

Plastic Pollution Policy Country Profile: Mexico

Madison Griffin and Rachel Karasik

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Author Affiliations

Madison Griffin, Duke University
Rachel Karasik, Nicholas Institute for Environmental Policy Solutions

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Key Takeaways

- Though Mexico has a high waste collection rate of 91%, most of this waste is improperly disposed of in unregulated landfills and few households practice pre-sorting their waste.
- Subnational policies dominate Mexico's plastics policy landscape; there are at least 20 state laws and 26 municipal laws with policies that aim to ban or reduce different kinds of single use plastics or have made proposals to litigate on plastics in the future.
- When Mexico City banned all single-use plastics in 2021, women's rights activists noted that this ban includes tampon applicators and will severely effect low-income women, as the poorest households in Mexico City spend up to 8% of their income on menstrual hygiene products.
- In addition, there is evidence that coordinated PET bottle recycling efforts have led to increased investment in recycling infrastructure and increased capacity for PET bottle recycling. The most recent figures suggest more than 50% of PET bottles are recaptured in Mexico, a figure considerably higher than Mexico's overall recycling rate of 5%.

* These are based on a review of literature published and policies enacted before December 2021



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INTRODUCTION

This document outlines: 1) the nature of the plastic pollution problem in Mexico, 2) available information about the national, subnational, and to a smaller extent, international policy landscape guiding government approaches to the plastic pollution problem in Mexico, and 3) what, if any, information exists about the effectiveness of these policy approaches. This document is written using a basic literature review process and with support from the [Plastics Policy Inventory](#), as outlined in the Appendix (below), and is not exhaustive. It contains the most up-to-date information at time of publication, but this information may eventually be less relevant as the policy landscape continues to evolve. The authors were not able to get expert review for this case study, to ensure the information gathered aligns closely with what experts and practitioners are observing and experiencing on the ground. If conducting research on the plastic pollution crisis in Mexico, we recommend you use this document as one of many resources available to better understand the problem and its solutions.

PLASTIC POLLUTION IN MEXICO

In 2015, North America generated 29 million metric tons (MT) of plastic waste (Lebreton 2019). Lebreton and Andrady (2019) predict that by 2060, the total municipal plastic waste produced in Mexico will be over 4.5 MT/year. Central Mexico (which includes Mexico City) has a population of 22 million, and though the region is only some 17% of the total population, it accounts for more than half of the waste that is generated in the country (Ziörjen 2019). The difference in economic growth between the northern and southern states has generated a gap in capacity to collect and treat waste equally throughout the country (Lara et al. 2020).

Plastics have leaked into many Mexican waterways, attributed by scholars to a lack of comprehensive regulations or enforcement of existing laws (Alvarez-Zeferino et al. 2020). Around 8.5% of Mexico's GDP comes from tourism, however, many Mexican beaches are polluted with macro- and microplastics (Alvarez-Zeferino et al. 2020). Though Mexico has a high waste collection rate of 91%, most of this waste is improperly disposed of in unregulated landfills (Ziörjen 2019) or enters the environment. Because of this, the government has shifted its focus to burying garbage in landfills (Ziörjen 2019). Mexico also has one of the lowest recycling rates in the world at 5% and only 40% of households practice sorting their trash (Ziörjen 2019). According to experts, there is a lack of awareness among consumers regarding the future of goods after they are disposed, and so purchasing decisions are not often made with environmental consequences in mind. For many, price is the main purchase indicator for goods in many communities, and only a small fraction of the country's population considers environmental factors, according to survey data (Ziörjen 2019). However, PET is more commonly recycled by households and individuals in Mexico than other consumer goods products (Ziörjen 2019). Likewise, reusing goods is reportedly an integral part of the culture: plastic bags and containers are very commonly reused (Ziörjen 2019).

Mexico has significant body of legislation to address the plastic pollution problem. With four national regulations, 20 state laws, 26 municipal laws, and four official norms, the Mexican government has signaled a commitment to controlling plastic pollution and waste management. However, early policies were unclear in the delegation of responsibilities of enforcement, leading to gaps in adequate waste management law (Lara et al. 2020). Policy efforts have been successful in increasing the attention to plastic waste; however, they have not yet yielded proper disposal and recycling infrastructure which would result in reductions in plastic waste (Lara et al. 2020). According to experts, a federal framework is needed that incentivizes research into solutions and rewards innovation and waste reduction to directly decrease long-term production of plastic waste (Lara et al. 2020).

POLICIES TO ADDRESS PLASTIC POLLUTION

National Legislation

National Sustainable Waste Management Bill (2019)

General Law for Prevention and Integrated Management of Waste (2004)

This policy includes the classification of dangerous residues and requires special management of solid waste (Lara et al. 2020). The law orders managers to develop official standards that establish environmental and technological efficiency criteria that plastic packaging materials must meet (Lara et al. 2020). The standards should include goals for reduction, recycling, and reuse (Lara et al. 2020). Further, large generators, producers, importers, exporters, and distributors of plastic packaging and plastic waste, including expanded polystyrene (Styrofoam), and used tires are required to formulate and execute plastic waste management plans (Lara et al. 2020).

Ley de Ventrimientos en las Zonas Marinas Mexicanos (2003)

The Law [limiting] Dumping in Mexican Marine Areas requires permits for any dumping into marine waters (Lara et al. 2020). Any dumping without a permit is considered an illegal action under this law (Lara et al. 2020).

NOM – 161 – SEMARNAT – 2011

Mexican Official Norms (NOMS) are technical standards issued by the relevant authorities to implement legislative directives. These authorities are the Secretariat of the Environment and Natural Resources (SEMARNAT) that oversees enacting and enforcing environmental regulation and the enforcement arm of SEMARNAT, the Office of the Federal Prosecutor for Environmental Protection (PROFEPA) (Lara et al. 2020). NOM-161-SEMARNAT-2011 defines the criteria for waste materials that require a management plan as well as a list of materials themselves (Lara et al. 2020). This norm also establishes the responsibilities of big generators of plastic waste (those that generate more than 10 tons of specific plastics per year) (Lara et al. 2020). The economic sectors targeted by this norm are health, agriculture, transportation (shipping), retail, political campaigns, and public advertisements (Lara et al. 2020). Further, this NOM aimed to tackle the shared responsibility principle of all entities (Lara et al. 2020).

NMX – e – 233 Recycling Terminology

Mexican Voluntary Guidelines (NMX) are rules that are intended to serve as guidelines, meaning compliance is voluntary (Lara et al. 2020). These guidelines include the standardization of the terms used in the plastics recycling process to ensure that polymer identification is consistent and permitting is product specific (Lara et al. 2020).

Subnational Legislation

Solid Waste Law for Mexico City (2019)

One of the most notable pieces of legislation to address Mexican plastic pollution is the Amendment of the 2003 Solid Waste Law for Mexico City. In 2019, the amendment prohibited the marketing, distribution, and delivery of plastic bags and single-use plastics (SUPs) to the consumer at points of sale of good or products, except if they are compostable (Lara et al. 2020). This includes single-use cutlery, straws, cotton swabs, and balloons (Lara et al. 2020). The marketing, distribution, and delivery of straws for medical assistance is excluded from this ban (Lara et al. 2020). The commercialization, distribution, and delivery of products containing intentionally added microplastics is prohibited by this law (Lara et al. 2020). Further, the use, marketing, delivery, and distribution of single-use coffee capsules made of low plastic materials is prohibited (Lara et al. 2020). City authorities recommended that residents always carry reusable containers (Welle 2021).

Tampon applicators were also included in this ban, leading to active protest of the ban from feminist groups (Cervantes 2021). The protests reflected that the cost of female sanitary products averages 8% of a woman's income, while many women reportedly find tampons the best choice because they are cheap and easy to use

(Cervantes 2021). Feminist groups such as Menstruación Digna began the protest stating, “the law has no gender perspective,” and that companies were not given enough time to find a sustainable alternative for plastic tampon applicators (Cervantes 2021). The technical manager for Mexico’s National Association of the Plastic Industry (ANIPAC), which opposes regulations intended to reduce plastic production, has stated that the plastic ban has led to business closures and layoffs.

[Environmental Law for the State of Chiapas \[Arts. 1, subsection XVII, 238 Ter\] \(2015, 2019\)](#)

This law eliminates the sale and use of plastic bags and certain single-use expanded polystyrene containers (e.g., those that are used for wrapping, transportation, and transfer of food and beverages in self-service stores, department stores, pharmacies, convenience stores, markets, restaurants, and establishments where food and beverage are sold). This act bans the delivery and use of single-use plastic straws for food use in bars and restaurants. Single-use products (such as plates, spoons, forks, cotton swabs, etc.) must be made with materials that facilitate their reuse and/or recycling or are compostable or biodegradable (Lara et al. 2020).

[Environmental Protection Law for the State of Baja California Sur \(2018\)](#)

Eliminates the use of plastic bags and expanded polystyrene containers, as well as plastic straws in establishments in the State (Lara et al. 2020).

[Law for the Prevention and Integral Management of Waste of the State of Chihuahua \(2018\)](#)

Articles 21 and 74 of this waste management law ban plastic bags and plastic packaging materials, as well as straws in restaurants (Lara et al. 2020).

[Law of Ecological Balance and Environmental Protection of the State of Coahuila de Zaragoza \(1998, 2019\)](#)

This law prohibits the ability to give away or use disposable plastic bags, straws, or foam for hauling, loading, wrapping, or packing products (whether for free or for sale) (Lara et al. 2020).

[Sustainable Environment Management Law for the State of Durango \(2018\)](#)

The management law reduces plastic bag and straw use (Lara et al. 2020). There are no further descriptions of how the government plans to enforce this law.

[Law for the Use and Integral Management of Waste from the State of Guerrero \(2008, 2019\)](#)

This law prohibits commercial establishments from using plastic bags to deliver polystyrene containers, straws, and spoons (Lara et al. 2020).

[State Law of Ecological Balance and Environmental Protection \(2019\)](#)

This state law in Jalisco, Mexico, prohibits all use of plastic bags in commerce, giving out straws, and Styrofoam (Lara et al. 2020).

[State Law on Ecological Equilibrium and Protection of the Environment \[Art. 2, subsection IX\] \(2019\)](#)

This state law in Nayarit, Mexico, prohibits the use of bags, straws, plastic containers, and other environmentally harmful materials for wrapping, transportation, and/or transport of food (Lara et al. 2020).

[Law for the Prevention and Integral Management of Solid Waste \(2019\)](#)

This state law in Oaxaca, Mexico, prohibits merchants from providing plastic bags in commercial premises unless they are biodegradable (Lara et al. 2020).

[Environmental Law of the State of Nuevo León \(2020\)](#)

This law prohibits the sale, gift, and use of plastic straws (Lara et al. 2020).

[Environmental Protection Law and the Law for the Prevention and Integral Management of Waste \(2012, 2019\)](#)

In Tabasco, Mexico, this law amended in 2019 prohibits the use of straws, plastic bags, and Styrofoam (Lara et al. 2020).

Code for Sustainable Development of the State of Tamaulipas (2015)

This law instructs state and municipalities to promote the research, development, and application of technologies, equipment, processes, and systems that allow the prevention, control, and reduction of plastic bag pollution (Lara et al. 2020). This research will also include assessing the life cycle of the plastic bag and how to enhance proper waste management strategies through reduction, separation, reuse, and recycling (Lara et al. 2020).

Law on the Prevention and Management of Urban Solid Waste and Special Management for the State of Veracruz (2018)

This law aims to reduce the use of straws and plastics in Veracruz, Mexico, to curb environmental damage to bodies of water and marine fauna (Lara et al. 2020). There are no further descriptions of how the government plans to enforce this law.

Law for the Prevention and Integral Management of Urban Solid Waste and Special Management for the State of Puebla (2019)

This law prohibits the delivery of plastic bags and straws in businesses (Lara et al. 2020).

Municipal Legislation

Though researchers were unable to find the municipal legislation, this table (adapted from Lara et al. 2020) describes the type of legislation and the municipalities that have them.

Legislation TYPE or status	Municipalities
Proposal to litigate	Campeche, Colotepec and Pochutla
Reduction to use plastic bags	Ciudad Victoria, Pabellón de Arteaga, Querétaro
Reduction to use plastic bags and movement to give out straws	Ciudad de México, Monterrey
Ban of plastic bags	Saltillo, Tijuana, Playas de Rosarito
Ban on plastic bags, straws, and foam	Huatulco, San Agustín de las Juntas, Oaxaca de Juárez, Tlalnepantla, and Toluca
Ban on plastic bags, straws, cutlery, and foam	Cancún, Ensenada, Islas Holbox, Metepec, Pátzcuaro, Santa Catarina, Lachatao, Santo Tomás Jalieza, San Bartolo Coyotepec, State of Oaxaca

POLICY EFFECTIVENESS

With a significant body of federal, state, and municipal regulations on plastic pollution, by 2012 Mexico was successful in tripling the recapture of PET bottles to 35% (Lara et al. 2020). Part of this was attributed to external investments in Mexico's capacity to recycle with 14 PET recycling plants capable of producing new PET bottles from recycled materials (Lara et al. 2020). In 2015, that number rose even more, and Mexico recovered 50.4% tons of PET for recycling, which is reused to make bottles, containers, and textile products (Burton 2016).

Plastic industries have been resistant to bans on all SUPs on the basis that they perceive it as harsh on plastic manufacturing companies and people's income that is dependent on those companies' profitability (Ceja 2021). However, it has allowed for cucuruchos—paper cones—that have been traditionally used by shoppers in Mexico City for carrying spices and grains to make a resurgence in the city as a plastic-free alternative (Lasso 2020).

CONCLUSION

Though many municipalities have begun to address single-use plastic products, effectiveness of these policies is still not yet well known and resistance to them from industry remains high. Additional challenges to combatting plastic waste include increasing recycling and waste sorting rates. Likewise, the response to Mexico City's plastic ban has raised the issue of the ways in which blunt instruments such as bans may have disproportionate impacts on low-wealth households.

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APPENDIX – METHODS

To start off the search for policy documents, researchers referenced the Nicholas Institute's Plastics Policy Inventory for any relevant national or subnational policies in Mexico. At the time this case study was initially drafted, there was one national and one subnational policy from Mexico in the Inventory (Ley General para la Prevención y Gestión Integral de los Residuos and Ley de Residuos Sólidos del Distrito Federal, respectively). However, these policies were written in Spanish and an English translation could not be found, therefore they could not be accurately analyzed by our research team.

In addition to the Mexico plastic pollution policy search, researchers then searched for academic and grey literature relating to plastic pollution and relevant policies in Mexico. This search was mostly done through Google Scholar. Search terms included, but were not limited to, "Mexico plastic," "Mexico plastic pollution," "Mexico plastic pollution policies," "Mexico plastic bag ban," "Mexico single-use plastic," and "Mexico plastic use." Nine total articles were found, and all were screened for inclusion. The inclusion criteria were that the articles described the plastic pollution problem in Mexico, described relevant policies in Mexico, or they described the effectiveness of relevant policies. An additional article was found that could have been relevant, however it was written in Spanish without an English translation and could not be analyzed. They were then read through and relevant information that could aid this case study was extracted. When citations referenced additional literature that seemed relevant, those papers were subsequently screened for inclusion as well. This is the primary method in which the background information was collected.

Once the secondary literature had been exhausted for relevant policies, researchers then moved the search to InforMEA and ECOLEX to see if any more policies could be found that were not referenced in the literature. No new policies were discovered in this round of the search.

Finally, to check if any new policies had been agreed upon or enacted since the publication of the literature referenced above, the same search strings that were used to find the literature were applied in a normal Google search. Here, researchers were looking for recent news articles referencing policies that may have been implemented and not yet included in any literature. Nothing new was discovered, however these news articles did provide a more in-depth understanding of the plastic pollution issue and the effectiveness of existing pollution policies in Mexico and Mexico City from a primary point of view. As a result, five tertiary sources were added to the Legislation section.