

*"The point is that plastic packaging industry needs to be nimble."*



## Making Plastic less "Plastic"

Plastic packaging is manufactured from a number of different resins into a multitude of products that are found in all aspects of our lives. Plastic packaging is ubiquitous. While often maligned they play a critical role in how we purchase goods, bring goods safely into our homes, store and preserve goods and finally use goods. It's this versatility and variety of plastic packaging that has led to challenges in maximizing the capture and recycling of these materials.

In some cases this is because municipalities do not have programs for all potential plastics streams, although key plastic packaging streams have very high access in municipal programs. In some cases, as with most recyclables, residents don't recycle items 100 per cent of the time. In some cases this may be due to a poor understanding of what is and is not recyclable. In other cases, as with other recyclables, residents are not diligent in maximizing the capture of plastic packaging in available recycling programs.

The plastics industry is a pretty soft and big target with many detractors decrying its environmental sustainability. Many people view plastic as unnatural and "chemical" but give paper and other packaging materials pretty much a free pass.

The plastics industry, through the Environment and Plastics Industry Council (EPIC), has endeavoured to maximize the capture of plastics in residential recycling programs. The plastics industry, as represented by Stewardship Ontario, provides funding that helps defray the cost of blue box recycling. In 2008 these stewards are contributing an additional \$2.4 million to help fund a campaign and project that seeks to make improvements today while also investigating tomorrow's possible solutions.

There are some challenges and opportunities to ensuring that today's plastic packaging becomes tomorrow's new product.

### Market price trends

Historically and as depicted in the CSR Price Sheet ([www.csr.org/pricesheet/pricesheet.htm](http://www.csr.org/pricesheet/pricesheet.htm)) the value of various plastic packaging streams has been volatile. This volatility is a function of (among other things) the price of oil and the impact it has on virgin resin pricing, the availability of processing capacity, the demand from re-processors for this recycled plastic and end markets for recycled plastic products.

If the annual averages are examined for the five year period from 2003-2007 it is clear that the value of plastics streams is increasing (e.g., PET 40 per cent; HDPE 44 per cent). Plastics streams such as tubs and lids and plastic film have increased in value by more than ten times and five times respectively. This underlines the demand for these recycled plastic materials. While there is always some volatility in the market-

place, the trend for key plastics market prices continues to rise. It's expected to continue to increase in value based on crude oil pricing and the international market demand for the reprocessed pellets/flake material.

### Processing capacity

Ensuring that there's sufficient domestic or at least North American processing capacity continues to be a concern. There's a significant market pull of recycled plastics out of North America, largely to Chinese markets. More attractive off-shore pricing puts the current processing capacity at risk and can make the development of new processing capacity challenging. There's a risk to recycling programs from any potential downturn or collapse of off-shore markets coupled with insufficient domestic processing capacity.

The key is to develop domestic processing capacity and end markets that can compete effectively for plastic streams.

One of the key challenges for MRF sorting of plastic packaging is the cost of handling the material. This is at least in part due to the low weight of these materials, the variety of resin types, and the subsequent impact on per-tonne processing costs.

As with other manufacturing processes, the prudent incorporation of automation can result in considerable processing cost savings. It's being demonstrated that optical sorting of some plastic streams is an effective automation method with a feasible and continually improving return on investment.

### End markets

The potential end markets of recycled blue box plastic packaging are as varied as the different types of plastic packaging.

The viability of individual end-markets can help pull recycled plastic packaging into the marketplace. To develop successful blue box plastic processing capacity will also mean providing assistance to emerging end uses and markets for recycled plastic products. The challenges facing the end recycling markets is the ability to reprocess material in a cost-effective manner to generate an end product/pellet that can be competitively priced. Currently, the higher cost of virgin resin helps sustain recycling markets. However, proper plastic recycling infrastructure must be firmly enforced at all three levels; the generator (labelling), the consumer (resident), and the processor (MRFs) to ensure contamination levels are minimized to maintain competitive pricing in the market place.

### Cultural shift

There is an ongoing and possibly temporal cultural shift occurring. The "green rush" seeks to address our excessive consumption and the quality of that consumption. Given that after years of waste diversion programs



our waste generation continues to increase and waste diversion is stalled, it remains to be seen what will happen.

Plastic packaging has become one touchstone. The plastic carry-out bag is a token of this latest "green rush." While agitating for change for years the will of consumers in this regard has galvanized into momentum and begun to effect real change although consumers clearly don't understand what little impact

this has on overall waste diversion. While the industry may have fought this will and trotted out data about how the Irish plastic bag tax was really a failure for a while, it recognizes, as all good industry does that the customer is king. I now have a trunk full of reusable bags in my car.

The point is that plastic packaging industry needs to be nimble. It needs to use the plastic packaging that the consumer really wants,

which is ultimately that which can be easily and viably recycled in municipal curbside programs. That, along with domestic processing capacity and the continued development of end markets and uses for post consumer plastic, is critical. ♻️

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