



City of
Peterborough

To: **Members of the General Committee**

From: **Cynthia Fletcher,
Commissioner of Infrastructure and Planning Services**

Meeting Date: **September 9, 2019**

Subject: **Report IPSES19-010
Peterborough Organics Project and the Low Carbon
Economy Fund Application Results**

Purpose

A report to authorize the development of a city-wide Source Separated Organics (SSO) collection system and processing facility, establish the associated capital budget, enter into a non-standard procurement to secure the compost processing system and execute a transfer payment agreement for the Low Carbon Economy Fund grant funding for the project.

Recommendations

That Council approve the recommendations outlined in Report IPSES19-010 dated September 9, 2019, of the Commissioner of Infrastructure and Planning Services, as follows:

- a) That the Mayor and Clerk be authorized to execute the Low Carbon Economy Fund – Partnership Stream Transfer Payment Agreement and any amendments between Her Majesty the Queen in Right of Canada as represented by the Minister of the Environment and Climate Change Canada and the Corporation of the City of Peterborough;
- b) That a \$15,300,000 Capital Budget be established for the Peterborough Organics Project funded as follows:

- (i) That the \$4,000,000 Construction and Transfer of Leaf and Yard Waste Compost Facility (2019 Capital Budget #5-21-02) and the \$20,000 SSO Study Project (established through delegated authority and reported through Quarterly Report CLSFS18-036, dated August 27, 2018) be merged and renamed the Peterborough Organics Project;
 - (ii) That \$5,169,414 be pre-committed with \$1,700,000 million in each of 2021 and 2022 and \$1,769,414 in 2023; and
 - (iii) That the \$6,110,586 Low Carbon Economy Fund (LCEF) federal grant be applied to the project.
- c) That the City proceed with a non-standard procurement for the design and supply of GORE™ compost processing system from Sustainable Generation for an estimated amount of \$2,400,000.
- d) That Administrative Staff Committee be delegated the authority to approve the award of the non-standard procurement process for the GORE™ compost processing system provided costs fall within the approved capital budget.

Budget and Financial Implications

It is estimated that full implementation of an SSO collection and Leaf and Yard Waste (LYW) processing facility will cost in the order of \$15.3 million.

The City's receipt of the LCEF funding means that \$6,110,586 of the \$15.3 million costs will come from the federal government, pending execution of the funding agreement.

A pre-commitment of the remaining estimated \$5,169,414 is required to demonstrate the City's commitment to funding the municipal share of the project costs. These budget amounts and funding sources will be further refined through future budget approval processes. Funding sources for the municipal share may include development charges, tax supported debt, user fee supported debt and waste management reserve.

Staff have estimated the total cost of design, supply, installation, commissioning and training of the GORE™ proprietary compost processing system at \$2,400,000 plus HST. Pending Council approval of the Capital Budget for the Peterborough Organics Project the total estimated requirement, net of applicable HST rebates of \$312,000 can be accommodated within the uncommitted portion of the \$15.3 million budget.

Background

Council, at its meeting of November 14, 2017 through Report USDIR17-013, endorsed staff developing a program for the City-wide collection of Source Separated Organics (SSO) including items such as the provision of green bins, the procurement of collection trucks and the public education and advertisement campaign necessary to the success of such a program. At that time the City was looking to explore a Private/Public Partnership with Triland Excavation (Triland) with respect to the provision of organic processing capacity. Staff applied on November 9, 2017 to the provincial Municipal Green House Gas (GHG) Challenge Fund to support the collection and processing of the City's Leaf and Yard Waste (LYW) and SSO material. On February 15, 2018 the City was successful in securing almost \$7.5 million in grant funds, executing a transfer payment agreement with the provincial government. However, after the provincial election in October 2018 the Cap and Trade program was cancelled, and the funding revoked. The province did provide funds to cover the cost of consulting fees incurred and the winding down of the project.

With the funding withdrawn and the uncertainty of the province's stance on the banning of organics from the landfill, Triland withdrew from the project and the City refocused its efforts on constructing a LYW only facility at the Peterborough Landfill site.

Low Carbon Economy Fund (LCEF) – Partnership Stream Application

Late in 2018, a new \$50 million federal grant fund for projects which directly reduce GHG emissions was opened to municipalities with a population of less than 100,000, aboriginal communities, not-for-profits and small to medium sized businesses. An application to the LCEF – Partnership Stream was submitted on March 8, 2019. In the summer of 2019, the City received federal approval-in-principle of funding for the Peterborough Organics Project for 40% of eligible project costs up to a maximum of \$6,110,586. The project submitted included the following:

- The procurement and distribution of residential green bins and kitchen catchers;
- A comprehensive public information and communication campaign;
- Procurement of the necessary vehicles to effect the collection of SSO; and
- Permitting, Design, approval and implementation of an organics processing facility to process SSO and LYW materials.

Environment and Climate Change Canada requires the funding agreement to be signed by all parties within 45 business days of the August 8, 2019 date of receiving the funding agreement.

Grant requirements include duty to consult, monitoring, reporting and verification, including progress reports on results achieved at specific intervals that will include, at a minimum, details about project implementation and associated GHG reductions. The City will retain a consulting firm to monitor the GHG emission reduction results.

Development of a City-wide Program for the Collection and Processing of Source Separated Organics

In 2014, the City hired Stantec Consulting Ltd. to formulate an Organics Collection and Processing Strategy for the City of Peterborough and Surrounding Area. This work was undertaken to assess the needs of the City with respect to processing capacity, detailed projections for the amount of organic waste requiring management including possible additional materials that could be managed from neighbouring municipalities.

The study also reviewed a range of possible ownership models, operating, siting and financing options for the City for a new organic waste processing facility.

In order to determine the impact that a City-wide organic waste collection program would have on the City's existing waste collection system, a collection modelling exercise was undertaken to evaluate the capital and operation and maintenance costs associated with a number of different scenarios. Scenarios modelled included co-collection of wastes and changes in collection frequency. Although collection costs can only be determined through a formal procurement process, the option to reduce the frequency of garbage collection and co-collect recycling and SSO on a weekly basis was identified as the most cost effective option for waste collection with the introduction of an SSO program. This evaluation was provided in a separate study undertaken by exp Services Inc. entitled City of Peterborough Integrated Waste Collection Modelling Study (2018).

Ultimately, the results of the study identified that there would be benefits to processing SSO at a City-owned site using appropriate amounts of LYW as a bulking agent in the composting process. It was also deemed optimum for the City to have the highest degree of control possible with respect to long term management of SSO and that either a municipally-owned or private sector owned facility on municipal property would be ideal.

Selected Composting Technology - GORE™

While various systems were investigated the GORE™ Cover System has been identified as the preferred technology for this project and was specifically identified in the Federal grant submission.

The GORE™ Cover System is a proven technology with many successful facilities across Canada, and more than 300 plants in 26 countries. It utilizes a specially designed cover to create an enclosed system that optimizes the composting process.

Review of options for City of Peterborough organic material diversion

The province has issued a Policy Statement by the Ministry of Environment Conservation and Parks (MECP) recommending 70% waste reduction and resource recovery of food and organic wastes by 2023. If adopted, it could lead to strict regulations and targets for the City of Peterborough to manage organic waste. Even without regulations, there are compelling arguments for diversion of organic wastes from the landfill. Organic wastes comprise a significant portion of the landfill capacity; therefore a diversion program will provide several benefits. Those benefits include extending the landfill viable life, reducing greenhouse gas production, and supporting local farmers and economy with a valuable end product.

Upon internal assessment, staff recommend, the City of Peterborough proceed with the organics project as proposed.

Project Description

The City has been running a very small pilot Green Bin program for a number of years and the Peterborough Organics Project will expand this program City-wide. Implementation of a SSO collection program including support for the purchase of collection vehicles, purchase and distribution of organics bins, and development and delivery of marketing / communications outreach are eligible for support through the LCEF grant. With the financial support of the LCEF, the City is positioned to move the long-awaited Organics Project forward. This project has innumerable benefits to the environment, the community and the economy. The City estimates over 19,000 tonnes of SSO and almost 13,000 tonnes of LYW will be diverted annually, resulting in 1,943 tCO₂e (tonnes of CO₂ emission) reduction in 2030 and 70,905 tCO₂e (tonnes of CO₂ cumulative emission) reduction to 2050.

Council Approval of Non-standard Procurement

Sustainable Generation is the sole distributor of the GORE™ composting technology in Canada. Under section 11.3.1.b.ii of Procurement By-law 18-084, Council approval is required for the non-standard procurement of a single source provider of value over \$100,000.

Next Steps

The timing for the next steps is geared toward the implementation of household organics collection and processing in September 2023. Listed below are the major actions that are required but not necessarily in the order they will be completed. Certain actions will be concurrent and others are sequential using information from one action to inform the subsequent action.

- Secure all necessary approvals for the construction of an organics processing facility, including planning and zoning approvals from the Township of Otonabee

South Monaghan and an Environmental Compliance Approval (ECA) from the Ontario MECC;

- Design and construct the organics processing facility;
- Secure the necessary bins and trucks for the collection of SSO;
- Develop and implement a public education and advertisement campaign necessary to the success of the SSO collection system;
- Ensure all reporting requirements related to the LCEF Grant are completed on a timely basis;
- Implement the SSO collection system.

Summary

The City's receipt of the LCEF funding has made the long-awaited collection and processing of Source Separated Organics a reality, with a target of 2023 implementation.

Submitted by,

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Commissioner of Infrastructure and Planning Services

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Technology & Science

The problem with Ontario's plan to ban food waste from landfills

Province needs to boost composting capacity and find other uses for organics, experts say



[Taylor Logan](#) · CBC News · Posted: Oct 03, 2019 4:00 AM ET | Last Updated: October 8



Ontario plans to ban all organic waste that can be diverted from the landfill by 2022. (Lindsay Bird/CBC)

Ontario has ambitious plans to ban all organic waste from landfills by 2022, but the province has not said how it will handle all of the additional compost.

"We're going to run out of room," said Mike Chopowick, Ontario's waste management director. "The No. 1 issue is going to be capacity. Ontario produces a lot of waste."

The province launched its [food and organic waste framework](#) in 2017.

Food thrown in the trash rather than the green bin has a significant environmental impact. When it reaches the landfill and starts decomposing, it releases methane — a gas that is [estimated](#) to be about 25 times more potent than carbon dioxide over a 100-year span.

It also contaminates the ground and water with [leachate](#), the liquid that leaks from landfill trash, and wastes any potential for reuse of the energy or nutrients found in the food.

Ontario will be the third province to ban organic waste in landfills, following Nova Scotia and P.E.I.



Bags of organic waste are piled up at Toronto's Disco Road Organics Facility. In 2015, Ontario generated about 3.7 million tonnes of food and organic waste. About 60 per cent of it was sent to landfill rather than composting facilities. (Craig Chivers/CBC)

In [2015](#), Ontario's restaurants, residents, retail outlets and farmers generated about 3.7 million tonnes of food and organic waste. Much of it was food that could have been eaten or reused, the authors of the framework found. About 60 per cent of that waste was sent to landfill instead of organic waste facilities.

Dianne Saxe, president of the green consultancy Saxe Facts and Ontario's former environmental commissioner, says the province's political leaders must boost the capacity of Ontario's composting facilities ahead of the ban.

"Part of the effort to get organic waste out of the landfill has to fall on the government," she said. "They have to make it possible to make facilities. If we had a ban [on food in the landfill] tomorrow, where would it all go?"

Lessons from other provinces

Nearly two decades after Nova Scotia implemented its ban in 1998, about half of the province's landfill trash was still organic waste.

What's more, Nova Scotia's composting facilities contained towering piles of [compost](#) — so much that it could not be composted fast enough. The materials have to be run once or twice through the composting steps as a result. And even then, no one wanted to buy the soil that resulted from it.



Nova Scotia, which banned organics from landfills in 1998, has had trouble selling its compost because of contamination with plastics, glass and other non-organic materials. This 2011 photo shows compost piles at the Lunenburg Regional Community Recycling Centre Environmental Services. (Submitted by Kevin Wentzell)

The piles were becoming too contaminated with plastics, glass and other non-organic items. Facilities were finding just about everything in the organic waste — including tires, underwear, clothes, forks, and plates.

- **What really happens to the organic waste you put in your compost bin**
- **The truth about biodegradable bags**

Farmers were unwilling to take the end product off the city's hands, even for free, because they weren't sold on the quality.

Vancouver, which banned food waste in 2015, was able to cut the amount of organic waste going into the landfill in the first year by only [22 per cent](#). The city eased in its ban, with inspectors targeting only loads with more than 25 per cent visible food waste and issuing surcharges.

Canadians waste a lot of food

Ontario similarly plans to phase in its ban.

Rather than boosting composting capacity, the province's [goal](#) is to attempt to reduce and reuse waste by working with government, producers, and consumers to raise awareness about how we consume.

That's going to take some doing. Communities across Canada waste a lot.

More than half of the food produced is thrown away, according to a study by [Second Harvest](#), a Toronto-based group working to reduce food waste. According to that study, 32 per cent of food wasted is perfectly edible.



Best-before and sell-by dates don't necessarily mean the food has to be thrown out as of that date but rather indicate a decrease in quality. (Bebeto Matthews/The Associated Press)

"Apples rot under trees due to labour shortages or low prices, making it uneconomical for farmers to harvest," the Second Harvest [report](#) said.

"Surplus milk flows into sewers. Thousands of acres of produce are plowed under due to cancelled orders. Fish are caught, then tossed back into the water to die if they don't match the quota."

Solutions beyond composting

It's even worse when retail outlets and consumers throw food in the garbage, said Paul van der Werf, an environmental consultant and food waste researcher at Western University in London.

"Because we live in a country with so much available to us, people don't link what they buy to what they're going to use," he said.

"They don't think about the food they're going to waste because they can always say, 'Oh well, I'll just buy some more.' It's all about tweaking behaviours like these."

- **Still a waste to go: Organics ban has diverted tons of garbage from landfills**
- **Nova Scotians need compost refresher, soil expert says**

Much of this waste is entirely avoidable, says Saxe, and Canada should be looking at solutions beyond composting.

"There is a hierarchy of things that can be done with food waste, landfill being the worst, of course," she said. "The first being feed other people [and] the second being to feed animals. And if neither of those is possible, turn it into compost."

In Canada, there is a [law](#) that protects against liability if your donated food makes someone sick, and many organizations accept food that could be past the best before date, which generally signal a [decrease in quality](#), not an expiration.

Saxe says it comes down to innovative thinking.

Ontario's new organic waste plan puts focus on composting in highrises

WHAT ON EARTH?

WHAT ON EARTH? | Cities are harvesting spoiled food to create natural gas

At buffets in Germany, extra food is sold in large buckets for cheap at the end of the night. [Companies](#) across Canada and the United States will take unsold and uneaten food and feed it to the hungry. Grocery stores in France are [banned](#) from throwing out ugly or unsold food.

"Initiatives like these help mitigate food waste and doesn't cost anything to do," Saxe said. "This is the kind of thinking we need to get rid of food waste."