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ELIMINATION OF PLASTIC BAGS FROM YORK REGION'S SOURCE SEPARATED ORGANICS PROGRAM

(Regional Council at its meeting on March 26, 2009 adopted the following report subject to:

- 1. removing the word "pilot" from recommendations 2 and 3; and***
- 2. reporting back to a future meeting of the Committee with details on the implementation process for the program.)***

The Solid Waste Management Committee recommends the adoption of the recommendations contained in the following report dated February 26, 2009, from the Commissioner of Environmental Services.

1. RECOMMENDATIONS

It is recommended that:

1. Council authorize staff to implement a phased elimination of plastic bags in the Region's source separated organics program according to the strategy and timelines outlined in this report.
2. Council authorize staff to initiate this strategy by undertaking the Option 2 Region-wide pilot project described in this report.
3. Staff report back to Council on the result of the pilot project before the end of 2009 providing a basis for a decision regarding an implementation date for mandatory use of compostable Green Bin certified compostable bag liners Region-wide.

2. PURPOSE

The purpose of this report is to present a strategy and timeline for phased elimination of plastic bags in the Region's source separated organics (Green Bin) program. Staff have proposed two options to conduct a compostable bag pilot project to encourage the voluntary adoption of compostable bags in advance of mandatory Region-wide elimination of the use of plastic bags.

3. BACKGROUND

Report No. 8, Clause No. 3 of the Solid Waste Management Committee's meeting of December 10, 2008 discussed the issue of plastic bags in the Region's source separated organics program. Council endorsed the report with the recommendation for staff to report back on a strategy for elimination of plastic bags including a proposal to conduct a compostable bag pilot project.

4. ANALYSIS AND OPTIONS

The Region-wide source separated organics program has successfully operated for over a year, collecting 86,000 tonnes of organic waste in 2008 and contributing more than 21% percent to York's overall estimated diversion rate.

The use of bag liners in the Green Bin has promoted ease of use for York's residents resulting in high participation rates in our successful program. In addition to improving the general household cleanliness of the program for residents, the use of bag liners is an important component of York's source separated organics program to address health and safety concerns associated with the expanded list of materials acceptable in the Green Bin, including pet waste and diapers. Inclusion of these materials contributes to the public service level offered by the Green Bin program and increases diversion.

To maximize public acceptance and participation in the Green Bin program, York has allowed the use of plastic bags as liners. Plastic bags, however, present issues with processing, directly contributing to high residue rates. Residue consists of plastic bag film and un-composted materials. In 2008, processing of the Region's source separated organic wastes resulted in the creation of 12,750 tonnes (i.e. 15%) of processing residue. While plastic bags themselves are only a minor portion of the processing residue quantity by weight, the presence of plastic bags prevents some organic materials from composting completely.

It is important to note that certified compostable bags differ from biodegradable bags. Some bag products referred to as biodegradable may not fully decompose in the source separated organics composting process. Certified compostable bags will break down to help reduce residue, improve compost quality and ensure the maximum amount of organic material can be processed into compost. Many other municipal jurisdictions have successfully implemented source separated organics programs with the use of certified compostable bags.

Along with the Region's "Plastic Bag Take Back" program, many retailers are responding to consumers' concerns about the difficulties of recycling plastic film bags by providing incentives for adoption of re-usable shopping bags made of cloth or other durable materials. This consumer driven movement away from plastic film bags is

expected to contribute to public support for voluntary adoption of alternatives to plastic film bags.

Other municipalities with successful source separated organics programs also use certified compostable liner bags

The 2007 residential Waste Diversion Ontario diversion rates were recently released, allowing a comparison of diversion rates among municipalities that have imposed mandatory bans on the use of plastic bags as liners. Table 1 illustrates the comparison between York Region and these municipalities. While there is a wide range of diversion rates represented by this grouping, there is no clear distinction between the overall diversion rates of communities which have banned plastic bags versus those that allow plastic bags.

Table 1
2007 Waste Diversion Ontario Diversion Rates of Municipalities with Certified Compostable Bags

Municipality	Acceptable Liners	Acceptable Material Distinctions	WDO Diversion Rate
Durham Region	Compostable bags only	Excludes diapers, pet waste and sanitary products	47.7%
City of Hamilton	Paper bags, compostable bags or no liners	Excludes diapers, pet waste and sanitary products	43.1%
City of Barrie	Paper bags, compostable bags or no liners	Excludes diapers, pet waste and sanitary products	42.4%
Peel Region	Paper bags or compostable bags	Excludes diapers, pet waste and sanitary products	40.6%
County of Simcoe	Paper bags or compostable bags	Excludes diapers, pet waste and sanitary products	40.5%
Halton Region	Compostable bags only	Excludes diapers, pet waste and sanitary products	36.9%
York Region	Plastic or compostable bags	Includes diapers, pet waste and sanitary products	45.7%
City of Toronto	Plastic or compostable bags	Includes diapers, pet waste and sanitary products	42.8%

Peel Region introduced their source separated organics program in Spring 2007. Peel Region initially introduced their program allowing residents to use plastic liner bags, with

a proactive communications program encouraging residents to use compostable liner bags. Six months after the initial launch of their source separated organics program, Peel Region began enforcing the ban on plastic liner bags with a communications campaign that included direct mail, mobile signs, ads and displays at local grocery stores and events. Subsequently, through a series of annual set-out studies, Peel discovered that there was no decrease in participation.

As communities accepting a broader list of materials including diapers, pet waste and sanitary products, York and Toronto have recognized the necessity of using bag liners to address potential health and safety concerns of collection and processing staff. Audits have demonstrated that diapers, pet waste and sanitary products comprise about 15% of York's source separated organics material. This quantity of material represents a contribution of roughly 4% to York's overall diversion rate.

Strategic elimination of plastic bags in Green Bin will optimize diversion by maximizing public participation and minimizing process residues

The strategy proposed is based on maintaining positive public acceptance and continued enthusiastic participation in our Green Bin program, in balance with working towards Region-wide elimination of plastic bags.

The initial step in this strategy is to conduct a pilot project to provide important feedback on public attitudes toward switching to compostable bags as well as measuring the impact on generation of processing residues. Details of the proposed pilot project are presented in the following section. It is anticipated that the pilot project can be completed by the Fall of 2009.

A public education and promotion program that highlights the benefits of compostable bags as Green Bin liners is an important element of undertaking the pilot project. Staff will also carry out advance communications with major retail outlets to convey the Region's intent to eliminate plastic bags from the Green Bin program in favour of certified compostable bags. This will provide retailers with an understanding of future consumer demand to help ensure acceptable certified compostable bag products are available locally.

Following completion of the pilot project, staff will analyze the results and prepare a report to Council which will: detail the outcomes of the pilot project, assess public acceptance of the performance and costs of compostable bags, evaluate impacts on processing residues and overall diversion, assess costs and effectiveness of switching to compostable bags, consider the need and options for additional steps including the implications, costs and timelines associated with a move to mandatory measures, and make recommendations. This evaluation will also consider the program effectiveness and cost implications associated with continuing to accept pet wastes and diapers in the Green Bin, compared with the alternative of potentially excluding these materials. It is anticipated that this report will be presented to Council before the end of 2009.

If assessment of the initial pilot phase of this strategy demonstrates a beneficial rationale for imposing mandatory measures, the staff report will include the strategy, budget and timelines to initiate that process in 2010.

A pilot project will assist with assessing potential impacts and implications of switching to compostable bags

Staff have prepared two options for pilot projects for consideration.

Option 1: Local neighbourhood pilot of the use of compostable bags

Option 1 involves conducting a pilot project focused in two local neighbourhoods including providing an initial supply of compostable bags along with promotional and educational information, conducting participant surveys and focus groups at various stages in the pilot to gauge attitudes, assessing impacts on participation (i.e. set-out measurements) and conducting audits to quantify processing residues.

Implementing a pilot project on the use of compostable bags is beneficial in observing behavioural patterns; however, it is also subject to several challenges. The methodology for a pilot project would have to include a period of time where residents were requested to purchase the bags on their own in order to observe the resident's response to the cost of compostable bags. Table 2 outlines major elements of the Option 1 pilot project.

Table 2
Option 1 Local Neighbourhood Pilot Outline (1,000 Households)

Elements	Description
Timing:	May – August 2009 to evaluate how bags perform during hot and humid months and its impact on participation.
Sample Size:	A sample size of 1000 households will provide 95% confidence level.
Sample Area Location:	Staff believe it would be preferable to conduct this pilot in two distinct sample locations to reflect diversity of York's regional characteristics. One pilot area should be densely populated with urban characteristics and one should have a rural/urban mix.
Methodology:	York Region will provide pilot project participants with a one month supply of compostable bags, free of charge. During the second and third months, pilot project participants will be instructed to continue using compostable bags that they will purchase. A variety of compostable bags are currently sold at major retailers across the Region. Evaluation of the pilot results will include set-out studies, door-to-door survey cards, focus groups and waste audits.

Staff will collaborate with waste management staff in our local municipalities to identify and select two appropriate local study areas.

One of the key findings of the pilot project will be gathered through monitoring the sample areas when residents have to purchase the compostable bags. This will provide a close indication of participation levels once residents are required to purchase compostable liner bags. Retail costs for kitchen-catcher sized compostable bags vary dependent on the product and the package size but typically fall within a range of 7 to 15 cents per bag.

The following lists the potential benefits and risks associated with implementing the Option 1 pilot project.

Benefits:

- Gain a better understanding of impacts on participation rates when using compostable bags.
- Test out promotion and education materials to promote participation and use of compostable bags.
- Learn effective ways of encouraging voluntary participation with compostable bags through focus groups and surveys conducted during pilot.

Risks:

- Behaviour of participants during this focused, localized pilot might not be reflective of every day attitudes.
- Directly auditing processing residues associated with organics sourced from specific neighbourhoods will require careful coordination with the processing contractor and may be challenging depending on the quantities collected and constraints on the processor's batch sizes.
- Results of a focused, localized pilot project might be difficult to extrapolate on a Region-wide basis to properly assess the full-scope of potential impacts and implications of elimination of plastic bags.

This pilot project would be followed by evaluation of results, assessment of impacts and development of the next steps that will be required for expansion of elimination of plastic bags beyond a local neighbourhood scale to Region-wide.

Option 2: Region-wide roll-out of the use of compostable bags

Given the risks outlined with the Option 1 pilot above, staff have prepared a second pilot project option for consideration. This second option is intended to provide a more direct measure of the impacts of adopting compostable bags on the Region's diversion efforts. It will also provide a more cost effective step towards eliminating plastic bags from the Green Bin program by "jump starting" a Region-wide voluntary adoption of compostable bags.

Option 2 involves conducting a pilot project Region-wide including providing a short-term initial supply of compostable bags accompanied by a promotional and educational campaign highlighting benefits of using compostable bags and encouraging voluntary adoption. Similar to Option 1, surveys and focus groups will be conducted to gauge attitudes. Participation and residue impacts will be directly measured through the Region's routine recording of tonnage records and increased frequency of performing residue audits at the source separated organics processing facilities.

Table 3 outlines major elements of the Option 2 Region-wide pilot project.

Table 3
Option 2 Region-wide Pilot Outline

Pilot Element	Description
Timing:	May – August 2009 to evaluate how bags perform during hot and humid months and its impact on participation.
Sample Size:	250,000 households
Sample Area and Location	York Region
Methodology:	Initial Region-wide distribution of free compostable bags. Voluntary participation would include rollout of a comprehensive communications campaign to educate residents on use and benefits of compostable bags and encourage voluntary adoption. Impact assessment period will be conducted prior to, during and for four months following the initial free bag distribution to assess voluntary adoption.

The following outlines the benefits and risks associated with implementing this strategy.

Benefits:

- Staff will be able to gain a direct measurement of the impact on participation and residue rates while educating all York Region residents rather than a small pilot area.
- Voluntary program will encourage use of compostable bags with minimal risk to participation levels.
- Minimal potential for impact on diversion rates.
- A cost-effective step towards Region-wide elimination of plastic bags in the medium-term.

Risks:

- Should the extent of voluntary adoption fall short of expectations, future adoption of mandatory measures may be required.

5. FINANCIAL IMPLICATIONS

Tables 4 and 5 provide a budget breakdown for both options. Staff recommend Option 2, as a more cost effective approach over the long term that will “jump start” voluntary adoption of compostable bags and allow staff to directly measure and evaluate impacts on participation, residue rates and diversion.

Table 4
Budget Estimate for Option 1 Local Neighbourhood Pilot Project

Item:	Estimated Cost:
Labour (2 Students for four months)	\$20,000.00
Focused Promotion and Education materials	\$10,000.00
One month's supply of compostable bags**	\$0
Focus Group Testing	\$20,000.00
Segregated Residue Audits	\$35,000.00
TOTAL COST:	\$85,000.00*

*Note: the total cost presented for Option 1 does not include the next steps to move toward Region-wide elimination of plastic bags, to be developed following assessment of the outcomes of the Option 1 pilot project.

Table 5
Budget Estimate for Option 2 Region-wide Pilot Project

Item:	Estimated Cost:
Promotion and Education campaign	\$50,000.00
Direct Mail -Canada Post (delivery of samples to households)	\$35,000.00
Region-wide Compostable Bag Giveaway**	\$ 0
Supplementary Residue Audits	\$10,000.00
TOTAL COST:	\$95,000.00

**Note: the budget cost for giveaway of compostable bags assumes donation of certified compostable bags as promotional contributions by bag manufacturers. In discussions with manufacturers distributing compostable bags in Ontario, staff have received preliminary positive indications of willingness to donate compostable bags to the pilot project. Staff will continue to work with the bag manufacturers to solidify commitments to donate bags to the pilot project. A contingency budget allowance is available to purchase the certified compostable bags, if necessary to supplement manufacturer's donations.

Sufficient funding is included in the approved 2009 budget to cover the costs of the pilot project, including the bag purchase contingency.

Our 2009 budget request included a business case for one full time staff resource to undertake this initiative as well as waste advocacy with province and other stakeholders.

6. LOCAL MUNICIPAL IMPACT

Local municipalities have based their long term waste collection contracts on collection of organics in bags. Local municipal staff unanimously stated that existing high participation rates result from ease of use afforded by plastic bags and expressed concern that curbside participation might decrease if more expensive compostable bags became mandatory. Decreased curbside participation would represent a decline in the municipal effectiveness measure “Diversion of Residential Waste” and would impact our WDO ranking and funding.

We will continue to work with our Local Municipal partners to continue to better understand and mitigate any potential negative impacts associated with Region-wide use of compostable bags.

7. CONCLUSION

The use of bag liners in York’s Green Bin program is an important element contributing to the success of this important diversion initiative. Initial allowance of plastic bags as liners has contributed to public acceptance, but also contributes to increased residue from processing of source separated organics. The need to move to elimination of plastic bags from the Green Bin program has been identified.

The strategy presented herein, along with the Option 2 pilot project presented above, seeks to encourage voluntary adoption of compostable bags to avoid negatively impacting participation while reducing process residues. If successful, the result will be increased diversion. The Option 2 pilot project represents a constructive step towards Region-wide elimination of plastic bags and provides important hard data to assess the potential impacts of switching to compostable bags. Mandatory measures may also be implemented following completion of the Option 2 pilot, if warranted and supported by the results of the study.

For more information on this report, please contact Laura McDowell, Director of Environmental Promotion and Protection at Ext. 5077.

The Senior Management Group has reviewed this report.