

November 17, 2017

Recommendations:

To ensure that paper products and packaging (PPP) recovery rates are calculated in an accurate and transparent manner under the amended Blue Box Program Plan (a-BBPP) and that the 75% diversion target set by the Minister for the a-BBPP is met in a timely manner:

- RPRA should have direct responsibility for establishing the methodology for measuring, monitoring and reporting on steward progress towards meeting recovery targets.
- The methodology should include:
 - Direct reporting by individual stewards to RPRA of the total quantities of all paper products and primary, convenience and transport packaging supplied into Ontario, including into residential and industrial, institutional and commercial channels;
 - Including at a minimum the disaggregated material types as per the CSSA Guidebook-for-Stewards (2015);
 - Application of transparent and consistent methodologies for estimating the quantities of obligated PPP supplied into eligible residential households and eligible sources of PPP generated away-from-home or purchased by householders for use away from home (i.e. school & office lunches; newspapers read on the subway);
 - Ongoing independent audits of a representative sample of steward reported actual or deemed average weights and volumes of obligated PPP types (i.e. 1L PET, shoe box, etc.) including audits of collected material densities (i.e. comingled packaging stream; packaging stream collected without glass; mixed paper collection, etc.)
 - Independent 3rd party auditing of materials received at the Material Recovery Facility (MRF), once the material has been dropped off by a PPP collection vehicle (rather than at the curbside);
 - Independent 3rd party audits of mass flows of MRFs under contract to Stewardship Ontario to estimate the total quantities of obligated PPP and of non-obligated PPP managed in these facilities;
 - Supported by independent 3rd party auditing of mixed waste loads delivered to waste transfer, organics, landfill and Energy from Waste (EFW) facilities to identify quantities of all potentially obligated materials identified in the *Strategy for a Waste-Free Ontario*; and,
 - Posting of the audit results in the RPRA annual reports.
- Calculating recovery rates on the basis of the actual quantities of materials reprocessed into new products (i.e. after removal of contaminants) is the preferred approach. The producer proposal outlined above provides a reasonable starting point for the consultation but should also take into consideration the quantities of compostable packaging or soiled

printed paper or paper packaging that makes its way into organic diversion systems and which should be included under the a-BBPP.

- A target date of two (2) years following the transition of the municipality to full producer responsibility should be set for achieving the 75% diversion target in transitioned municipalities' households.
- That progress towards the 75% diversion target and agreed material specific targets be reported to the Minister on an annual basis.
- That the a-BBPP include a recommendation to the Minister that if these targets are not achieved within the two-year timeframe that PPP be designated as a class of material under the RRCEA.

The proposed recommendations will ensure compliance with the Minister's goals and objectives under the *Waste Free Ontario Act* and accompanying strategy.

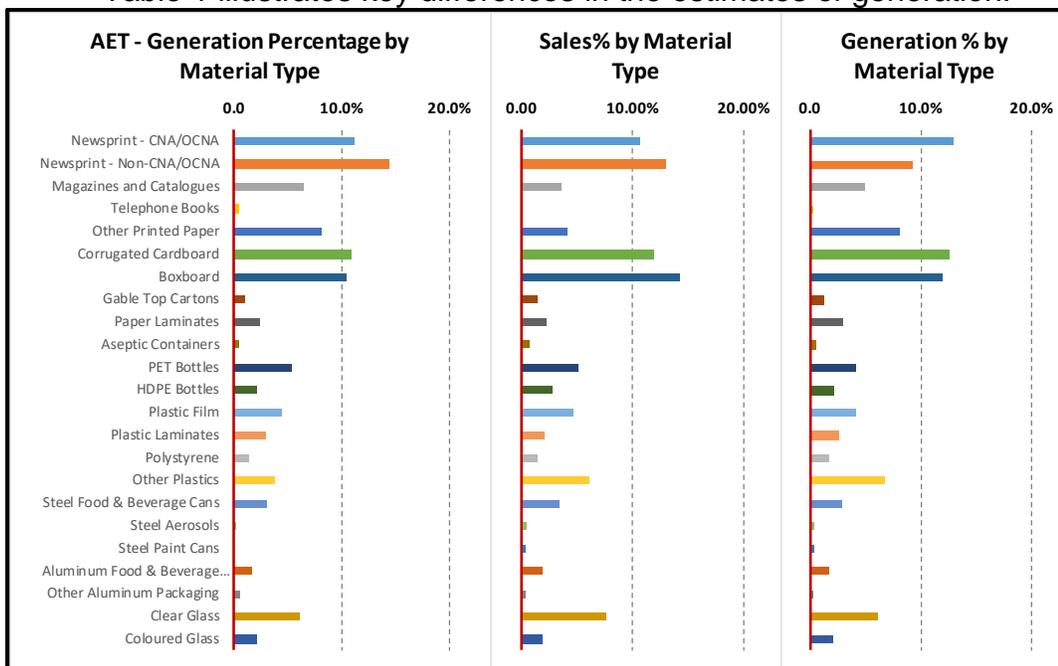
Background:

- On August 14, 2017 the Minister of Environment & Climate Change sent a [letter to Stewardship Ontario and the Resource Productivity and Recovery Authority](#) requesting them to formally initiate a consultation and bring forth a proposal on amending the Blue Box Program Plan (BBPP).
- The Minister in the letter provides direction to:
 - *Increase the diversion target for the Blue Box Program to 75 per cent of the PPP supplied by stewards to transitioned municipalities' households; and,*
 - *Establish material-specific management targets for PPP supplied by stewards to transitioned municipalities households.*
- Stewardship Ontario currently calculates generation figures in a 'black box' calculation not shared with RPRA or municipalities. To the best of our knowledge, the sources for this calculation include:
 - Producer sales data reported to Stewardship Ontario;
 - Residential Curbside Audits done between 2005 and 2007;
 - Residential Curbside Audits done since 2012;
 - Estimates of Individual Material Type Densities; and
 - Bale audits of materials from a few municipal MRFs.
- All of these sources present issues with statistical validity:
 - Steward reported sales data suffers from a lack of real knowledge of the actual distribution of sales between residential users and quantities supplied into the wide variety of industrial, commercial and institutional channels.
 - Curbside audit data represents a very sparse estimate of material generation based on non-repeated audits of small samples of single family households and even smaller samples of multi-family households in a number of municipalities at different times, some dating back more than 12 years.

- Bale audits, taken on the final processed material, suffer from data scarcity, do not take into account:
 - Other materials that remain as contamination (which may be acceptable within a certain tolerance depending on material type or bale purchaser specification) and some PPP materials that were collected but that will not actually be recycled because of their condition (i.e. degraded material collected from a remote site such as old wet newsprint, glass embedded into other materials, soiled plastic and cardboard, etc.);
 - Size (small units of glass, plastic, metal, that will be screened out in recycling operations); or,
 - Composition of the collected material (i.e. black PET; stand-up pouches that cannot currently be commercially recycled).
- Three different approaches have previously been used to estimate the generation rate of obligated PPP under the existing BBPP:
 - Steward reports on the estimated sales and related quantities of obligated PPP supplied into residences;
 - Stewardship Ontario estimates of the quantities of obligated PPP generated by households; and,
 - A study of PPP generation undertaken by AET on behalf of the CIF in 2014.

Each of these approaches produces different results which may materially affect the accuracy of calculations on material specific rates. This may also affect the fee rates charged to stewards (given the structure of the current three factor formula which attempts to allocate costs from “high performing” materials to “lower performing” materials. Payments may also be lowered to municipalities if greater quantities of printed paper are allocated to CNA/OCNA newsprint which are then paid with “in-kind advertising” services.

Table 1 illustrates key differences in the estimates of generation:



- This effect is further demonstrated when these differences are aggregated into the material specific categories being proposed by Stewardship Ontario under the a-BBPP but with the printed paper category broken out separately:

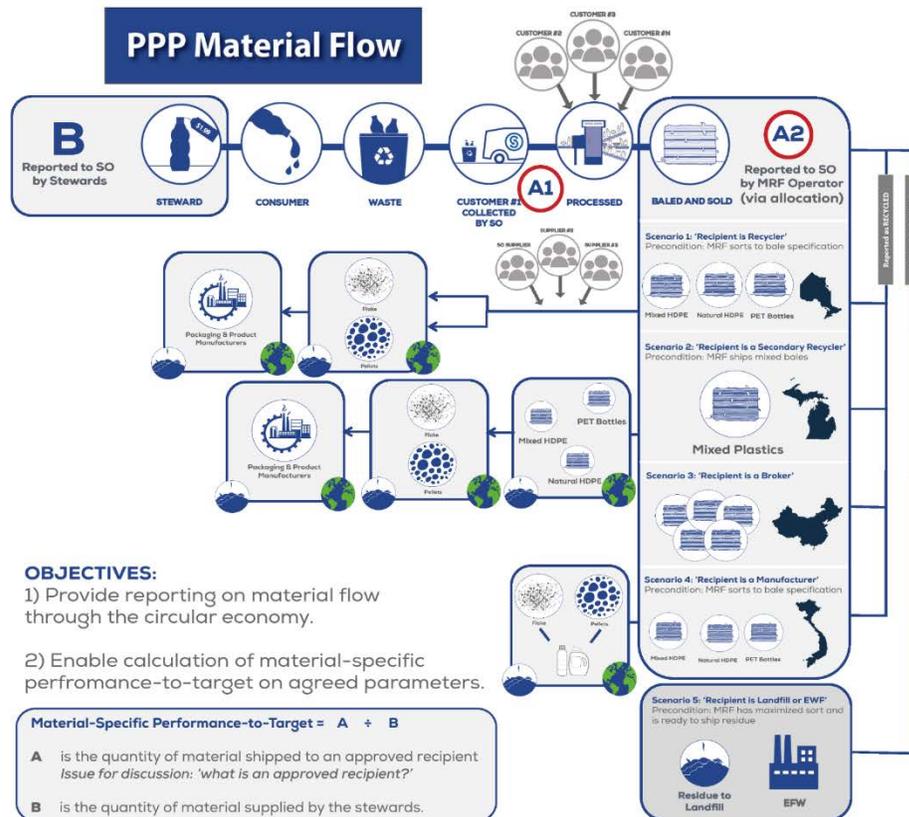
Table 1: Relative % of Material Classes in Allocation Estimates

	AET 2012/13 Curbside	% Total Sales	% Total Generation
Printed Paper	40.7%	31.4%	35.6%
Containers	59.3%	68.6%	64.4%
Fibre Packaging	25.2%	30.5%	29.2%
Plastic	20.3%	22.1%	21.5%
Steel	3.3%	4.2%	3.6%
Aluminum	2.2%	2.3%	2.0%
Glass	8.2%	9.4%	8.1%

Note in particular that the “as generated” approach tends to underestimate printed paper relative to Curbside Audits and that reported Sales of steel, plastic and glass significantly exceed curbside audit data in both Generation and Curbside Audits, perhaps underscoring the need for more precise determination of material destination post sales. Of further concern, expanding the definition of obligated printed paper to include paper for writing, printing or copying without further disaggregation of these materials will make recovery and fee setting calculations less transparent.

- In addition to concerns with the methodology used for calculating the generation rate of obligated PPP, there are significant issues with the current methodologies used for calculating PPP recovery rates. The existing approach utilized by Stewardship Ontario and by municipalities is to sample a small group (or groups) of homes, from areas of a city, in an attempt to create a representative sample that approximates for the municipality as a whole. Unfortunately, the sample sizes used to date have not been large enough to constitute a statistically significant and stratified sample. This often results in deficiencies in the data, which makes accurately measuring PPP recovery rates difficult (if not impossible).
- Under the a-BBPP, RPRA will have the authority to require individual stewards to report the total quantities of PPP supplied into the market. To ensure that progress towards the 75% diversion target for PPP as a basket of goods, and for the material specific targets to be set as part of the amended plan, RPRA is best placed to develop and implement a more accurate and transparent methodology for measuring and reporting on progress towards these targets. This methodology must take into consideration:
 - The difficulties inherent in “guesstimating” what proportion of totals sales of beverage containers, milk cartons, food cans, etc. supplied into the market are in fact consumed in transitioned households. This can be addressed in part by requiring total supplies of all quantities of PPP regardless of where they are finally used/consumed and developing transparent and common means for

- calculating what percentage of these totals should be factored in the recovery rate calculation;
- The need to continually assess the ever-changing composition and weight of the PPP supplied into the market in determining the denominator on which to calculate the diversion rate;
 - The need for more representative and accurate calculations of the quantities of obligated materials collected in Blue Box programs and “how they show up” in recycling containers, collection vehicles, depots, etc. as the basis for tracking both diversion rates and costs by material type. This requires more than sampling a small number of curbside audits on an irregular basis; and,
 - That it is in the public interest for RPRA to undertake this important work to ensure the efficacy of the reporting.
- The *Waste-Free Ontario Act* does not define recycling but instead defines “resource recovery” as the extraction of useful materials or other resources from things that might otherwise be waste, including through reuse, recycling, reintegration, regeneration or other activities.
 - The *Waste Diversion Act* did not define recycling, instead it stated that a waste diversion program developed under the Act shall not promote any of the following: the burning of the designated waste; the landfilling of the designated waste; the application of the designated waste to land; and any activity prescribed by the regulations.
 - The CSA Guideline for accountable management of end-of-life (EOL) materials (SPE-890-15) defines recycling and material recovery separately:
 - Recycling: Any operation by which EOL products or materials are reprocessed into new products, materials, or substances (solids, liquids, or gases), whether for original or other purposes, to replace virgin equivalents of that material. This includes biological processes like anaerobic digestion and composting that produce a nutrient amendment; and,
 - Material recovery: Any operation by which EOL products or materials are reprocessed but lose their functionality as a replacement for virgin equivalents of that material.
 - A proposal brought forward by Stewardship Ontario (November 6, 2017) follows the same international trend towards measuring recovery rates on the basis of the actual quantities of materials reprocessed into new products (i.e. after removal of contaminants):



- Under the existing BBPP, recovery rates are generally measured and reported on the basis of the quantity of materials sorted and shipped from Material Recovery Facilities (MRFs) and/or as sold to intermediate brokers. Applying the methodology outlined above, removing contaminants, non-recycled and non-obligated materials would result in a lower reported recycling rate for some materials such as plastics. This increases the challenge required to meet the 75% recovery target for PPP in transitioned municipalities.

Conclusions:

- It is recommended that under the a-BBPP that collected PPP be audited at the MRF, once the material has been dropped off by a collection vehicle. This is beneficial for several reasons:
 - 1) Municipalities know (and have the ability to alter) which routes a truck travels, it is much easier to design a study that adequately reflects regional differences (location, housing type etc.) within a city.
 - 2) The sample being taken is an amalgamation of all households on a given collection route. Unlike conventional waste audits which will often sample a block of homes in a given neighborhood, MRF level audits will include all households on a given collection route. This minimizes the concerns surrounding constructing a representative sample, as one set of households is no longer being used as a proxy for an entire neighborhood.

- 3) Sampling at the MRF enables a degree of consistency in how audits are conducted and measured.
- This should be further supported by:
 - Independent audits of mass flows of MRFs under contract to Stewardship Ontario to estimate the total quantities of obligated PPP and of non-obligated PPP managed in these facilities; and,
 - Independent auditing of mixed waste loads delivered to waste transfer, landfill and EFW facilities to identify quantities of PPP remaining in the waste stream. RPRA should give strong consideration to auditing of all potentially obligated materials identified in the *Strategy for a Waste-Free Ontario* to meet the broader objectives of the Resource Recovery and Circular Economy Act (RRCEA).
 - The a-BBPP should specify, as proposed by Stewardship Ontario, that recovery rates will be calculated on the basis of the actual quantities of materials reprocessed into new products (i.e. after removal of contaminants). The producer proposal outlined above provides a reasonable starting point for the consultation but should also take into consideration the quantities of compostable packaging or soiled printed paper or paper packaging that makes its way into organic diversion systems and which should be included under the a-BBPP.
 - Ultimately, the goal of this proposed approach is to increase the credibility and accuracy of broader waste audit data, such that meaningful analysis and recommendations for action can be made.

Granted the pace at which the process is moving, we will likely provide additional comments on this issue.