



September 25, 2019

Mr. George Heyman
Minister of Environment and Climate Change
Ferguson Block
PO Box 9047 Stn. Prov Gov
Victoria, B.C. V8W 9E2

RE: Dyne-A-Pak Inc Submission on the Plastics Action Plan – Policy Consultation Paper

Dear Minister Heyman

On behalf of Dyne-A-Pak Inc, I would like to submit the following comments and recommendations for consideration as you proceed with review of possible amendments to the highly effective provincial recycling regulations. The focus on our comments will be primarily on the ban discussion related to polystyrene and its impact on the province’s carbon reduction strategy. But first, I would like to introduce you to Dyne-A-Pak.

Who is Dyne-A-Pak Inc.

Dyne-A-Pak is the leading manufacturer of foodservice and food packaging products in Canada. We are a privately owned Canadian company, with more than 45 years of experience in the food packaging industry. Our facilities utilize cutting-edge technology, allowing us to serve the entire North American market. Our products use recycled content and over the years we have developed a strong expertise in recycling technologies, as well as in comparing environmental benefits of various material media. Our industry challenge is to source more recycled plastics in order to be able to add more into our products here in Canada.

Bans on Polystyrene Foam Foodservice Packaging and the Province’s Carbon Reduction Goals

1. Examining the Science

Dyne-A-Pak Inc Canada shares the province’s commitment to its carbon reduction agenda. In the Ministry’s consultation document, you also clearly state a strong commitment to zero waste. “The Ministry of Environment and Climate Change Strategy (the ministry) recognizes that waste prevention is the highest priority”.

The focus of our attention in this response is a possible ban on polystyrene and its replacement with paper foodservice packaging which would be environmentally unwise in terms of the province’s goals to reduce carbon emissions and achieve zero waste. We believe that actions taken on plastic bans must carefully examine the province’s stated goals to become carbon neutral, achieve zero waste and not have the unintended consequence of generating more carbon or landfill waste.

The science on material substitution shows clearly that bans on plastic materials do not further a carbon reduction agenda because all a ban will do is trigger substitution with some other packaging material with a much larger carbon footprint.

We refer you to two substitution studies that make the case that bans on plastic packaging materials will have greater environmental impacts. They are the 2016 Trucost Study and a 2014 study by Franklin Associates. Both studies show that plastic packaging is the most efficient packaging choice.

[“Plastics and Sustainability: A Valuation of Environmental Benefits, Costs, and Opportunities for Continuous Improvement Trucost Study 2016](#)

Impact of Plastic Packaging on Life Cycle Energy Consumption & Greenhouse Gas Emissions in the United States and Canada Substitution Analysis, Franklin Associates
<https://plastics.americanchemistry.com/Education-Resources/Publications/Impact-of-Plastics-Packaging.pdf>

Replacement of plastics with other materials has higher environmental costs because considerably more material is required to do the same job. Per the Trucost study 4.6 times more substitute material is required to perform the same function.

Table ES–6. Savings for Canadian Plastic Packaging Compared to Substitutes

	Comparison of Plastic Packaging and Substitute Packaging, Canada					
	Global Warming Potential (million metric tonnes CO2 eq)		Cumulative Energy Demand (billion MJ)		Expended Energy (billion MJ)	
	No Decomp	Max Decomp	No Decomp	Max Decomp	No Decomp	Max Decomp
Total for Plastic Packaging	11.8		225		155	
Total for Substitutes	27.5	29.6	446	439	401	394
Savings for Plastics	15.8	17.9	221	214	246	240
Substitutes % Higher than Plastics	134%	152%	98%	95%	159%	155%
Savings Equivalencies						
Million passenger vehicles per year	3.3	3.7	3.1	3.0	3.5	3.4
Million barrels of oil	36.5	41.3	36.1	35.0	40.3	39.1
Thousand tanker trucks of gasoline	208	236	197	191	220	214
Thousand railcars of coal	68	77	84	81	93	91
Coal-fired power plants (annual emissions)	4.5	5.1				
Oil supertankers	18	21	18	18	20	20

The Franklin study per the chart above is specific to the Canadian context. It shows that substitution of alternative materials has a much higher global warming potential and will increase more carbon emissions and other lethal greenhouse gases in the atmosphere. A ban will not advance B.C.'s carbon reduction plan. Substitutes will generate 27.5 million metric tonnes of CO2 eq, versus plastic packaging at 11.8 metric tonnes of CO2 eq. **Use of substitutes for plastic packaging will therefore generate 15.8 more million metric tonnes of carbon dioxide equivalent(CO2 eq) and consume more than twice the energy (36.1 million more barrels of oil a year).**

The City Vancouver Plan to Ban Foam Polystyrene Foodservice Packaging

The plan to ban foam polystyrene in the City of Vancouver will have a number of negative unintended consequences environmentally for the City and ultimately British Columbia. 1. It will undermine the province's stated goals to reduce carbon emissions and achieve zero waste. 2. It will also have the potential to stifle recycling innovation and undermine the province's leadership on Extended Producer Responsibility.

Banning polystyrene foam foodservice packaging does not advance the Zero Waste Strategy. It means more waste going to landfill:

Restaurants still need to serve their customers and provide them with some form of packaging in the event of a ban on polystyrene foam. A ban will force small businesses in the quick service and restaurant sectors to switch to paper cups and take-out containers as anticipated by the City of Vancouver.

A little-known fact critical to this discussion is that most paper food packaging (soiled or clean) cannot be recycled or composted. It is not recyclable or compostable because the paper has a moisture barrier to repel oil, grease and moisture. This protective barrier is essential to prevent the container from getting soaked and disintegrating in transit from restaurant to home, but it makes most paper food packaging unrecyclable.

Consequence of a ban on foam polystyrene foodservice packaging: It means a lot more paper waste going to landfill; estimated to be a 300%-400% increase. All replacement paper take-out containers and cups will end up in landfill. This means a lot more material by weight and volume in the landfill as much as 3-4 times more material; the complete opposite of the purpose of the ban to reduce waste. Proof: The average 16 oz paper cup weighs 13.3 grams with paper sleeve protector 19.1 grams versus a foam cup at 4.7 grams (no protective sleeve is required with a polystyrene cup. Source 2011 Franklin Associates.

[Life Cycle Inventory of Foam Polystyrene, Paper-based, and ...](#)

Instead Recycle Polystyrene Foodservice Packaging: While paper foodservice packaging cannot be recycled when soiled with food, **polystyrene foam packaging can be recycled even if contaminated with food waste** and sent to an end market locally using a next generation molecular or chemical recycling technology.

And British Columbia has access to a state-of-the-art recycler locally, Regenyx, which has already established an end market for the recycled dirty polystyrene foam at American Styrenics. Both are eager to work with Vancouver and the province to recycle every bit of soiled polystyrene and are willing to offer Vancouver very competitive price for their post-consumer foam. This is an example of the circular economy at work.

A ban on polystyrene foam foodservice packaging will only accelerate climate change because it will lead to more carbon/greenhouse gases in the atmosphere:

Paper foodservice packaging has a much larger carbon footprint than foam polystyrene foodservice packaging which is 98% air.

Paper food packaging is much more energy intensive in its manufacture which means higher GHG emissions. The manufacture of a 16-ounce hot paper cup with a plastic liner requires 32.4% more energy to manufacture than a 16- ounce foam cup; a paper cup with a plastic liner and a protective sleeve requires 70.1% more energy to manufacture. *(2011 Franklin Associates LCI)*

A Ban on Polystyrene Foam Foodservice Packaging Could Stifle Recycling Research and Innovation:

There has been a technology revolution in plastics recycling called molecular or chemical recycling. It is a next generation technology that means that now plastics that previously could not be recycled – like polystyrene foam soiled with food waste – can now be recycled.

Molecular recycling technology breaks down the polystyrene polymers into their original virgin molecules or monomer state. Once de-polymerized, they are like brand new and can be reused to make new products like waxes, styrene for new food packaging, or even sanitary medical applications in hospitals and doctors' offices.

The City of Vancouver is already using this green technology to build green roads with the use of an additive. The addition of the recycled plastic additive to the asphalt helps make the roads stronger and significantly reduces the energy required to make the asphalt.

This molecular or chemical recycling technology is available coast to coast – Green Mantra, Revital Polymers, Pyrowave, BBL Energy and INEOS Styrolution. And B.C. has access to a major polystyrene recycler and end market user locally, Regenyx, backed by world-famous environmentalist Richard Branson. This emerging industry is in need of feedstocks to feed its circular economy business model. Bans on polystyrene would be detrimental to this truly innovative recycling solution.

Not Undermining Extended Producer Responsibility (EPR) and the Circular Economy: One of the main objectives, as we understand it, of EPR is to force packaging design modifications for recyclability and build end markets for recycled resins; to create an endless loop of recovery and reuse in a circular economy. **Polystyrene foam can now be recycled infinitely using the breakthrough molecular/chemical recycling technology.** Millions have been spent on the development of this molecular technology breakthrough. It would be a shame to ignore this innovation.

Collection: If we cannot collect it, we cannot recycle it. So, the plastics industry has also developed a new collection technology that will ensure that all polystyrene (dirty or clean) is collected and recycled. It is called an Energy Recycling Bag and it can be used at curbside as a complement to the blue box to collect all polystyrene foodservice packaging and any other plastic packaging not included in the blue box.

Consumers in BC Prefer Recycling to Bans:

In 2018, Pollara Strategic Insights in Vancouver conducted a random survey of the opinions of Vancouverites toward the proposed ban on foam polystyrene food packaging. The results showed that once residents found out that the foam was recyclable using a breakthrough technology support for a ban dropped from 69% to 26%. Support for a ban on polystyrene is not popular once the facts are known. <https://www.plastics.ca/PlasticTopics/RecyclingPlastics/RecyclingPlasticFacts/Polystyrene#what>

Policy Options for Consideration on Polystyrene Foam:

1. **Encourage the adoption of molecular/chemical recycling across the province.** Allow the stewards to do the job they have been mandated to do under EPR and adopt molecular/chemical recycling to recycle polystyrene to infinity with Regenxy. Not to do so and stifle this molecular recycling breakthrough, seems to undermine one of the purposes of EPR.
2. **Impose a Value on the Single-Use Packaging for Consumers with Fees:** Fees on plastic packaging put a value on the packaging so the packaging is no longer “free”. They grab the consumers’ attention, and build awareness of their role as a responsible user of the packaging to recycle. The idea is to have the customer essentially purchase each food container as part of their food transaction. We recommend a fee of 5 to 10 cents per take-out package that is itemized on the customer’s receipt.
3. **Mandate that “RECYCLE ME” be printed on every Take-out Container in Big Letters**

In Closing

Bans on highly recyclable plastic materials like polystyrene foam in favour of paper packaging that cannot be recycled and generate significantly more carbon in both their manufacture and transport will undermine provincial efforts to become carbon neutral. To meet your carbon reduction goals and promote recycling innovation, we strongly encourage you to support molecular/chemical recycling.

Thank you.

Sincerely



Mario Grenier
V.P. & General Manager