

# SEA of Solutions

partnership week for marine plastic pollution prevention  
11-14 november 2019

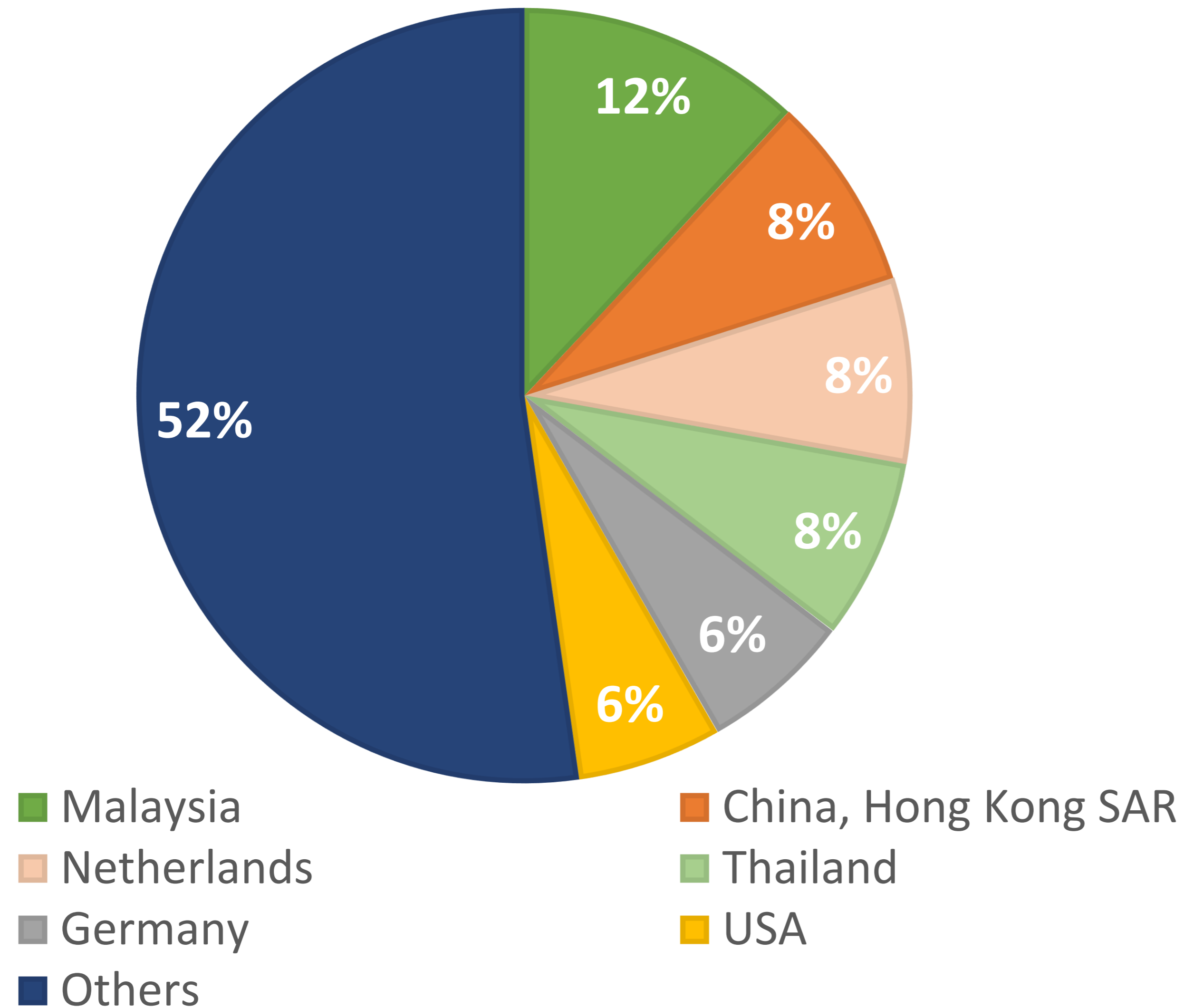
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**11 November 2019**



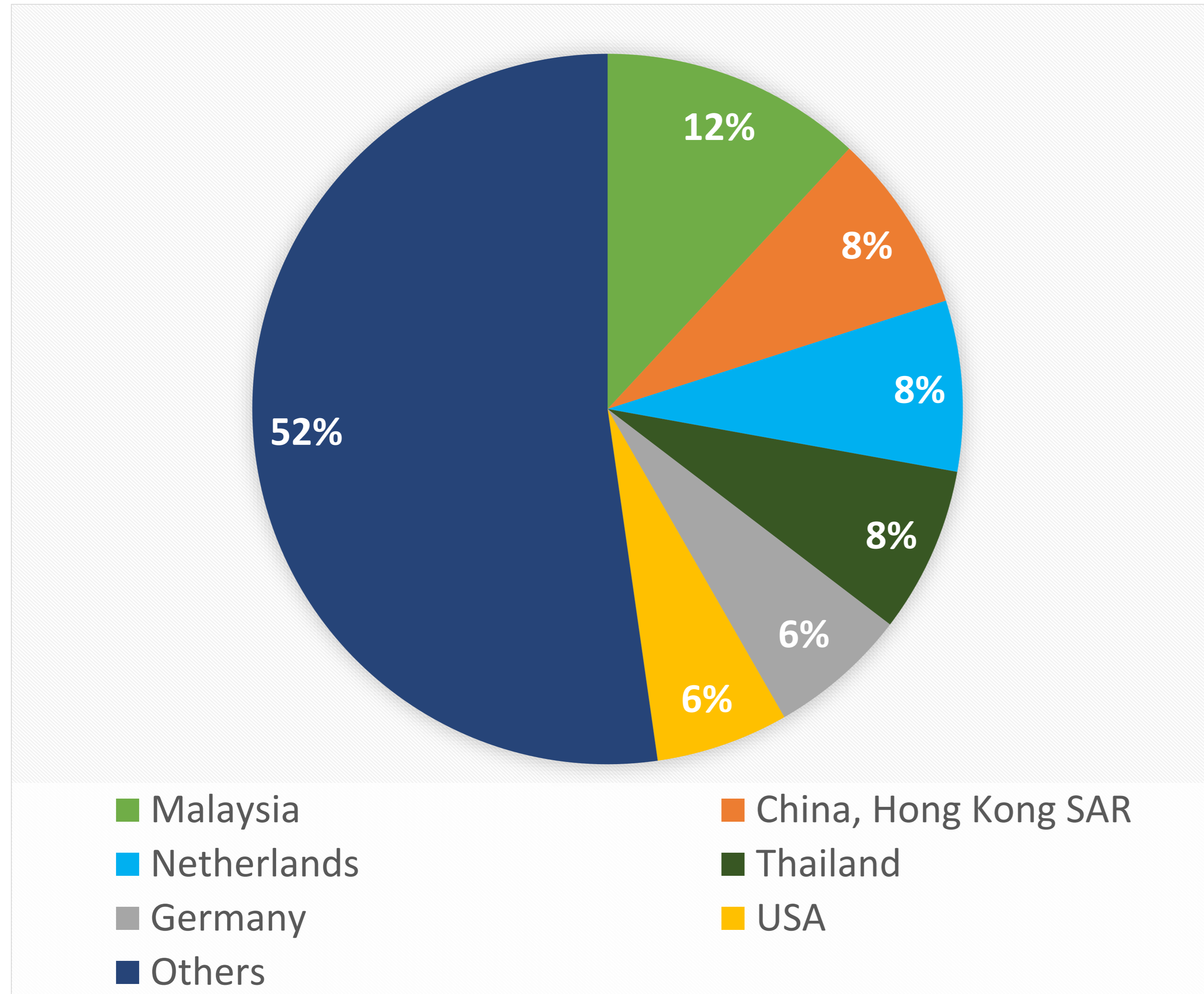
# Plastic Waste Import in 2016



In 2016, **14 million ton** of plastic waste was traded in the world. More than 60 % of plastic waste were sent to China, because most of imported plastic wastes by Hong Kong were re-exported to China.



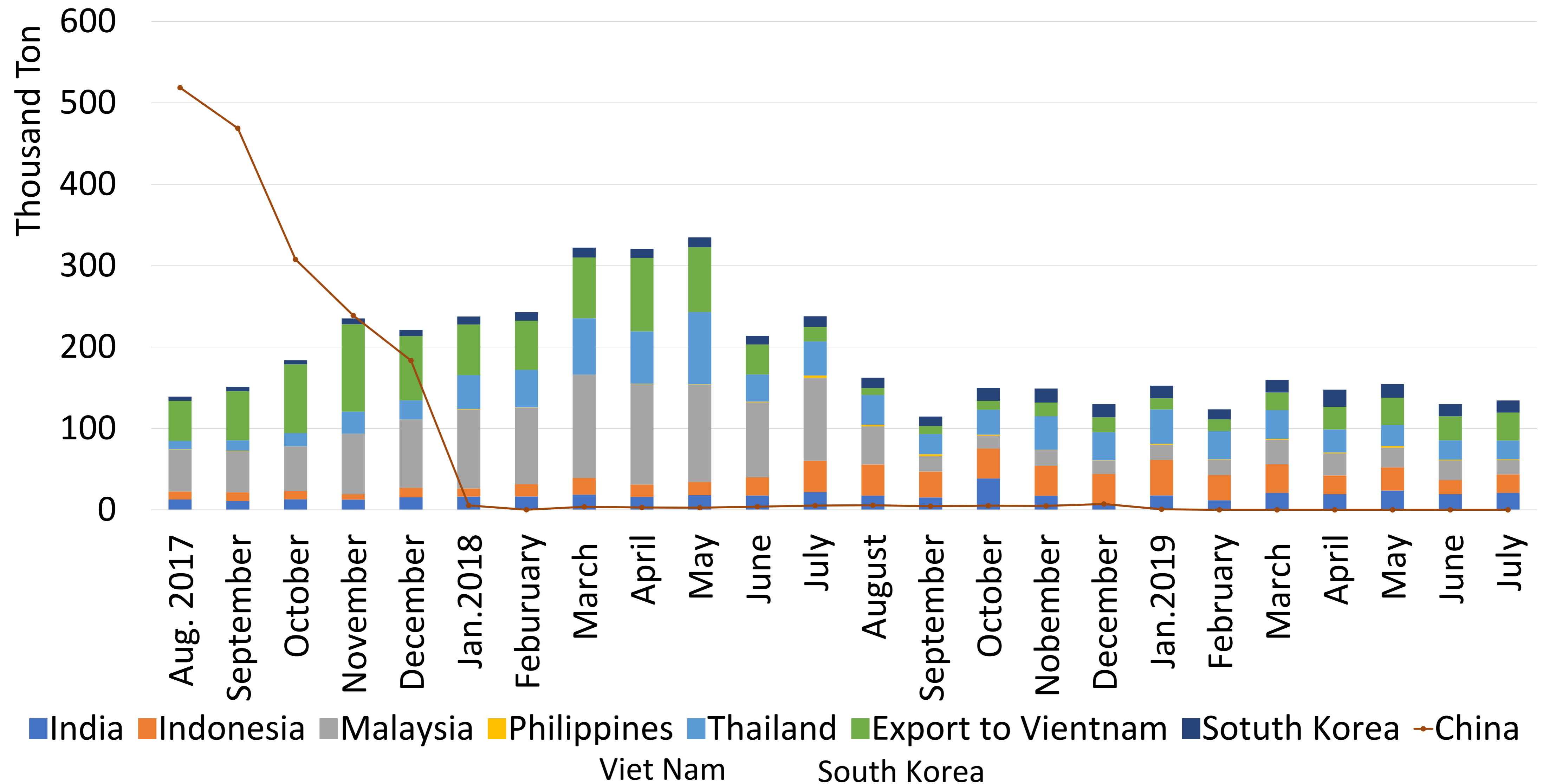
## Plastic Waste Import in 2018



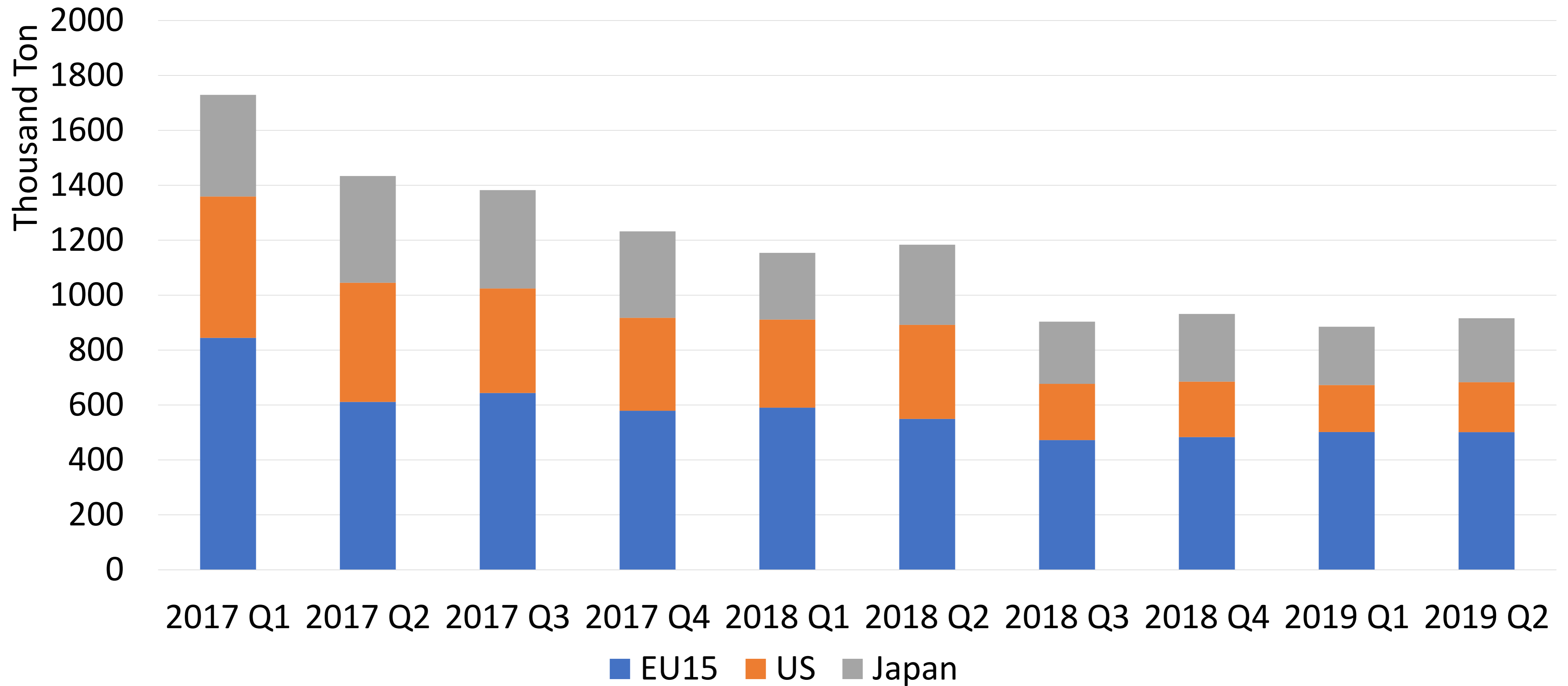
- Based on available import data on plastic waste, **7.3 million ton** of plastic waste was traded in the world. The volume of plastic waste trade halve.
- **Malaysia** is the top importer, but share is only 12 % in the world. The second largest importer is Hong Kong.



# Import of Waste Plastics by Asian Countries



# Export of Waste Plastics from EU15, US and Japan



Source : Compiled from the data from Global Trade Atlas, 2019



## Europe

Compressed and baled

Prior Notice and Consent

## Philippines

Shredded and washed to flake



↑ Washed flake of PET.

# INTERNATIONAL RECYCLING OF WASTE PET BOTTLE

## China

It twists and unite to make thick thread or makes substitute to cotton. →



Thread is spun with heat. ←





# Pollution from Plastic Recycling

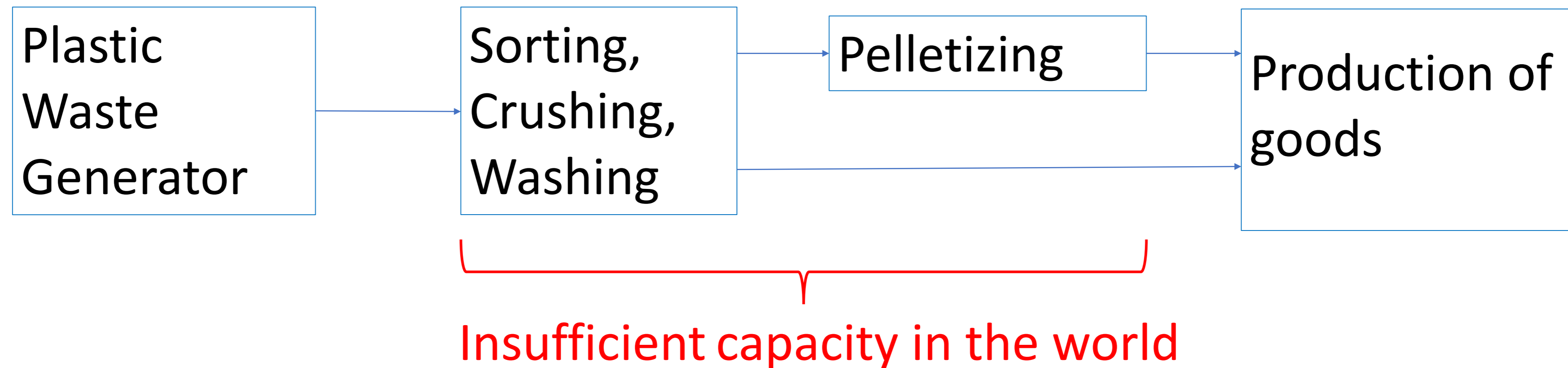


- Wastewater from washing waste plastics are discharged without any pollution control.
- The residuals of plastic waste are still not well managed





# Challenges for plastic recycling



- Recycler may refuse to invest in sorting, crushing and washing facility, because:
  - China may allow import some types of plastic waste in the near future.  
(I do not believe, but some recycler believe.)
  - Country where they will invest in the facility may prohibit the import in the future.
- Some recyclers try to get short-term profit, because unsorted plastic waste is cheap and there is a strong demand of re-pellet that still exists in China.

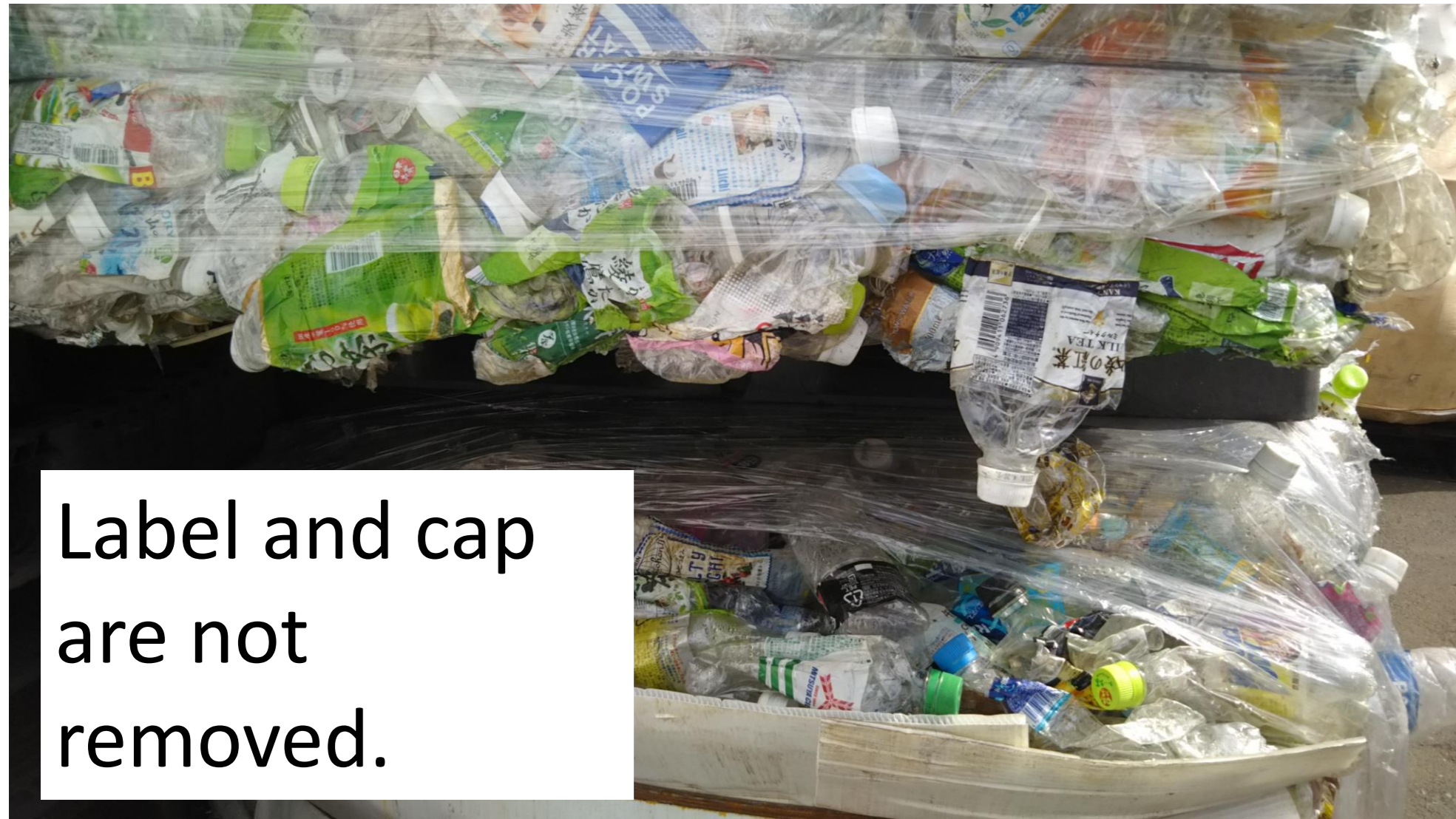




**AMENDMENT OF ANNEXES OF THE BASEL CONVENTION  
AND CONTROL MEASURES**



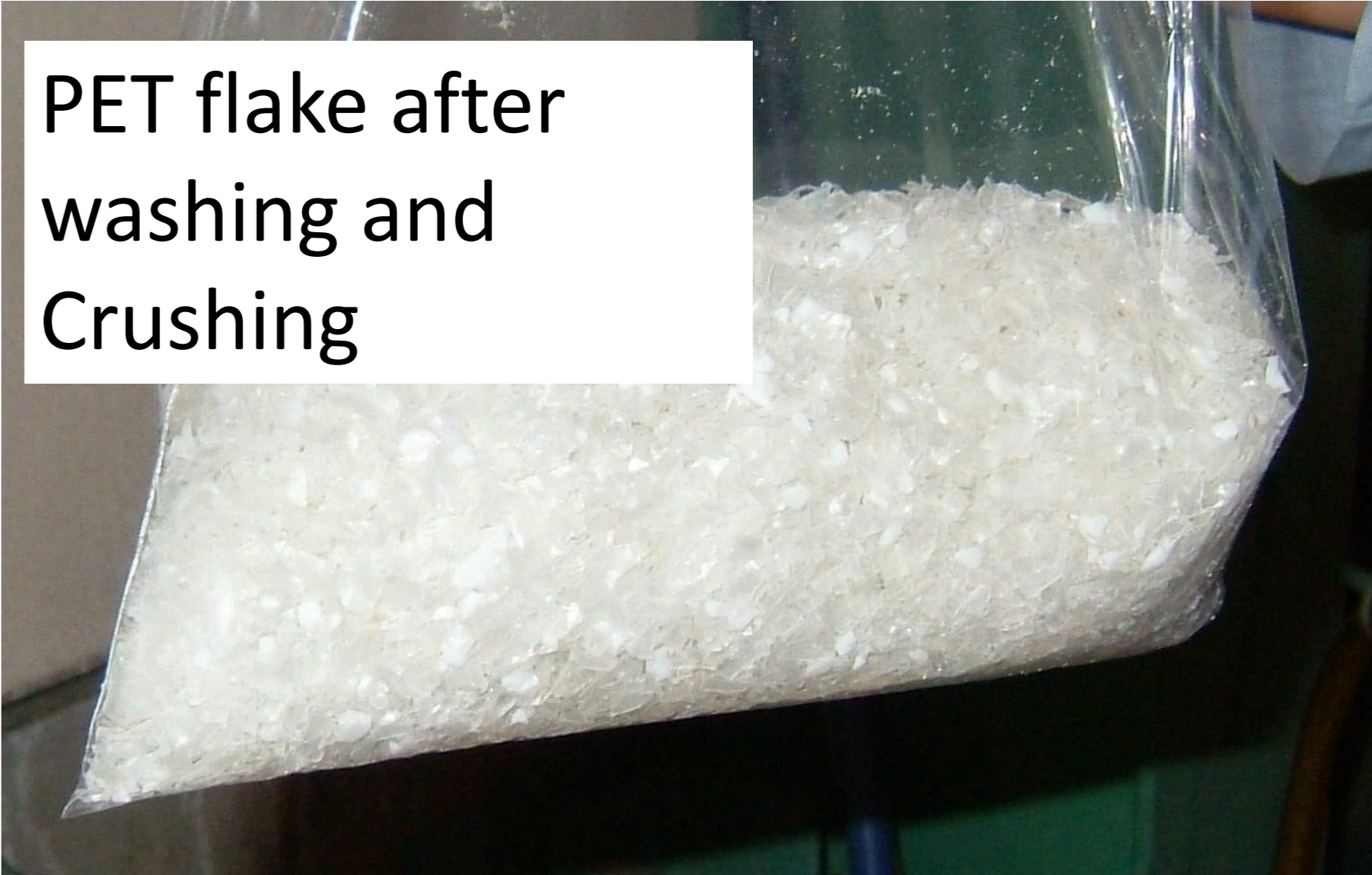




Label and cap are not removed.



Label and cap are removed



PET flake after washing and Crushing



Plastic waste with some contamination.



Same types of plastics, with different color.



Pellet made from waste plastics



# AMENDMENT OF ANNEXES OF THE BASEL CONVENTION

## ANNEX II

“Categories of Wastes Requiring Special Consideration”

(It is not hazardous, should be controlled)

Y46 Waste collected from household

Y47 Residues of arising from incineration of household waste

Y 48 Plastic wastes, including mixtures of such wastes

## ANNEX VIII

Hazardous Waste

A3210 Plastic waste, including mixtures of such wastes, containing or contaminated with Annex I constituents, to an extent that it exhibits an Annex III characteristic (note the entry on list B B3011)

## ANNEX IX

Not regarded as hazardous or other waste controlled under the Basel Convention. Replacing B3010 to B3011.

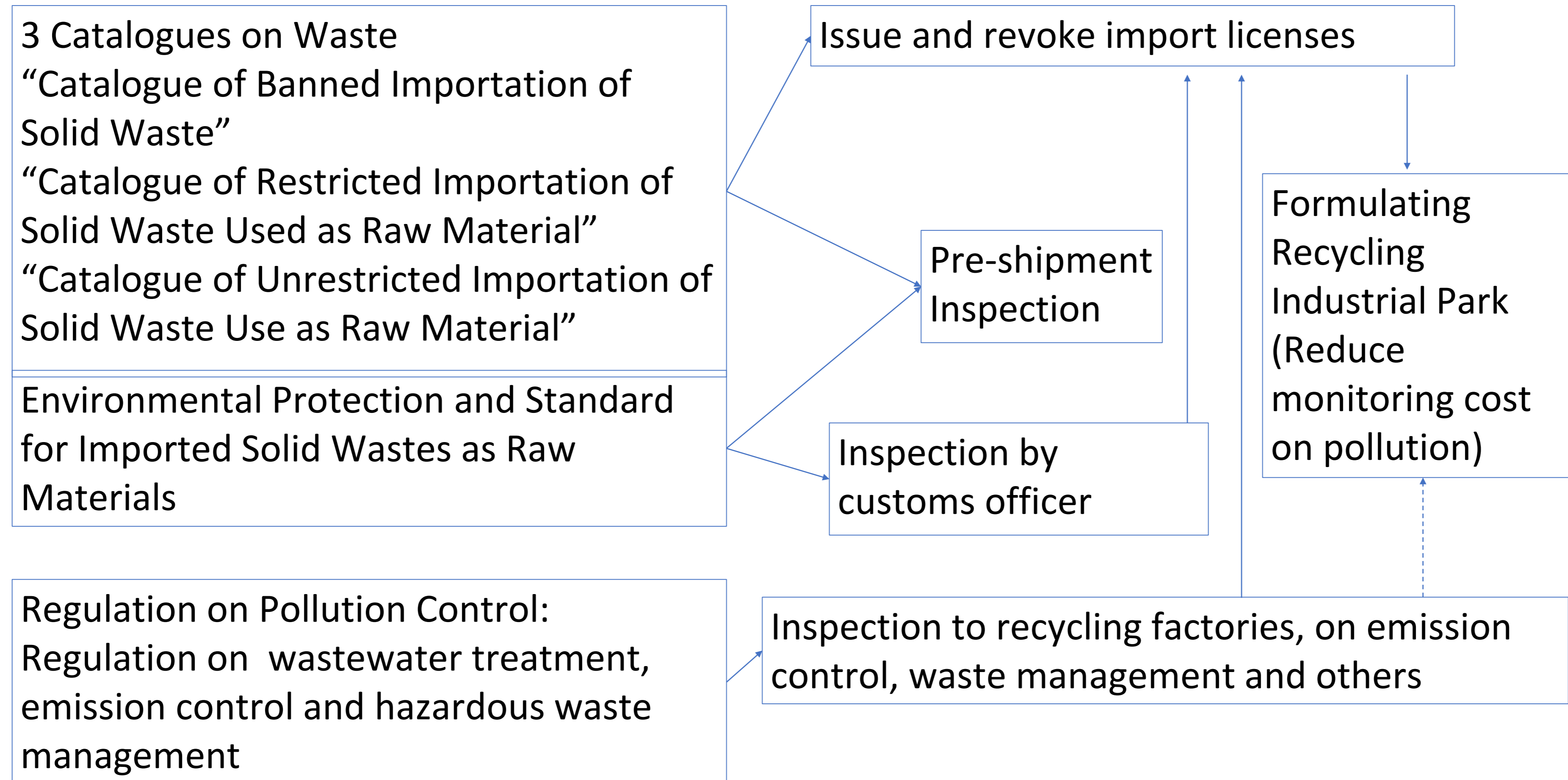
**B3011 Plastic waste listed below, provided it is destined for recycling in an environmentally sound manner and almost free from contamination and other types of wastes.**

Plastic waste almost exclusively consisting of one nonhalogenated polymer, including but not limited to the following polymers: PE, PP, PS, ABS, PET, PC, ... Mixtures of plastic wastes, consisting of polyethylene (PE), polypropylene (PP) or polyethylene terephthalate (PET), provided they are destined for separate recycling of each material and in an environmentally sound manner, and almost free from contamination and other types of wastes



# Chinese Import Regulation on Recyclable waste

China try to control import of recyclable waste by enforcing various regulation





# Chinese Environmental protection control standard for imported solid wastes as raw materials

## –Waste and scrap of plastics 2005.

4.1 Waste and scrap of plastics shall be prohibited from bringing in following carried-wastes (exclusive of wastes listed in Article 4.4).

- (1) Radioactive wastes;
- (2) Explosive arms and ammunitions such as discarded bomb and shell, etc.;
- (3) Substances identified as hazardous wastes according to GB5085;
- (4) Other wastes listed in “National Catalogue of Hazardous Wastes”.

4.4 Following carried-wastes shall be strictly restricted and their total weight shall not exceed 0.01% of the weight of imported waste and scrap of plastics.

- (1) Asbestos waste or waste containing asbestos;
- (2) Burnt or partly burnt waste and scrap of plastics and those polluted by extinguishing agent;

(3) Film containing sensitization material;

(4) Used and intact plastic container;

(5) Sealed container;

(6) Other hazardous wastes that can't avoid being mixed into the imported waste and scrap of plastics during the production, collection and transportation processes.

**4.6 In addition to the wastes listed above, other carried-wastes (such as waste wood, waste metal, waste glass, thermoplastic, plastic film and plastic products coated with metal, etc.) shall be restricted and their total weight shall not exceed 0.5% of the weight of the imported waste and scrap of plastics.**



# CONCLUSION





# To Create the Business Environment for Investment

- It is necessary to **reduce uncertainty on regulatory environment**, in order to encourage investment in sorting, crushing, washing and pelletizing facility.
  - According to Chinese experts on recycling and waste management, it is not likely to remove import restriction on recyclable waste, because the policy was introduced by the top politician.
  - Other countries, which imported plastic waste after Chinese restriction, have introduced stricter import restriction. These countries has implemented to or should enforce pollution control.
  - Conference of Parties of the Basel Convention amended the Annexes, in May 2019. Plastic waste contaminated other wastes and mixed plastic wastes (except PET with mixture of PP and PE) will be controlled in the Basel Convention.
  - It is the time for collectors and recyclers to invest in sorting and washing process.



## To Create the Business Environment for Investment (2)

- Recyclers producing recycled products need a **stable supply of recyclable waste**, with good enough quality.
- Some recycles in the region need import of recyclable waste because of the limitation and unstable supply of recyclable waste. Also, there is lack of good quality of plastic waste from domestic collection system.
  - Unstable supply may hinder investment in production process for recycled products.
- To improve the quality of plastics, the government and industries should **promote design for recycling**, and **source separation and collection** of recyclables.
- Import restriction of clean plastic waste may discourage the investment in production process using plastic waste. **Appropriate import restriction** should be applied, with appropriate enforcement to dirty and mixed plastics.





# Does trade restriction promote recycling of waste domestically generated plastic waste?

- Some countries try to promote domestically generated plastic waste by restricting import of plastic waste, or by restricting export of plastic waste.
- By prohibiting import of plastic waste, the price of plastic waste will go up, which will stimulate the domestic collection of waste. However, recycling industries may decrease their production because recycled products are competing with plastic products made from newly produced plastics or virgin materials.
- By prohibiting export, the domestic price of plastic waste is going down, which may stimulate the investment in production process of recycling. If industry, that can utilize plastic waste as raw materials exists, the collected plastic wastes will be utilized. However, if there is only limited industries utilize the plastic waste, the collection of plastic waste may be discouraged.



# Policy to Promote Recycling of Domestically Generated Plastic Waste

- If government or industry wants to promote domestic recycling industry, some other policies should be considered.
- Design for Recycling (by government regulation or by voluntary action by industry)
- Investment to reduce transportation cost of plastic waste.
- Ensure the quality of recycled products, by setting industrial standards.





## Production, Consumption, Import and Export of Plastics in Asia (2015, Thousand Ton)

	Production	Consumption	Export	Import	Import of Plastic Waste 2015	Import of Plastic Waste 2018
Japan	8,766	8,348	2,021	1,483	2	4
China	63,771	79,595	3,752	20,214	7,354	
S. Korea	14,411	6,719	8,441	696	68	151
Taiwan	7,775	3,333	5,252	843	221	
Indonesia	2,481	4,377	459	2,337	97	320
Malaysia	1,963	2,327	1,701	2,073	249	872
Thailand	7,669	4,150	2,403	754	56	552
Vietnam	646	3,237	216	2,825	88	
India	9,867	12,903	1,323	4,325	185	93

Source: European Plastics and Rubber Machinery (2016) "Plastic Resin Production and Consumption in 63 Countries Worldwide", <http://www.pagder.org/images/files/euromappreview.pdf>, and UNComtrade.



