

# **Best Practices for Managing Single-Use Plastic Bag Consumption**

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## **Executive Summary**

Bans, taxes, and hybrid ban-tax policies can each be effective at reducing plastic bag consumption, but bans and ban-tax policies tend to attract more opposition from stakeholders and have been argued to do less to change patterns of consumer behaviour regarding bags than tax-based policies. For these reasons my research concludes that while bans and ban-tax policies can be effective, a tax-based plastic bag management policy is the best practice for reducing plastic bag consumption in an urban space.

Managing the consumption of single-use plastic bags through restrictive policies is a way for governments to reduce litter and divert garbage from their waste stream. Reducing the consumption of plastic bags will also lower the rates of their production, drawing less on a non-renewable resource already in high demand. This report aims to analyze plastic bag management efforts in urban spaces to identify what can be considered the best management practices for reducing their consumption. An effort is made to connect the best plastic bag management practices with the context of Metro Vancouver, a region that is trying to reduce its waste but currently has no policies regarding plastic bags.

The analysis of plastic bag policies in this report is informed primarily by reviewing research on successful and failed plastic bag management policies around the world. Research into the areas of consumer behaviour (specifically modifying consumer behaviour) and the power of government communication as a tool to influence citizens towards following policies have also been useful to flush out some of the workings of legislated restrictive policies. In addition to peer reviewed material, a substantial amount of grey literature (including city council minutes, municipal and federal government reports, environmental impact reports, news publications, and trade journals) was reviewed to investigate the details of plastic bag management practices that have not been so widely studied. This grey literature also helped to identify the status and barriers of plastic bag management practices in Canada, which so far have not been researched thoroughly.

My research has found that the best practices for reducing plastic bag consumption are government imposed policies that can change consumer behaviour towards an anti-plastic bag mentality, are supported (or at least are not opposed to) by industry and public stakeholders, and are actually effective at reducing plastic bag consumption.

## **Background and Metro Vancouver Context**

Single-use plastic bags pose numerous threats to the environment throughout their entire lifecycle. They are made from non-renewable fossil fuels (either natural gas or petroleum) and they can take up to thousands of years to biodegrade (Romer 2010; Wong, 2010). While they biodegrade they go through a process called photodegradation, meaning they break down into smaller pieces without decomposing, making them more easily ingested by wildlife, bringing plastics and chemicals into the food chain (Weinstein, 2010). Even properly disposed of plastic bags are problematic because they can easily be diverted while on route to landfills by even light winds, and a high percentage of bags that do make it to the landfill are blown out by winds and end up as litter in land or marine based ecosystems (The Greener Wave, n.d.). Recycling plastic bags, while often considered a responsible disposal option, in fact has no effect on plastic bag production rates since plastic bags cannot be recycled into new plastic bags, but only into plastic products that cannot themselves be recycled (Romer, 2010; Wong, 2010). Clearly the best course of action that can be taken to reduce the negative impacts of plastic bags is not related to their disposal, but is to reduce their consumption and in turn their production. Some prerequisite understandings of plastic bags and their alternatives can be gained through an earlier report prepared for Greener Footprints in partial fulfillment of a UBC Geography research course, where Jason Wong (2010) summarizes the problems associated with plastic bags and provides explanations of the best alternatives to them.

Currently Metro Vancouver has no management strategies in place regarding plastic bags, offering no incentives to the public to reduce their use of plastic bags, and

providing no opportunities to dispose of them other than to send them to the landfill with the rest of household garbage. The City of Vancouver, the largest municipality in Metro Vancouver, has a goal to become the “greenest city in the world by 2020” (City of Vancouver, 2012. pg 5), but admits in their “Greenest City Action Plan” that the city does not have legal authority to ban or tax plastic bags. The action plan states that the city will consider a committee to create a strategy for reducing plastic bags in the city, but does not include any sort of timeframe or details on how this committee would operate. As has been demonstrated by many failed initiatives, efforts to reduce plastic bag consumption can face several obstacles, and if not implemented correctly a management policy can easily fail. By analyzing different plastic bag management policies this report will illustrate which components are essential to their success and will inform municipalities like the City of Vancouver how best to approach plastic bag management policies.

## **Policy Options**

The most common practices to reduce plastic bag consumption are legislated bans, taxes, and hybrid ban-tax policies (Clapp & Swanston, 2009). Each different type of policy has its inherent advantages and disadvantages, but it is possible to mitigate the disadvantages if certain techniques were used in the planning and implementing phases of the policies.

### **Bag Bans**

A ban on plastic bags is when retailers are prohibited from distributing plastic bags to customers, and has been a popular policy option for many governments at different levels around the world (Clapp & Swanston, 2009; Romer, 2010). The appeal to a bag ban is that it would necessarily have high participation rates and in theory would reduce plastic bag consumption almost completely (Ritch et al., 2009; Romer, 2010). Unlike implementing a tax on plastic bags, a bag ban would also have low associated administrative costs (Convery et al., 2007).

While bag bans have been persisting successfully in smaller communities in Canada, they have so far had little success in major urban cities internationally. As seen in the cases of Bangladesh and China's bag bans, when implemented at a national level these bans can be very hard to enforce, primarily in the larger cities (Clapp & Swanston, 2009).

Bag bans are seen as a major threat to plastic manufacturing groups in North America who have rallied together to be proactive about opposing them (Lichtblau, 2012; Romer, 2010; 2012). In North America many municipal bag bans have faced significant opposition from industry stakeholders including lawsuits launched against municipalities (Romer, 2010; 2012). The influence demonstrated by plastics industry groups (such as the Save the Plastic Bag Coalition, the Coalition to Support Plastic Bag Recycling, and the American Chemistry Council) in cases of bag reduction efforts in California have proven it to be very difficult to implement municipal bag bans in North America (Clapp & Swanston, 2009; Romer, 2012). The further trouble with bag bans is that they do little to change the public's perceptions about bags, and a policy that does not influence the public to change their behaviour on their own accord risks having no long term effects if that policy were to be undone (Convery et al., 2007). It has also been noted that banning plastic bags encourages the use of paper bags, and while paper bags are arguably better than plastic bags, they too are associated with several environmental issues and are thus not a satisfactory substitute to plastic bags (Romer 2010; 2012; Wong, 2010)

### Hybrid Ban-Taxes

A hybridized ban-tax type policy was first proposed in 2010 in Los Angeles County, California, mostly in response to the concerns about increasing paper bag reliance. A ban-tax policy is where plastic bags are banned outright, and a small tax (usually \$0.05-\$0.10) is placed on paper bags. This policy has had significant success in curbing growing rates of paper bag consumption, as well as having the advantages of bag ban policies (Romer, 2012). Along with the advantages, ban-tax policies tend to have the same disadvantages as regular bag bans, drawing severe opposition from

industry stakeholders, and not necessarily changing patterns of consumer behaviour (Romer, 2012). While ban-tax policies have been persisting successfully in some North American cities, namely Los Angeles County and Washington D.C., there still appears to be notable public and industry opposition to these policies, and the possible longevity of these policies has been questioned (Romer, 2012).

### Bag Taxes

Placing a tax or levy on each plastic bag, to be paid by the consumer, is a policy type that has seen success in various cities inside and outside of North America. Arguably the best feature of a tax-based policy is that it confronts consumers directly every time they go shopping and thus has the potential to directly change consumer's behaviour away from thinking that taking plastic bags is a social norm (Clapp & Swanston, 2009; Convery et al., 2007; Romer, 2010). Maybe because a tax-based policy does not threaten to eliminate plastic bags completely, industry groups seem to voice less opposition to bag taxes than to bag bans (Clapp, 2009; Romer, 2010).

The major inherent disadvantage to a bag tax is that such a policy still allows for the consumption of plastic bags and thus would mean in many cases not reducing plastic bag consumption as much as a bag ban would. While this can be seen as a major draw back to bag taxes, the example of the Irish National Bag Tax (known commonly as the Irish "PlasTax" and examined below) illustrates how if planned and implemented strategically a bag tax can be an extremely successful policy to reduce the consumption of plastic bags.

A final criticism of bag taxes is that the impacts of the fee paid per bag are disproportionately felt by individuals from different socio-economic backgrounds. A \$0.25 fee might hardly be noticed to a wealthy shopper who thus feels no incentive not to take a bag even though they are carrying the groceries only as far as their car in the parking lot. Meanwhile, a low-income shopper might feel the impacts of a fee more severely, and the responsibility to change bag-dependent behaviour is thus shifted onto them. This issue has been addressed in many ways, including giving bag credits for free bags to families with annual incomes below a defined level, or mandating stores provide

alternative methods to carry out groceries (Romer 2010; 2012). Local examples that I have observed are the Canadian grocery chain “No Frills” which will often supply for their customers free cardboard boxes that had originally carried their incoming produce, and Mountain Equipment Co-op which will often reuse the plastic bags their merchandise arrives in as shopping bags for customers at the checkout.

## **The Case of the Irish PlasTax**

In only 4 years since implementing the PlasTax, Ireland has seen a reduction in the use of plastic bags by 94% (Convery et al., 2007). The PlasTax has been studied widely and researchers have argued that its success is largely due to components of the policy that can be considered outside of a standard tax-based policy (Clapp & Swanston, 2009; Convery et al., 2007; Romer, 2010). The details of this case study not only inform other bag tax initiatives, but have implications that could work to mitigate the inherent draw backs to each of the policy types described above.

The most obvious difference to consumers between the PlasTax and most other bag tax policies is that the former was set at a relatively high price of €0.15 (\$0.20 CAD), and later raised to €0.22 (\$0.29 CAD), while most other bag taxes have been either \$0.05 or \$0.10 (Clapp & Swanston, 2009). By charging a more substantial fee than most bag taxes, the steep PlasTax addresses the concern that bag taxes are not as effective as bag bans. Not only does the €0.22 fee reduce the amount of bags taken by consumers compared to a \$0.05 fee, but it also strengthens the tax’s quality of changing consumer behaviour because not choosing an alternative to plastic bags carries with it a more substantial consequence (Clapp & Swanston, 2009; Convery et al., 2007). An additional bonus is that a high tax can raise high revenues for the government, which in Ireland’s case were used to fund environmental initiatives (Convery et al., 2007).

Another important difference between the PlasTax and most other plastic bag management campaigns is that those responsible for implementation of the PlasTax went to great lengths to ensure that there would be no public or industry opposition to

the tax once it was in place (Clapp & Swanston, 2009; Convery et al., 2007). To garner public support for the tax the Department of the Environment, Heritage, and Local Government launched a € 358 000 advertising campaign designed to educate the public on why the tax was necessary and on how it would operate (Convery et al., 2007). Comparatively, educational ad campaigns have never been significant components of plastic bag reduction campaigns in North America, and instead of unifying the public to support such policies, much of the public discourse surrounding such campaigns is shaped by divergent views in the media (Romer, 2010). Making matters worse, when the government fails to unify the public with ad campaigns, opposing industry groups can hijack the popular perception of such policies with their own campaigns, as demonstrated by the American Chemistry Council's spending of over \$1.5 million to combat bag bans and taxes in San Francisco (Clapp & Swanston, 2009; Romer, 2012).

Industry opposition to the PlasTax was prevented through extensive consultation with these stakeholders to address any concerns they might have before the tax was implemented (Convery et al., 2007). As demonstrated by the intense opposition to plastic bag management policies by big industry groups in California and Toronto, industry opposition can be the single biggest obstacle facing such policies (Clapp & Swanston, 2009; Romer 2010; 2012). Toronto's successive bag tax and bag ban efforts illustrate this point nicely, as well as illustrating the importance of consultation with industry stakeholders. In preparation of implementing the city's 2009 bag tax the city council mandated that there would be consultation with multiple stakeholders reflecting the types and sizes of businesses in the retail industry (Toronto City Council, 2008), and as a result the bag tax faced little opposition from industry groups. The 2013 bag ban however, involved no stakeholder consultation, and as a result the city faced two lawsuits from different industry groups on the grounds that they were not consulted (Ontario Convenience Stores Association, 2012; Rider, 2012). Industry opposition defeated the city's bag ban before it could even be implemented. The Irish PlasTax however, faced virtually no opposition from industry groups as they were on board with the tax from its inception.



## **Implications of the Irish PlasTax**

These details in the implementation of the PlasTax were all crucial for its success, and have made that policy the best plastic bag management policy implemented to date. Because of the inherent advantages of a restrictive tax-based policy over bans and hybrid ban-tax policies, and because the Irish PlasTax proved that the assumed disadvantages of bag taxes could be overcome, a bag tax has so far proven to be the best practice for reducing plastic bag consumption in an urban centre. The further implications from the implementation of the PlasTax however, could work to overcome the apparent disadvantages to both bans and ban-tax policies. Other than the technique of setting a relatively high tax for plastic bags, there is no reason that the lessons learned from the PlasTax cannot be applied to ban and ban-tax policies. Extensive educational ad campaigns could aim to change consumer behaviour regarding bags in ways that bans and hybrid ban-taxes are unable to do on their own. Similarly, consultation with industry stakeholders could work to quell the intense opposition that those industry stakeholders usually harbour towards bans and ban-taxes. So far we have not seen a bag ban or hybrid bag-tax policy that has been able to change consumer behaviour as effectively as a bag tax, nor one that has been able to rally unanimous support from public and industry stakeholders via ad campaigns and extensive consultation, so at this point the PlasTax still serves as the best model to follow when attempting a restrictive plastic bag management policy. It is possible however, that in the near future we will see a bag ban or ban-tax policy that incorporates these elements and is more effective than the PlasTax.

## **Recommendations**

Looking ahead to Vancouver's goal of being the greenest city in the world I recommend that Metro Vancouver considers a plastic bag tax as their primary management policy for reducing single-use plastic bag consumption. I would further recommend that their plastic bag tax policy incorporate the unique features of the Irish

PlasTax like educational ad campaigns, industry stakeholder consultation, and a relatively high fee per bag. I would not be opposed to Metro Vancouver implementing a bag ban or ban-tax policy so long as they also included the aforementioned features, but there is not currently enough evidence to suggest that those types of policies will be as effective as a well implemented bag tax.

My recommendation for Greener Footprints is to work towards getting the issue of plastic bag consumption to be more recognized by the public as a major problem, and to ultimately lobby the provincial government of British Columbia to allow Metro Vancouver to pursue its own bag tax. The organization has the unique opportunity to approach public and private stakeholders before any official policy is released, and can lay the groundwork for accruing public and industry support. An effort to lobby the provincial government for bag management policies would be strengthened if Greener Footprints could show large-scale public support for the issue, or support from powerful industry agents such as major retailers. If the power to manage plastic bags is not soon conceded to the municipal governments, then the efforts of Greener Footprints to unite public and industry groups towards more sustainable bag management would not be wasted. An effort to educate the public of the benefits of reducing plastic bags consumption has already proven itself to be a successful method to change consumer behaviour and reduce bag consumption in Ireland, and getting major retailers to implement their own restrictions on plastic bags can reduce a lot of bags in circulation. Reducing plastic bag consumption across all of Metro Vancouver is a substantial goal and will undoubtedly take significant coordination and effort between different groups and areas of government, so Greener Footprints might also consider cooperating with other environmental NGO's to achieve this goal.

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