McKenzie Meeks IAFS 4500 Thomas Zeiler May 18, 2021

# North Pacific Plastic Agreement: A Policy Recommendation on Plastic Regulation within the

## United States and China



A riverway filled with plastic in Southwest Asia, flowing into the Pacific Ocean.

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<sup>&</sup>lt;sup>1</sup> https://plastic-pollution.org

### I. Purpose

The purpose of this essay is to provide a policy to address climate change by focusing on the role single-use plastic has within this environmental issue. Now more than ever society is faced with a difficult yet important decision in regards to the environment. Climate change is one of the biggest challenges the human race has faced to date and immediate action is needed. If the United States of America does not make policy changes soon, civilization will be past the point of no return. By turning policies to a more progressive stance, which this essay focuses on, the United States can be the government that will lead the way in positive environmental change here and across the world.

#### **II.** Introduction

Since being formed, the Environmental Protection Agency (EPA) has focused on decreasing greenhouse gas emissions and regulating air and water control. This progressive policy, titled the North Pacific Plastic Agreement (NPPA), will make an impact by digging into the connections of consumer habits and the environment. In the past century, consumers have changed habits by opting for fast-fashion and single use items and corporations have been more than happy to supply. Specifically, consumer use of single-use plastics has increased due to its cheap production cost and availability. The United States government has not focused on the regulation of single-use plastic to the extent that it should. The NPPA will focus on regulating these harmful plastics, to protect not only the environment, but American interests as well.

When discussing climate change and the environment, it is impossible to ignore other countries. For this policy to work, the United States will need to work with China to regulate the plastic usage of both countries. Since climate change is a universal problem it will require a

universal solution. Figure 1 (below) shows the Annual Plastic waste littered by coastal populations within 50 kilometers of a coastline. The United States and China are the only countries (other than Japan) that have more than 200,000 tonnes of plastic waste per year, which highlights the importance of the United States and China working together on this issue despite strained relations. By working together to solve a universal problem, not only will the environment improve, but relations will as well by setting a global example.

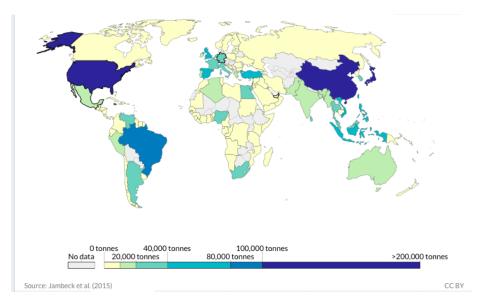


Figure 1. Annual plastic waste littered by coastal populations within 50 Kilometers of a coastline. This represents plastic waste with high risk of polluting surrounding rivers and oceans.

To stress the importance of NPPA, this essay will start by looking into the history of environmental policy in both China and the United States. The environmental policies so far have focused on regulating air and water quality, meaning plastic regulation has been minimal. After the historical past of environmental policy, this essay will transition into the effects of single-use plastic and explain why a policy is needed. Analyzing human plastic consumption and

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<sup>&</sup>lt;sup>2</sup> https://ourworldindata.org/plastic-pollution

waste is important to explain the urgent need for change in how humanity treats single-use plastics in the United States and China.

#### III. Background on Environmental Policy: United States

Environmental Protection was not a movement in the United States until after "Silent Spring" by Rachel Carson was released in 1962. This book brought attention to environmental issues in the United States and created a movement that has only accelerated since. Seven years later, in 1969, the Cuyahoga River in Ohio caught on fire due to the high amounts of pollution in the water. This was a catalyst event in creating the EPA, which was officially made a government agency in 1970. The EPA has been charged with regulating environmental issues extensively. In the same year it was created, the organization announced their first national standard for air quality, auto emissions, and anti-pollution. Since then, the EPA has controlled air and water quality with multiple different acts like the Clean Water Act of 1972; Ocean Dumping Act of 1972; Safe Drinking Water Act of 1974; pesticide bans in 1975; Resource Conservation Act of 1976; Clean Water Act of 1977; Nuclear Waste Policy Act of 1982; Safe Drinking Water Act amendments in 1986; Pollution Prevention Act of 1990; and the WaterSense Program. As the names of the Acts suggest, these policies focused on air and water quality and mitigating pollution found in these areas. This list is not exhaustive of all the actions taken by the EPA, but it is accurate to the agency's traditional focus in regulation. Though measuring air and water quality is important in knowing the amounts of greenhouse gasses and pollutants year to year, it is not the only way to handle climate change. The NPPA goes further than measuring air quality and looks to reduce the amount of pollutants at the root cause.<sup>3</sup>

<sup>&</sup>lt;sup>3</sup> All dates and regulations found from EPA website. "Milestones in EPA and Environmental History", EPA, https://www.epa.gov/history/milestones-epa-and-environmental-history

One of the first steps the EPA took to controlling plastic usage was in 1993 with "Environmentally Preferable Purchasing." This program "harnesses the power of the over 550 billion dollar federal pocketbook to catalyze a more sustainable marketplace for all- reducing climate impacts, improving the health of frontline communities, preventing pollution, and increasing U.S. industry competitiveness<sup>4</sup>." As one of the first actions taken to control plastic, this program uses the federal funding available to the EPA to create awareness and a push towards environmentally friendly products. Though it does not focus directly on plastic-waste, it certainly diminishes plastic in its own way.<sup>5</sup>

In 1995 another regulation was put into place by the EPA that works towards a zero plastic-waste society, though again it does not directly look into the issue. The EPA required Municipal Waste Combustors (MWC's) to reduce toxic emissions by 90% from the levels found in 1990.<sup>6</sup> This regulates the amount of plastic being destroyed by burning and thereby focused on emission reduction.

The biggest way the EPA has dealt with plastic waste is by cleaning up rivers and oceans that are polluted by plastic and plastic by-products. In 2002, the EPA moved to clean up the Hudson River PCB contamination. Another example is the Chesapeake Bay Executive Order, which restored and protected the Chesapeake Bay estuary and its watershed. This includes cleaning the water of plastic pollutants.<sup>7</sup>

As stated previously, the examples are not exhaustive of all environmental policies of the United States or the EPA. These references to historical policies show where the focus of the

<sup>&</sup>lt;sup>4</sup> "About the Environmentally Preferable Purchasing Program", EPA,

https://www.epa.gov/history/milestones-epa-and-environmental-history

<sup>&</sup>lt;sup>5</sup> All dates and regulations found from EPA website. " Milestones in EPA and Environmental History", EPA, https://www.epa.gov/history/milestones-epa-and-environmental-history

<sup>&</sup>lt;sup>6</sup>All dates and regulations found from EPA website. "Milestones in EPA and Environmental History", EP, https://www.epa.gov/history/milestones-epa-and-environmental-history

<sup>&</sup>lt;sup>7</sup> All dates and regulations found from EPA website. "Milestones in EPA and Environmental History", EPA

EPA has been. Most recently, during President Donald Trump's four years in office, the EPA experienced significant budget cuts and a reduction in funding. This has further delayed the pursuit of controlling climate change. To reverse these decisions and push the United States further toward the effort to diminish climate change, new administrations will have to focus on radical changes, like the one outlined in this essay.

#### IV. Background on Environmental Policy: China

While The United States was just beginning their environmental movement, China was on a different course; from 1958-1961, Mao Zedong introduced the Great Leap Forward to society. Mao's goal during this time was to catch up to the industrialized capitalist countries, like the United States and the United Kingdom. To do this, Mao's government constructed numerous irrigation systems, dams, reservoirs, and other major infrastructures. In less than one year, more than "600,000 backyard furnaces were installed to produce iron and steel."<sup>8</sup> During Mao's Great Leap Forward, carbon dioxide and sulfur dioxide were released into the atmosphere in vast amounts, only adding to the greenhouse gas emissions. After the Great Leap Forward, there was a continued interest in growing business and industry while the environment was largely ignored.<sup>9</sup>

Finally, in 1979 China put forward their first Environmental Protection Law. This established the monitoring of pollution caused by new construction. It also introduced the Environmental Impact Assessment, which assesses the projected pollution of new construction projects. Whenever new construction projects went over the accepted levels, they were to be

<sup>&</sup>lt;sup>8</sup> "History of Air Pollution in China, <u>https://chinaenv.colgate.edu/airpollution/air-pollution-in-china/</u>

<sup>&</sup>lt;sup>9</sup> All descriptions of Great Leap Forward were found here. "History of Air Pollution in China, <u>https://chinaenv.colgate.edu/airpollution/air-pollution-in-china/</u>

fined. Eight years later, the Air Prevention and Control Law of 1987 was enacted. Like many of the EPA's regulations, this established emission standards and closely watched the air quality. In 2002 there was a potential for a plastic regulating law. The Cleaner Production Promotion law, much like the Environmentally Preferable Purchasing Program, aimed at finding and funding cleaner technologies and products. In 2015, China implemented its most drastic law in regards to the environment which forced companies to publicly address their emission levels as well as any fines paid for emitting levels above the allowed standards. Government officials were assessed on "their completion of environmental protection goals." Citizens were given the right to report any lack of action taken by government officials" as well as "report environmentally threatening activities by [companies] or individuals."<sup>10</sup>

China, like the United States, has focused mainly on air and water quality when it comes to environmental policy. However, in 2017 China announced "an unprecedented ban on its import of most plastic waste, resulting in a sharp decline in global plastic waste trade flow and changes in the treatment structure of countries, whose impacts on global environmental sustainability are enormous but yet unexamined."<sup>11</sup>After the ban, "waste trade flow plunged by 45.5% in 2018."<sup>12</sup> This ban on imported plastic waste is the closest thing to the NPPA to date, but the NPPA will go a step further. President Xi Jinping has also announced his intention to have China be carbon neutral by 2060. With these hopeful steps, China has moved away from the Great Leap Forward attitude of "produce at all costs" to a more sustainable production type that is trending towards environmentally friendly.

<sup>&</sup>lt;sup>10</sup> All quotes are found here. "History of Air Pollution in China, <u>https://chinaenv.colgate.edu/airpollution/air-pollution-in-china/</u>

<sup>&</sup>lt;sup>11</sup> China's plastic import ban increases prospects of environmental impact mitigation of plastic waste trade flow worldwide, https://www.nature.com/articles/s41467-020-20741-9

<sup>&</sup>lt;sup>12</sup> China's plastic import ban increases prospects of environmental impact mitigation of plastic waste trade flow worldwide, https://www.nature.com/articles/s41467-020-20741-9

#### V. Foreign Relations History between China and The United States

The current president, Xi Jinping, has stated that he wants to bring China to the front of the environmental movement. Now is the time to work together, while the goals of the administration align. The NPPA offers this chance to work together. Since it is radical and is a progressive stance, other countries will see China and the United States taking drastic measures to deal with climate change, pushing both countries to be leaders of the environmental movement. During and after the Cold War in the 20th century, China and the United States had poor relations due to conflicting ideologies. The transition into the 21st century, foreign relations, trade, and foreign investment improved due to globalization and companies started to move manufacturing overseas.

Though globalization helped boost the world economy and opened up trade with more countries, it also meant moving environmental issues away from Global North countries. Capitalism, by nature, is exploitative and is constantly looking to expand its markets. By using the Global South for land, resources, and lower labor costs, the Global North has been able to use the markets of the Global South to increase their economy vastly. Factories and manufacturing were moved to these countries; by doing so, they moved the environmental costs of capitalism away from the Global North. As a Global South country, China has seen this first hand. As the rest of the world has moved away from coal power, China has put more funding into it, because of its low cost production. Despite the environmental impact associated with coal, China benefits from coal energy because they can use that energy to power the manufacturing places of the Global North companies.

The United States has a moral and economic obligation to China when it comes to the environment. One reason the United States has this obligation is because "consumption in western Europe and the USA is linked to more than 108,600 premature deaths in China."<sup>13</sup> By working with China through the NPPA, the United States could fix the damage done to the environment and show a willingness to work with other countries to make the world a better place.

Sticking with the theme of globalization, the United States and China also need to work together because of the interconnectedness of their economies. Any decision made by the United States in regard to regulating plastics would affect trade; a focus on trade negotiations and cooperation rather than trade wars is vital to the United State's interests.

The United States cannot work on this issue alone. As stated in the introduction, this is a universal problem resulting in the United States needing to work with other governments if climate change is to be reduced. In an idealistic world, all countries would regulate the use of single-use plastics. However, a more realistic goal would focus on the cooperation of the United States and China. Due to the negligence of both countries in regards to environmental health, the burden of plastic regulation falls on the United States and China. Thus far, both countries have made clear the carelessness in which they handle plastic regulation. Despite knowing the global impact plastic waste has on the environment, both countries have refused to breach this topic. However, if both the United States and China were to regulate plastic, it would solve most of the plastic issues seen today, since both countries are the two biggest plastic consumers in the world.

<sup>&</sup>lt;sup>13</sup> Globalizations Deadly Footprint,

https://www.resilience.org/stories/2018-02-26/globalizations-deadly-footprint/

#### VI. The Issue With Single-Use Plastic

As proven above by the history of environmental policy in both countries, much environmental policy focuses on air and water quality rather than plastic. The NPPA is vastly different from this. Because it has gotten out of control, plastic usage needs to be regulated immediately. One of the biggest indicators of plastic usage being out of control is the Great Pacific Garbage Patch. Plastics, microplastics, and other debris have been collecting in the Pacific Ocean for years now (Figure 2, below). <sup>14</sup>

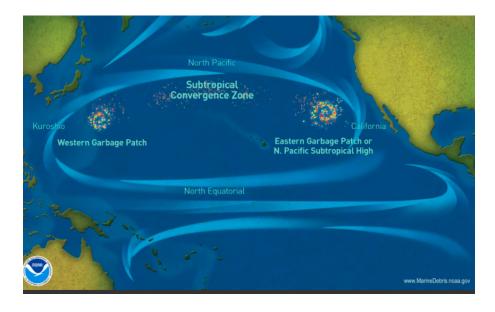


Figure 2. Depicting the Great Pacific Garbage Patch in the Pacific Ocean directly between the United States and China.

This Garbage Patch is detrimental to wildlife and ocean health/safety. All oceans are affected by plastic waste, but the water patterns of the Pacific Ocean have fostered an especially toxic environment. Wildlife all over the world, specifically marine life and birds, are eating the single-use plastics that are discarded improperly causing digestive issues or suffocation. This plastic will stay in the ocean for many years to come, as it takes plastic bottles over 400 years to

<sup>&</sup>lt;sup>14</sup> Information on Great Pacific Garbage Patch found here: "Great Pacific Garbage Patch", National Geographic, <u>https://www.nationalgeographic.org/encyclopedia/great-pacific-garbage-patch/</u>

<sup>&</sup>lt;sup>15</sup> https://marinedebris.noaa.gov/info/patch.html

decompose. Other plastics take between 20-450 years to decompose, as shown in Figure 3 (below).

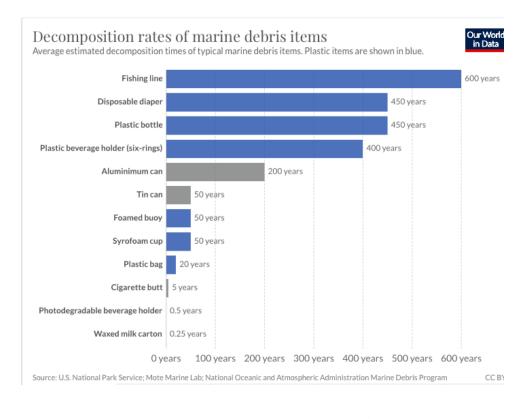


Figure 3. Data on amount of time it takes for marine debris to decompose. Pay specific attention to Plastic bottle, Plastic Ring holders, and Plastic Bags

Without more regulation, single-use plastic will not only be an issue for this generation, but for many more generations to come. Drinking a plastic water bottle today means that it will not fully deteriorate until 2471. The issue of single-use plastics is the most significant when it comes to climate change because in the past 100 years, the production of plastics has gone up from 1.5 million tonnes to 348 million tonnes<sup>17</sup>. On top of that, eliminating plastic waste is not feasible, or environmentally friendly.

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<sup>&</sup>lt;sup>16</sup> http://www.sarasota.wateratlas.usf.edu/upload/documents/DecompRatesMarineDebris.pdf

<sup>&</sup>lt;sup>17</sup> https://journals.openedition.org/factsreports/5071



Figure 4. United States Plastic Waste Management from 1960 to 2018.

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Figure 4. (above) shows the amount of plastic waste per year and how the United States discards the waste. The dark blue indicates recycled material; the light blue area indicates the plastic that is burned; and the gray area is the amount of plastic that is mishandled or put into landfills. A very small percentage of plastic waste in the United States is actually recycled. Most of the waste is put into landfills where it spends hundreds of years breaking down. As it breaks down, it releases petroleum byproducts, carbon dioxide, and other harmful chemicals that add to greenhouse gas emissions. Even burning plastic does not help solve the issue since burning plastic releases carbon dioxide. How governments currently handle single-use plastic waste is not sustainable for animals or mankind.

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https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/plastics-material-specific-data

#### VII. Policy Prescription

The evidence outlined in this paper makes it apparent that plastic regulation needs to change immediately in order to handle the issue of climate change. Without direct action from the government, society will not solve climate change and will instead continue to add to the problem. Without change, the human race will not survive. The first step in implementing the NPPA is working alongside China to regulate plastics. Both governments can subsidize companies that commit to using less plastic. Some companies that should be targeted are beverage companies (Coca-Cola) and consumer product companies (Nestle, Colgate, etc.) because they are the companies that use the most plastic.<sup>19</sup> There should be more funding given to companies that are researching ways to reduce the use of plastic. This could include companies searching for ways to recycle plastics, companies searching for how to clean plastic out of the oceans, companies studying biodegradable products that could replace plastic, companies that actively use biodegradable products, etc. Doing this would give incentive to companies to change the way their company works.

China and the United States should also commit to fining companies that use plastic. As already mentioned, China and the United States fine companies that emit more greenhouse emissions than the allotted amount. This same prescription should be extended to plastic use. Both countries should agree on a set amount of plastic waste allowed per company, and companies that go over this amount will pay a fine that is equal to the amount of damage done by the companies actions.

<sup>&</sup>lt;sup>19</sup>https://www.greenpeace.org/international/story/18876/these-10-companies-are-flooding-the-planet-with-t hrowaway-plastic/

There are many projects in both China and the United States that are actively working towards cleaning up plastic waste and are committed to using reusable products. If the two administrations were to give funding to these projects it would not only help the current projects but it would also incentivize the creation of more projects that could be beneficial. If these projects are not funded properly, then research can not be done effectively to find solutions.

Perhaps the most radical aspect of the NPPA would be to move funding away from plastic/fossil fuel products and companies. This will be a hard task due to plastic and fossil fuel lobbyists, but this is a needed step. As of now, plastic lobbyists have been able to promote plastic laws at the federal level, which have made it hard for all states to regulate single use plastic.<sup>20</sup> The United States government must push against these lobbyists and take a stance against them by listening to science. These lobbyists are actively working against climate change and as long as they are able to influence the government in such a strong way, humanity will lose to climate change. By moving funding from fossil fuels and plastic, the government can use that funding strategically to help contain the issue and not add to it.

Global environmental agreements prove the necessity of viewing climate change as a universal problem that all countries need to work together to solve. The NPPA has the chance to grow into another Montreal Protocol or Paris Climate Accord. With this in mind, my final suggestion is to establish a treaty. Focusing on the changes outlined above, an agreement between these respective nations would commit them to the pursuit of an environmentally conscious society. Only when multiple countries agree can significant change be done. For this issue, the United States should primarily focus on joining with China. Together, as the two biggest wasters of plastic, the United States and China have the responsibility to lead other

<sup>&</sup>lt;sup>20</sup>"End Plastic Pollution", Earth Day,

https://www.earthday.org/a-third-of-the-us-has-laws-preventing-plastic-bans/

countries into eliminating their plastic waste. This treaty would focus on the environmental protection of the Pacific Ocean, but has the capacity to grow into a global movement. This would hold the countries accountable to their promises and help promote recycling and the use of reusable (or biodegradable) products.

## VIII. Conclusion

Though the NPPA might seem progressively radical, The United States does not have other options. The constant disregard for the environment has led society to a point where radical options are the only options left. Without making drastic changes soon, society dooms the world to irreversible damage. The NPPA needs to be enacted promptly due to the significance of plastic waste. Regulating plastic now is a better option than having to regulate who gets clean water, which , at this rate, is the future being set up for the coming generations. The history of environmental policy in both China and the United States, while helpful and useful, has not focused heavily on plastic waste which is an issue. By transitioning focus to include plastic waste management, China and the United States can lead the way in global environmental change. The United States has an obligation to the world to change their actions and solve the issues at hand. This ideally would be the first step of many that will spur environmental change across the globe.

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