

# STEMMING THE PLASTIC FLOOD

*Increasing restrictions and  
prohibitions on  
Single-use Plastics (SUPs)  
Worldwide*



# I. INTRODUCTION

Our planet is drowning in plastic waste. The increasing production and use of disposable plastics is choking the oceans and smothering nature - threatening marine life and the well-being of other creatures. Early this year, a dead male sperm whale that washed ashore in Murcia, Spain was found to have died from ingesting 64 pounds of plastic debris.<sup>1</sup> In India, cows foraging for food in open dumps swallow plastic materials, which cause them to suffer a slow death.<sup>2</sup> Birds, dolphins, turtles, elephants, and a host of other species are dying from ingesting various plastic items - from bags to caps to lighters, and other disposable plastic items.

Perhaps a grave reminder of the impacts of plastic pollution is the fact that more and more scientists and researchers are finding plastics contamination everywhere: in our oceans and waterways, in marine life and sea creatures, in sea salt and our drinking water, in the food chain and in our bodies! Studies confirm that humans are ingesting thousands of microplastic particles year after year, and that human blood carries with it some of the most persistent and toxic chemicals associated with plastics. What all this is doing to our health and well-being is now the subject of increasing public concern and scrutiny.

Despite the alarming evidence, industry - including companies in the retail and fast moving consumer goods sectors - continues to flood the planet with single-use and non-recyclable plastic .

A report from the Ellen Macarthur Foundation in partnership with the World Economic Forum estimates that there will be more plastic than fish in the ocean by 2050 if drastic measures are not taken to move away from our disposable plastic culture.<sup>3</sup> Today, the world consumes an estimated 5 trillion plastic bags per year and only about 1% is recycled.<sup>4</sup> We have produced more plastic bags in the last decade compared

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<sup>1</sup> <https://www.forbes.com/sites/trevornace/2018/04/09/yet-another-dead-whale-is-grave-reminder-of-our-massive-plastic-problem/#40d4fa56cd23>

<sup>2</sup> <http://www.plasticpollutioncoalition.org/pft/2016/8/9/plastic-pollution-is-killing-indias-sacred-cows>

<sup>3</sup> [http://www3.weforum.org/docs/WEF\\_The\\_New\\_Plastics\\_Economy.pdf](http://www3.weforum.org/docs/WEF_The_New_Plastics_Economy.pdf)

<sup>4</sup> [http://www.theworldcounts.com/counters/waste\\_pollution\\_facts/plastic\\_bags\\_used\\_per\\_year](http://www.theworldcounts.com/counters/waste_pollution_facts/plastic_bags_used_per_year) . Site accessed March 19, 2018.

to the last century.<sup>5</sup> The ubiquity of plastics and their resistance to decomposition have made plastic pollution a global issue of crisis proportion. In December 2017, all 193 member countries of the United Nations agreed to start monitoring the amount of [plastic](#) they put into the ocean and to explore ways to make it illegal to dump waste in the seas.

Moreover, an increasing number of countries, states, provinces, cities, municipalities, and institutions all over the world have been adopting policies and measures to curb plastics use and pollution. A particular target of such restrictions and prohibitions are the disposable or single-use plastics (SUPs), which are generally intended to be used only once and disposed of immediately thereafter. These include plastic bags, bottle caps, lids, straws, food containers and wrappers, coffee stirrers, cutlery, plastic water bottles, sachets, wet wipes, and other disposable packaging for healthcare and cosmetic products. Microbeads are also the subject of increasing restrictions in a growing list of countries.

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<sup>5</sup> <https://plasticoceans.org/the-facts/>

## II. RATIONALE FOR INCREASING POLICY RESTRICTIONS ON PLASTICS

There are many reasons why governments and civil society are demanding policies that would drastically reduce the amount of plastics produced and deployed in the marketplace. These include the following:

- Plastic spawns pollution throughout its entire life cycle. The polluting legacy of plastic begins at the point of fossil fuel extraction and continues throughout its energy intensive and toxics laden production process. Almost all plastics are made from fossil fuels, also the primary driver of climate change.
- Plastic takes years to break down, sometimes even longer than a person's lifetime. The Marine Conservancy estimates the following breakdown rates for different plastic materials found in coasts: Foamed plastic cups – 50 yrs., plastic beverage holders – 400 yrs, disposable diapers – 450 yrs, plastic bottles – 450 yrs, fishing lines – 600 yrs,<sup>6</sup> plastic bags take 20 to 1000 yrs
- Plastic affects biodiversity. Some of the earliest studies that indicated trouble were reported in the 1960s. Plastic particles were found in the digestive tracts of different marine birds, reptiles and mammals, interfering with their digestion and eventually leading to their death. An estimated 267 species of animals are affected through ingestion.<sup>7</sup> Reports of entanglements also steadily increased through the decades. Sometimes they were significant enough to drive down a

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<sup>6</sup> When the mermaids cry: The Great Plastic Tide. <http://plastic-pollution.org/> Site accessed on March 25, 2018.

<sup>7</sup> Plastic bag bans in the world. <https://www.reusethisbag.com/reusable-bag-infographics/plastic-bag-bans-world.php> . Site accessed March 25, 2018.

population such as those of northern gannets.<sup>8</sup> Some studies suggest that about 100 million marine mammals including sea lions, seals, dolphins and whales are killed each year from plastic pollution.<sup>9</sup> Other marine animals vulnerable to plastic pollution are sea turtles, sea birds, and fish. Ingestion of microfibers in water also cause problems especially to fish like the brown trout, cisco and perch.

- As the contamination moves up the food chain, the likelihood of humans ingesting plastic increases. A recent study conducted by a team of Malaysian and French scientists showed that plastic microparticles become lodged in the flesh of some fish species consumed by humans like mullet, anchovy, and mackerel.<sup>10</sup> Toxic additives like lead, mercury, bisphenol A (BPA) in the plastic or toxic chemicals in the water that bind to the plastic could then be passed on to humans, potentially causing poisoning, infertility, and genetic disruptions if contaminated fish is consumed in large amounts.<sup>11</sup>
- Plastic bags are aerodynamic and can be blown far from places of disposal. They mar otherwise beautiful land and seascapes, resulting in economic losses to communities that host tourist attractions. They also clog drains and water passages, leading to floods especially during heavy downpours.<sup>12</sup> Clogged passageways could also become habitats for disease-carrying vectors such as mosquitos.
- More recently, scientists have expressed concern over plastic microparticles in the air and its possible impacts on human respiratory and circulatory systems.<sup>13</sup>
- Moreover, low-income communities, especially communities of color, fisherfolks and waste workers are those disproportionately facing the polluting impacts of plastic around the globe. For

<sup>8</sup> Ryan, PG. Ryan P.G. (2015) A Brief History of Marine Litter Research. In: Bergmann M., Gutow L., Klages M. (eds) Marine Anthropogenic Litter. Springer, Cham. [https://link.springer.com/chapter/10.1007/978-3-319-16510-3\\_1](https://link.springer.com/chapter/10.1007/978-3-319-16510-3_1)

<sup>9</sup> These 5 Marine Animals Are Dying Because of our Plastic Trash... Here's How We Can Help. <http://www.onegreenplanet.org/animalsandnature/marine-animals-are-dying-because-of-our-plastic-trash/>. Site accessed March 19, 2018.

<sup>10</sup> Plastic microparticles found in flesh of fish eaten by humans. <http://www.independent.co.uk/environment/plastic-microparticles-fish-flesh-eaten-humans-food-chain-mackerel-anchovy-mullet-a7860726.html>. Site accessed March 19, 2018.

<sup>11</sup> Microplastics in the sea a growing threat to human health, United Nations warns. <http://www.independent.co.uk/environment/microplastics-microbeads-ocean-sea-serious-health-risks-united-nations-warns-a7041036.html> Site accessed March 19, 2018.

<sup>12</sup> [http://www.earth-policy.org/plan\\_b\\_updates/2014/update123](http://www.earth-policy.org/plan_b_updates/2014/update123)

<sup>13</sup> "We may breathe harmful microplastics." <https://www.plasticsoupfoundation.org/en/2016/05/breathe-harmful-microplastics/>

example, deaths due to garbage slides have been reported in Ethiopia, Mozambique, Sri Lanka, and the Philippines.<sup>14 15 16</sup> One of the studies in the 2000 Payatas garbage slide in the Philippines identified the high volume of lightweight plastic materials as one of the important contributing factors to the slide.<sup>17</sup> Fisherfolks in the Philippines have also been reporting declining catches and livelihood losses due to the pollution of their fishing areas by plastic waste,

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<sup>14</sup> <https://www.npr.org/sections/thetwo-way/2017/03/13/519952129/dozens-missing-in-deadly-landslide-at-ethiopian-garbage-dump>

<sup>15</sup> <https://edition.cnn.com/2018/02/20/africa/mozambique-garbage-collapse-intl/index.html>

<sup>16</sup> <https://blogs.agu.org/landslideblog/2017/04/16/meethotamulla-1/>

<sup>17</sup> Nafari, NH., Stark, TD., and Scott, M. April 2013. The July 2000 Payatas Landfill Slope Failure. International Journal of Geoengineering Case Histories. Vol II., Issue 3, p. 208.

## III. LIST OF NATIONAL BANS AND RESTRICTIONS ON SINGLE-USE PLASTICS

What follows is a list of existing national level prohibitions and/or restrictions or levies on single-use plastics.

At the time of this report's writing, other countries like Costa Rica and Taiwan have announced or signified their plan to ban single-use plastics within the next decade while investing in the development of alternatives to single-use plastics in order to achieve their goals.

Earlier this year, the European Union (EU) also adopted a EU-wide strategy on plastics as part of the union's transition towards a more circular economy. Under this strategy, there are plans to make all plastic packaging recyclable by 2030 and reduce the consumption of single-use plastics, while spurring innovations in the way products are designed, produced, used and recycled in the EU. Moving forward, member states are expected to translate this strategy into policies that will curb the use of SUPs.

While some of the policies cited below suffer from certain gaps or loopholes, which need to be addressed and corrected in the course of implementation, the intent of these laws are clear i.e outlaw or restrict SUPs and stem the tide of plastic pollution.

With changing consumer attitudes on plastics and increasing public anger over plastic pollution, restrictions and prohibitions on the use of SUPs are expected to increase and gather even greater momentum in the coming years.

## AMERICAN SAMOA

**Type of Law:** Ban

**Date of Effectivity:** Feb. 23, 2011

**Coverage:** Petroleum-based plastic bags provided to customers and consumers by wholesalers or retailers.<sup>18</sup> Exemptions include non-petroleum-based biodegradable plastics, compostable plastics, and additional exemptions to be established by the American Samoa Environmental Protection Agency. Contraband will be seized and injunctive relief to be sought from the High Court.

**Impacts:** Because bio-bags are common, it seems that the problem remains because specific conditions are needed to break them down. Most bio-bags end up in landfills where conditions do not allow the decomposition of such bags.<sup>19</sup> In addition, the biodegradable component of bags was only 30-40% leaving 60-70% plastic in the environment.<sup>20</sup>

## ANTIGUA and BARBUDA

**Type of Law:** Ban

**Date of Effectivity:** July 1, 2016 for plastic bags

**Coverage:** T-shirt plastic bags or thin bags<sup>21</sup>

**Impacts:** Bigger businesses showed better compliance compared to small operators after 1 year of implementation.<sup>22</sup>

**Type of Law:** Ban

**Date of Effectivity:** Stage 1 – July 1 to Dec. 31, 2017; Stage 2 – Jan. 1 to June 31, 2018 and Stage 3 – July 1 to Dec. 31, 2018.

**Coverage:** Importation of polystyrene (Styrofoam) containers. The implementation is in three stages: (1) Importation and use of all food containers including clam shells and hinge containers, hot dog containers, bowls, plates, and hot and cold beverage cups; (2) Importation and use of all plastic utensils, straws and fruit, meat, vegetable and egg trays; (3) Importation and use of “naked” Styrofoam coolers. The ban extends to all business within the food service industry including

<sup>18</sup> Public Law 31. [http://www.epa.as.gov/sites/default/files/documents/plastic\\_ban/plasticbagban.pdf](http://www.epa.as.gov/sites/default/files/documents/plastic_ban/plasticbagban.pdf)

<sup>19</sup> The truth behind the bio-bag. [http://www.samoobserver.ws/en/18\\_09\\_2017/columns/24475/The-truth-behind-the-%E2%80%98Bio-Bag%E2%80%99.htm](http://www.samoobserver.ws/en/18_09_2017/columns/24475/The-truth-behind-the-%E2%80%98Bio-Bag%E2%80%99.htm)

<sup>20</sup> Samoa battles plastic pollution. [http://www.samoobserver.ws/en/24\\_01\\_2018/local/29174/Samoa-battles-plastic-pollution.htm](http://www.samoobserver.ws/en/24_01_2018/local/29174/Samoa-battles-plastic-pollution.htm)

<sup>21</sup> Government moves further with plans to phase of use of T-shirt plastic bags. [https://ab.gov.ag/media\\_page.php?page=64](https://ab.gov.ag/media_page.php?page=64)

<sup>22</sup> Mixed results on plastic bag ban. <https://antiguaobserver.com/mixed-results-on-plastic-bag-ban/>

supermarkets, groceries and catering services.<sup>23</sup> Airlines, private charters and cruise liners are exempted until further notice. Items will be confiscated.

## BANGLADESH

**Type of Law:** Ban

**Date of Effectivity:** March 1, 2002

**Coverage:** Production, importation, marketing, sale, exhibition for sale, distribution, stocking, transportation or use for commercial purposes of polythene (polyethylene and polypropylene) bags.<sup>24</sup>

**Penalties:** The manufacture, importation and marketing of polythene bags carry a penalty of imprisonment not exceeding 10 years or fine not exceeding 10 lak taka or both. The sale, exhibition for sale, stocking, distribution, commercial transport and use carries a penalty of imprisonment not exceeding 6 months or fine not exceeding 10 thousand taka or both.

**Impacts:** Implementation is slow because of the lack of enforcement.

## BELGIUM

**Type of Law:** Tax

**Date of Effectivity:** 1993 for the Packaging Charge and 2007 for the Environmental Charge. The latter was abolished on Jan.1, 2015 citing success in achieving the objectives of the law.

**Coverage:** A packaging charge was introduced in 1993 to promote reuse and recycling of beverage containers. The tax rate was 15 francs (0.37 Euros) regardless of reusability. It was reformed in 2004 by giving a higher tax rate for non-reusable containers and lower rate for reusable ones. In 2014, the tax rate for non-reusable containers was pegged at EUR 9.86/hectoliter and EUR 1.81/hectoliter for reusable containers.

In 2007, an Environmental Charge was added to disincentivize single-use carrier bags, (EUR 3/kg) SUP bags (EUR 2.70/kg), aluminum foil (EUR 4.50/kg), and disposable plastic cutlery (EUR 3.60/kg).<sup>25</sup> Exemptions were based on rates of recycling or reuse as determined by Fost Plus, an industry body that would promote, coordinate and finance collection, sorting and recycling of household packaging waste.

**Impacts:** The Packaging Charge was not so successful because of lack of information campaign, lack of clear targets and public involvement from the start. Meanwhile, the Environmental Charge resulted

<sup>23</sup> Stages and Implementation of Styrofoam ban. <http://www.antiguanice.com/v2/client.php?id=806&news=10298>

<sup>24</sup> The Bangladesh Environment Conservation Act, 1995. <http://extwprlegs1.fao.org/docs/pdf/bgd42272.pdf>

<sup>25</sup> Packaging taxes in Belgium. <https://ieep.eu/uploads/articles/attachments/750b4c86-75d6-4016-8e1b-da2e69d2ded9/BE%20Packaging%20Tax%20conference%20draft.pdf?v=63673818840>

in a drop of use of SUPs by about 60% from 2008 to 2009 especially among large supermarkets and retailers because its introduction was tied to a massive information campaign.

On environmental metrics, this tax resulted in significant savings in energy, greenhouse gas emissions and litter. However, on economic metrics, it is difficult to make a conclusive assessment because of other factors.

## BHUTAN

**Type of Law:** Ban

**Date of Effectivity:** First passed in 1999 by a cabinet decision<sup>26</sup> and reintroduced in 2005. In April 2012, a Waste Prevention and Management Regulation was passed.

**Coverage:** Plastic bags

**Impacts:** The absence of legislation in 1999 caused confusion rendering it difficult to monitor and, therefore, unimplementable. There was no stringent penalty system and no viable alternatives presented.<sup>27</sup> To date, challenges remain in the implementation.

## BOTSWANA

**Type of Law:** Consumer Tax

**Date of Effectivity:** 2007

**Coverage:** It only covers plastic bags for food and other retail outlets from other sectors.<sup>28</sup> It also outlaws the manufacture and importation of plastic bags thinner than 24 microns. The objective was to reduce plastic bag consumption, encourage recycling, reduce litter, and ensure safe disposal of residual plastic waste.<sup>29</sup> The tax was intended to support environmental projects. However, the tax was not specified by law. Instead, it was up to the retailers to decide how much to charge for bags depending on market forces. The tax excludes plastic refuse bags and plastic packaging. Penalties are jail sentence of 3 years and a fine of BWP 5000.

**Impacts:** After 18 months of implementation, the country experienced a 50% drop in plastic bag usage. Its success was partly attributed to public clamor for such legislation.

<sup>26</sup> Plastic ban still ineffective. <http://www.bbs.bt/news/?p=22302>

<sup>27</sup> Biodegradable carry bags still awaiting NEC's approval. <https://www.pressreader.com/bhutan/business-bhutan/20151128/281552289777132>

<sup>28</sup> Behavioral Response to Plastic Bag Legislation in Botswana. <http://www.rff.org/files/sharepoint/WorkImages/Download/EfD-DP-10-13.pdf>

<sup>29</sup> Taxation and regulation of plastic shopping bags in Botswana and South Africa. <http://www.rff.org/blog/2011/taxation-and-regulation-plastic-shopping-bags-botswana-and-south-africa>

## BULGARIA

**Type of Law:** Tax

**Date of Effectivity:** October 1, 2011

**Coverage:** It is a progressive tax on plastic bags. It started by taxing producers and importers for bags of up to 15 microns thickness at BGN 0.15 (\$0.10) per bag in 2011. In 2012, the tax increased to BGN 0.35 (\$0.23) in 2012, BGN 0.45 (\$0.30) in 2013 and BGN 0.55 (\$0.37) in 2014.

**Impacts:** Based on receipts of fees, the Environment Ministry reported substantial reduction in consumption of plastic bags.<sup>30</sup> It also reported a drop in plastic bag revenues by 60% within 2 years of implementation. Factors affecting its success are: appropriate regulation of the market, change in consumer attitudes and availability of multi-use bags.

## CAMEROON

**Type of Law:** Ban

**Date of Effectivity:** April 2014

**Coverage:** Producers, importers and marketers of non-biodegradable plastic bags that are less than 60 microns thick.<sup>31</sup> Plastic bags in the black market will be seized and destroyed. Violators face between 2 and 10 years imprisonment and fines of up to USD 20,000.<sup>32</sup>

**Impacts:** The law is facing challenges in implementation because of a thriving black market for plastic bags and the lack of affordable alternatives.

## CHINA

**Type of Law:** Ban and Fee

**Date of Effectivity:** June 1, 2008 for the plastic bags and January 2018 for the plastic waste imports

**Coverage:** The law came to effect in 2008 in time for the Olympics. It bans the production, sale, distribution, and use of plastic bags thinner than 0.025 millimeter and compels retailers to charge a fee for these bags.<sup>33</sup> In January 2018, a ban on the importation of plastic wastes was also implemented.<sup>34</sup> Plastic for raw meat and noodles are exempted from the ban citing hygiene and safety

<sup>30</sup> Manufacturers of plastic bags protest against Bulgaria's new eco-tax. <https://sofiaglobe.com/2012/09/26/manufacturers-of-plastic-bags-protest-against-bulgarias-new-eco-tax/>

<sup>31</sup> Cameroon struggles to enforce Plastic Bag Ban as black market supports demand from retailers. <https://globalpressjournal.com/africa/cameroon/cameroon-struggles-to-enforce-plastic-bag-ban-as-black-market-supports-demand-from-retailers/>

<sup>32</sup> Cameroon plans to phase out plastic bags. <https://www.voanews.com/a/cameroon-plans-to-phase-out-plastic-bags/1738058.html>

<sup>33</sup> Plastic bag ban trumps market and consumer efforts. <http://www.worldwatch.org/node/5808>

<sup>34</sup> China recyclers grind to halt amid crackdown on imported waste. <https://www.ft.com/content/63cf220c-f8ee-11e7-9b32-d7d59aace167>

reasons. Violators are fined. Total amount of fines dispensed by its 600,000 regulators on retailers in its early stages of implementation reached 2 million yuan (\$293,000.00).

**Impacts:** The National Development and Reform Commission (NRDC) estimates a reduction of usage of 66% by supermarkets.<sup>35</sup> It also resulted in savings of 1.6 million tons of petroleum. In addition, it is instilling a more positive public attitude towards energy savings and environmental protection. According to the China Chain Store and Franchise Association, supermarket sales have not been affected. However, plastic manufacturers went out of business soon after the ban was implemented.

## CZECH REPUBLIC

**Type of Law:** Tax

**Date of Effectivity:** Jan. 1, 2018

**Coverage:** Retailers will be required to charge consumers for plastic bags with a thickness of 15 microns or more.<sup>36</sup> The price is left to the retailer as long as it covers the cost of the bag. Exempted are bags for bread, meat and fresh produce for hygiene reasons. A fine of up to 500,000 CZK could be set for violators.

## DENMARK

**Type of Law:** Tax/Charge

**Date of Effectivity:** 1994

**Coverage:** Plastic bags. Denmark introduced legislation in 1994 ahead of the EU. In 2003, it adopted the European Union's Packaging and Packaging Waste Directive whose reduction target is 80% by 2019.<sup>37</sup> Today the tax rate is 22 kroner (\$4.00) per kilogram of plastic bags.<sup>38</sup> Consumers pay about 2-3.5 kroner (\$0.37-0.65) per bag, one of the highest in the world.

**Impacts:** The average consumption per person has gone down to 4 bags annually.<sup>39</sup> It is believed to have saved 66% of plastic and paper bags.<sup>40</sup> Denmark's law is considered one of the most successful in reducing plastic consumption.

<sup>35</sup> China reports 66% drop in plastic bag use. <http://www.worldwatch.org/node/6167>

<sup>36</sup> Czech Republic bids goodbye to free plastic bags in 2018. <https://news.expats.cz/weekly-czech-news/czech-republic-bids-farewell-free-plastic-bags-2018/>

<sup>37</sup> Plastic bags usage + Bans around the world. <https://www.reusethisbag.com/articles/plastic-bag-bans-worldwide/>

<sup>38</sup> The downfall of the plastic bag: A global picture. [http://www.earth-policy.org/plan\\_b\\_updates/2014/update123](http://www.earth-policy.org/plan_b_updates/2014/update123)

<sup>39</sup> Breaking bad habits. [https://ec.europa.eu/environment/efe/themes/waste/breaking-bag-habits\\_en](https://ec.europa.eu/environment/efe/themes/waste/breaking-bag-habits_en)

<sup>40</sup> List by country: Bag charges, taxes and bans. <http://www.bigfatbags.co.uk/bans-taxes-charges-plastic-bags/>

## ENGLAND

**Type of Law:** Levy

**Date of Effectivity:** Oct. 5, 2015

**Coverage:** England decided to charge 5 pence for thin-gauge SUPs in large supermarkets (i.e. 250 or more employees), high street and some out-of-town shops with a longer-term view of expanding coverage to include smaller businesses.<sup>41</sup> Thicker bags are available but must be purchased, reused and can be replaced once worn out. Exemptions are shops in airports or onboard trains, planes or ships and items such as unwrapped food, meat, fish where contamination is possible, uncovered blades, seeds, prescription medicines, bulbs, flowers, and live fish. At this time, there biodegradable plastic bags are still covered by the policy pending more technical studies.

**Impacts:** A survey conducted of the seven biggest retail chains in the country showed a 83% drop in thin plastic bag sales from April 7, 2016 to April 6, 2017.<sup>42</sup> Some stores are now offering “bagless” deliveries for products shopped online. Data from 166 retailers that year amounted to 66 million pounds; 33.1 million of it was donated to local causes, 20.5 million to volunteer or charitable institutions and 12.8 million to a combination of both. Another survey conducted by Business Waste show that 58% of those surveyed are willing to pay 20 pence or more for the bags.

## ERITREA

**Type of Law:** Ban

**Date of Effectivity:** Jan. 2005

**Coverage:** The importation, production, distribution, and sale of plastic bags are disallowed.<sup>43</sup> Individuals caught with plastic bags will not be penalized but will be asked to identify the source of the bag.<sup>44</sup> Manufacturers, importers, distributors and sellers could fined up to thousands of Nafka.

**Impacts:** The success of the proclamation is due to strong enforcement and cooperation between implementing agencies coupled with a public education component.

<sup>41</sup> Policy Paper. Carrier bags: Why there's a Charge. <https://www.gov.uk/government/publications/single-use-plastic-carrier-bags-why-were-introducing-the-charge/carrier-bags-why-theres-a-5p-charge>

<sup>42</sup> Plastic bag charge: 10 fascinating facts about the scheme's sustainability success. <https://www.edie.net/news/5/Plastic-bag-charge-UK-sustainability-statistics-from-Defra-2017/>

<sup>43</sup> Eritrea bans plastic bags. <https://www.news24.com/Africa/News/Eritrea-bans-plastic-bags-20050304>

<sup>44</sup> Healthy environment, healthy community. <http://www.shabait.com/articles/nation-building/24788-healthy-environment-healthy-community->

## ESTONIA

**Type of Law:** Ban/Charge

**Date of Effectivity:** Jan. 1, 2019

**Coverage:** The law set reduction targets of 90 lightweight bags (15 microns to 50 microns) consumption per person per year by Dec. 31, 2019 and 40 lightweight bags by Dec. 31, 2025.<sup>45</sup> It applies to free carrier bag handouts from stores and other retail outlets. Bags for meats, vegetables and milk are exempted.<sup>46</sup> Affected parties would include manufacturers, importers, packers, fillers, sellers and end-users. Parties are exempt if they place less than 100 kilograms of plastic packaging in the market per year or if they place less than 200 kilograms of any other packaging in the market per year.<sup>47</sup>

## ETHIOPIA

**Type of Law:** Ban and Tax

**Date of Effectivity:** 2008

**Coverage:** The law covers manufacturers and importers of non-biodegradable and non-reusable plastic bags with a thickness of less than 0.03mm.<sup>48</sup> In 2011, government reiterated the ban on the importation of plastic bags.

**Impacts:** The lack of awareness of the public and the manufacturers as to the severity of the problem of plastic pollution provides implementation challenges. Poor coordination among the implementing agencies was also cited as a factor contributing to poor implementation of the law.

## EUROPEAN UNION

**Type of Law:** Sets plastic reduction targets and allows member states to set charges for bags at point of sale.

**Date of Effectivity:** April 29, 2015

**Coverage:** Directive 2015/720, amending Directive 94/62/EC (Packaging and Packaging Waste), addresses consumption of lightweight plastic carrier bags.<sup>49</sup> Member states are to adopt measures that will reduce annual consumption not exceeding 90 bags per person by Dec. 31, 2019 and 40 bags per

<sup>45</sup> Estonia to reduce availability of plastic bags in shops. <http://bnn-news.com/estonia-to-reduce-availability-of-plastic-bags-in-shops-162584>

<sup>46</sup> Estonian govt endorses ban on free handout of plastic bags in stores. <https://news.postimees.ee/3956769/estonian-govt-endorses-ban-on-free-handout-of-plastic-bags-in-stores>

<sup>47</sup> A Quick Guide to Packaging Legislation in Estonia. <https://www.valpak.co.uk/docs/default-source/international-compliance/estonia-packaging.pdf>

<sup>48</sup> Ethiopia to restrict the use of plastic products. <http://www.africareview.com/news/Ethiopia-to-restrict-the-use-of-plastic-products/979180-3137822-jumv3o/index.html>

<sup>49</sup> Packaging and packaging waste. <http://ec.europa.eu/environment/waste/packaging/legis.htm>

person by Dec. 31, 2025, or equivalent targets in weight.<sup>50</sup> It also requires member states to adopt instruments that ensures that by Dec. 31, 2018 bags are provided not free of charge at point of sale of goods or products. Very lightweight plastic bags are exempted. Failure to comply by member states will be referred to the Court of Justice of the EU.

**Impacts:** Individual member states like Germany, Denmark, the Netherlands, and a few others have reported different rates of reduction. To further improve on their performance with regard to plastics, the European Commission adopted on January 16, 2018 a Plastics Strategy as part of the Action Plan to transition to a Circular Economy. This strategy aims to make all plastic packaging within the EU recyclable by 2030, further reduce plastic consumption, and restrict the intentional use of microplastics.<sup>51</sup> It will also give incentives for a more harmonized and efficient Extended Producer Responsibility.

## FINLAND

**Type of Law:** Deposit Refund System and Packaging Tax<sup>52</sup>

**Date of Effectivity:** 1994

**Coverage:** The deposit refund system for beverage containers covers refillable glass, PET bottles, and one-way cans. Government determines the deposit amount and is issued as decrees. So far, the rates range from EUR 0.10 to EUR 0.40 per container. The beverage packaging tax gives incentives by way of a lower tax if a participant of a registered deposit refund system. From 2008, all one-way containers including PET bottles were exempt from the tax if a participant in the deposit refund system.

**Impacts:** Private sector non-profit participation in developing schemes and systems and clear measures by government was key in the success of this system. Return rates for purposes of recycling are quite high. PET bottles, for example, is at 90%.

## FRANCE

**Type of Law:** Ban

**Date of Effectivity:** July 1, 2016

**Coverage:** It bans all plastic bags usually handed out by supermarkets and groceries with a thickness of less than 50 microns or a capacity of 10 liters.<sup>53</sup> It includes even the biodegradable bags and those with handles. During its first year of implementation, it did not include bags used for fruits and

<sup>50</sup> Directive (EU) 2015/720 of the European Parliament and of the Council. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32015L0720>

<sup>51</sup> Plastic Waste: A European strategy to protect the planet, defend our citizens and empower our industries. [http://europa.eu/rapid/press-release\\_IP-18-5\\_en.htm](http://europa.eu/rapid/press-release_IP-18-5_en.htm)

<sup>52</sup> Deposit Refund System (and Packaging Tax) in Finland. <https://ieep.eu/uploads/articles/attachments/9d526526-d22b-4350-a590-6ff71d058add/FI%20Deposit%20Refund%20Scheme%20final.pdf?v=63680923242>

<sup>53</sup> What you need to know about France's ban on plastic bags. <https://www.thelocal.fr/20160701/what-does-frances-ban-on-plastic-bags-actually-mean>

vegetables, meats or fish. However, by January 1, 2017, these plastic wrappers/bags were prohibited but was replaced by bags that were made of domestically compostable bio-sourced materials. Sturdier bags with handles were also not covered by the ban. Oxo-degradable bags are also prohibited.<sup>54</sup>

**Impacts:** France has claimed success in reducing plastic bag pollution not just from this ban but also because of participation and support of major supermarket chains like E.Leclerc who, as early as 1996, already voluntarily removed all non-biodegradable plastics from their checkout counters.<sup>55</sup> France is going ahead of all other countries and has extended the ban to plastic cutlery, cups, plates and others. It is also scheduled to ban microbeads in cosmetics by 2018 and cotton ear buds in 2020.<sup>56</sup>

**Type of Law:** Ban

**Date of Effectivity:** 2020

**Coverage:** The ban covers plastic utensils, plates, cups and cutleries. These will be replaced with disposables with 50% bio-sourced materials that is compostable at home by January 2020 and 60% by January 2025.<sup>57</sup>

## GAMBIA

**Type of Law:** Ban

**Date of Effectivity:** July 1, 2015

**Coverage:** The importation and use of plastic bags are completely banned.<sup>58</sup>

**Impacts:** Implementation has been challenging which is why Gambia is looking at revisiting the law. However, there have been cases where violations have resulted in arrests.

<sup>54</sup> France's single-use plastic bag regulation. <https://www.planete-energies.com/en/medias/close/france-s-single-use-plastic-bag-regulation>

<sup>55</sup> Earth Policy Institute. Data for plan B Update 123. [www.earth-policy.org/datacenter/xls/update123\\_all.xlsx](http://www.earth-policy.org/datacenter/xls/update123_all.xlsx)

<sup>56</sup> Plastic bags: their impact on the health of animals and new French legislation regulating their use. <http://eco-volontaire-international.com/en/plastic-bags-their-impact-animals-health-and-new-french-legislation-for-this-market/>

<sup>57</sup> France will be the first country to ban plastic cups and plates. <https://edition.cnn.com/2016/09/19/europe/france-bans-plastic-cups-plates/index.html>

<sup>58</sup> Plastic bag use, importation to be banned in Gambia. [http://www.gambia.dk/forums/topic.asp?TOPIC\\_ID=14348](http://www.gambia.dk/forums/topic.asp?TOPIC_ID=14348)

## GERMANY

**Type of Law:** Tax based on an agreement between the Federal Ministry of the Environment and the German Retail Association

**Date of Effectivity:** July 1, 2016

**Coverage:** While this policy follows that of the European Commission of reducing consumption of lightweight plastics with targets, Germany avoided the legislative route by working directly with the German Retail Association.<sup>59</sup> A recycling tax will be charged for plastics at checkout counters. This covers about 80% of the plastics in retail.

One of the outcomes of the 1991 EU Packaging and Packaging Waste Directive was the establishment of the Green Dot System, a recycling system initiated by the Duales System Deutschland AG to coordinate the collection, sorting and recycling of packaging waste among other things in Germany.<sup>60</sup> Most supermarkets also charge 5-10 euro cents per bag.

**Impacts:** Combined, all these initiatives have resulted in the drop in consumption of plastic bags from 7 billion in 2000 to 6 billion in 2012 while increasing recycling rates.<sup>61</sup> According to the German Society for Packaging Market Research, virtually all packaging wastes are recycled, although there are issues around where the wastes are sent for recycling and the actual conditions of such recycling operations overseas.

## HAITI

**Type of Law:** Ban

**Date of Effectivity:** Oct. 1, 2012

**Coverage:** The ban covers the importation, manufacture and sale of polyethylene bags and polystyrene cups, plates, trays and other food containers encouraging, instead the importation and manufacture of biodegradable products.<sup>62</sup> Plastic bags for potable water are exempted from the ban.

**Impacts:** The Haiti government has cracked down on violators. However, Haitians argue that this initiative could be successful if it is coupled by viable alternatives. For now, implementation challenges remain.

<sup>59</sup> The fate of plastic bags. <https://www.iwkoeln.de/en/press/iwd/beitrag/environmental-protection-the-fate-of-plastic-bags-315995.html>

<sup>60</sup> The Green Dot System.

[http://www.guiaenvase.com/bases/guiaenvase.nsf/0/950B6ED17881D76EC1256F250063FAD0/\\$FILE/Article+Green+Dot+TTZ+English.pdf?OpenElement](http://www.guiaenvase.com/bases/guiaenvase.nsf/0/950B6ED17881D76EC1256F250063FAD0/$FILE/Article+Green+Dot+TTZ+English.pdf?OpenElement)

<sup>61</sup> Earth Policy Institute. Data for plan B Update 123. [www.earth-policy.org/datacenter/xls/update123\\_all.xlsx](http://www.earth-policy.org/datacenter/xls/update123_all.xlsx)

<sup>62</sup> Haiti bans plastic bags and Styrofoam containers. <https://www.csmonitor.com/World/Americas/2012/0928/Haiti-bans-plastic-bags-and-styrofoam-containers>

## HONGKONG

**Type of Law:** Environmental Levy

**Date of Effectivity:** July 7, 2009

**Coverage:** This scheme targets plastic shopping bags (PSB). The first phase implemented between July 7, 2009 and March 31, 2015 targeted mostly supermarkets, convenience stores, medicare and cosmetic stores.<sup>63</sup> Its limited scope, however, still did not address much of the plastic waste problem. Following a review in 2011, which was followed by the issuance of a Product Eco-Responsibility Ordinance in 2013 which was amended in 2014. This expanded the coverage of the levy signaling the end of the first phase and the beginning of the full implementation of the levy on April 1, 2015. The expanded PSB Levy Scheme now includes a ban on free PSB distribution in all points of retail; retailers should charge consumers at least 50 cents per PSB except those used for food hygiene reasons; all plastic bags and flat-top bags are subject to regulation; sellers will continue to charge for PSBs.

**Impacts:** A survey conducted by the environmental group, Greeners Action, established the poor compliance to the scheme.<sup>64</sup> Only 1 out of 3 retailers charged consumers the mandatory 50 cents. However, despite the poor compliance, there was a 25% reduction in plastic wastes in landfills from 5.2 billion in 2014 to 3.9 billion in 2015.

## INDIA

**Type of Law:** Ban

**Date of Effectivity:** 2002

**Coverage:** The ban in India covers production of plastic bags below 20 microns in thickness to reduce flooding and cows ingesting them. However, on March 18, 2016, the Ministry of Environment, Forest and Climate Change passed a regulation banning polythene bags below 50 microns in thickness.

**Impacts:** Both bans remain largely unenforced forcing local authorities including Delhi, Mumbai, Karwar, Tirumala, Rajasthan, Vasco, Karnataka, Himachal Pradesh, Goa and Sikkim to install their own bans.<sup>65</sup> The bans are varied in coverage from plastic bags, to cling films, disposable utensils, food containers and so on in these different localities.

<sup>63</sup> Environmental Levy Scheme on Plastic Shopping Bags. [http://www.epd.gov.hk/epd/english/environmentinhk/waste/pro\\_responsibility/env\\_levy.html](http://www.epd.gov.hk/epd/english/environmentinhk/waste/pro_responsibility/env_levy.html)

<sup>64</sup> Time to take tougher action on plastic bags. <http://www.scmp.com/comment/insight-opinion/article/2107495/time-take-tougher-action-plastic-bags>

<sup>65</sup> Regulations worldwide on plastic bag ban.pdf Environment and Social Development Organization. Bangladesh.

## IRELAND

**Type of Law:** Levy<sup>66</sup>

**Date of Effectivity:** March 2002

**Coverage:** A EUR 0.15 environment levy per plastic bag at point of sale was introduced by government in 2002. The levy was increased to EUR 0.22 in 2007. The revenues were used to manage projects by the Environmental Fund and provide funding for the country's environmental protection agency, awareness raising, remediation and other environmental projects.

The law does not distinguish between biodegradable and non-biodegradable. Bags that are used for fish, meats, fruits, vegetables, nuts, cooked food, ice, confectionery, dairy and the like for hygiene purposes are exempted from the levy provided they are not bigger than 225 mm in width, 345 mm in depth and 450 mm in length. Plastic bags sold on ships, planes, airports are also exempt except when designed for reuse. In which case, these plastic bags are to be sold at EUR 0.70 each or more as required under the Waste Management Regulations 2001.

**Impacts:** Compared to 2000 levels, plastic bag litter today has been reduced by 40%. Marine litter has also gone down from 5% in 2001 to 0.25% in 2010. Retailers read the economic impact of the levy as neutral to positive. Public acceptance was at a high of 91% with most of them mentioning the positive impacts to the environment.

## NORTHERN IRELAND

**Type of Law:** Levy

**Date of Effectivity:** April 8, 2013

**Coverage:** Sellers are required to charge their customers 5 pence per single use carrier bag. Coverage was expanded to include carrier bags with a retail price of less than 20 pence starting January 19, 2015.<sup>67</sup> Revenues from the levy are earmarked for small-scale environmental projects and environmental education activities of non-profit organizations.<sup>68</sup>

**Impacts:** Revenues are reinvested in local environmental projects and activities that enhance civic pride. Schools can avail of this funding to create community gardens and the like.

## ISRAEL

**Type of Law:** Ban and Fee

<sup>66</sup> Plastic bag levy in Ireland. <https://ieep.eu/uploads/articles/attachments/0817a609-f2ed-4db0-8ae0-05f1d75fbaa4/IE%20Plastic%20Bag%20Levy%20final.pdf?v=63680923242>

<sup>67</sup> Northern Ireland carrier bag levy statistics. <https://www.daera-ni.gov.uk/articles/northern-ireland-carrier-bag-levy-statistics>

<sup>68</sup> McIlveen announces 400,000 pounds from plastic bag charge for local environmental projects. <https://www.daera-ni.gov.uk/news/mcilveen-announces-ps400000-plastic-bag-charge-local-environmental-projects>

**Date of Effectivity:** January 1, 2017

**Coverage:** Starting January 2017, large supermarkets can no longer distribute plastic bags with thickness of less than 20 microns.<sup>69</sup> They must also charge at least NIS 0.10 for plastic bags that is between 20 to 50 microns and it must appear on the customer's bill. Bags for food, fruits and vegetables are exempted as long as they do not have handles. Finally, supermarkets are required to submit quarterly reports to the Ministry of Environmental Protection (MoEP) for monitoring purposes.

Fees will be transferred to the MoEP and will fund environmental projects, awareness-raising activities that aimed at curbing air pollution as well as assisting manufacturers so that they can adjust their operations to be able to comply to the law.

**Impacts:** The first couple of months of implementation showed a drop in the sale of plastic bags. However, this quickly increased as Israelis started buying cheaper plastic bags and reusing them as garbage bags and bin liners.<sup>70</sup> The Ministry admits they lacked a good understanding of the consumer needs when the law was introduced.

## KENYA

**Type of Law:** Ban and Fee  
**Date of Effectivity:** 2017

**Coverage:** After attempting to enforce a ban on thin plastic bags in 2007 and failing, and again in 2011 with a ban and a tax, Kenya issued a third and much stronger law aimed at reducing the consumption of plastic bags.<sup>71</sup> Anyone caught manufacturing, selling or even carrying plastic bags will face fines of up to \$38,000.00 or imprisonment of up to 4 years. Travelers entering Kenya are told to leave duty free plastic bags at the airport. However, the use of polythene bags to wrap products during the manufacture stage is exempted from the ban.

**Impacts:** It seems that Kenyans are deterred by the stiff penalties. They are slowly adjusting to using cloth bags, backpacks and other reusable bags or containers, sometimes using their own hands to carry goods.

Challenges to the ban by plastic importers were dismissed by the High Court citing prioritization of environmental benefits of the ban as the reason for the decision.

<sup>69</sup> Reducing plastic bag use in Israel. [http://www.sviva.gov.il/English/env\\_topics/Solid\\_Waste/Pages/Supermarket-Bags.aspx](http://www.sviva.gov.il/English/env_topics/Solid_Waste/Pages/Supermarket-Bags.aspx)

<sup>70</sup> Israel's Anti-Plastic Bag Law Increased the sale of Plastic Bags. <http://www.jewishpress.com/news/israel/the-knesset/israels-anti-plastic-bag-law-increased-the-sale-of-plastic-bags/2017/11/10/>

<sup>71</sup> Kenya plastic bag ban comes into force after years of delays. <http://www.bbc.com/news/world-africa-41069853>

## LATVIA

**Type of Law:** Tax

**Date of Effectivity:** First introduced in 1995, replaced in 2006 and then updated in 2010

**Coverage:** One of the many purposes of the Natural Resource Tax is to reduce the consumption of SUPs while encouraging use of more environment-friendly and recyclable materials. Different materials have different tax rates.<sup>72</sup> Higher tax rates were set for plastic shopping bags.

**Impacts:** Number of SUPs used drastically decreased while the use of reusable cloth bags increased once the higher tax rates for SUPs were introduced.

## LUXEMBOURG

**Type of Law:** Voluntary System / Fee

**Date of Effectivity:** 2007

**Coverage:** This system established by the Environment Ministry with packaging industry association, Valorlux, promoted the sale and use of reusable “Eco-sac” bags in 2004. In 2007, a charge of 3 euro cents was introduced. Starting Dec. 31, 2018, retailers will no longer be able to provide free SUPs at point of sale except for very light plastic bags with a thickness of less than 15 microns and used for packaging food for hygienic purposes.<sup>73</sup>

**Impacts:** There was a sharp decline in plastic bag consumption from 55 million in 2004 to 6.5 million in 2009.

## MALAYSIA

**Type of Law:** Levy

**Date of Effectivity:** 2011

**Coverage:** Malaysia launched a National No Plastic Bag Day Program in 2011 to discourage the use of plastic carrier bags.<sup>74</sup> Participating supermarkets will no longer give away free bags on Saturdays. Shoppers will have to pay a levy of MYR 0.20 (USD 0.06) for every new bag used. The amount collected will either go to a charity or be used by the store for environment conservation activities or projects. On Sept. 1, 2017, the Federal Territories of Malaysia made the use of biodegradable and compostable bags compulsory.<sup>75</sup>

<sup>72</sup> Country fact sheet: Latvia. [http://ec.europa.eu/environment/waste/framework/pdf/LV%20factsheet\\_FINAL.pdf](http://ec.europa.eu/environment/waste/framework/pdf/LV%20factsheet_FINAL.pdf)

<sup>73</sup> <https://valorlux.lu/en/plastic-bags/>

<sup>74</sup> Public participation and Effectiveness of the No Plastic Bag Day Program in Malaysia. [https://ac.els-cdn.com/S1877042814056961/1-s2.0-S1877042814056961-main.pdf?\\_tid=227f1345-11e0-4bac-895b-535cabfcb809&acdnat=1523675865\\_a31e63ef18d45fd325b1eafa72b8ac6e](https://ac.els-cdn.com/S1877042814056961/1-s2.0-S1877042814056961-main.pdf?_tid=227f1345-11e0-4bac-895b-535cabfcb809&acdnat=1523675865_a31e63ef18d45fd325b1eafa72b8ac6e)

<sup>75</sup> <https://www.thestar.com.my/metro/community/2017/09/02/plastic-bag-ban-takes-effect-in-ft/#rijq4QufK1W1bQIbz.99>

**Impacts:** The no plastic bag day program has been proven to be 52.3% effective in reducing the use of plastic bags with consumers resorting to the use of reusable bags or containers. Meanwhile, the compulsory use of biodegradable bag is expected to hike the price of plastic bags by three to sixfold while containers will cost by 30% more.

## MARSHALL ISLANDS

**Type of Law:** Ban and Charge

**Date of Effectivity:** Feb. 1, 2017

**Coverage:** The Styrofoam and Plastic Products Prohibition Act of 2016 prohibits the importation, manufacture, sale or distribution of Styrofoam cups and plates, disposable plastic cups and plates, and shopping bags.<sup>76</sup> Violations are punishable by imprisonment of up to 6 months or a fine of up to \$10,500.00 or both. An immigration officer, customs officer, or EPA officer may seize, forfeit and destroy any imported or manufactured shopping bags, disposable plates and cups, Styrofoam plates and cups and plastic water bottles.

## THE NETHERLANDS

**Type of Law:** Ban

**Date of Effectivity:** January 1, 2016

**Coverage:** Free plastic bags of 0.015 mm thickness, bags with plastic coating or lining, bio-based bags and biodegradable bags may no longer be handed out by shops (including pharmacies), catering establishments, gas stations, street traders, hairdressers, museum, and web shops, mail order companies.<sup>77</sup> However, they are available for purchase. Exempted in the ban are loose foodstuff, meats, fish, poultry, eggs for hygienic purposes or to prevent wastage or cross contamination of food; aerosols, gels and fluids in duty free shops and airports; and for advertising purposes provided it does not do so simultaneously with the sale of products.<sup>78</sup>

Retailers are allowed to fix their price although government recommends a price of EUR 0.25 per bag. Because the plastic bag sale is subject to a 21% VAT, the price must be reflected in the receipt.

Retailers may also install a container for used plastic bags in their shops. Customers are free to take bags for their use.

**Impacts:** A report commissioned by the Ministry of Infrastructure and Environment showed a 71% drop in the use of free plastic bags from retailers. The number of plastic bag litter has also decreased

<sup>76</sup> The Styrofoam and Plastic Products Prohibition Act 2016. <https://rmiparliament.org/cms/images/LEGISLATION/BILLS/2016/2016-0028/StyrofoamandPlasticProductsProhibitionAct2016.pdf>

<sup>77</sup> Ban on free plastic bags. <https://www.government.nl/topics/environment/ban-on-free-plastic-bags>

<sup>78</sup> What does the ban on free plastic bags entail for shopkeepers? <https://www.government.nl/topics/environment/ban-on-free-plastic-bags/what-does-the-ban-on-free-plastic-bags-entail-for-shopkeepers>

by 40%, a year after the ban was introduced. Paper bags were given for free instead. This saw a rise in paper bag sales from wholesalers by 30%.<sup>79</sup>

## RWANDA

**Type of Law:** Ban

**Date of Effectivity:** 2008

**Coverage:** The production, importation, sell, or use of plastic bags and packaging is illegal and is punishable by jail time or fines amounting to about 50,000 francs (USD 61; EUR 67), one of the most severe in the world.<sup>80</sup> They have a zero-tolerance policy on plastic bags. However, supermarkets and food establishments are still allowed to use plastic bags to avoid contamination. Hotels are still allowed to use cellophane provided they go through an approval process by the authorities and they do not leave the premises.<sup>81</sup>

**Impacts:** According to government, the ban has had positive impacts on economy, environment and public health.<sup>82</sup> It now has one of the fastest growing tourism industries because of its clean environment. 2014 saw an increase in tourist arrivals by 4% from the year before and some 305 million USD to the economy. It also provided 177,000 jobs. It also created a reusable bag industry.

Whereas, plastics used to clog waterways. With less stagnant water, there are fewer diseases.

Avoidance of disposal costs have allowed them to use the much needed financial resources for other social services.

Other countries are inspired by what Rwanda is able to do and starting to implement similar bans.

## SCOTLAND

**Type of Law:** Charge

**Date of Effectivity:** October 20, 2014

**Coverage:** All single-use bags which includes plastic, paper, and some bio-based carriers will no longer be handed out by retailers for free. For plastic bags, single-use bags must be no more than 49 microns thick or a size that is less than 439mm x 404mm excluding the handles.<sup>83</sup> Exempt are sealed plastic packaging. Other exemptions include: (1) Bags of a certain size used solely to contain uncooked meat, poultry and fish; (2) Courier bags for delivery of goods including live aquatic animals and the like; and (3) Bags to contain items purchased in airports, trains, and ships. Retailers are

<sup>79</sup> Dutch ban on free plastic bags sees 71 pct drop in use. <https://nltimes.nl/2017/04/18/dutch-ban-free-plastic-bags-sees-71-pct-drop-use>

<sup>80</sup> Rwanda plastic bag ban. <https://plasticoceans.org/rwanda-plastic-bag-ban/>

<sup>81</sup> <http://www.dw.com/en/ten-years-on-rwandas-plastic-ban/av-42897883>

<sup>82</sup> Ten years on: Rwanda's plastic ban. <http://www.dw.com/en/ten-years-on-rwandas-plastic-ban/av-42897883>

<sup>83</sup> Carrier bag charge guidance. <http://www.zerowastescotland.org.uk/litter-flytipping/carrier-bag-charge-guidance>

required to charge a minimum of 5 pence per bag.<sup>84</sup> For distance selling, consumers are given the option for a bag-less delivery. Stores with 10 or more employees are obligated to document transactions as a result of these charges. Retailers are encouraged to donate the proceeds from the sale of these bags to causes especially on environment.

**Impacts:** After a year of implementation, the Scottish government estimates a reduction of 80% of single-use bags, a net material savings of about 4350 tonnes and net carbon savings of 2,690t CO<sub>2</sub>eq.<sup>85</sup>

A survey by Zero Waste Scotland showed that about 59% of the public supports the measure.

## SPAIN

**Type of Law:** Fee

**Date of Effectivity:** Jan. 1, 2018

**Coverage:** The law covers all plastic bags regardless of size that is less than 50 micrograms thick. All shops must charge a minimum of 5 Euro cents and a maximum of 30 cents per bag.<sup>86</sup> Very lightweight bags that are 29 micrograms will be charged a minimum of 10 cents and if biodegradable, five cents. Thicker bags will carry a charge of 15 cents, and 10 cents if it can be composted. Typical carrier plastic bags with chemical additives that allow it to speed up degradation that are less than 50 micrograms thick are covered by the ban because they are more difficult to recycle or cannot be used as compost. The law does not cover plastic for produce because of sanitary requirements. Bags that are reinforced and denser than 50 micrograms will have a charge of 30 cents as a way of discouraging its use.

## TAIWAN

**Type of Law:** Ban

**Date of Effectivity:** 2002; January 1, 2018

**Coverage:** In 2002, when it was first introduced to the public, the plastic ban only covered bags handed out for free by supermarkets, shopping malls, department stores, convenience stores and fast food chains. The bags were still available but had to be bought at a price determined by the retailer.<sup>87</sup> In its latest policy, Taiwan has set a scheduled for banning other plastic products with a goal of phasing out use of all plastics by 2030 and replacing them with bio-based materials.<sup>88</sup>

<sup>84</sup> Carrier bag charge. <https://www.mygov.scot/carrier-bag-charge/>

<sup>85</sup> Carrier bag charge One year on. <http://www.zerowastescotland.org.uk/sites/default/files/SUCB%20Charge%20One%20Year%20On%20Report.pdf>

<sup>86</sup> <https://www.thinkspain.com/news-spain/28650/charging-for-carrier-bags-to-be-mandatory-in-spain-from-2018>

<sup>87</sup> Taipei to ban free plastic bags in 2018. <https://www.taiwannews.com.tw/en/news/3325110>

<sup>88</sup> Taiwan sets aggressive timeline to ban straws and other single-use plastics. <https://www.ecowatch.com/taiwan-plastics-ban-2535001646.html>

Starting 2019, in-store handouts of plastic straws will no longer be allowed in food and beverage stores. By 2020, no straws will be given out for free in all food and beverage establishments. By 2025, there will be no free straws even for take-away drinks but can still be purchased. By 2030, there will be a complete ban on plastic straws in all establishments.

For plastic shopping bags, a ban will be implemented in all stores that issue uniform invoices by 2025. A complete ban will then take effect by 2030.

For disposable utensils, food and beverage establishments will no longer provide them to dine-in customers by 2020. By 2025, a pricing system will be established. By 2030, a complete ban will be instituted.

## TANZANIA

**Type of Law:** Ban

**Date of Effectivity:** January 2017

**Coverage:** The first plastic bag legislation in Tanzania in 2006 regulated the production, importation, sale and use of plastic bags with a thickness below 30 microns. In 2015, government repealed the 2006 law and put in place new rules changing the bag and packaging thickness to 50 microns and preventing the establishment of new plastic production facilities.<sup>89</sup> Penalties for producing and selling plastics include jail time of up to 6 months and a fine of 1.5million shilling (1,170 USD).

## WALES

**Type of Law:** Charge

**Date of Effectivity:** October 1, 2011

**Coverage:** A single-use plastic bag is defined as having a thickness less than 49 microns and both dimensions are smaller than 404 mm or one dimension is smaller than 439mm and is not intended for multiple use.<sup>90</sup> A seller must charge a minimum of 5 pence for SUPs if a bag is needed for taking away or delivery. Exemptions are unwrapped food items like bread, nuts, loose fruit and vegetables; loose seeds, bulbs, rhizomes, grass, etc.; unpackaged blades; unpackaged plants or flowers that may have been contaminated by soil; packaged uncooked food like meat, fish, poultry; live aquatic animals; bags that are sealed before the point of sale; on board ships, trains and airplanes; in airports; bags for mail order; and box linings.

**Impacts:** The charge has resulted in a 71% drop in use of SUPs.<sup>91</sup> Seventy-four percent of shoppers also support the promotion and use of reusable bags.

<sup>89</sup> Tanzania: Total ban imposed on plastic bags, says Makamba. <http://allafrica.com/stories/201604210167.html>

<sup>90</sup> Single-use carrier bags charge (Wales) Regulations 2010. <http://www.legislation.gov.uk/wsi/2010/2880/regulation/3/made>

<sup>91</sup> Plastic bag use down 71% since 5p charge was introduced. <http://www.bbc.com/news/uk-wales-politics-34138414>

## IV. LOCAL ORDINANCES BANNING OR RESTRICTING SINGLE-USE PLASTICS: A SAMPLING

Apart from the growing number of national prohibitions on SUPs, there are hundreds of towns, cities and localities, which have also introduced their own ordinances to stem the tide of plastic pollution in their respective areas. Some of these ordinances have become models that other localities use in drawing up their own proposals.

As in the case of national laws, there may be gaps in the local policies themselves and implementation may be inconsistent. However, unlike national laws, local ordinances are typically easier to amend and implement given the smaller scale and especially in places where local citizens are actively involved in governance.

The list below shows a sampling of some of the more notable local ordinances out of the hundreds already existing worldwide.

### BUENOS AIRES PROVINCE, ARGENTINA

**Type of Law:** Ban

**Date of Effectivity:** The Province-wide resolution was introduced in 2008 but had a tiered schedule of effectivity. It started with phase-out of plastic bags in the City of Buenos Aires in 2009. The first tier of

the Province-wide phase-out schedule went into effect on June 12, 2012. A full ban in supermarkets and hypermarkets took effect on Jan.1, 2017.<sup>92</sup>

**Coverage:** City Resolution 155/APRA/12 aims to promote the use of biodegradable bags while gradually phasing-out non-biodegradable bags at checkout counters.<sup>93</sup> Exempted industries for sanitary reasons are the meat and vegetable sellers and hospitals. Also exempted are supermarket and stores that provide bags that are 55 cm wide and 60 cm high of which 50% are black for non-biodegradable waste and 50% are green for biodegradable waste.

**Impacts:** While implementation of the resolution is slow due to inadequate infrastructure, the public is gradually learning to segregate and recycle. One of the most notable impacts is the formalization of the waste pickers as a sector and get paid salaries especially in the city.<sup>94</sup>

## AUSTRALIAN CAPITAL TERRITORY

**Type of Law:** Ban

**Date of Effectivity:** Nov. 1, 2011

**Coverage:** The ban covers SUP shopping bags thinner than 35 microns and applies to all retailers.<sup>95</sup> It does not apply to biodegradable bags, barrier bags for fruits and vegetables and others specified by law. Plastic bag makers are required to enlist in a government official registry for annual certification tests on the biodegradability of their plastic products.

**Impacts:** The volume of waste going into the landfill in Canberra has been reduced by a third. When consumers were asked of the possibility of the ban being overturned, 70% of those surveyed wanted to retain the law and 65% of grocery shoppers believe that the ban has had a positive effect on the environment.

## RIO DE JANEIRO, BRAZIL

**Type of Law:** Ban

**Date of Effectivity:** July 16, 2010

<sup>92</sup> [https://www.researchgate.net/publication/313795795\\_International\\_policies\\_to\\_reduce\\_plastic\\_marine\\_pollution\\_from\\_single-use\\_plastics\\_plastic\\_bags\\_and\\_microbeads\\_A\\_review](https://www.researchgate.net/publication/313795795_International_policies_to_reduce_plastic_marine_pollution_from_single-use_plastics_plastic_bags_and_microbeads_A_review)

<sup>93</sup> Buenos Aires moves to dispose of plastic bags. <http://www.argentinaindependent.com/socialissues/environment/buenos-aires-moves-to-dispose-of-plastic-bags/>

<sup>94</sup> <https://www.theguardian.com/environment/2016/jan/20/buenos-aires-litter-pickers-cartoneros-recycling-argentina-environment>

<sup>95</sup> <https://www.environment.act.gov.au/waste/plastic-bag-ban>

**Coverage:** Thin polyethylene or polypropylene plastic bags given away in large and medium supermarkets will be replaced with thicker, more reusable bags. Stores had three compliance options: (1) give a R\$ 0.03 (1 US cent) discount for every five items placed in a customer's reusable bag; (2) the customer gets 1 kg of beans or rice for every 50 plastic bags returned; or (3) provide a sturdier reusable bag to the customer.<sup>96</sup> Supermarkets were given 1-3 years to comply with the law. Stores and supermarkets found in violation of the law will be fined 20,000 real (USD 11,300.00).<sup>97</sup>

**Impacts:** Rio de Janeiro's supermarket association estimates a 24% drop (600 m) in plastic bag usage.<sup>98</sup>

## NORTHWEST TERRITORIES, CANADA

**Type of Law:** Fee

**Date of Effectivity:** The Single-Use Retail Bag Regulation entered into force on Jan. 15, 2010 and amended. The amendment is in force starting Feb. 1, 2011.<sup>99</sup>

**Coverage:** Only registered retailers, distributors, persons may distribute or sell plastic bags. However, a surcharge of \$0.25 per single-use retail bag must be paid first to the Environment Fund on quarterly basis. The amendment expands the coverage to include all retailers.

## ISLAMABAD CAPITAL TERRITORY, PAKISTAN

**Type of Law:** Ban

**Date of Effectivity:** April 1, 2013

**Coverage:** The regulation prohibits the manufacture, import, sale and use of non-degradable plastic bags and other plastic products.<sup>100</sup> However, oxo-biodegradable plastics are not covered by the ban and are even promoted.

<sup>96</sup> <https://permaculturenews.org/2014/05/05/downfall-plastic-bag-global-picture/>

<sup>97</sup> [http://www.bnamericas.com/en/news/petrochemicals/Plastic\\_bag\\_restrictions\\_come\\_into\\_force\\_in\\_Rio\\_de\\_Janeiro](http://www.bnamericas.com/en/news/petrochemicals/Plastic_bag_restrictions_come_into_force_in_Rio_de_Janeiro)

<sup>98</sup> <https://www.icis.com/resources/news/2011/07/22/9479546/plastic-bag-bans-in-brazil-spark-debate/>

<sup>99</sup> <https://www.justice.gov.nt.ca/en/files/legislation/waste-reduction-recovery/waste-reduction-recovery.r2.pdf>

<sup>100</sup> <http://plasticbagbanreport.com/pakistan-latest-country-to-ban-plastic-bags/>

## ALBAY, PHILIPPINES

**Type of Law:** Ban

**Date of Effectivity:** June 1, 2012

**Coverage:** Sangguniang Panlalawigan Ordinance 2011-3 bans the use of plastic bags, polystyrene, styrofoam and other synthetic packaging materials for goods sold in commercial establishments in the province.<sup>101</sup>The provincial government is encouraging its citizens to use, instead, paper, cloth, abaca, buri, banana leaves, and other environment-friendly materials as alternatives. Penalty for violations are fines of between PHP 1,000 – 5,000.00 or a cancellation of an establishment's business permit.

## ZANZIBAR, TANZANIA

**Type of Law:** Ban

**Date of Effectivity:** Nov. 2006

**Coverage:** The law bans the importation, distribution and sale of plastic bags that are 30 microns and below in thickness.<sup>102</sup>Violators could end up with a jail sentence of six months, a fine of up to \$ 2000.00 (about R 14,000.00) or both.

## CALIFORNIA, USA

**Type of Law:** Ban

**Date of Effectivity:** Nov. 2016

**Coverage:** The ban prohibits some groceries, convenience stores that sell food with a Type 20 or Type 21 license issued by the Department of Alcoholic Beverage Control, large retail stores with pharmacies from providing customers with single-use carryout bags unless the bags are made of paper.<sup>103</sup> It exempts bags used by pharmacies for prescriptions, bags without handles the serve to protect the item from damage or contamination, bags used for unwrapped food, and dry-cleaning bags. Stores must charge 10 cents or more for reusable or recyclable bags. Reusable bags provided by stores are specified and undergo a certification process.

Stores and producers found violating the law are subject to a fine of \$1000.00 per day for the first offence, \$2000.00 per day for the second violation, and \$5,000.00 per day for the 3<sup>rd</sup> and subsequent violations.

<sup>101</sup> <http://www.ugnavan.com/ph/Albay/Legazpi/article/1Z2S>

<sup>102</sup> <https://www.iol.co.za/news/africa/zanzibar-is-serious-about-plastic-bag-ban-302523>

<sup>103</sup> <http://www.calrecycle.ca.gov/plastics/carryoutbags/FAQ.htm>

**Impacts:** A year after implementation, Californians Against Waste claim a 70% drop of plastic bag waste in waterways and beaches during clean-ups.<sup>104</sup> Ocean Conservancy's data shows an 8.8% decrease in plastic bag litter in beaches.

## LEAF RAPIDS, CANADA

**Type of Law:** Ban

**Date of Effectivity:** April 2, 2007

**Coverage:** This is the earliest ban on shopping bags in North America. By-Law No. 462 prohibits all retailers from selling or giving away SUP shopping bags.<sup>105</sup> Violators will be fined not more than \$1000.00. For any continuing offense, the person shall be penalized for every day of commission. Exemptions to this law are small plastic bags used to contain non-packaged goods like dairy products, fruits, nuts, vegetables, confectionary, hot or cold cooked foods, ice, fish, meat, candy, poultry, and bags that cost more than \$1.50.

**Impacts:** The Consumer Cooperative of Leaf Rapids says that its citizens have made non-use of plastic part of their life. People who forget to bring their own reusable bags can carry their purchases in a paper bag but will get charged for it. Otherwise, they are provided with a box.<sup>106</sup>

Many other towns, cities and provinces in Canada and in other countries followed the plastic bag legislation of Leaf Rapids.

## MONTREAL, CANADA

**Type of Law:** Ban

**Date of Effectivity:** Jan. 1, 2018

**Coverage:** By-Law 16-051 prohibits the distribution for free of traditional plastic bags less than 50 microns thick, and oxo-degradable and biodegradable plastic bags regardless of thickness in retail stores.<sup>107</sup> Exemptions for hygiene reasons are plastic bags for fruits, vegetables, nuts, bulk snacks, ready-to-eat food, meat, fish and dairy. Penalties for individuals found guilty of violating the law are: a fine of \$200-1000.00 for the first offense and a fine of \$300-2000.00 for subsequent offenses. For corporate violators, the fine for first offense is \$400-2000.00 and \$500-4000.00 for a subsequent offense.

<sup>104</sup> <http://sacramento.cbslocal.com/2017/12/26/one-year-later-california-plastic-bag-ban-impact-felt-on-beaches/>

<sup>105</sup> <http://plasticbagbanreport.com/leaf-rapids-manitoba-plastic-bag-ban/>

<sup>106</sup> [https://www.thestar.com/news/gta/2012/06/07/plastic\\_bag\\_ban\\_toronto\\_joins\\_a\\_growing\\_club.html](https://www.thestar.com/news/gta/2012/06/07/plastic_bag_ban_toronto_joins_a_growing_club.html)

<sup>107</sup> <http://ville.montreal.qc.ca/sel/sypre-consultation/afficherpdf?idDoc=27530&typeDoc=1>

## PUNTA ARENAS, CHILE

**Type of Law:** Ban

**Date of Effectivity:** Jan. 23, 2014

**Coverage:** The ordinance phases out all polyethylene or other plastic polymer bags within a year and replacing them with reusable or compostable bags.<sup>108</sup> Not covered by the ban are perishables and vacuum-sealed waste containers. An infraction means a fine of up to USD 360.00.

**Impacts:** Four years after the ordinance took effect, the citizens of Punta Arenas has seen a change of behavior with most carrying their own reusable bags.<sup>109</sup>

## SAN FRANCISCO, CALIFORNIA, USA

**Type of Law:** Bans

**Date of Effectivity:** April 20, 2007 for plastic bags; Amendment effective October 1, 2013

**Coverage:** One of the earliest in the USA, the 2007 ordinance prohibits retailers from providing plastic bags to their customers, replacing them with reusable, paper or compostable bags.<sup>110</sup> Prior to this, San Francisco had set an ambitious goal of zero waste by 2020. The ban applied to supermarkets starting November 2007 and pharmacy retail chains a year later. The ordinance depends on the American Society for Testing and Materials (ASTM) for compostable plastic standards. For paper bags, the ordinance specifies material and post-consumer content and thickness.

An amendment was introduced to cover all retail outlets and food establishments.<sup>111</sup> Compliant check out bags have a mandatory minimum charge of 10 cents. Compliant bags are defined as compostable plastic bags labeled with a certification logo, paper bags with a 40% post-consumer recycled content, and reusable washable bag that has a lifespan of at least 125 uses. Non-compliant business can be charged \$100-\$500.

**Impacts:** Two years after the law went into force, San Francisco reports an 18% reduction in plastic bag waste.<sup>112</sup> After the ban on single-use plastic carryout bags was introduced, the city reported savings

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<https://dpw.lacounty.gov/epd/aboutthebag/pdf/articles/Plastic%20Bag%20Ban%20in%20Punta%20Arenas%20Helps%20Preserve%20the%20Environment.pdf>

109 <http://www.gtplasticmachinery.com/disable-plastic-bags-plastic-bag-recycling-machine/>

110 <https://digitalcommons.law.ggu.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1018&context=ggueli>

111 <https://sfenvironment.org/checkout-bag-ordinance>

112

<https://static1.squarespace.com/static/54d3a62be4b068e9347ca880/t/57dc50aae6f2e1bd882d91a2/1474056363151/Merged+Plastic+Bag+Impacts+and+Bag+Ban+Results.pdf>

of \$100,000 for avoided plastic bag clean-up costs and \$600,000.00 in plastic bag waste processing fees.<sup>113</sup>

**Type of Law:** Ban

**Date of Effectivity:** Oct. 1, 2014

**Coverage:** Restrictions are set for the sale and distribution of bottled water (i.e. drinking water in a sealed rigid plastic container with volume of 21 ounces or less) on city property except during athletic competitions.<sup>114</sup> It also does not allow use of city funds to purchase bottled drinking water except for what is provided as exemptions in the ordinance. Violations result in administrative penalties including a fine of up to \$500 for the first violation, up to \$750 for the second offense, and up to \$1000 for the third and other subsequent violations. Starting January 2018, the ban will cover events with 250,000 people or more.<sup>115</sup>

## LOS BANOS, LAGUNA, PHILIPPINES

**Type of Law:** Ban

**Date of Effectivity:**

**Coverage:** Municipal ordinance 2008-752 was the first local ordinance in the Philippines to ban plastic bags on dry good, regulates its use for wet goods, and banning Styrofoam in 2008.<sup>116</sup> It was expanded in 2014 (Municipal ordinance 2014-1316) to include plastic drinking straws, plastic cups, and plastic plates and utensils. The use of plastic buntings and tarpaulins are also prohibited without permission from the barangay. Individuals or businesses found in violation of the ordinance will be fined PHP 500.00 for the first offence, PHP 1,000.00 for the second offence, and PHP 2,500.00 for the 3<sup>rd</sup> offence.<sup>117</sup> It could also lead to imprisonment of not more than 6 months. Businesses who violate the law could also have their business licenses cancelled.

**Impacts:** Since the passage of this ordinance, more than 60 towns and cities in the Philippines have used their law as template for their respective municipal and city ordinances.<sup>118</sup> This has also spurred the crafting of national legislation banning plastic bags. Los Baños has also developed industries such as native or other reusable bag production. It has also been reaching out to the Department of Science and Technology to assist them in developing technologies that would recycle some of their plastic waste products.<sup>119</sup>

<sup>113</sup> <https://www.factorydirectpromos.com/blog/impact-of-existing-plastic-bag-bans/>

<sup>114</sup> [https://sfenvironment.org/sites/default/files/policy/sfe\\_zw\\_bottled\\_water\\_ordinance.pdf](https://sfenvironment.org/sites/default/files/policy/sfe_zw_bottled_water_ordinance.pdf)

<sup>115</sup> <https://recycle.ab.ca/newsletterarticle/san-francisco-becomes-the-first-city-to-ban-sale-of-plastic-bottles/>

<sup>116</sup> <https://lbtimes.ph/2016/03/02/a-plastic-story/>

<sup>117</sup> <https://www.philstar.com/nation/2008/11/02/411747/los-baos-bans-use-plastic-bags>

<sup>118</sup> <http://www.gmanetwork.com/news/news/nation/271569/ban-on-plastic-bags-slowly-gaining-momentum/story/>

<sup>119</sup> <https://lbtimes.ph/2016/03/02/a-plastic-story/>

## V. CONCLUSION

Plastics may have brought us a lifestyle that is convenient, but the consequences of our addiction to plastic are starting to outweigh the supposed benefits, putting ecosystems at risk, threatening our own well-being and the survival of other species.

While the situation seems dire, there are signs of hope - increasingly manifested by the fact that more and more countries, cities and institutions are taking measures to curb and end our addiction to disposable plastics.

This report described 36 national laws, and a sampling of regional, state or provincial legislation and local ordinances -- this is the good news and we hope that more governments will take the same necessary steps to wean their constituencies away from SUPs. This by no means a complete listing of all initiatives to cut the production, use and disposal of single-use plastics. While many of these measures are working and are able to change behaviors from a plastic-addicted culture to a more ecological lifestyle, there is more that needs to be done. Gaps and loopholes in the policies themselves should be amended, and implementation needs to be improved. Governments need to learn from each other as regards the most effective and successful strategies in reducing and eliminating plastic waste. For their part, corporations and retailers need to design waste out of their products and systems, eliminating the production and use of disposable, unrecyclable plastics and packaging in their supply chains.

Citizens and civil society can take action to compel policy makers and decision makers to enact the most effective legislation, while helping to change public attitudes and behaviors towards plastics at the same time. Some of the lessons from countries, cities, and municipalities that have taken action along these lines include the following:

- Public consultation and participation in the crafting of the law from the very beginning of the process;
- An information campaign across all sectors that is easily understood before the law is enforced;

- Availability and accessibility of viable ecological or environment-friendly alternatives;
- Possibilities of shifting economic activities and livelihoods around alternatives especially for those that could be displaced by changes in the law;
- Consistent enforcement of the law;
- Having infrastructure in place for segregation, collection, recycling, etc.
- Transparency in budgeting and spending especially of taxes or fees collected; and
- Fees are reinjected into community environment or social projects.

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