



**Economic Analysis of Including “Packaging like Products” in the Blue Bin**

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## What is being proposed?

On October 19, 2020, Ontario’s Ministry of the Environment, Conservation and Parks released a proposed regulation to govern the Ontario blue box program under the Resource Recovery and Circular Economy Act, 2016 (the RRCEA). The regulation will transition Ontario’s blue box recycling program for printed paper and packaging to full extended producer responsibility (EPR).

The proposed regulation expands the list of acceptable Blue Box materials to include “packaging-like products” and certain single-use items. Examples of packaging like products include: aluminum pie plates, tin foil, plastic wraps and food trays, plastic cutlery/plates and single use drink containers.

The intent of this change is three fold: 1) By including packaging-like products, the regulation targets items that so far have been free riders in Ontario’s Blue Box system. 2) Reduce public confusion regarding what is considered an acceptable Blue Box material in their jurisdiction. The proposed change will standardize accepted Blue Box materials, with the same set of materials being collected throughout the province 3) Move towards harmonizing approaches to managing packaging waste at a national level - British Columbia has announced plans to include single-use and packaging-like products in its list of obligated materials by 2023

## What is the issue?

The MOECP’s decision to expand the list of acceptable Blue Box materials to include “packaging like products” is inconsistent with previous direction from the province and contradicts the messaging surrounding the federal single use plastics ban.

Prior to the transition plan, municipalities actively discouraged accepting packaging like products in the Blue Box. The primary concern expressed by municipalities was that it was extremely difficult, if not impossible, to recycle many of these materials. The costs associated with attempting to collect and recover packaging like products was prohibitive, and could not be rationalized given that these materials were often treated as contamination (both at the material recycling facility, and downstream re-processors), and subsequently disposed of.

Under a full EPR system, wherein packaging producers assume 100% of the physical and financial responsibility for managing packaging waste at end of life, the messaging surrounding packaging like products has now changed. While the infrastructural and technical barriers to recycling these materials remains unchanged, who pays for it has. The potential costs to producers is significant, as none of the pre-

requisites for effectively recycling packaging like products are in place – there is limited infrastructure, no viable end markets and no end use applications for these materials.

With respect to the federal directive to ban single use plastics, Ontario’s decision to try and include these items as part of the Blue Bin program is perplexing. Allowing households to place single use packaging in the Blue Bin erroneously suggests that these materials are going to be recycled. As a result, the public receives two conflicting messages – the federal government is saying that single plastics should be banned due to their lack of recyclability and impact on the environment, while the provincial government is saying to include these materials as part of the residential recycling program.

Consumers already struggle with differentiating between what products can be recycled, and what cannot. Consumers have also expressed skepticism as to whether the materials that are collected are actually recycled at all. With this in mind, the decision to include packaging like materials as part of the Blue Box program is likely to exacerbate uncertainty, and serve to undermine the efficacy and credibility of the federal single use plastics ban.

It is the university’s assertion that expanding the list of acceptable materials will result in adverse economic, environmental and social outcomes for Ontarians and lead to consumer confusion regarding what materials are actually recyclable.

## What will this cost?

Quantifying the economic impact of expanding the list of acceptable Blue Box materials is enormously challenging, largely because the vast majority of packaging like products cannot be recycled in our existing system. Further complicating matters is that we don’t have a clear understanding of the quantities of packaging like products that are being generated in the province – in short, there is not enough data at this time to make informed policy decisions.

With that in mind, this section attempts to model a scenario using best available data that is intended to provide directional guidance as to what this change will cost. Additional research needs to be done in this area as better data becomes available.

*Note:* The data used in this section is based on the Stewardship Ontario Pay in Model (used as an analog to estimate net costs per tonne for packaging like products) and 55 waste audits conducted throughout Ontario, between the periods of 2015 and 2020. Audit data is used to estimate the quantities of packaging like products that are being generated by households each year.

Based on the waste audit data, Ontarians, on average, generate approximately 567kg of waste per household every year (Note: Estimates range from as little as 411kg/hh to more than 740kg/hh depending on where the audit was conducted). Overall waste generation in Ontario, based on a population of 5,169,175 households, is 2,933,196.66 Tonnes.

Of this, packaging like products makes up approximately 4.01% of all waste generated. Table 1 below provides a detailed breakdown of waste composition, as well as net cost per tonne to manage these materials as part of the Blue Box.

### **Table 1: Scenario Modeling**

Material Category	Analog for	Net Cost Per Tonne (assuming recycled)	% of Waste Stream (BB, Organics, Garbage)
Other Printed Paper	Unprinted Paper	\$ 227.25	0.11%
Plastic Film	Plastic Wrap, plastic bags	\$ 2,732.63	1.71%
Paper Laminate	Single use drink cups, fast food boxes/containers	\$ 1,287.21	0.21%
Packaging like Plastics (weighted average of laminates, Polystyrene and Other)	Plastic Cutlery/dishes, straws, stir sticks	\$ 1,712.07	1.87%
Other Aluminum Packaging (Gross costs, as no revenue attributable to foil/food trays)	Pie plates, foil, baking trays	\$ 934.72	0.11%

**Weighted Average Net Cost Per Tonne: \$2002.52/T**

**% of Packaging like products of overall waste: 4.01%**

Based on our aggregated audit data, 39% of packaging like products are found in the recycling stream (Blue Box), 8% in the Organics Stream (Green Bin) and 53% in the garbage stream (Trash)

Using the above data, we can now estimate what the potential cost would be if Ontario were to move forward with the decision to include packaging like products as part of the Blue Bin. To reiterate, these numbers should be interpreted with caution due to the paucity of available data. This modeling assumes that the material analogs we have taken from the PIM model, accurately reflect packaging like products. We also assume that packaging like products are being recycled, as opposed to being screened as contamination and subsequently discarded. The results of this analysis are shown in Table 2 below:

**Table 2: Cost Estimates**

Material Category	Analog for	Net Cost Per Tonne (assuming recycled)	Packaging like Tonnes found in Recycling Stream	Costs of Managing Packaging like products
Other Printed Paper	Unprinted Paper	\$ 227.25	1,258.34 Tonnes	\$ 285,958.08
Plastic Film	Plastic Wrap, plastic bags	\$ 2,732.63	19,561.49 Tonnes	\$ 53,454,310.43
Paper Laminate	Single use drink cups, fast food boxes/containers	\$ 1,287.21	2,402.29 Tonnes	\$ 3,092,249.22

Packaging like Plastics (weighted average of laminates, Polystyrene and Other)	Plastic Cutlery/dishes, straws, stir sticks	\$ 1,712.07	21,391.80 Tonnes	\$ 36,624,264.60
Other Aluminum Packaging (Gross costs, as no revenue attributable to foil/food trays)	Pie plates, foil, baking trays	\$ 934.72	1,258.34 Tonnes	\$ 1,176,196.84
		<b>Totals</b>	<b>45,872.26 Tonnes</b>	<b>\$ 94,632,979.17</b>

### Are there environmental benefits?

In light of the enormous costs attributable to expanding the list of acceptable Blue Box materials, it seems prudent that we evaluate the environmental benefits of this decision. The increase in costs could potentially be rationalized if it yields a more sustainable outcome (in this context, we refer to environmental sustainability)

Unfortunately, the inclusion of packaging like products in the Blue Bin does not mean that these materials will be recycled. Based on available infrastructure, processing technology and end markets, there is a very strong likelihood that these materials will be treated as contamination (either at the MRF, or at the processor) and subsequently discarded.

If the landfill is the likely outcome for these materials, it begs the question, “What are we trying to achieve?” At this juncture, it’s not entirely clear what expanding the list of Blue Box materials achieves other than a higher cost for producers.

While proponents of this legislative change will cite that packaging producers will have the ability to innovate and develop new end markets and end use applications for these materials, there is very little evidence (if any) of that occurring. Policy makers often erroneously assume that packaging producers have a significant degree of autonomy and control regarding what happens with their products at end of life. The reality is that the vast majority of CPG companies are “market takers”, subject to macro-economic conditions that ultimately determine the value and recyclability of a particular material. In short, if a material had inherent value at its end of life when recycled, then markets would already exist for these materials. Forcing packaging producers who operate in Ontario to invest and develop the infrastructure to recycle packaging like products places them at a distinct disadvantage, as they are incurring an additional cost to manage and recycle materials that would not be recovered if left to a free market.

An argument could even be made that the decision to include packaging like products as part of the Blue Box yields an inferior environmental outcome relative to landfilling. Based on the modeling shown in Table 2, we estimate that the decision to include packaging like products would result in an additional 45,872.26 tonnes being managed as part of the Blue Box system. These are materials that would ultimately have to be collected, transported and sorted – all of which have a carbon impact associated with each activity. For

context, GHG impacts of recyclable collection and sorting (at the MRF) makes up approximately 19% of the total carbon footprint of recycling activity. If packaging like materials are ultimately sent to disposal due to a lack of adequate infrastructure or end market demand, then the province's decision would have actually added GHGs to the environment, not prevented it.

Whatever environmental benefit that may result from including packaging like materials in the Blue Bin is predicated on these materials actually being recycled. Both the public and policy makers need to understand that diversion/recycling is not based on the quantities of collected material inbound to a MRF – at present, recycling is defined as baled and marketed material. In the absence of end markets for packaging like materials, what does the province think is going to happen to the material that is collected?

## Caveats to this analysis and key considerations

To reiterate, the estimates used in this analysis use the costs associated with attempting to actually recycle packaging like products. Given that these materials are not actually recyclable in the given system, we have had to use cost analogs taken from the Stewardship Ontario Pay in Model. Numerous parties (including the university) have expressed concern regarding the accuracy and validity of the data found within the PIM model, but at this juncture, there is no alternative source that can be publicly referenced.

If packaging like products were to be included as part of the Blue Bin, the most likely scenario is that the vast majority of the material is going to be screened and end up in landfill. Even in this scenario, producers would be obligated to pay for the costs of collecting, sorting and disposal – while significant, the only credible way to estimate what this would cost would be to conduct an activity based costing study.

In a review of the proposed changes being put forward by the MECP, there are two key takeaways are: 1) What are we trying to do? If these materials can't be recycled and ultimately end up in the landfill, why bother including them to begin with? The decision to do so would result in industry spending millions of dollars to achieve an outcome that is no different than what is happening today.

2) At this juncture, there is insufficient data regarding how much of these materials are being generated, where it ends up, and what it costs to manage them. Given the degree of uncertainty surrounding the credibility of the data, it would be prudent for the government to defer the decision to include packaging like materials in the Blue Box until the potential impacts are better understood.