

Clause 8 in Report No. 2 of Committee of the Whole was adopted, without amendment, by the Council of The Regional Municipality of York at its meeting held on February 15, 2018.

8

Establishment of New Source Separated Organic Waste
Processing Contract with Cornerstone Renewables

Committee of the Whole recommends adoption of the following recommendation contained in the report dated January 18, 2018 from the Commissioner of Environmental Services:

1. Council authorize the Commissioner of Environmental Services to negotiate and execute a contract with Cornerstone Renewables to process 8,000 to 10,000 tonnes per year of source separated organic waste at the Bio-En Power anaerobic digestion facility in Elmira and the Seacliff Energy anaerobic digestion facility in Leamington Ontario from March 2018 through June 30, 2022 at a total contract price not to exceed \$6,237,000, excluding taxes.

Report dated January 18, 2018 from the Commissioner of Environmental Services now follows:

1. Recommendation

It is recommended that:

1. Council authorize the Commissioner of Environmental Services to negotiate and execute a contract with Cornerstone Renewables to process 8,000 to 10,000 tonnes per year of source separated organic waste at the Bio-En Power anaerobic digestion facility in Elmira and the Seacliff Energy anaerobic digestion facility in Leamington Ontario from March 2018 through June 30, 2022 at a total contract price not to exceed \$6,237,000, excluding taxes.

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2. Purpose

This report seeks authorization to enter into a new contract with Cornerstone Renewables to provide greater diversity of processing options for source separated organic waste.

3. Background and Previous Council Direction

Orgaworld's processing disruptions in 2017 demonstrate need for diverse options for managing source separated organic waste

Source separated organic waste (SSO) from York Region's green bin program is currently managed through contracts with Orgaworld Canada's composting facility in London, Ontario, and GFL's composting facility in Moose Creek, Ontario. Orgaworld and GFL provide up to 130,000 tonnes of combined processing capacity per year.

In 2017, the Ministry of Environment and Climate Change (the Ministry) issued orders reducing Orgaworld's processing capacity due to odour complaints received from residents. While under the Ministry's orders, Orgaworld continued to process at reduced capacity while providing some alternate capacity through a subcontract with Cornerstone Renewables. The remainder of Orgaworld's tonnage was redirected to GFL. The tonnage managed by each facility is summarized in Table 1.

Table 1
Summary of Source Separated Organic Waste Processing Contracts

Facility	Minimum Annual Contract Tonnage	Maximum Annual Contract Tonnage	2017 Tonnes Managed
Orgaworld	52,000	80,000	32,891
Cornerstone Renewables	N/A ¹	N/A ¹	6,745
GFL	32,500	50,000	55,917
Total	84,500	130,000	95,553

1. Cornerstone Renewables managed York Region tonnage in 2017 as a subcontractor to Orgaworld and tonnes managed count toward Orgaworld's minimum and maximum contractual obligations.
2. GFL voluntarily exceeded its maximum annual contractual obligation of 50,000 tonnes to manage additional York Region tonnage while Orgaworld was under the Ministry order.

Orgaworld is working to reduce odour emissions under close supervision by the Ministry, and the Ministry is gradually increasing the tonnage that Orgaworld is

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allowed to receive. While Orgaworld is expected to return to full capacity in 2018, the processing disruptions experienced in 2017 demonstrate the need for more diversity in managing York Region's SSO.

4. Analysis and Implications

Additional guaranteed processing capacity could be secured at GFL, if required

As summarized in Table 1, GFL provided alternate capacity to York Region during Orgaworld's processing disruptions. At times, GFL accepted and processed 100 per cent of York Region's available weekly tonnage, voluntarily exceeding their maximum contractual obligations while maintaining an excellent compliance record with no odour issues. In preliminary discussions with Region staff, GFL has indicated that additional guaranteed capacity could be made available to York Region through a contract amendment, if required.

While GFL's performance has been excellent, staff believe that it is not advisable to commit additional SSO to this processing facility. Maintaining multiple processing options provides the Region with the flexibility to respond to processing disruptions. GFL is also located 465 kilometers from the Region's transfer stations, which increases both the cost and the environmental impact of processing at this facility. For these reasons, staff have investigated other Ontario processing options.

Cornerstone facilities successfully processed 6,745 tonnes of York Region SSO in 2017

In 2017, 6,745 tonnes of SSO were processed successfully by Cornerstone Renewables at their Bio-En Power anaerobic digestion facility in Elmira and their Seaciff Energy anaerobic digestion facility in Leamington. Cornerstone provided this service as an independent subcontractor to Orgaworld and did not have a direct contractual relationship with York Region. Cornerstone provided excellent service with no odour issues.

The Bio-En Power facility commenced operation in 2014 and is licensed to accept up to 70,000 tonnes of organic waste per year. Seaciff Energy commenced operation in 2010, and is licensed to accept 110,000 tonnes of organic waste each year. Both facilities generate electricity from biogas and produce a liquid fertilizer product that is registered with the Canadian Food Inspection Agency and marketed to agricultural and commercial customers. York Region staff reviewed the compliance histories of the two plants and completed inspection tours of the Bio-En Power facility on September 27, 2017, and January 19, 2018, and the Seaciff Energy facility on January 16, 2018 and

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identified no issues of concern. The Region of Peel currently sends their SSO to both of these Cornerstone facilities.

A map showing the location of Orgaworld, GFL, and the two Cornerstone facilities is provided as Attachment 1. Staff are not aware of any other suitably licensed processing facilities in Ontario with capacity available to process SSO from York Region.

Contract with Cornerstone Renewables provides opportunity to diversify and reduce travel distance for SSO processing at a lower price than currently offered at GFL

In preliminary discussion with staff, Cornerstone has offered to enter into a direct contractual relationship with York Region to transport and process a combined 8,000 to 10,000 tonnes of SSO per year at the two facilities for a period of 3 to 5 years. A contract with Cornerstone Renewables would further diversify York Region's SSO processing options, providing additional flexibility to respond to processing disruptions at one or more facilities. Proposed pricing for the two Cornerstone facilities is compared to existing contract pricing shown in Table 3.

Table 3
Unit Pricing for Cornerstone Renewables and Existing SSO Contracts

Facility	Transportation Distance ¹ (km)	Processing Cost (\$/Tonne)	Transportation Cost (\$/Load)	Total (\$/Tonne) ^{2,3}
Bio-En Power	132	\$110	\$700	\$130.00
Seacliff Energy	369	\$105	\$1,350	\$143.57
Average, Cornerstone Facilities				\$136.79
GFL ⁴	465	Breakdown not available		\$144.90
Orgaworld ⁴	211	Breakdown not available		\$130.45

1. Average one-way travel distance from transfer stations to processing facility.
2. Per-load transportation costs for Cornerstone facilities are converted to an equivalent per-tonne cost based on an assumed average load size of 35 tonnes.
3. All prices subject to annual inflation adjustments and fuel surcharges.
4. GFL and Orgaworld contracts include all-inclusive per-tonne price for transportation and processing.

Cornerstone has agreed to limit tonnage processed at the Seacliff Energy facility to no more than 50 per cent to reduce costs. On this basis, the maximum average cost of transportation and disposal for the Cornerstone facilities would

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not exceed \$136.79 per tonne plus annual inflationary adjustments and fuel surcharges, which is lower than the Region's existing pricing at GFL.

Using Cornerstone facilities as an alternative for Orgaworld reduces the Region's carbon emissions

The Cornerstone facilities are closer to York Region than GFL, with an average one-way travel distance from the transfer stations of 132 km for Bio-En Power and 369 km for Seacliff Energy as compared to 465 km for GFL. Redirecting 10,000 tonnes of Orgaworld tonnage to the Cornerstone facilities instead of GFL reduces the Region's carbon emissions by approximately 180 tonnes of carbon dioxide equivalents per year.

Staff recommend that Council authorize the Commissioner of Environmental Services to negotiate and execute a contract with Cornerstone Renewables for transportation and processing of 8,000 to 10,000 tonnes of SSO per year. The contract would commence on or around March 1, 2018 and end on June 30, 2022. This end date would meet Cornerstone's requirement for a 3 to 5 year commitment and would also coincide with the end of an existing optional term extension period in the GFL and Orgaworld contracts.

Region owned organic waste processing facility should be considered in parallel to obtaining more capacity from contracts

The *Food and Organic Waste Framework* proposed by the Province of Ontario in November 2017 contemplates a ban on disposal of food waste and organic waste at landfills and incineration facilities and supports the recovery of resources for beneficial use. With large municipalities such as London and Windsor being required to implement green bin programs, pressure on Ontario's SSO processing capacity will continue to increase. While the Region's existing contracts provide processing capacity through 2027 if all optional term extensions are exercised, development of a long-term Region owned facility should be a high priority. In 2017, York Region completed a *Source Separated Organics Processing Feasibility Study*, which identifies anaerobic digestion as the preferred technology for a Region-owned facility.

The ten-year capital plan includes \$45,335,000 for development of a Region-owned SSO processing facility, including \$220,000 in 2018 for development of a long term organics facility implementation plan, which will consider funding options, site considerations, and approvals requirements among other factors.

Under the *Food and Organic Waste Framework*, the Province of Ontario is proposing actions to support development of processing capacity and end markets including natural gas and biofuels, which may provide additional funding opportunities in the near future.

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Additional SSO processing capacity supports Vision 2051 and Energy Conservation and Demand Management Plan

Securing additional SSO processing capacity at Cornerstone Renewables diversifies York Region's processing options and lowers Regional greenhouse gas emissions. The reduction in carbon emissions offered through the Cornerstone Renewables contracts supports the sustainability and greenhouse gas reduction goals outlined in Vision 2051 and the Energy Conservation and Demand Management Plan.

5. Financial Considerations

Cornerstone contract would have minimal impact on current costs for managing SSO

Processing up to 10,000 tonnes per year of SSO at the Cornerstone facilities over the proposed 4.3-year contract period at the average price shown in Table 3 would result in a maximum contract value of \$6,237,000, including an allowance of three per cent per year for annual inflation adjustments and fuel surcharges. Cornerstone's average price is in line with existing pricing at Orgaworld and GFL, and will have minimal effect on York Region's overall cost for managing SSO. Managing 10,000 tonnes of SSO at the Cornerstone facilities would result in an annual savings of \$81,100 relative to managing the same tonnage at GFL, or \$63,400 of additional cost relative to managing the tonnage at Orgaworld.

6. Local Municipal Impact

York Region works with its local municipal partners to provide sustainable, long term waste management programs and maximize diversion from landfill in a cost effective manner. The recommendations in this report allow the Region to continue providing sustainable organics processing service to the local municipalities in a rapidly changing business environment.

7. Conclusion

Securing additional SSO processing capacity at Cornerstone Renewables diversifies York Region's processing options, lowers greenhouse gas emissions and reduces long-haul transportation at a price comparable to its existing contracts. York Region staff also continue to advance plans for development of a Region-owned organics processing facility.

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with Cornerstone Renewables

For more information on this report, please contact Laura McDowell, Director,
Environmental Promotion and Protection at 1-877-464-9675 ext. 75077.

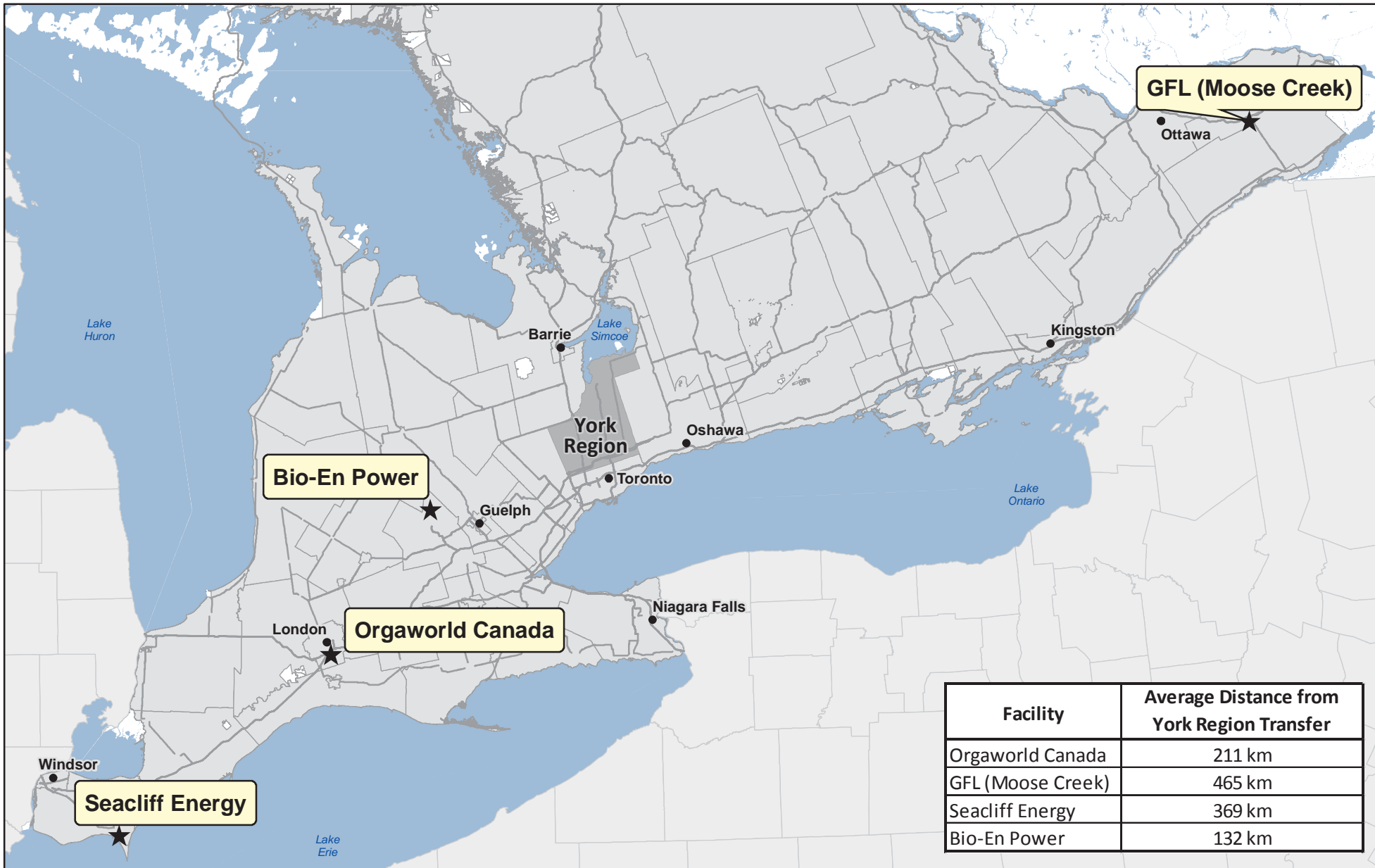
The Senior Management Group has reviewed this report.

January 18, 2018

Attachment

Accessible formats or communication supports are available upon request

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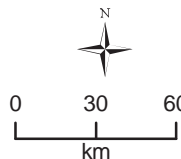
Establishment of New Source Separated Organic Waste Processing Contract with Cornerstone Renewables
Source Separated Organic Processing Facility Locations
 February 15, 2018



Produced by:
 The Regional Municipality of York
 Data, Analytics and Visualization Services,
 Corporate Services
 January 2018

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Legend

- ★ Facility Location
- City
- Highway
- York Region
- Regional Boundary