

China waste import ban

Starting in early 2018, the government of [China](#) banned the import of several types of [waste](#), including [plastics](#). The ban has greatly affected recycling industries worldwide,^[1] as China had been the world's largest importer of waste plastics and processed hard-to-recycle plastics for other countries, especially in the West.^[1]

Reason for the ban

China being the largest importer of waste plastics, account for 56% of the global market.^[1] Meanwhile, the [United States](#), [Japan](#), [Germany](#), and the [United Kingdom](#) are the main source countries.^[1] Since 2010, China has begun to implement more stringent waste import policies that correspond with the quality of import waste and improvement of domestic production capacity.^[2] Likewise, environmental and health considerations have led China to introduce the waste import policy in 2017 which bans the import of 24 types of solid waste, including certain types of plastics, paper, and textiles.^[3] Based on a study by the [University of Georgia](#), it is predicted that by 2030 with this policy, 111 million metric tons of plastic waste will be left unaccounted for.^[4]

Chinese plastic history

In the 1990s, economic development and the rise in living standards increased China's demand for plastic products by 21% annually.^[5] However, in that year, China lacked raw materials, and the production quality was incapable of meeting to the growing needs. Moreover, they did not have an efficient recycling system, and waste was collected through an informal recycling network.^[5]

From 1980 to 1994, the recycling rate of waste products in China fell by 11%, which brought about pressure on the municipality. In some big cities, a large number of waste plastics were not being recycled and led to a strain on the urban drainage system blockage^[5]. According to statistics, about 60% of plastic waste in China was discarded or not recycled at that time. In 1994, China's agricultural film consumption was 1.9 million tons, but 300,000 tons of agricultural film remained in farmland every year, affecting the soil and causing animal diseases.^[5]

In the early 21st century, China had become the second largest plastic producer in the world, second to the US. However, China's domestic productivity still could not meet their demand for plastics.^[6] Furthermore, the rising crude oil prices at the time also led to the inflation of the price of pure plastics. At the same time, although the price of waste plastics has also increased, it is still relatively cheap compared to virgin plastics. Thus, in order to cope with demand and lower costs, the import of waste has increased again.^[6] The increasing demand led China to rely heavily on the import of waste, such as waste plastics.

However, this also formed the dependence of other countries in the world on China's imports of waste plastics.^[6]

Plastic recycling



Packed and prepared plastic

It was reported that roughly 50% of plastics are being utilized in disposable manufacturing processes such as packaging, agricultural films, and disposables, while 20 to 25 % was used for long-term infrastructure like pipes, coating for cables and structured materials and the remainder is used for durable moderate life consumer goods such as electronics, furniture, and vehicles.^[7] In general, plastic is considered to be durable and non-biodegradable hence making them difficult to decompose for at least a few decades with some lasting over hundreds or thousands of years.^[7] Judging from the domestic environmental factors, even some degradable plastics may still exist for a considerable period of time due to their degradation rate which is also influenced by factors such as the exposure of [UV](#), [oxygen](#), and temperature, whereas biodegradable plastics require the need of adequate [microorganisms](#). Therefore, the rate of degradation in landfills and terrestrial, marine environments would tend to vary.^[7]

Due to poor management of plastic waste, most plastics are currently disposed of in unauthorized dumping sites or burned uncontrollably in the field.^[8] Moreover, due to the particularity and quantity of plastics, the recycling of plastics has always been a problem. In theory, most thermoplastics could be recycled in a [closed loop](#). However, plastic packaging may call for the need to use different kinds of [polymers](#) as well as other materials such as metals, paper, pigments, inks, and adhesives, which make it challenging to control.^[7] Setting up a landfill is one of the traditional methods of waste managements, but some countries lack the land to accommodate to landfills. The process of incineration will reduce the need for a dedicated plastic waste landfill, but this brings up the issue of whether or not harmful substances being released into the [atmosphere](#) during this process.

Furthermore, collecting and packaging plastics for sale to other countries is much cheaper than recycling.^[7]

Chinese plastic waste management

The Green Fence Operation

The quality of recyclable materials exported to China gradually declined; on the contrary, large amounts of waste entering China was mixed with food, garbage, and other pollutants. These unmanageable waste products have thus burdened the Chinese government.^[3] Similarly, the profitability of the [waste industry](#) has attracted speculators to invest in the market. In order to enhance the management of the market and the reduction of illegal traffic, the Chinese government had decided to implement the green fence operation.^[9] It is said that this operation was the result of the China Customs' enforcing action against the law governing from February to November 2013. This initiative was designed to monitor the quality and flow of incoming waste and combat smuggling.^[9] It was reported that in just five months, China customs had seized 337 cases of solid waste smuggling amounting to 1.7 billion [RMB](#).^[3]

According to the regulations of the China Waste Plastics Association, import license transactions are prohibited, and imported waste plastics must be delivered to factories with import qualifications in accordance with the provisions of the import license. Since countries are dependent on China's waste imports, this action had adversely affected the entire value chain of waste plastics and exporting countries.^[9]

In Chinese ports, inspections of waste have slowed down port operations, which means that exporters need to bear the demurrage of the goods left in the dock before the inspection. At the same time, a large number of waste materials that have not passed the review have also been returned.^[9] By the end of 2013, China's waste imports had been reduced by one million metric tons.^[3] China's policy has made exporting countries aware of the drawbacks of excessive dependence on exports. Hence, this will bring a negative impact on the domestic reprocessing capacity of exporting countries.^[3]

Ban policy

China determined in July 2017 to stop import of 24 kinds of solid waste from foreign countries. Solid wastes including plastics, paper products, and textiles, etc. The new policy was implemented on January 1, 2018, and banned the imports of those waste.^[10]

An even tighter policy introduced on March 1, 2018, aimed to ban all waste imports into the country. The [Ministry of Ecology and Environment](#) of China brought the policy into effect on April 19, 2018. 16 types of "Category 7" materials will be banned from import beginning 31 December 31, 2018. Another 16 materials will be banned on 31 December 2019.^[11]

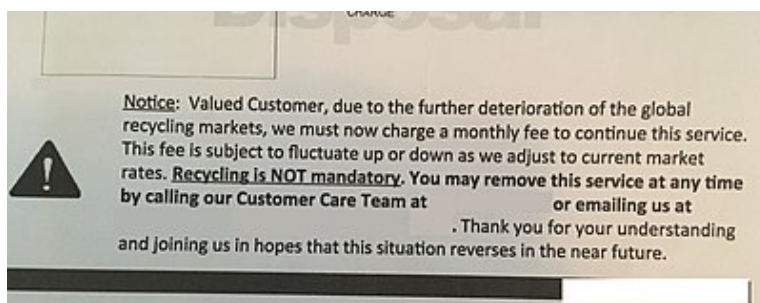
It's important to notice the amount of imported foreign wastes that were unauthorized by the government, which flowed in country through reselling licenses, fake report, and smuggling, etc. The conservative estimate is approximately a few times the national licensing quota.

The cost of obtaining foreign waste is very low. It can be sold at a high price through simple process processing and obtain high profits. It is a "honey" for illegal people; but the process to dispose of foreign waste caused serious pollution to the local atmosphere, water, and soil. It is a "poison" that destroys the local ecological environment and endangers the lives and health of the people. The documentaries "[Plastic China](#)" and "[Beijing Besieged by Waste](#)"^[12] told the story about garbage in China, that revealed the poverty and human cost.

[Electronic waste](#) transactions began in the eastern coastal areas of China and enabled local farmers to get rich quickly. For example, in [Guiyu, Guangdong Province](#), there are 150,000 people in the town, and 120,000 people are engaged in the e-waste industry. They handle millions of tons of e-waste every year, and the transaction amount is 75 million US dollars. After more than ten years of development of the garbage dismantling industry, Guiyu has already become a wealthy town. However, the wealth of Guiyu has come at the expense of environmental degradation. According to a research report published in 2010, 81.8% of rural children under the age of 6 have lead poisoning, and the source is likely to be lead ash from chip fragmentation or molten lead solder extracted pollution from gold, copper and other precious metals and semi-precious metals. The gold on the circuit board needs to be separated by highly corrosive acids; after the high corrosive acid is used up, it is often poured into rivers and other open waters and further polluted environment, which is a vicious circle for the ecology.^[13] The waste ban policy hopefully improves severe circumstances in China and facilitates the healthy development of people and society.

Impact of the ban

Given that the US is one of the largest producers of waste, the ban has had a great impact on the country. Some US garbage collection services have told customers that "recycling is not mandatory" now that China has stopped accepting the US recyclables, also saying that the recycling service will now incur a separate charge on the consumer's bill.^[10]



Since 1992, China has received 106 million tons of plastic waste, half of the world's plastic waste imports. After the introduction of the policy, China's imports of plastic waste saw a sharp drop of 99% while the imports of mixed paper have fallen by a third, and imports of aluminum and glass waste have been less affected.^[14] In the meantime, many recycling projects abandoned the separation of recyclables when they

decided to just dispose of the waste into the same box. This had increased the risk of contamination from food and waste and resulted in a large amount of waste that cannot be reprocessed.^[14]

Some developed countries have started to transport the waste to other [Southeast Asian](#) countries such as [Thailand](#) and [Malaysia](#) to respond to the ban. Some Chinese manufacturers are also setting up factories in these countries to try to undertake these new projects.^[4] However, some of these countries do not have the capacity to respond to the entry of new waste and are already considering whether to impose policies to control the impact of foreign waste on the country.^[4] The existing marine pollution of Asia is dire enough, and there is no doubt that transporting waste to countries with no processing capacity will exacerbate this problem.^[15]

According to the *Financial Times*, after the ban on China, the UK's waste exports to Malaysia tripled, and the domestic recycling industry is still sluggish. In addition, China's ban has caused more countries to focus on the development of a recyclable economy^[4]. The UK plans to impose a tax on plastic packers, and [Norway](#) also requires disposable plastic bottle manufacturers to pay environmental taxes.^[14] European authorities have realized the value of plastic waste, claiming that if recycling capacity quadruples, it could create 200,000 jobs by 2030.^[4]

From April 2019 onwards, multiple Asian countries including Malaysia, the Philippines, Indonesia, Cambodia and Sri Lanka began sending illegally imported and mislabeled waste back to Western countries.^{[16][17][18][19][20][21]}

See also

- [Global waste trade](#)
- [Electronic waste in China](#)
- [Plastic roads](#)
- [Water pollution](#)
- [Waste management](#)

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