



Why Ontario's plan to tackle plastic waste will not save tax payers money: A review of Ontario's transition to full extended producer responsibility

Prepared by: Dr. Calvin Lakhan

Waste Wiki@FES

Faculty of Environmental Studies, York University

Preface: The opinions expressed in this post are my own and should not be construed as me speaking on behalf of the university, or our external stakeholders.

On August 15th, The Hon. Jeff Yurek, Minister of the Environment, Conservation and Parks announced that Ontario's Blue Box program will transition to a full producer responsibility model by the year 2023.

The underlying intuition of a full producer responsibility model, is that it will shift costs away from the municipal tax base, onto the producers of printed paper and packaging. As noted in the official press release from the ministry, a full producer responsibility model will increase Ontario's recycling rates while saving tax payers money.

Based on both a review historical data and a meta-analysis that explores the relationship between recycling system costs and producer responsibility fees, there is no evidence to suggest that this will be the outcome. In fact, there is strong evidence to the contrary, and I don't think either the public or policy planners have taken the time to fully understand what the economic impact of full EPR will be in Ontario.

While I have written extensively about extended producer responsibility in the past, as a quick primer for those outside of the industry, EPR schemes task producers (or first importers) of packaging with the physical and financial responsibility of managing that material at end of life. While EPR can take multiple forms (mandatory, negotiated, voluntary, partial etc.), the overarching objective is to focus on the end of life treatment of consumer products, with the aim to increase the amount of product recovery, while simultaneously minimizing the environmental impact of waste.

The relationship between the Blue Box system and municipal taxation

Returning our discussion to Ontario, one of the primary drivers of a full producer responsibility scheme was to transfer the costs of an escalating recycling system on to packaging producers, and away from municipalities. Prior to the announcement of a full EPR scheme, the costs of Ontario's recycling system were born by both municipalities and packaging producers equally. Given that the cost of the Blue Box system has more than doubled since program inception, it makes sense for municipalities to advocate for 100% producer responsibility model. Municipalities will no longer be obliged to operate and maintain a residential Blue Box program, leaving it in the hands of producers to develop their own solutions for how they operate the system. Given this transfer of costs onto the producers of packaging, the expectation is that the households will no longer bare the costs of recycling through municipal taxation – in all likelihood, this is why the announcement from Minister Yurek was met with such enthusiasm, in that EPR is purported to save tax payers money.

But let's pause for a moment to better understand what EPR is intended to do, beyond a transfer of costs onto producers

- 1) Encourage design for the environment: By forcing producers to bare the end of life management costs (in the case of printed paper and packaging, recycling costs) and meet recycled content quotas, the expectation is that producers will design their packaging in such a way that is more readily recyclable given existing infrastructure
- 2) Contain Costs: By shifting end of life management costs onto producers, they will not only be incentivized to use more readily recyclable material, but do so in a way that minimizes material management costs. If producers are obligated to "foot the bill" of the entire system, then they

have a greater incentive to reduce costs relative to a shared responsibility model where municipalities paid half.

A contention made by municipalities in the past, is that the increases observed in the cost of operating the Blue Box program were a direct result of producers developing packaging that was incompatible with the existing recycling infrastructure. Under a shared responsibility model, municipalities felt that they were “subsidizing” the packaging decisions made by manufacturers, who had less of an incentive to use materials that could be more readily recycled.

- 3) Invest in recycling infrastructure to more efficiently capture and recycle light-weight materials: Under a full producer responsibility model, producers are tasked with the responsibility of operating the entire system, which not only includes a financial obligation, but a physical one as well. Previously, municipalities have traditionally served as the waste management operator, providing collection and sorting services. A 100% EPR Model will incentivize producers to invest and develop infrastructure that allows them to meet their legislative responsibility, which in turn, will result in investments in collection and sorting infrastructure to better capture lightweight materials.
- 4) Develop healthy and robust markets for problematic packaging materials: Given that producers will bear the responsibility of managing all Blue Box packaging at end of life, this will require significant investments in end markets and end use applications of light weight and composite materials. Despite the increased proliferation of light weight packaging, there remain few viable end markets for these materials. As such, if an EPR model is implemented that obliges producers to recycle their packaging, they will have to develop new and innovative ways to use these materials.

Intuitively, the above makes sense – and in many ways, it remains a possible outcome. However, if history is any indicator (particularly in Ontario), none of the above will happen.

I know this statement is likely to rancor a lot of people, particularly those from the municipal sector. There have been brilliant minds who have devoted years to understanding how EPR works, including implementing the schemes across multiple jurisdictions, so I expect significant criticism and push back.

But if we were to just look at the data, and undertake an examination of why producers make packaging decisions, they will quickly see that end of life is really a very small part of a much larger picture.

Why do producers make the choices they do?

Why a producer makes the packaging decisions they do is largely a function of economics and safety – some factors include: Does the packaging I use make it safe to transport materials, protect the product, avoid spoilage or contamination, increase shelf life, increase the number of units I can place on the shelf/in the store, allow for easy brand recognition etc.

The increased adoption of light weight packaging can be attributed to the benefits of durability, transport and ease of consumption, while also allowing for a reduction in overall packaging used. Interestingly, when taking a life cycle approach, the environmental impact of light weight and composite packaging can

actually result in superior environmental outcomes when compared to conventional packaging. This may seem counter intuitive, given the relatively low recyclability of these materials, but upstream benefits (packaging reduction, logistical efficiencies when transporting materials, avoided food waste/spoilage, discretionary consumption etc.), actually outweigh whatever you lose from not recycling that material.

All things being equal, the recyclability of a package has historically ranked as a relatively low priority for producers.

In a 2017 study conducted by the university examining the relationship between packaging fee rates, and packaging recycling performance, there was no statistically significant correlation between the two. Even for products such as paper laminates and plastic film, where the corresponding fee was significantly higher than all other materials, recycling rates remained largely unchanged, or did so in response to broader macro market conditions. The price signal sent by the fee, was insufficient to change packaging choices.

With that being said, the optics surrounding whether a package can be recycled (and more broadly, diverted) has now become a key issue for producers, and increasingly, you are seeing brand owners talk about solutions for how to recycle their products. The rise in prominence of organizations such as Terracycle speak to just how important “recyclability” has become for consumers.

HOWEVER, as we go through the points of what EPR is intended to achieve, and why producers make the packaging decisions they do, a different picture emerges.

Are we achieving our intended outcomes?

Going down our list of what EPR is intended to achieve, the first is *“Encourage Design for the Environment”*

Looking at the types of packaging being put out onto market, including new innovations such as the P&G Flexible Pouch, we see that producers are making no attempts to use more “recyclable” materials – they still continue to develop products that achieve efficiencies (both economic and environmental) at other stages of the products life cycle. Now more than ever, packaging is being made up of composite, difficult to recycle materials, and this trend is unlikely to change in the near future

“Contain Costs and Invest in Recycling Infrastructure”

This is a bit of a tricky one to evaluate, because very few investments have actually been made. Both municipalities and producers were waiting for direction from the province before potentially committing to large infrastructural projects. With that being said, the current costs associated with trying to recycle composite and lightweight materials is well in excess of \$2000 a tonne. Developing the infrastructure to both collect and sort these materials is likely going to require a significant capital outlay, and it remains to be seen as to whether those investments in infrastructure will lead to decreases in cost over time.

However, using the data we do have as an example, at present, recycling approximately 29.4% of residential Blue Box plastics costs \$99.737 million dollars.

A 100% Recycled scenario, assuming constant costs of material management, is roughly \$471 million dollars. While this number may seem like hyperbole, there is an argument to be made that the above figures UNDERESTIMATES the cost of recycling – once you go after the low hanging fruit (PET, HDPE, Other Plastics), increases in diversion will have to come primarily from film, polystyrene etc. As noted above, the

recovery of these materials will likely require significant investments in collection and processing infrastructure, further escalating a bill that is running in the hundreds of millions of dollars.

For every 1% increase in the recycling rate of light weight/composite plastics, recycling system costs increase by an average of \$15 million dollars.

“Develop healthy and robust markets for problematic packaging materials”

This is the one that I find the most troubling, in that it runs counter to virtually every principle of an efficient market.

However, before I go into a technical explanation, an anecdote. I had the pleasure of attending a packaging conference, where a large CPG company was advertising their latest products – a variation of a light weight pouch that prevented leakage and was extraordinarily durable. When asked how that material was going to be managed at end of life, the presenter proudly said “We have partnered with Terracycle to turn our pouches into back packs”. Applause filled the room, and the presenter beamed – clearly we have found a viable use for our light weight plastics problem!

The cynic in me wanted to point out that isn’t a market based solution. That is a very specific agreement between a brand owner and a waste service provider, to develop a one off solution that is not replicable at scale (and not in a way that is remotely economically sustainable).

And therein lies the problem. While the recyclability of packaging and diverting materials from our landfills and oceans has captured the attention of the public, producers and policy makers alike, it has also given rise to a type of greenwashing that creates the illusion of “design for the environment”. Instead, it is a stop gap measure that merely delays that product from going to landfill.

It is not as simple as “finding value” in a material, and investing in an end market to maximize that value. That is putting the cart before the horse – in the absence of an end market or end use application, that material has no (or nominal) economic value. Forcing producers to create artificial markets for their packaging (using mediums such as Terracycle, or even investing in more efficient ways to collect and process materials), is going to exacerbate the cost of managing and operating the system.

As a researcher and concerned Ontarian, I ask, to what end in mind? That isn’t to say that we will eventually find innovative and economic ways to recover these materials in the future, but asking producers to “Build it and they will come” does not seem to be rooted in any sound evidence to suggest that this will be the outcome.

Will Ontarians actually save on their taxes?

Coming back from my detour discussing EPR intentions, the million dollar question? Will a 100% EPR model save Ontarians money?

Short answer: No

Long answer: No, because producers are just going to build that cost into the price of their package.

Unlike waste electronics, the fees for printed paper and packaging are built into the cost of the good. The idea that producers will somehow just absorb that cost without it trickling down to the consumer is wishful

thinking – an adoption of a full EPR program in Ontario (for Blue Box) will be reflected in an increase the cost of the goods that households buy.

What is perhaps more concerning is that the magnitude of this price increase can be quite material. The current costs of our Blue Box program is roughly \$350 million dollars per year. Given that potential investments in infrastructure, end markets etc. may be required, it is a reasonable to assume that these costs are going to continue to go up for the foreseeable future.

York University is currently undertaking a study to better understand just how elastic the price of packaging is to changes in recycling system costs, and more specifically, better understand who these price increases are most likely to affect.

Based on our preliminary analysis, lower income households are more likely to be adversely impacted by changes in the price of packaging. This is because they consume a relatively larger proportion of packaged goods (as a % of overall consumption) relative to higher income groups, and are more likely to see their purchasing power reduced as a result of rising packaging costs.

What should we do moving forward?

I am going to assume that 100% EPR is inevitable in Ontario, and despite my criticism, it should be. Producer responsibility is a critical step in making manufacturers responsible for the goods they produce and put out into the market.

What I think requires additional attention is what will a 100% EPR model look like. Should it be based on a product's recyclability, or are there alternative metrics of ways to evaluate success that need to be considered?

I think the province is at a crossroads, and the next few years as we transition to full producer responsibility will be critical. Not just for the province, but for jurisdictions across Canada and the United States looking to learn from our experiences.

I will go on record and say that I think if we pursue an approach premised on prioritizing recycling above all else, it will be destined for failure. Shifting financial responsibility onto producers will not magically fix what is broken, and I think it naive to assume the financial incentive will result in fundamental shifts in producer behavior.

To echo a position I have shared in the past, the province needs to embrace a “macro approach” when it comes to sustainable materials management – Viewing end of life waste management as separate from other stages of a products life cycle is too myopic in scope.

Past emphasis on recycling rates and the recyclability of materials is no longer compatible with the changing nature of packaging. Recycling should not be the main objective, but rather, emphasis should be placed on promoting sustainable outcomes.

If a particular packaging type cannot be readily recycled, but abates more carbon at a lower cost (i.e. avoided food waste), should that be discouraged? Will forcing producers to pay 100% of the cost of recycling light weight plastics result in technological innovation and new end use applications? Or will it result in a bill in the hundreds of millions for Ontarians?

Avoiding prescriptive legislation and giving producers the latitude to pursue end of life solutions beyond recycling (compostable plastics, waste to energy/fuel) is what is going to drive a sustainable Blue Box in Ontario.