ottawa	17	13	4	0	8	9
Total	542	456	68	18	203	339

6.2 Whether Open or Closed, Landfills Must be Managed

- Legacy assets such as existing landfills, sewage lagoons or other similar physical assets, are cause for concern across the municipalities of Rural Eastern Ontario. Even if these assets are no longer in use, there are significant ongoing operating costs (monitoring, attenuation zones, compliance with changing regulations etc.) – and for the most part, these obligations persist in perpetuity. These costs will place an increasing burden on the municipal tax base of Rural Eastern Ontario.

⁴ Source: http://www.ene.gov.on.ca/environment/en/monitoring_and_reporting/limo/landfills/

6.3 Significant Liabilities for Solid Waste Management Facilities in Rural Eastern Ontario

- **Total/Gross Liabilities:** In their annual Financial Information Returns (FIRs) to the Ontario Ministry of Municipal Affairs and Housing, municipalities are required to record the solid waste management facility liabilities for landfill closure and post-closure costs. These are costs that municipalities will face when their landfills are filled to capacity and must be closed according to approved procedures and processes.
- In 2012, across Eastern Ontario as a whole, there were \$120 million in solid waste management facility liabilities, up by \$4 million from the preceding year (2011: \$116 million)
- Roughly **79%** of these liabilities --- **\$95 million** ---- are the responsibility of the municipalities of **Rural Eastern Ontario** and \$18 million are the responsibility of the separated cities and towns. (Note that these are gross liabilities since municipalities may have some reserves set aside for such future tasks.) The liabilities in Rural Eastern Ontario have increased by \$6 million from 2011 to 2012 and may have increased further in the last two fiscal years.

Figure 8 - Solid Waste Liabilities and Net Solid Waste Liabilities - By Sub-Region (2012)

Sub-Region	Solid Waste Management Facility Liabilities (landfill closure and post-closure)	Net Solid Waste Management Facility Liabilities	% of Solid Waste Liabilities NOT Covered by Reserves
Rural Eastern Ontario	94,803,451	72,258,589	76
Separated Cities	17,864,805	10,727,505	60
City of Ottawa	7,996,286	7,996,286	100
All Eastern Ontario	120,664,542	90,982,380	75

As is indicated in a subsequent section of this report, it is possible to calculate net solid waste management facility liabilities by taking the total/gross liabilities and deducting the dedicated reserves that some municipalities have for landfill closure and post-closure costs.

6.4 Rural Municipalities Hold Just \$127 Million in Environmental Reserves, \$23 Million for Landfills

- Across Eastern Ontario, the 114 municipal governments hold roughly \$300 million in reserves for environmental purposes. The level of reserves has declined over the 2011-2012 period (by \$30 million) due to a reduction in the reserves of the City of Ottawa.
- Across **Rural Eastern Ontario**, environmental reserves went up by about \$11 million (to **\$127 million**) while the separated cities and towns added roughly \$3 million in reserves.

- The \$127 million in environmental reserves held by Rural Eastern Ontario municipalities represents about nine (9) per cent of the net book value of environmental assets (\$1.441 billion) and just six (6) per cent of the value of these assets at cost.
- Of the total \$127 million in reserves held by Rural Eastern Ontario municipalities, most (\$94 million) is for wastewater, storm water and waterworks systems. The next largest allocation is for solid waste disposal (\$22.5 million). Waste diversion reserves total \$7 million.
- Reserves for wastewater, storm water and waterworks systems account for \$252 million of the \$300 million in reserves (84% of all reserves) held by all local governments in the region.
- Roughly half of municipalities (48) in Rural Eastern Ontario hold \$58.8 million in reserves for wastewater systems, roughly 36% of the total for all of Eastern Ontario (\$162 million).
- Nearly half (44) of municipalities in Rural Eastern Ontario hold \$34.9 million in reserves for waterworks systems, roughly 44% of the total for all of Eastern Ontario (\$80 million).
- Just two municipalities in Rural Eastern Ontario hold reserves for storm water systems (\$64,000), roughly 6% of the total for all of Eastern Ontario (\$9.3 million).

Figure 9 - Environmental Reserves, By Type (2012)

Sub-Region	Wastewater system	Stormwater System	Waterworks system	Solid Waste Collection	Solid Waste Disposal	Waste Diversion	Total
Rural Eastern Ontario	58,788,732	63,881	34,931,237	3,953,101	22,544,862	7,008,783	127,290,596
Separated Cities	104,641,354	10,268,922	37,866,727	2,689,652	7,137,300	2,238,730	164,842,685
City of Ottawa	-1,393,331	0	7,249,855	1,488,526	0	0	7,345,050
All Eastern Ontario	162,036,755	10,332,803	80,047,819	8,131,279	29,682,162	9,247,513	299,478,331

Figure 10 - Environmental Reserves, By Type (2011)

Sub-Region	Wastewater System	Stormwater System	Waterworks System	Solid Waste Collection	Solid Waste Disposal	Waste Diversion	Total
Rural Eastern Ontario	50,294,956	805,977	32,811,747	2,858,109	21,935,617	6,957,724	115,664,130
Separated Cities	110,406,773	8,481,674	33,872,870	736,137	6,068,162	1,747,365	161,312,981
City of Ottawa	18,495,283	0	29,121,417	5,953,434	0	0	53,570,134
All Eastern Ontario	179,197,012	9,287,651	95,806,034	9,547,680	28,003,779	8,705,089	330,547,245

6.5 Landfills: Open... for How Long?

- Based on data provided by the Ontario Ministry of the Environment for smaller landfills across Eastern Ontario (not posted on the LIMO website), it is estimated that 37% of landfill capacity across Rural Eastern Ontario still remains available for use. This capacity estimate is derived from 90 landfills having submitted data to the Province in 2011; this data was then extrapolated to apply to the 181 landfills in Rural Eastern Ontario.

Estimated Remaining Capacity	Landfills With % Capacity Remaining (#)	Total Landfills Providing Data	% of Total
10% or Less	11	90	12
10 to 25%	28	90	31
25 to 75%	31	90	34
75% or more	20	90	22

- Interviews with a cross-section of municipal staffs suggests that the pattern in many municipalities – especially those with multiple open landfills --- the “average” remaining life of landfills is between 15 to 20 years. However, it is typical in many two-tier local governments (county plus township/town) to have one landfill facing near-term closure (within one to three years) and others that have much greater remaining capacity and therefore many more years of life.
- While it is theoretically possible for a municipality to simply shift solid waste to the landfill(s) with longer remaining lives, the collection costs of doing so will increase dramatically as fleets must travel longer distances for disposal purposes.
- Municipalities with landfills facing imminent closure are seeking expansions to these sites. This is only possible if the landfill already has significant surrounding property without encroaching on natural attenuation zones or if additional property can be acquired at reasonable cost. Compared to urban municipalities, rural municipalities may have these opportunities – and they are often more cost-effective solutions to the ongoing need for landfill capacity than requiring installation of engineered liners and leachate collection systems that may be the only option for other sites. In addition, some municipalities could have expansion opportunities that may include upgrading or improving the containment capability of portions of the landfill that are already filled (e.g. better liners or leachate collection). As indicated in the recommendations section of this White Paper, rural municipalities are seeking expedited processes for these types of expansions or improvements to existing landfills.

- It is important to remember that remaining “years of service” estimates must consider that waste diversion can extend landfill life and delay capital costs associated with new or expanded landfills. However, there are financial implications for increased diversion which must be taken into account in annual operating budgets.
- Municipal policies on solid waste management are also changing (e.g. bag types, tag costs) and environmental service operators are seeking to be innovative (e.g. alternative uses of closed landfills; new roles in waste stream supply chains). These changes can also influence how quickly the remaining capacity at any landfill is utilized.

All of the preceding factors influence municipalities’ ability to predict ongoing need for landfills to handle solid waste, and therefore the costs associated with provision of this service as well as the costs to close and manage landfills that reach the end of their useful lives.

6.6 Net/Unfunded Liabilities Estimated to Be At Least \$72 Million, More Likely \$100 Million

The annual FIR includes data on reserves for all purposes including solid waste disposal. Based on the understanding that solid waste reserves are being built up to cover the solid waste liabilities, the *net* liabilities for solid waste disposal – of all types – may be calculated by deducting each municipality’s reserves from the solid waste liabilities. However, it is not known what proportion of the available reserves is set aside for each of these purposes:

- Closure and Post-Closure Costs of Landfills
- Expansions of existing landfills (if that is an option)
- New landfills.

While **Rural Eastern Ontario** has **\$95 million** (79%) of the region’s *total (gross) liabilities* related to solid waste facilities, it also has the same percentage (79%) of net liabilities (**\$72 million**)⁵. This is calculated by deducting **dedicated reserves (\$22.5 million)** from the total: \$95 million minus \$22.5 million equals \$72.5 million). This means that if municipalities in the rural areas spent all of their dedicated reserves, they would need at least another \$72 million to cover closure costs for all the landfills they are currently operating in their jurisdictions. In other words, **76%** of all such solid waste facility liabilities in Rural Eastern Ontario are not covered by reserves --- up by \$5.3 million over 2011 (\$66.9 million).

- For the 181 open landfills in Rural Eastern Ontario, the FIRs suggest that municipalities face at least \$95 million in liabilities, for which roughly \$73 million is not covered by environmental reserves.

⁵ Note that Rural Eastern Ontario has just 36% of the region’s population. The City of Ottawa has 46% of the region’s population with the separated cities and towns having 18% of the region’s population.

Figure 11 - Minimum Landfill Closure and Post-Closure Costs

Based on FIR data on unfunded liabilities:		
Unfunded Liabilities - Landfill Closure	2011 (\$Million)	2012 (\$Million)
Solid Waste Management Liabilities	\$89	\$95
Solid Waste Management Reserves	\$22	\$23
Net Unfunded SWM Liabilities	\$67	\$73
Percentage of SWM Liabilities Unfunded	75	76

- Roughly a third of municipalities (37%) in Rural Eastern Ontario do not have the financial resources to cover much of their solid waste liabilities: these municipalities are currently lacking reserves to cover 90 to 100% of their liabilities. Another quarter of municipalities are lacking resources to cover 50-89% of their liabilities. Roughly the same proportion (26%) can cover all their solid waste liabilities.
- Municipalities in Rural Eastern Ontario that are best described as towns or hamlets tend to have higher levels of reserves for water-related assets and lower liabilities for solid waste. More rural municipalities – typically townships – tend to have fewer reserves but substantially higher liabilities for solid waste.
- The pace at which local governments in Rural Eastern Ontario will need to set aside funds to handle solid waste disposal liabilities is based on six factors:
 - The number of landfill sites and their status (open or closed)
 - For those that are currently open, the estimated remaining capacity until these landfills are full, especially taking potential waste diversion into account
 - The number of years of remaining use of the landfills, which will also be the length of time over which a municipality can set aside reserves for closure and post-closure costs
 - The estimated closure costs for a given landfill
 - The total costs of establishing a new landfill (if the municipality does not have another suitable option to replace the landfill that is closing).
 - The annual post-closure monitoring costs

The next ten years will be a critical period for building up reserves to cover closure and post-closure costs. Given the number of landfills in Rural Eastern Ontario and the likely need for significant capital investment for closure, expansion or identification of a new landfill site, it would be wise to consider \$72 million as the minimum net/unfunded solid waste liability.

6.7 Two Ways to Estimate Closure and Post-Closure Costs for Landfills

The main reason for caution when considering net/unfunded liabilities for solid waste disposal is because it is not clear if the closure and post-closure costs of landfills are completely reflected in the FIRs. There are two ways to estimate the costs for closure and post-closure costs of landfills in Rural Eastern Ontario. One way is to use liabilities data submitted by municipalities as part of the Financial Information Return (FIR) each year. These costs are based on analyses carried out by municipalities (often with significant consulting support) and may be part of municipalities' asset management planning processes.

- ***FIR-Based Approach:*** This approach assumes that all of the liabilities and all of the reserves can and will be devoted to addressing closure/post-closure costs for landfills. Since some of the \$22.5 million in reserves may be set aside to cover the costs of expanding existing landfills or creating new ones, not all of these reserves may be available to cover a portion of the estimated \$95 million in closure/post closure costs. It should also be noted that:
 - Not all municipal FIRs comment on these liabilities, perhaps pending completion of asset management or environmental master plans. It is therefore unlikely that all total solid waste disposal liabilities are captured in the FIR, thereby understating the total liabilities.
 - Both total liabilities and net/unfunded liabilities are *continuing to rise*. For instance, in 2011-2012, total liabilities in Rural Eastern Ontario increased by \$6 million and net/unfunded liabilities increased by nearly as much – \$5.3 million. This suggests that not all waste disposal liabilities may have been captured across the region, and that municipalities are losing ground on the challenge of setting aside reserves for these purposes. It is therefore likely that net unfunded liabilities have continued to rise since 2012 and may continue to do so in the years ahead.
 - Consultations with municipal staffs responsible for managing these assets suggests that landfill monitoring-sampling and fieldwork for monitoring, along with consulting costs to meet reporting requirements will be in the \$50,000 to \$100,000/year range for most municipalities. Municipalities with the most extensive landfill management responsibilities may see annual costs closer to \$150,000. This would suggest an annual post-closure cost for the 181 open landfills of roughly \$18 million – a number not far removed from the current \$22.5 million in dedicated reserves. Virtually all existing dedicated reserves could be spent on post-closure *monitoring* costs alone, with very few funds available for actual closure costs.

For all three reasons, it may be wise to consider the FIR-based total solid waste liabilities (\$95 million) as the low-end estimate of net/unfunded solid waste liabilities.

- **Projection Using LIMO Estimated Remaining Capacity Data:** The second way to estimate the costs for closure and post-closure costs of landfills in Rural Eastern Ontario is to project these costs based on an average cost of closure (these costs can be estimated based on recent closure costs for landfills in Rural Eastern Ontario) combined with LIMO data on estimated remaining capacity (to estimate the timeframe over which municipalities would have to address these liabilities). Average closure costs are scaled up to account for the number of years of remaining life in landfills.

Average cost of closure for an individual landfill is based on interviews with municipal officials, with an inflationary factor included for those landfills that likely will be closed further into the future. This estimate does not include any costs that would be associated with expansion of existing landfills, which is an option for a number of municipalities across Rural Eastern Ontario.

- Using LIMO data, the **total liability** for solid waste disposal sites (landfills) in Rural Eastern Ontario is estimated at **\$135 million⁶**, of which some portion of the \$22.5 million in dedicated reserves will help to address. This suggests **net/unfunded** solid waste liabilities of **\$112 to \$135 million**.
- Roughly 27% of the liabilities (\$37.5 million) for solid waste disposal will need to be addressed in the next 10 to 12 years. If municipalities must find \$37.5 million in the next decade and there is \$22.5 million in dedicated reserves, this leaves a **gap of \$15 million** (or approximately \$1.5 million a year for the **next 10 years**). However, the challenge for some municipalities is to set aside reserves to meet future challenges when they are facing other significant infrastructure needs today – for instance, roads and bridges and perhaps other facility costs. Further, it is often the smaller municipalities (fewer residents, limited tax base, lower incomes) that have the largest number of landfills.

Figure 12 - Landfill Closure and Post-Closure Costs Based on Extrapolation from LIMO Data on Estimated Remaining Capacity

Based on extrapolation from LIMO Data				
Remaining Capacity Category	Remaining Life Assumption (Average)	Number of Landfills in Category	Average Cost of Closure	Total Cost of Closure (not including post-closure costs)
10% or less	5 Years	23	\$350,000	\$8,050,000
10% to 25%	12 Years	56	\$525,000	\$29,400,000
25% to 75%	25 Years	62	\$787,500	\$48,825,000
75% to 100%	40 Years	40	\$1,220,625	\$48,825,000
Total		181		\$135,100,000

⁶ This estimate is somewhat higher than the FIR-based estimate of \$95 million.

For the purposes of this analysis, it is assumed that the estimated net/unfunded solid waste disposal liabilities lie in the \$95 million (low end FIR-based) to \$135 million range (high-end extrapolation from LIMO data).

A mid-range estimate of \$100 million provides an order-of-magnitude allocation for these unfunded liabilities. These liabilities are not included in the capital infrastructure deficit estimate of \$600 million and must be added to it to appreciate the total capital expenditure likely to be required for Environmental Services in Rural Eastern Ontario.

This White Paper contains recommendations concerning the opportunities for EOWC member municipalities to work together, as well as jointly with the Province and other stakeholders, on strategies that could increase revenues, reduce or better manage solid waste management costs without triggering environmental risks.

6.8 Solid Waste Liability Estimate Does Not Include Costs for New Landfills, New Regulations

- Note that neither the total or the net unfunded liability estimates include:
 - Costs of establishing new landfills if the current site or another site in the same municipality cannot be expanded. Anecdotal information suggests that opening a new landfill can cost at least \$1 million – often more – with a small proportion of this cost being land acquisition, landfill design or construction.
 - Landfill monitoring costs for open or already closed landfills to ensure that these landfills do not have negative environmental impacts on surrounding areas. It is not unusual to find municipalities expending \$50,000 to \$100,000 a year on technical services to monitor and meet reporting requirements on landfills.
 - Regulatory submission costs to submit required documentation and reports to the Ministry of the Environment, ensuring that municipalities are fulfilling their regulatory obligations, securing appropriate certificates for the types of waste they wish to receive at their landfills, and gathering data on a regular basis to manage landfill and other environmental service assets over the long term. Anecdotal information suggests that these costs are at least as high as technical monitoring costs, especially when consulting costs and municipal staff time is considered.
 - Enhanced regulations, particularly for closed landfills, to ensure that these sites are managed to the latest standards in Ontario. Anecdotal reports indicate that landfills in Rural Eastern Ontario that have been closed for a number of years have been subject to recent directives to enhance site features to protect public safety and nearby natural resources. These costs may not have been budgeted for in the current fiscal year.

It is highly likely that municipalities will need to invest at least \$100 million in solid waste disposal assets (landfills) over the next decade or so. This investment is far beyond the resources municipalities may be holding in reserves for this purpose; finding these funds will be challenging for smaller municipalities with relatively few citizens and a modest tax base.... but multiple landfills to manage.

7. Waste Diversion Success May Have Reached a Plateau

7.1 More than a Quarter of Solid Waste Collected is Now Diverted from Disposal

- According to data posted by Waste Diversion Ontario, Rural Eastern Ontario diverted (via Blue Box curbside pickup or depot collection) 82,000 tonnes of solid waste from landfills in 2011. This is roughly 29% of all solid waste collected, disposed of or diverted in the rural areas (286,800 tonnes). This is slightly less than in the Separated Cities and Towns and less than the diversion rates achieved by the City of Ottawa (*see table below*).

Figure 13 - Total Tonnage of Solid Waste Diverted and Total Solid Waste Disposed Of Or Diverted (2011)

Sub-Region	Total tonnes of solid waste diverted from all property classes (2011) PM92 3656	Total tonnes of solid waste disposed of, and diverted (2011) PM92 3656	Diversion Rate (%) (2011)
Rural Eastern Ontario	82,346	286,803	29
Separated Cities	67,575	192,706	35
City of Ottawa	129,618	337,477	38
All Eastern Ontario	279,539	816,986	34

- The data for equivalent performance measures in 2012 is far less helpful in understanding waste diversion performance across municipalities in Rural Eastern Ontario: more than 30 municipalities did not include this data in their 2012 FIR submissions. It is therefore not possible (at least from this source) to compare either the volume of solid waste diverted or the diversion rate to the preceding year. According to the submissions that were made by many municipalities, the total tonnage of solid waste may have declined, the tonnes of solid waste diverted may be down just slightly, and the diversion rate remained the same or increased slightly.

Anecdotal information from a cross-section of staff members responsible for waste diversion suggests that diversion success has “flat-lined” in recent years for multiple reasons (lighter weight materials, lack of funds for public education, volatility in the market price for recyclables). The Province appears to have acknowledged this in tabling a new Waste Reduction Act and associated strategy. Clearly, new strategies are needed if the costs of waste diversion programs are to be kept under control and if waste diversion is to remain an effective strategy for keeping useful/reusable materials out of landfills ---- and thereby extend their useful lives.

7.2 Net Cost Per Tonne for Waste Diversion Higher in Rural Areas

- Analysis of data from Waste Diversion Ontario indicates that the net cost per tonne to divert solid waste (costs after revenues from sale of recyclables are taken into account) is significantly higher in rural areas than in urban ones.

Net cost data (2011) from Waste Diversion Ontario, categorized by WDO program (see chart below), shows that urban regional communities typically had the lowest average (net) cost per tonne for diverted material (average: \$155/tonne) while rural collection programs and rural depots in Southern Ontario had the highest costs (average: \$361/tonne and \$432/tonne respectively).

By 2012, the average (net) cost per tonne for Rural Eastern Ontario for rural collection programs had increased to \$376 and cost per tonne for rural depots has increased to \$564.

Figure 14 - Average Net Cost Per Tonne for Waste Diversion (2011), by WDO Blue Box Program Type

Waste Diversion Program	Average (Net) Cost/Tonne - Rural Eastern Ontario (2012)	Average (Net) Cost/Tonne - Rural Eastern Ontario (2011)	Average (Net) Cost/tTonne - Ontario (2011)
Urban Regional	N/A	N/A	\$155
Medium Urban	N/A	N/A	\$180
Small Urban	\$318	\$275	\$211
Rural Regional	\$357	\$352	\$259
Rural Collection (Southern Ontario)	\$376	\$326	\$361
Rural Depot (Southern Ontario)	\$564	\$445	\$452

- This pattern appears to be the result of two phenomena:
 - Gross cost per tonne for diversion via Blue Box **rises** as the size of the community declines and as geographic dispersion of population increases.
 - Gross revenue per tonne for marketed material **declines** for smaller communities.

As a result, the net cost per tonne for diversion via Blue Box **rises** as the size of the community (population) and associated material volumes decline, and as geographic dispersion increases.

- Overall, Rural Eastern Ontario's costs for curb-side collection compare favourably to other communities, but these municipalities find it more challenging to match costs for depot collection. In part, this is understood to be due to better revenues for materials picked up in curb-side programs.

Note that net cost per tonne for diversion across Rural Eastern Ontario increased in the 2011 to 2012 period. The region remains above the (2011) provincial average in all categories.

- Options for municipalities to address the waste diversion challenge could include:
 - Multi-municipality collaborations and material recovery facilities (MRFs)
 - Participation in studies or trade associations that are seeking to grow the market for recovered materials
 - Advocacy with the Province concerning strategies to reduce the total amount of waste in the province, change incentives, penalties or formulae used to influence the amount of waste that can be diverted, strategies to support programs allowing municipalities to cost-effectively increase waste diversion, or to provide them with greater latitude on how such programs can be designed. Waste Diversion Ontario is also encouraged to review annual data calls to eliminate requests for information that are not useful to the Province or (in many cases) to municipalities.

Figure 15 - Summary of Costs and Revenues by Waste Diversion Ontario Blue Box Program Type (2011); comparing Rural Eastern Ontario with Southern Ontario (2011)

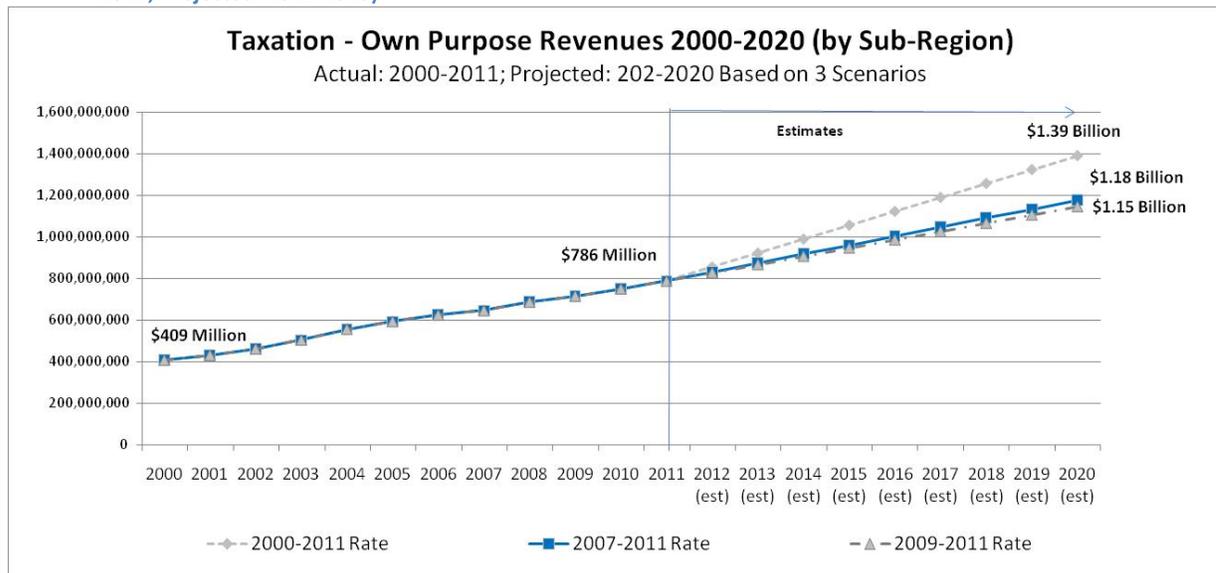
Program Name	Blue Box Tonnes Marketed	Total Gross Costs	Gross Costs Per Tonne Marketed		Gross Revenue Per Tonne Marketed		Total Net Cost	Net Cost Per Tonne Marketed (Weighted Average)
			(Weighted Average)	Total Gross Revenue	(Weighted Average)			
Urban Regional								
Ottawa	62,961	\$ 18,269,251	\$ 290	\$ 11,367,909	\$ 181	\$ 6,901,342	\$ 110	
6 Ontario Communities	170,910	\$ 53,171,506	\$ 311	\$ 26,663,459	\$ 156	\$ 26,508,047	\$ 155	
Premium/Efficiency			\$ 21		\$ (25)		\$ 45	
Medium Urban								
Peterborough (City)	9,037	\$ 2,228,185	\$ 247	\$ 1,459,257	\$ 161	\$ 768,928	\$ 85	
7 Ontario Communities	51,202	\$ 14,149,665	\$ 276	\$ 4,922,419	\$ 96	\$ 9,227,246	\$ 180	
Premium/Efficiency			\$ 29		\$ (65)		\$ 95	
Small Urban								
6 Rural EO Communities	2,590	\$ 936,619	\$ 362	\$ 223,723	\$ 86	\$ 712,895	\$ 275	
23 Ontario Communities	23,392	\$ 6,210,971	\$ 266	\$ 1,282,680	\$ 55	\$ 4,928,290	\$ 211	
Premium/Efficiency			\$ (96)		\$ (31)		\$ (64)	
Rural Regional								
3 Rural EO Communities	16,043	\$ 7,878,477	\$ 491	\$ 2,224,508	\$ 139	\$ 5,653,969	\$ 352	
14 Ontario Communities	98,537	\$ 39,306,169	\$ 399	\$ 13,825,752	\$ 140	\$ 25,480,417	\$ 259	
Premium/Efficiency			\$ (92)		\$ 1		\$ (93)	
Rural Collection - South								
30 Rural EO Communities	21,903	\$ 9,005,482	\$ 411	\$ 1,862,657	\$ 85	\$ 7,142,825	\$ 326	
65 Ontario Communities	38,937	\$ 16,587,931	\$ 426	\$ 2,539,364	\$ 65	\$ 14,048,567	\$ 361	
Premium/Efficiency			\$ 15		\$ (20)		\$ 35	
Rural Depot - South								
26 EO Communities	9,226	\$ 4,181,171	\$ 453	\$ 74,426	\$ 8	\$ 4,106,745	\$ 445	
33 Ontario Communities	10,061	\$ 4,424,290	\$ 440	\$ 74,662	\$ 7	\$ 4,349,628	\$ 432	
Premium/Efficiency			\$ (13)		\$ (1)		\$ (13)	

8. Locally-Generated Revenues Rising Faster than Consumer Price Index

8.1 Property Tax Revenues Up by 92% in 2000-2011 Period

As was described in the EOWC’s Municipal Affordability White Paper (published in August of 2013), revenues raised from **property taxes** by municipalities in Rural Eastern Ontario for “own purposes” (to pay for local services) rose from \$409 million in 2000 to **\$786 million in 2011** – an increase of **92%** over the period. This rate of increase is equivalent to a **6.1%** compound annual growth rate (**CAGR**) over the entire eleven year period. In a slightly shorter timeframe (2002-2012), the Consumer Price Index (**CPI**) for Canada rose by **21.8%**. It is clear that local governments have had to increase their draw from the local tax base at rates far higher than the CPI.

Figure 11 - Taxation (Own Purpose Revenues) for Local Governments in Rural Eastern Ontario (2000-2020) Actual: 2000-2011; Projected: 2012-2020)



The same pattern of revenue increases exceeding the CPI is evident for more recent times. In the **2007-2011** period, the rate of increase of property tax revenues slowed slightly, rising from \$647 million to \$786 million – an increase of **22%**, equivalent to a CAGR of **5.0%**. In that four year period of 2007-2011, the Consumer Price Index for Ontario (all items) rose by **8.3% for the entire period**, with particularly strong increases in 2008 (2.3%), 2010 (2.5%) and 2011 (3.1%)⁷. In the last two years of the period (2009-2011), the rate of increase in property taxes slowed further in the last two years of the period (2009 to 2011) to 4.8%.

⁷ Source: <http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/econ09g-eng.htm>

If property taxes continue to increase at the 2007-2011 rate (CAGR: 5.0%), local governments will be raising \$1.18 billion a year in property taxes – most of which are coming from residential property owners. This would be a 50% increase over 2011.

Growth rates in property tax revenues are reflective of increases in the costs of service delivery; the apparent need to increase property taxes at rates higher than the CPI would suggest that ***the CPI may not be a good measure of the rate at which program/service expenditures – or the associated revenue requirements of local government – have risen in the past or will continue to rise in the future.***

8.2 Deferring Capital Expenditures is No Longer a Viable Strategy for Closing Operating Expenditure-Revenue Gap

If the CPI is viewed as a target measure for funding increases by the provincial or federal governments, or by municipalities for the rate of increase in property taxes, local governments are likely to face a growing gap between expenditures and revenues. In the past, this revenue-expenditure gap has often been closed each year by deferring capital expenditures. This strategy is not sustainable.

Especially in the field of Environmental Services, expenditure deferrals are rarely possible. The provincial Ministry of the Environment is authorized to order municipalities to take action on risks to human health or the environment – whether those risks are imminent or not, and can also order municipalities to update or upgrade existing infrastructure to meet new, more stringent regulations. In addition, if a capital asset should fail (e.g. if water or waste water collection system or treatment facility breaks down, a landfill or lagoon becomes full, or a storm sewer begins to leak), municipalities are obliged to act quickly; they cannot simply suspend service until the next fiscal year. As a result, ***it is vital that municipalities be in a financial position to address both capital infrastructure and operating cost financing requirements.*** For rural municipalities with limited potential to increase property tax revenues, the need for a permanent, provincially-supported infrastructure fund is essential (*see EOWC White Paper on Municipal Infrastructure for specific recommendations*).

8.3 Own Purpose Revenues Projected to Reach \$1.57 Billion By 2020

Total Own Purpose Revenues (property taxes plus user fees and charges) rose from **\$539 million** in 2000 to **\$1.06 billion** in 2011 – a **97%** increase over the entire period, equivalent to a compound annual growth rate/CAGR of 6.35%). The rate of increase in the 2007-2011 period accounted for 21% of the total with the CAGR slowing to 4.91%). The CAGR for the 2009-2011 was slower yet, at 4.86%, with 10% of the overall growth in that period.

If future revenues increase at the same rate as in **2007-2011**, total Own Purpose Revenues will reach **\$1.57 billion by 2020**. This would mean a CAGR of **4.43%** for each of the next nine (9) years and local tax levies and other charges would have to increase by \$56 million each and every year. (Note that these increases do not include any additional provision for infrastructure expenditures.) If however, future increases track the 2000-2011 pattern, Own Purpose Revenues will reach \$1.9 billion – an additional \$93 million a year.

8.4 User Fees and Charges Account for a Quarter of Own Purpose Revenues

In Environmental Services, municipalities do have some latitude to levy user fees and charges as part of a “user pay” financial strategy. Examples are charges per unit volume or weight for using municipal services such as water/waste water systems, or bag tag fees for waste transferred to a landfill. Ratepayers must find the resources to pay these fees just as they must for property taxes. In addition, increases user fees can trigger cost avoidance tactics such as roadside dumping, which is expensive to clean up and also increases the costs of monitoring and enforcing bylaws.

The growth in municipal responsibilities for Environmental Services over the last decade is almost certainly one of the reasons that municipal fees and charges rose from \$131 million in 2000 to **\$275 million** in 2011, an increase of **110%** over the period (slightly higher than the rate of increase in property taxes: **97%**). These fees and charges now make up a slightly larger proportion of locally-generated revenues, rising from 24% in 2000 to 26% in 2011. Projections for 2020 suggest that user fees and charges will comprise roughly the same share of local revenues (25%) although ***fees and charges may increase at a faster pace if operating expenditures reach the projected \$410 million range.***

8.5 Municipalities Cannot Count on Assessment Growth to Close Gap

It is extremely unlikely that municipalities in Rural Eastern Ontario will be able to generate significant increases in property tax revenue from real growth in assessment (new construction, renovation or other improvements) as opposed to changes in value due to reassessment (increased values for the same properties). Based on data provided by the Municipal Property Assessment Corporation for Ontario (MPAC) for the 2006-2012 period, total assessment in Rural Eastern Ontario grew by \$39.6 billion, rising from \$68.2 billion in 2006 to \$107.8 billion in 2012 – an increase of 68% over the six-year period.

To understand how much of the increased assessment is real growth MPAC data was obtained and analyzed for 2006, 2008 and 2012. This analysis showed that in any given year in the 2006-2012 period, real growth contributed roughly 2.0% while reassessment contributed approximately 13.25% – a ratio of 1:6.

If this 1:6 ratio holds true for the entire 2002-2012 period, this would mean that 15% of the growth in assessment (**\$5.9 billion**) was due to **real growth** (general broadening or strengthening of the tax base through additions or improvement to the regional building stock) and **85%** (\$33.7B) was from a **general rise in the assessed value of all real estate**.

9. Taking Action on Environmental Services

Recommendations

Keeping municipal government affordable for local ratepayers will require local governments to change the trajectory of both service delivery costs and the revenues available to pay for these services (see EOWC White Paper on Municipal Affordability). Local governments will also need to become more proactive in supporting the efforts of their own ratepayers to improve the economic circumstances of the region, its households and businesses (see EOWC White Paper on Municipal Affordability). This White Paper contains information that will help guide the EOWC's efforts related to possible advocacy programs, policy development, and in-region operational changes, all related to environmental services. The following recommendations cover some actions that local governments might take on their own or through the EOWC, as well as those which might be undertaken in partnership with upper levels of government.

Recommendations for EOWC and Constituent Municipalities:

E-1: It is proposed that the EOWC continue to actively support the development of a region-wide economic development strategy with the long-term objective of stimulating growth as well as jobs across the region, which will in turn stimulate growth in the region's property tax base. The ultimate goal is to increase total assessment as well as the proportion of assessment from industrial, commercial and institutional operations. (This same recommendation is found in the *Municipal Affordability White Paper*).

E-2: It is proposed that the EOWC encourage its members to consider collaborative approaches to providing regulatory compliance services for Environmental Services. These collaborative approaches could include joint tenders for environmental engineering services, cross-municipal contracts where qualified municipal staff could support multiple municipalities in the same general area, or the creation of a special purpose body to provide these services across Eastern Ontario. [*Note: cross-municipal means beyond the boundaries of a two-tier county system*].

E-3: It is proposed that the EOWC encourage its members to consider collaborative approaches to waste diversion. These collaborative approaches could include shared or cross-municipal contracting, regional eco-industrial supply chains (waste material suppliers linked to buyers/customers) or regional processing hubs. These approaches would be applied to the collection, aggregation and reintroduction to markets of materials which would otherwise go to landfills. The express purposes of these approaches are to increase revenues from these materials, reduce net costs of diversion or solid waste management, or extend the useful life of landfills.

Recommendations for the Province of Ontario:

U-1: It is proposed that the EOWC encourage and support the Province of Ontario in its continued efforts to contain the growth in program and service delivery costs, including those that are mandated to municipal government. In Environmental Services, the EOWC encourages the Province to consider:

- a) The relative costs and benefits (in terms of public safety and human health) associated with further additional regulation and monitoring of landfills where there has been no evidence of off-site migration.
- b) Empowering municipalities to determine the timeframe and method of effecting any improvements or changes to environmental assets required as a result of a Ministry order, where is no imminent danger to human health or the environment.
- c) Adjusting the conditions under which an amendment to an Environmental Compliance Approval (ECA) is required so that these costly amendment processes are required only when the change taking place is required to protect human health or the natural environment and where there is no imminent danger to human health or the environment. Specifically, a simple administrative process would be used in circumstances where the only change is having documentation on file agree with long-standing practice that has previously been reviewed and approved by the Ministry of the Environment.

The Ministry is also encouraged to shorten timelines for routine approvals and provide greater predictability on the length of time that approvals are expected to take. These changes would reduce municipal uncertainties in planning and budgeting for approval-dependent work.

- d) Simplifying forms and submission processes associated with environmental services, to a) focus on only those data required by the Province for regulatory compliance and related financial or legal purposes, and b) make it easier and less expensive for municipalities and the Ministry to track environmental compliance.

Examples:

- Simplify the annual Waste Diversion Ontario data call to focus only on volumes of different types of material being diverted and/or disposed of, associated financial data, and data that is required to determine funding support. Any and all other information would be deleted from the data call. Over time, municipalities expect enhanced support for waste diversion and a simplified method of calculating that support on a municipality-by-municipality basis.
- Convert requirements to submit waste manifests from a paper to an electronic (web-based) system.

- Move to a single Ministry of the Environment (web) portal through which all municipal environmental services documentation could be submitted. For example, data for landfills, waste diversion, hazardous waste and other environmental compliance data requirements should all be submitted through a single portal.

U-2: It is proposed that the Province continue to work with the Association of Municipalities of Ontario (AMO) and goods producing sectors, to enact a Waste Reduction Act, making individual producers responsible for end-of-life management of their products, including compensation to municipalities for collecting and disposing of wastes requiring disposal in municipal landfills.

Until such a compensation system is achieved, it is further proposed that the Province provide enhanced funding support for waste diversion in rural or remote parts of Ontario. The enhanced support would be designed to offset the higher costs of diversion (due to lower volumes and higher transportation costs) in communities with more widely dispersed populations or workplaces.

It is further proposed that the Province provide leadership in encouraging continued reductions in the extent of waste generated through the Ontario economy. Examples include ways to reduce the total extent of packaging or eliminate it altogether; increased standardization of packaging to increase versatility of use; increased use of returnable/reusable packaging; or increased use of recyclable or biodegradable materials.

U-3: It is proposed that the Province partner with municipalities to undertake joint market development projects (province-municipalities) to determine how best to aggregate, find markets, build demand or the supply chain for different types of materials diverted from landfills in Rural Eastern Ontario. In this case, the emphasis is on finding business models, transportation solutions, and customers for diverted materials so as to reduce net costs of operating landfills, extend their useful life, and increase total diversion across the region. This work is expected to complement and support initiatives which examine the economic viability of Material Recovery Facilities (MRFs) across the province.

U-4: It is proposed that the EOWC work with the Association of Municipalities of Ontario (AMO) and the Province of Ontario --- particularly the Ministry of the Environment --- to explore immediate or near-term opportunities for:

- c) Alternative, safe ways to utilize legacy assets such as closed landfills or lagoons to generate revenues which could be applied to ongoing compliance costs or cover other costs of municipal services. (Example: landfill gas capture/energy generation, energy from waste, material processing/reprocessing)

d) Expedited or fast-track methods through which approvals to expansions of existing landfills can be obtained (Examples could be significant increases in threshold conditions that trigger Environmental Assessments, practical application of reasonable use guideline re: groundwater).

U-5: It is proposed that the Province establish a dedicated pilot project research fund, led by the Ministry of the Environment, through which the Province, the private sector, the scientific and research community, and municipalities could co-sponsor projects to:

- Deliver Environmental Services more cost-effectively (for example: make use of natural ecological services such as natural/biological filters or attenuation processes rather than requiring expensive, energy-intensive high-tech solutions; test new technologies for effectiveness in addressing health and environmental protection associated with water, waste water and sewer services, storm sewers, and solid waste management services). The objective of these projects would be to provide credible scientific and technical data to support Ministry of the Environment regulatory changes required to introduce scientifically, technically and financially sound approaches or technologies into Ontario's environmental services regime. A key element of regulatory change would be to introduce expedited, less onerous approval processes for new and innovative technologies that are validated through the pilot project process.
- Make better use of existing municipal Environmental Services assets (for example: ways to safely remediate or re-purpose landfill sites or similar assets, utilize these assets for public recreational purposes, mine landfill sites for materials which can be recycled, used as substitutes for non-renewable materials, or used to generate energy for other municipal or public purposes.) The purpose of these projects would be to provide credible scientific or technical data to support the development of formal business cases or (re)development proposals for specific sites so they can be turned to new purpose.

U-6: It is proposed that the Province (particularly the Ministry of the Environment) consult more extensively with and engage municipalities and the EOWC on legislative or regulatory changes, or on changes in processes or funding that will affect services mandated to municipal government. In particular, the EOWC requests more extensive consultation with its members than is provided by simple website posting of draft changes.

It is further proposed that the Province direct other Ministries or provincial agencies, boards and commissions to consult more extensively and engage municipalities and the EOWC on other legislative or regulatory changes, or changes in processes or funding that will have implications for the costs of environmental services mandated to municipal government. Examples include MPAC (re)assessment of environmental facilities and assets, natural resource policies, licensing for aggregate extraction, or protection of endangered species.

U-7: It is proposed that the EOWC work in partnership with the Province of Ontario to design and implement as soon as possible a permanent, predictable, non-competitive infrastructure fund designed specifically for small, rural and remote areas. (This same recommendation is found in the *Municipal Infrastructure White Paper*. *The White Paper contained a series of recommendations for the design and operation of such a permanent fund, including giving municipalities the responsibility to set their own priorities, a funding tie-in to completion of asset management plans and related accountability provisions*).

U-8: It is proposed that the Province adopt a policy of assessing the financial implications of, and providing additional funding, to support municipalities when new environmental regulations are being introduced, or when existing assets are being reviewed for compliance with new/more recent environmental legislation or regulations.

It is further proposed that any new or modified environmental legislation or regulations be accompanied by a long-term provincial commitment to fund 100% of any and all new capital or operating costs associated with implementation or management of affected environment assets or services delivered by municipal government.

It is further proposed that, for legacy assets (those whose siting or operating conditions were originally approved by the Ministry of the Environment or introduced before Ministry approval processes were introduced), any orders for physical improvements or increased monitoring be funded 50:50 by the Ministry (Province of Ontario) and the municipality. This co-funding model would apply in the absence of any new (post-2013) legislative or regulatory changes, whether or not there is an imminent danger to public health or the natural environment.

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