

Response to the Ministry's Discussion Paper: Food and Organic Waste Framework

EBR Registry Number: 013-1814

Who we are:

The Southern Ontario Water Consortium (SOWC) has established a Working Group focused on "Value generation from Biosolids." The Working Group was created with support from the Ministry of Research, Innovation and Science through the Business Growth Initiative to leverage SOWC's Advancing Water Technologies funding program for technology development, funded by the Federal Economic Development Agency for Southern Ontario. The Working Group believes that Ontario has the potential to be a global leader in biosolids technologies; the right policy environment could create the necessary conditions for such a cluster, building on the existing technology companies and research expertise. One of the major initiatives of the Working Group is the funding of a needs assessment led by Prof. Wayne Parker to better understand current practices regarding the disposition of biosolids in Ontario and opportunities for innovation (further referenced in this submission as Jin and Parker, 2017).

Members include:

Phil Sidhwa, President, Orgatec Energy Inc. (Working Group Chair)
Youngseck Hong, New Technology Leader, GE Water & Process Technologies
Ted Mao, VP Research, Trojan Technologies
Bill Mullin, Business Development Manager, Lystek
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We are pleased to submit the following comments.

Signed,

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Executive Director
Southern Ontario Water Consortium

Phil Sidhwa
President
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Summary:

We believe there is an important opportunity for Ontario municipalities to lead a major shift to resource recovery from wastewater, particularly energy recovery or “net zero energy” projects. There is significant momentum for potential projects in this area as demonstrated by an event recently hosted by SOWC and OCWA with representatives from 13 Ontario municipalities, academics and technology providers. The City of Stratford is proceeding with such a project, in partnership with OCWA and Suez Water Technologies, funded in part through Target GHG. OCWA has positioned itself as a leader and potential facilitator, working with partner municipalities to develop and implement these projects. We see this as a particular opportunity for medium-sized municipalities to benefit.

Some stumbling blocks will remain. And it is critical that the province support these initiatives, in particular by ensuring that biosolids management is integrated with organics management, and that the capacity that currently exists for anaerobic digestion at wastewater facilities is taken into consideration in planning for the beneficial use and management of organics.

We strongly support the inclusion of two important Policy Statements in the document referencing biosolids and wastewater infrastructure (**6.15** and **6.16**).

As outlined below, we think this would be strengthened with some further explanation in the Policy Statement, and some reference and explanation in Part A (the Action Plan) to provide context and outline this opportunity for municipalities and other stakeholders. We also provide some additional recommendations.

Background:

This Working Group made a submission to the Ministry’s previous **Discussion Paper** on this issue: **Addressing Food and Organic Waste in Ontario (EBR Registry Number: 013-0094)** which provided some further background and outlined the opportunity and benefits of integrating biosolids management into the province’s organics framework. Our comments on the current posting reflect those recommendations. Our specific recommendations on the discussion paper included:

1. The province’s goal should be to drive beneficial management and value generation from organics; with an integrated approach to the management of biosolids, septage and other organics.
2. The management of biosolids should be explicitly addressed in the proposed Organics Framework, articulating a clear provincial direction for reducing the volume of, and capturing the energy and nutrient value from, biosolids.
3. Consistent with the principle of using disposal bans to facilitate resource recovery and waste reduction, the province should ban landfilling (as Quebec, Nova Scotia and PEI have done) and require biosolids management that prioritizes beneficial use/reuse in support of the circular economy.
4. Require and provide financial support for the development of biosolids management master plans by all municipalities. Where appropriate, help them expediently and cost-effectively develop such master plans and broader organics management master plans.
5. Support regional consideration and planning for organics management capacity. This should focus on enhanced biosolids management solutions for biosolids volume minimization,

- energy generation, or resource recovery at wastewater treatment facilities to get the most out of current treatment capacity.
6. Building on the optimized WWTP capacity, consider centralized biosolids, septage and organics storage facilities and dedicated digester capacity on a regional basis.
 7. Make infrastructure funding available to support regional treatment and storage capacity.
 8. Create and execute a public education campaign regarding beneficial reuse of biosolids, to encourage public acceptance of and recognition of the benefits of reuse.
 9. Introduce a renewable content requirement for natural gas and investments to promote the use of renewable natural gas as proposed in the Climate Change Action Plan (and noted in Table 5 of the Discussion Paper).
 10. Create a comprehensive and publicly accessible database on the production and end use of biosolids and septage in Ontario.

Response:

We strongly support the inclusion of two important Policy Statements in Part B of document:

6.15 Existing wastewater treatment infrastructure may be considered for acceptance of source separated food waste, where there exists (or can be created, for example through approaches such as optimization, infrastructure upgrades or adoption of advanced technology) excess capacity to create high-value end products.

6.16 Municipalities are encouraged to plan for the management and beneficial use of biosolids, including considering new and enhanced biosolids processing technologies and co-management practices that support volume minimization and nutrient recovery.

We are very encouraged to see this **explicit connection to wastewater management and infrastructure**. We would strongly encourage the province to provide in both Part A and Part B a reference to these two policy statements and an explanation of the relevance and potential opportunity to connect biosolids management (and the opportunity to drive “net zero energy” wastewater facilities) to the organics framework and action plan.

SOWC and Ontario Clean Water Agency hosted an extremely successful engagement event on Oct. 30th on this topic. We had active participation by 18 individuals representing **13 municipalities**, most of which have expressed interest in net zero energy wastewater. Please see a summary of this event, and the outcomes at: <https://sowc.ca/getting-to-net-zero-energy-leadership-forum-hosted-by-sowc-and-ocwa/>

The opportunity to drive innovative projects in Ontario has never been stronger

One major project was profiled at the event, and is of significant interest to other municipalities: the City of Stratford has partnered with OCWA and Suez Water Technologies, and was recently awarded \$5m through the **OCE Target GHG** program to implement a net zero energy project at its wastewater facility. The project will allow Stratford to upgrade its anaerobic digester, increase its digester capacity and allow for the co-processing of source separated organics. It is the impetus for the city to implement a SSO

program, and will allow for the capture of methane gas for the supply of Renewable Natural Gas to the grid (in partnership with Union Gas).

OCWA is actively working with 6 other municipalities on potential projects for co-processing biosolids and organics. Recent funding initiatives designed to promote innovative approaches and technologies to reduce GHG emissions, for example **MOECC's GHG Challenge Fund** are perfectly aligned with this opportunity. And OCWA is directly supporting applications to this fund with the interested municipalities.

The Challenge Fund also notes that GHG emission reduction strategies/plans may take the form of **Asset Management Plans** containing climate change policies, making the link to the important regulation on Asset Management Plans that will be a driving force for planning more innovative and sustainable infrastructure approaches. This recently passed regulation is an excellent opportunity for the province to establish and then evolve "Levels of Service" requirements to align with the data needs and the expectations for future-proof infrastructure planning which will also support innovative approaches and technologies including net zero energy facilities.

The path forward for Ontario municipalities still has some challenges.

With the concrete interest by Ontario municipalities, and opportunity for innovative Ontario-based technology providers, the imperative to enable and support regional planning is becoming clearer.

Stratford must secure a long-term supply of organic materials for its project to be viable. Others will have the same need. This potential "end user" for source separated organics must be taken into account in the province's organics Action Plan and Framework.

Regional planning will be imperative. The organics Action Plan and Framework provides the appropriate context for this, and it must take biosolids management and the capacity for anaerobic digestion at wastewater facilities into account, before considering new infrastructure. A regional planning approach should be explicitly supported in the document.

There are currently significant gaps in the data needed to support this regional planning. We understand that a study is currently underway to quantify the production of organics, the current capacity for treatment, and the potential implications of a landfill ban. We strongly urge the province to ensure that it has similar data for biosolids and wastewater infrastructure capacity. As outlined in our previous submission (and the report by Professor Wayne Parker and Chao Jin) there is a lack of data needed to support this planning. SOWC and OCWA would be happy to work with MOECC to support such an analysis.

One of the issues that was raised at our Oct. 30th event was a concern by municipalities about clarity and consistency of approvals for net zero energy wastewater projects. As Stratford works through this process, SOWC and OCWA would like to work with MOECC to provide clarity and guidance for other interested municipalities.

Recommendations for the Action Plan and Framework:

1. Keep the two current Policy Statements **6.15** and **6.16**
2. Provide context for these two Policy Statements, with some explanation of the emerging opportunity for co-digestion of source separated organics waste and biosolids in the Policy Statement and Action Plan. The Working Group would be pleased to provide or review proposed language.
3. Work with OCWA and SOWC to evaluate the current data available and opportunities to ensure adequate data to support decisions about organics and biosolids management, particularly regional planning processes.
4. Work with municipalities and technology providers to clarify the approval process for these projects.
5. Commit to extending the proposed disposal ban to include biosolids, except in emergency or exceptional circumstances. This will bring Ontario in line with other progressive provinces. The least onerous and least expensive solution to a landfill ban will be storage of the biosolids during the months when it can't be land applied.

As we noted in our previous submission, requiring the development of Biosolids Management Master Plans would facilitate implementation of the landfill ban and enable regional planning. Enabling master planning by smaller communities would allow for the creation of long term solutions driven by the communities, and enable the planning and development of centralized storage in a coordinated way. Most large municipalities already have a biosolids master plan in place. Prioritizing beneficial reuse and requiring a biosolids master plan would encourage larger municipalities to take advantage of new and enhanced biosolids processing technologies and co-management practices in their wastewater treatment facilities. MOECC should work with Ministry of Infrastructure to ensure that Asset Management Planning as required by proposed new regulation under the Infrastructure for Jobs and Prosperity Act is designed to allow and prioritize this kind of master planning.

Our previous submission also noted the need for financial support for implementing new ways to manage biosolids, in order to reduce volume, generate electricity and natural gas, and/or capture other value. We are pleased to see the emergence of a number of funding programs to invest the province's Cap and Trade revenues that are aligned with these types of projects. Ultimately, we would like to see these approaches supported and encouraged through infrastructure funding programs, to truly support longer term efforts to develop a circular economy for organics and municipal biosolids.

To be successful, public acceptance and engagement will be critical to build support for beneficial reuse and land application of fertilizer in particular. The MOECC should undertake a campaign for public awareness and education dispelling the myths and preconceptions associated with biosolids, promoting the value of biosolids including resource recovery, energy recovery, and other environmental benefits such as greenhouse gas reduction from transportation.

Implementing this suite of initiatives, including an ultimate ban (with an appropriate phase-in period) would drastically improve landfill diversion of municipal biosolids and increase the adoption of Ontario technologies. Optimizing the existing infrastructure in municipal wastewater treatment facilities will also support the proposed organics Action Plan and Framework by ensuring that investments are optimized and targeted to actual needs. Integrating the management of biosolids should be considered a critical component of the Organics Framework.