

THE RECYCLING MYTH

MALAYSIA AND THE
BROKEN GLOBAL
RECYCLING SYSTEM



TABLE OF CONTENTS

4 EXECUTIVE SUMMARY

6 INTRODUCTION

- THE RECYCLING MYTH AND A BROKEN SYSTEM
- IMPORTED PLASTIC WASTE IN SOUTHEAST ASIA
- TYPES OF PLASTIC

13 RIGHT UNDER YOUR NOSE – UNREGULATED IMPORTED PLASTIC WASTE PROCESSING IN MALAYSIA

- TOP 10 COUNTRIES EXPORTING WASTE TO MALAYSIA, JANUARY TO JULY 2018
- COMMUNITY ACTIONS
- GREENPEACE MALAYSIA INVESTIGATION
- IDENTIFIED WASTE FACILITIES
- PLASTIC WASTE FROM OVERSEAS

26 HEALTH AND ENVIRONMENTAL IMPACTS

32 LEGAL RESPONSIBILITIES OF MALAYSIA AND THE EXPORTING COUNTRIES

34 RECOMMENDATIONS

- FOR THE MALAYSIAN GOVERNMENT
- FOR THE GLOBAL COMMUNITY

36 CONCLUSION

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EXECUTIVE SUMMARY

In many places a waste management system exists that claims to dispose, incinerate or recycle collected plastic waste. In reality, most of the plastic waste generated in high-income countries is transported to low- and middle-income countries, where the plastic waste is imported to be recycled or further processed. In January 2018, high-income countries lost their major importer when China banned most imports of plastic wastes. Southeast Asian nations eagerly jumped in to fill the gap, with Malaysia taking the lead by importing nearly half a million tonnes between January and July 2018 [1]. An international trade system, based on multilateral agreements, is supposed to regulate the selling, buying, importing and exporting of recyclable plastic wastes. A recent Greenpeace* investigation shows that this international trade system is broken.

The imported waste is often not processed correctly but dumped or burned in essentially unregulated ways, in violation of international agreements. Criminal actors in Southeast Asia have abused the inability of legal operators and failure of authorities to cope with the increased imports to make quick, dirty money. After protests by Malaysian activists and a number of news articles decrying how apparently illegal operators have been harmfully dumping the waste in unsuitable places or burning it openly, the Malaysian government, among other nations took steps to address the issue by imposing a temporary import ban on plastic waste. This ban was recently turned into a permanent ban for plastic scrap. However, the official definition of plastic scraps remains vague. In addition, Malaysia said it would only phase out plastic waste imports entirely over the next three years [2]. During the investigation, Greenpeace was shocked by the extent of the environmental pollution and health conditions likely caused by illegal burning and dumping of imported plastic waste. The temporary ban on imports in Malaysia did not halt unregulated or poorly regulated burning and dumping activities. These are still ongoing. Existing monitoring and enforcement policies and practices in Malaysia are inadequate to put a stop to these operations.

* The investigation was undertaken by Greenpeace Malaysia.



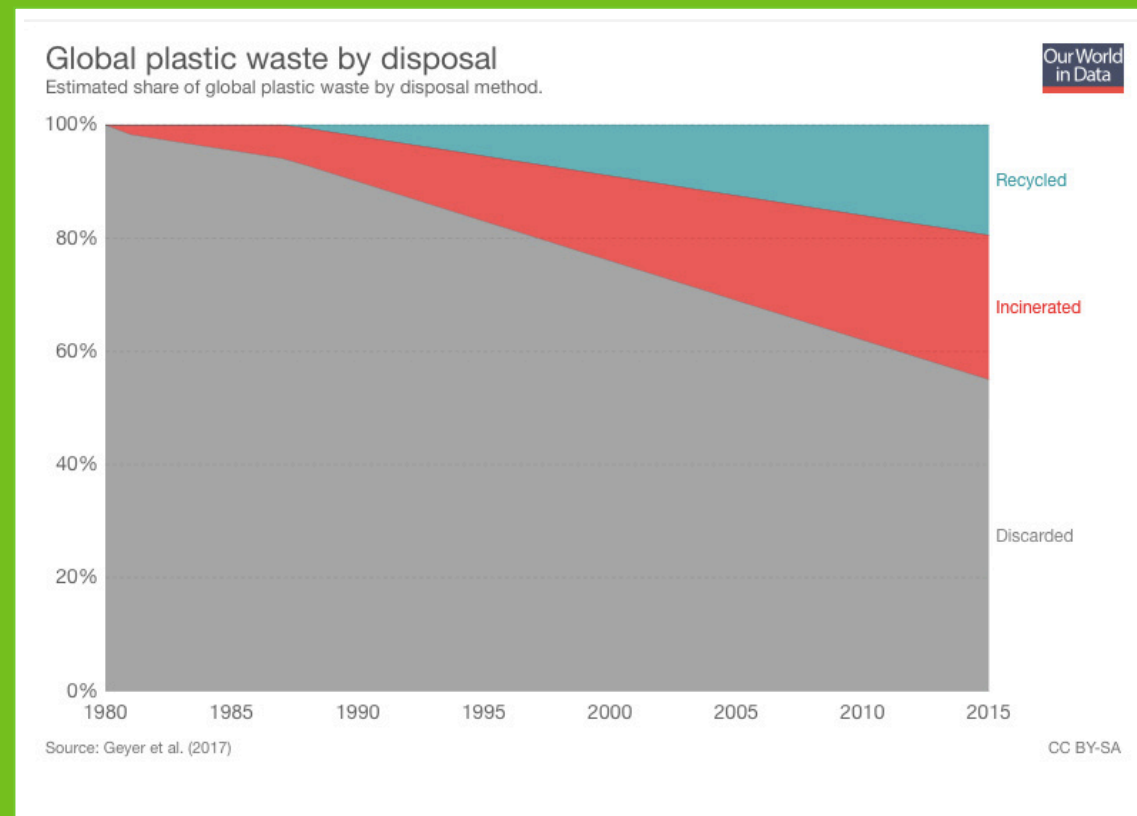
Plastic waste from the UK in an unregulated waste facility in Ipoh

Greenpeace strongly recommends strict, regular enforcement of all relevant laws and the shutdown of all illegal or unregulated facilities in Malaysia. Authorities must investigate and crackdown on the network(s) of unlicensed operators, conduct thorough environmental (air, water, soil) and public health impact studies on local communities and sites affected, and establish mechanisms to ensure transparency and accountability in the plastic waste trade. The illegal dumpsites need to be cleaned up to avoid lasting harm to people, the environment and people's livelihoods. All errant actors, especially key decision-makers and funders of these unlicensed operations must be held accountable. At the international level, plastic exporting countries need to investigate potential fraud and illegal practices within their industry. Malaysia's plan to fade out of the international market should not lead to an increase in similar illegal and unregulated activities in other Southeast Asian countries like Thailand and Indonesia, which are already struggling with the increased amounts of imports. Last but not least, strong political will from policymakers in both exporting and importing countries are needed to address the recycling myth and fix the broken plastic recycling system before the world drowns in plastic.

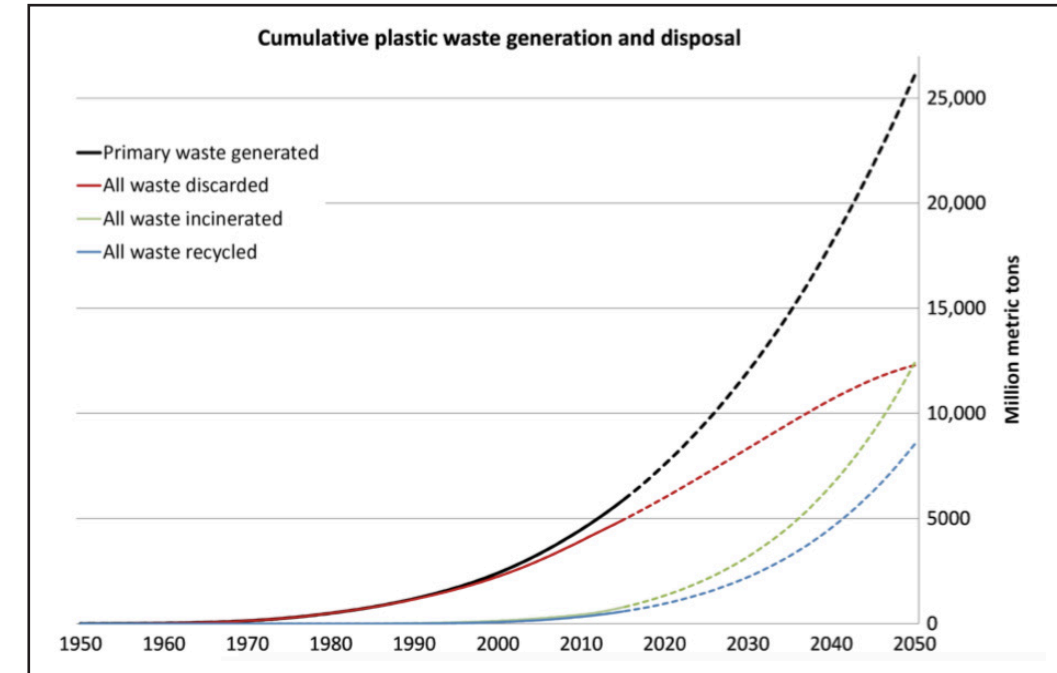
INTRODUCTION

When large-scale production of plastics took off in the 1950s, only about 2 million tonnes of plastic were generated annually [3]. Since then, this number has increased almost 200-fold to hit 381 million tonnes per year in 2015 [4]. This means “more than one tonne of plastics [were manufactured] for every person alive” by 2015 [3]. An estimated total of 8,300 million metric tons (Mt) of virgin plastic were produced worldwide between 1950 and 2017.

With the spike in the production of plastics and a broken recycling system, the world now generates huge amounts of plastic waste each year. Approximately 6300 Mt of plastic waste have been produced by 2015, of which 9% was recycled, 12% incinerated while the bulk - 79% - ended up in landfills or the natural environment [3]. The amount of plastic waste generated per year is growing and is projected to reach a cumulative amount of 25,000Mt by 2050, compared to 6,300Mt in 2015.



Source: H. Ritchie and M. Roser, “Plastic Pollution”, Our World in Data, 2018 [4]



“Cumulative plastic waste generation and disposal (in million metric tons). Solid lines show historical data from 1950 to 2015; dashed lines show projections of historical trends to 2050.” Source: Geyer, R., Jambeck, J. R., & Law, K. L. (2017). Production, use, and fate of all plastics ever made. Science Advances [3]

Apart from polluting low- and middle-income countries, plastic waste is also choking our oceans. An estimated 8.75 million metric tons of plastic ends up in our oceans every year. This number is expected to keep growing if no measures are taken to reduce it [5]. Plastic waste makes up 90% of all marine debris [6]. In seven years’ time, 30 bags filled with plastics would be found on every meter of coastline in the world, according to plasticpollution.org [7]. By 2050, 99% of all seabirds would be affected by plastics in their guts [8], [9].

Meanwhile, some 90% of the waste exported from high-income countries were openly burned or dumped in low- and middle-income countries, a 2018 World Bank report highlighted [6]. Until early 2018 China imported the bulk of the world’s plastic waste. Since it banned the import of plastic waste in January 2018, other countries have taken over China’s market share, particularly Vietnam, Thailand, and Malaysia.



Waste-processing facility in Telok Gong, Port Klang

Due to local protests in Malaysia against illegal dumpsites and open air burning in their communities, the government of Malaysia declared a ban on the imports of plastic waste and shut down some 30 illegal sites that, according to local sources popped up in the aftermath of the Chinese ban. In October 2018, Greenpeace carried out an investigation to find evidence of harmful plastic waste processing in Klang and Jenjarom, in response to local community contacts’ complaints that unregulated dumping and burning remain rampant. The findings were shocking.



Unregulated dumpsite in Telok Panglima Garang

© Nandakumar S. Haridas / Greenpeace

THE RECYCLING MYTH AND A BROKEN SYSTEM

High-income countries tend to have waste management systems in place in varying degrees. In many households, waste is neatly separated into recyclables and non-recyclables. Most citizens from these countries are unaware that most of the so-called recyclables are being shipped abroad. Worldwide, only 9% of plastic waste is actually being recycled, according to a variety of sources [10]-[12]. While consumers in European countries, the US, Australia and New Zealand live under the impression of contributing to a sustainable circle of recycling, local communities in middle and low-income countries bear the brunt of plastic waste being burned and dumped in their neighbourhoods. This broken system is what Greenpeace calls the “recycling myth”.



Unregulated waste-processing facility in Jenjarom

© Nandakumar S. Haridas / Greenpeace

IMPORTED PLASTIC WASTE IN SOUTHEAST ASIA

Southeast Asian importers such as Vietnam, Thailand, Malaysia, and Indonesia have not been able to handle the increase in plastic waste imports. They have restricted the imports of plastic scraps after facing a spike in import violations [13]. While plastic waste is piling up in exporting countries, Southeast Asian countries are scrambling to find solutions to tackle illegal activities, tighten policies and strengthen law enforcement. Malaysia does not have an adequate system in place to deal with the surge in plastic waste imports. Greenpeace’s investigation shows that much of the imported waste is being dumped in landfills or burned in open air. According to a study in academic journal Science, Malaysia is the eighth-worst country worldwide for plastic waste. It is estimated that Malaysia produced almost a million tonnes of mismanaged plastic waste in 2010.

TYPES OF PLASTIC

Once the legal imported plastic waste arrives at its destination in Malaysia, it is sorted into low-grade and high-grade plastics: high-grade for recycling, low-grade for burning or landfills. The low-grade plastics officially consist only of single-use plastics, but much of the higher-grade plastics also end up in the dumps or being burned. According to Seah Kian Hoe from Heng Hiap Industries, which runs a legal recycling facility, if the imported wastes are poorly sorted and exposed to sunlight, recovery rates could drop to 30 to 40 % [14].

A significant amount of the imported plastic waste in Malaysia is dealt with by unlicensed operators, who often do not have a proper waste processing facility, but instead illegally burn the waste out in the open, dump it in abandoned buildings, in improvised landfills or in between prawn and fish farms or oil palm plantations.

Plastic manufacturers label their products in seven categories but plastic waste, traded under the international code HS 3915 (Waste, Parings and Scrap, of Plastics), is divided into 4 main groups. In Malaysia, hazardous plastic waste is regulated separately as scheduled waste (code SW410) under the Environmental Quality Act 1974, Pesticides Act 1974 and Poison Act 1952 [15]-[17].

TYPES OF PLASTIC WASTES HS CODE 3915 DESCRIBED BY THE ROYAL MALAYSIAN CUSTOMS DEPARTMENT

| HS Code | | | Description |
|---------|------------|------|--|
| Header | Sub Header | Item | |
| 3915 | | | Waste, parings and scrap, of plastics. |
| 3915 | 10 | | - Of polymers of ethylene |
| 3915 | 10 | 1000 | -- Of non-rigid cellular products |
| 3915 | 10 | 9000 | -- Other |
| 3915 | 20 | | - Of polymers of styrene |
| 3915 | 20 | 1000 | -- Of non-rigid cellular products |
| 3915 | 20 | 9000 | -- Other |
| 3915 | 30 | | - Of polymers of vinyl chloride |
| 3915 | 30 | 1000 | -- Of non-rigid cellular products |
| 3915 | 30 | 9000 | -- Other |
| 3915 | 90 | | - Of other plastics |
| 3915 | 90 | 0011 | --- Of non-rigid cellular products |
| 3915 | 90 | 0019 | --- Other |
| 3915 | 90 | 0021 | --- Of non-rigid cellular products |
| 3915 | 90 | 0022 | ---- Of phenolic resins |
| 3915 | 90 | 0023 | ---- Of amino-resins |
| 3915 | 90 | 0029 | ---- Other |
| 3915 | 90 | 0030 | -- Of regenerated cellulose; cellulose nitrate, cellulose acetate and other cellulose esters, cellulose ethers and other chemical derivatives of cellulose |
| 3915 | 90 | 0040 | -- Of hardened proteins |
| 3915 | 90 | 0050 | -- Of chemical derivatives of natural rubber |
| 3915 | 90 | 0090 | -- Other |

Source: Royal Malaysian Customs Department [18]



Unregulated dumpsite in Pulau Indah, Port Klang



Dumpsite beside an abandoned shop, Pulau Indah



Open burning in Pulau Indah, Port Klang



Unregulated dumpsite in Telok Panglima Garang

RIGHT UNDER YOUR NOSE – UNREGULATED IMPORTED PLASTIC WASTE PROCESSING IN MALAYSIA



Dumpsite in an abandoned building, Pulau Indah



Unregulated dumpsite in Pulau Indah



A bale of Starbucks plastic waste in Pulau Indah



Bales of plastic waste in Pulau Indah



Abandoned buildings in Pulau Indah where plastic wastes were found



Workers hauling bales of plastic waste in Pulau Indah



An unregulated dumpsite beside a prawn farm, Telok Panglima Garang

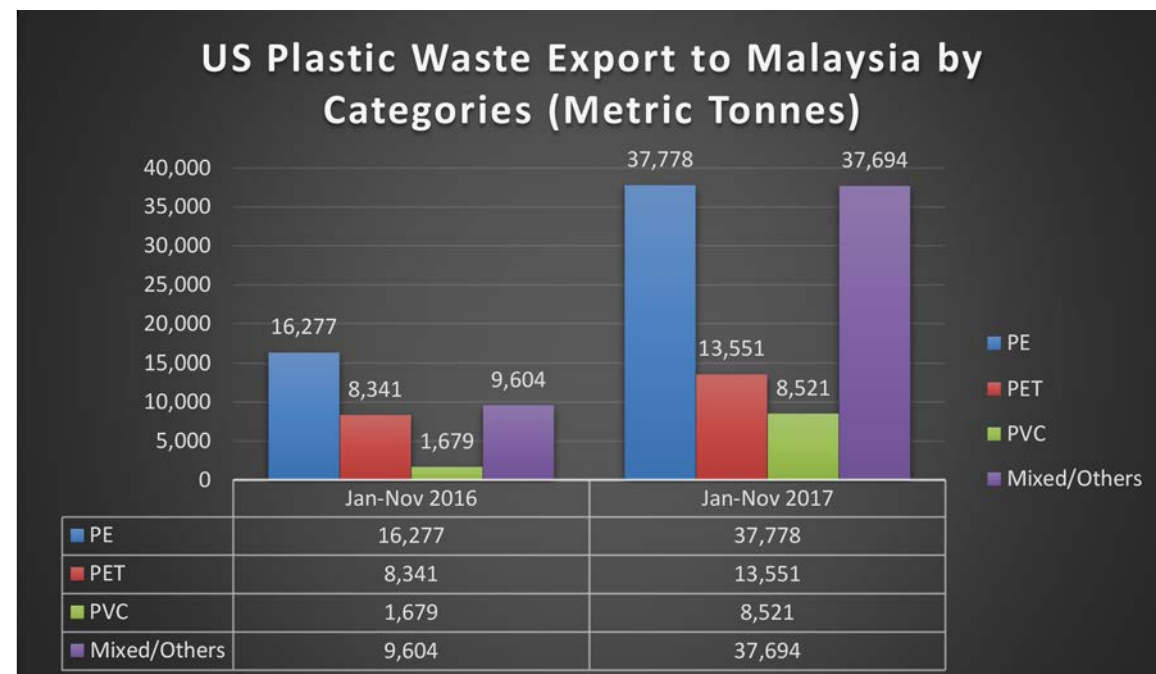
© Greenpeace

Following China's ban in January, Malaysia became one of the largest importers of plastic waste from the UK and the US with tripled imports between January to July 2018, in comparison to the same period the year before [13], [19]. As coherent trade data from several exporting countries is not publicly available, the tripled imports from the US and UK could just be the top of the iceberg.

TOP 10 COUNTRIES EXPORTING WASTE TO MALAYSIA JANUARY TO JULY 2018 * [28]:

*HS 3915 = Waste, parings and scrap of plastics

Many countries around the world have scrambled to cope with the landscape-altering consequences of the Chinese ban, even whilst anticipating the policy to come into effect beginning with the initial announcement in July 2017. Sourced from the US alone, based on the data collected by the Institute of Scrap Recycling Industries (ISRI) from January to November the previous two years, Malaysia specifically showed a 292.5% increase of mixed plastics importation in 2017 as opposed to 2016 (from 9,600 Mt to 38,000 Mt—quadrupled amount in the space of one year). Malaysia also witnessed a 132% rise in the importation of PE plastics from the US; 62% rise for PET plastics; and 407% rise for PVC plastics import when data from both of the previous two years are compared [21]. The chart below will elucidate this staggering increase:



Source: Data: Bernie Lee/ISRI; Chart: Farhan Nasa/Greenpeace

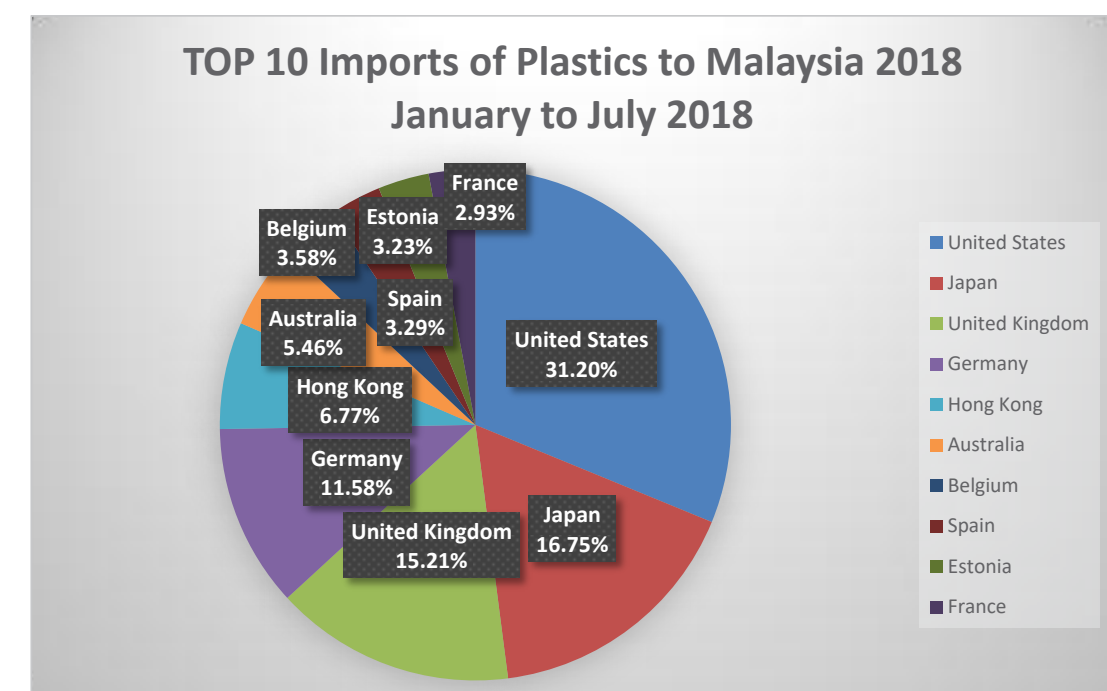
Albeit this is just one country's example—but no doubt the biggest—the plastics import information from MESTECC for the first half of 2018 alone in Malaysia has shown escalating numbers in an upward trend. **Malaysia imported 195, 444. 46 metric tonnes of plastic waste from the US from January to July 2018 alone, in comparison to a total of 97,544 Metric tonnes for January to November 2017.** Indeed, all these facts tally with the data presented by the Brussels-based Bureau of International Recycling (BIR), mentioned in the recent Reuters report on how Southeast Asian nations are taking the brunt of the work when it comes to plastics-processing by outcompeting the rest of the world [22].

Aside from the US and the UK, Japan is also one of the top three plastic waste exporters to Malaysia in the first seven months of 2018. Together these three exporting countries accounted for 52% of the 754,000 metric tons of plastic waste Malaysia imported during the seven months.

Below is a list of the top 10 plastic waste exporters to Malaysia. Apart from these 10 countries, our investigation has identified other exporting countries such as New Zealand, Portugal, Romania, Sweden and Switzerland, among others.

| No | Country | Metric tons | Total value in RM (Malaysian Ringgit) |
|---------------|----------------|-------------------|---------------------------------------|
| 1 | United States | 195,444.46 | 128,505,239 |
| 2 | Japan | 104,920.37 | 79,395,741 |
| 3 | United Kingdom | 95,248.53 | 76,420,372 |
| 4 | Germany | 72,501.09 | 57,092,660 |
| 5 | Hong Kong | 42,398.96 | 47,565,511 |
| 6 | Australia | 34,183.03 | 24,564,878 |
| 7 | Belgium | 22,417.86 | 19,979,292 |
| 8 | Spain | 20,586.86 | 20,244,991 |
| 9 | Estonia | 20,255.91 | 12,179,480 |
| 10 | France | 18,371.49 | 16,856,182 |
| Totals | | 626,328.56 | 482,804,346 |

Source: Data from Malaysia's Department of National Solid Waste Management; Table by Farhan Nasa & Wei Kiat Tan (Greenpeace)[23]





Countries that export plastic waste to Malaysia. Source : Greenpeace , Malaysia's Department of National Solid Waste Management

The authorities should further investigate, if more evidence can be found of the wastes being passed from one facility to another.

Multiple complaint letters had been sent to these government bodies, but most did not get a reply. Finally, their complaints were recognized by the Chief Minister of Selangor, who issued a direct order to the District Council to work with the residents to resolve the issue. The chief minister responded to a letter by the local community members, dated 29th August 2018, which accused about 40 illegal plastics waste factories within Kuala Langat. The letter also voiced their frustrations about the inefficacy of the government's enforcement operations, and stated some of those illegal factories were still operating, even after being officially identified as illegal.

"A complaint letter had been sent to the DOE in May. The DOE's reply confirmed that this factory is an illegal factory, and the case had been referred to the City Council for further action. However, the factory is still continuing its operations." [23]

"There was so much foreign rubbish near my house. After [...] understanding the damage of foreign waste on the environment, I started taking this topic very seriously."

According to **Chiam**,
Klang, local resident, Oct 16th, 2018

"From March to July, in these 4 months, we found close to 40 such factories near our house. We reported this to the relevant bodies such as the environmental body and the council, we found that all these factories were illegal."

According to **Ting**
Jenjarom, local resident, Oct 13th 2018

COMMUNITY ACTIONS

Illegal plastic waste dumping and burning activities are reported to have directly impacted community members in Jenjarom and Klang. Considering the threats to their environment and public health, local community leaders through their organization – Kuala Langat Environmental Protection Association, have taken the initiative to contact their local authorities, among them are the Kuala Langat District Council, the Department of Environment and the Fisheries Department.

The Kuala Langat Environmental Protection Association is regularly monitoring the facilities in the area and has observed plastic wastes being transported from an unregulated facility to be processed at a legal facility.

"Let's say, for a processing (facility)...they (claimed that) they can process about 20 tonnes... It would be fine (if they only processed 20 tonnes). But, they actually took in several thousand tonnes of plastic waste. Where do these wastes come from? They are not taking it for their own business, but they are selling their (services to process wastes) from another factory (an unregulated one)."

According to **Ting**
Jenjarom, local resident, Oct 13th 2018

"When we used a drone, we realised that some factories can be very big, up to tens of thousands square meter. In one night, they can burn up to 50 tonnes of plastic."

According to **Ting**
Jenjarom, local resident, Oct 13th 2018

"All names of Interviewees have been changed in this report to protect their identities, as requested by them."

GREENPEACE MALAYSIA INVESTIGATION



Based on information received from the Kuala Langat Environmental Protection Association, Greenpeace investigated 'active sites' where imported plastic wastes being illegally dumped or burned have been reported. We ran our field investigation in mid-October for about two weeks and discovered that some unregulated facilities were still operating. Trucks loaded with plastic waste coming and going were spotted, plastic waste could be seen in abundance and open burning of plastic waste took place in some of the sites we investigated.

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Greenpeace investigation team in action, Klang

We could 'feel the heat' while investigating. Our local contact's car was blocked by other locals, the car keys were taken away by an angry man and an argument ensued. We were able to identify the person but do not want to name him here. He demanded our local contact not to stick his nose in to his (plastic waste) business, claiming that bad publicity would ruin his business. The same man later offered to bribe our local contact to cease further investigations. While we were on the ground strangers would tail our cars. Fortunately, we were able to continue our investigation despite these issues.



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Unregulated dumpsite in Telok Panglima Garang

IDENTIFIED WASTE FACILITIES

45 sites with plastic wastes were identified by Greenpeace and Kuala Langat Environmental Protection Association, including 1 active burning site in Pulau Indah and 5 likely illegal dumpsites in Klang, Jenjarom and Ipoh, containing wastes from at least 19 countries including the USA, UK, Spain, Austria, Germany, Sweden, Ireland, Portugal, France, Belgium, Switzerland, Australia, New Zealand, Saudi Arabia, Cyprus, Argentina, Canada, Romania, and the Philippines.

The legality of the facilities Greenpeace found with the assistance of local activists is questionable because every recycling facility in Malaysia needs to obtain an approved permit (AP) from the National Solid Waste Management Department to process or store a specific shipment of plastic waste. Before that, the operator would also need to secure a compliance letter from the Department of Environment, who would send their own registered consultants to inspect the recycling operator's facility and conduct an Environmental Impact Assessment [25], [26].

Government ministries and agencies, under the instruction of the Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC), had taken certain measures in response to the complaints made by local activists challenging the legality of operations in Klang and Kuala Langat districts in the Selangor state. Some 30 illegal plastic waste facilities have been



Unregulated dumpsite in Pulau Indah

© Nandakumar S. Haridas / Greenpeace

We managed to collect and record samples of plastic waste from 19 countries across all these sites, taking photos and videos as evidence. In addition, we conducted personal interviews with a number of local residents and activists. We also cross matched some of these locations with available official information in an effort to ascertain whether these sites were legal or illegal. A map of all the sites we discovered has been created and compared against aforementioned official documents.

sealed, their businesses shut down, their machineries and equipment confiscated, and water and electricity supply terminated. However, community grievances about the inadequacy of the enforcement operations remain as environmental pollution and public health problems, as a result of ongoing unlicensed operations, persist.

According to a tip off from an industry insider from Selangor who works as a solid waste sales manager, but did not want to be named for fear of retribution, some legitimate vendors of waste products are angry about the illegal plastic processing facilities as they ruin the reputation of their legitimate business. The plastic recycling industry's reputation has suffered as a consequence of the illegal operations, including illicit flows of money to people in key positions and difficulties to get necessary AP permits without paying higher prices according to the source. By mid-October 2018, there were about 500 illegal plastic waste facilities around Selangor, he alleged. Greenpeace calls on the Malaysian authorities for further investigation into these allegations.



Post-burning dumpsite in Pulau Indah

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Unregulated waste facility in Jenjarom

PLASTIC WASTE FROM OVERSEAS

“During our investigation, we found that a big portion of the recyclables are imported from other countries”

According to **Ting**
 Jenjarom, local resident, October 13th 2018



Piles of plastic waste from the United Kingdom and Europe were found inside an abandoned shophouse in Pulau Indah, Klang.

© Wei Kiat Tan / Greenpeace



Various types of plastic wastes from the United Kingdom were found in three sites in Selangor (Pulau Indah, Jenjarom, & Telok Panglima Garang) and one site in Tasek, Ipoh.

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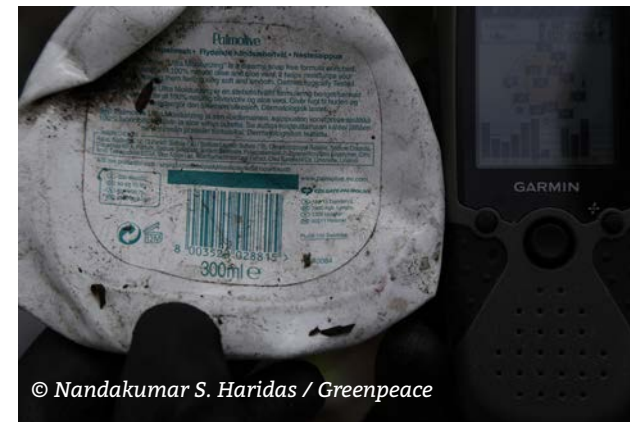
Plastic waste from the United States was found in Pulau Indah, Klang.



Plastic waste from Sweden was found in Pulau Indah, Klang.



Plastic waste from Romania was found in Pulau Indah, Klang.



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Plastic waste from Belgium, Switzerland, and Scandinavia were found in Pulau Indah, Klang.



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Plastic waste from Australia was found in Tasek, Ipoh.



© Wei Kiat Tan / Greenpeace

Plastic waste from Switzerland was found in Tasek, Ipoh.



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Huge pile of Starbucks cups discovered among other trash from the USA in Pulau Indah, Klang.



© Wei Kiat Tan / Greenpeace



© Wei Kiat Tan / Greenpeace

Plastic waste from Australia and New Zealand were found in Tasek, Ipoh.



© Wei Kiat Tan / Greenpeace



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Plastic waste from Germany was found in Tasek, Ipoh.



© Greenpeace

Plastic waste from Canada was found in Jenjarom, Kuala Langat



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Plastic waste from Austria was found in Telok Panglima Garang, Kuala Langat.



© Greenpeace

Plastic waste from Spain and Portugal found in Telok Panglima Garang, Kuala Langat.



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Plastic waste from Europe printed with four languages (Italian, French, German and English) found in Jenjarom, Kuala Langat.

Our field investigations suggest that unregulated processing of imported plastic wastes in Malaysia continued despite an announcement from the Malaysian government of an import ban. Many likely unlicensed facilities are still operating and most of them are located near residential areas. These facilities show indications of illegal operations, or at best poorly regulated, as they do not have proper physical infrastructure to process the plastic waste and therefore are posing environmental and health hazards to surrounding communities.

HEALTH AND ENVIRONMENTAL IMPACTS

“Every time we enter the outskirts of Jenjarom, especially around 6 to 7 am, the air smells like the gas exhaust from a lorry, it’s especially pungent”

Ley Quan
local resident, Jenjarom, Oct 13th, 18



Open burning in Pulau Indah , Klang © Nandakumar S. Haridas / Greenpeace

In interviews with local residents we listened to multiple complaints about health and environmental problems that seemed to be getting worse day by day. Many of the residents worry about their families, especially young children.

“The residents told me that at night, there are pungent smells coming from these factories... I realised how serious the problem is, when a lot of people around me were also getting tracheal diseases. They are often coughing, and they take a long time to recover... I’m always very tired and have difficulty breathing.”

According to **Ting**
Jenjarom, local resident, Oct 13th, 2018

A teenage son of one of the local residents regularly complains to his mother about the ‘haze’ he sees every morning in school. The 13-year-old boy suffers from frequent respiratory and eye conditions.

“My son also told me: ‘Mother, it is always hazy in the mornings at my school.’ I said, ‘Oh, it’s fine. It’s always hazy, (and the) haze is from Indonesia.’ He said, ‘No! Every day is hazy... Since the beginning of the year, my eldest son aged 13 years old--he has this health problem: his eyes are red, itchy and tearing”

According to **Fatma**
Jenjarom, local resident, Oct 13th, 2018

Another resident shared how her family is plagued with health issues believed to be due to due to the smoke. She needs to have her children checked by specialists, which means having to spend more money for their treatments. Asthma, for instance, needs to be controlled by removing the triggers, in addition to taking the medicines—but avoidance of the environmental factors is difficult while these potentially illegal and hazardous operations of burning rubbish are ongoing.

“If someone burns the plastic waste, and my two children inhale the smoke, they will need to see a specialist to be treated with a nebuliser.”

According to **Kathy**
Jenjarom, local resident, Oct 13th, 2018

The burning of plastics releases a number of toxic chemicals gases and liquids dangerous to humans, such as carbon monoxide, chloroform and persistent environmental pollutants like dioxin. Dioxin is released to the environment by incomplete burning processes or uncontrolled waste incineration of plastics [26].

TOXIC CHEMICALS RELEASED BY PLASTIC BURNING

BURNING OF PLASTIC IS DANGEROUS FOR YOUR HEALTH

Damage the nervous system
Disrupt endocrine system and provoke imbalance hormones
Provoke heart disease
Cause and aggravate respiratory diseases
Cause kidney & liver disease
Create skin rashes
Affect reproductive system

HEADACHE
STROKE
COUGH
ASTHMA
EMPHYSEMA
ALLERGIES
HEARTH ATTACK
INFERTILITY

Modify DNA
Develop cancers
Affect immune system

RESIDUAL ASH IS TOXIC

Sources: Thanal, GAIA, WECF, HRW, WHO, EPA, EduGreen TERI, Carahhealth.com

CHEMICALS LIST:
 BENZENE CARBON MONOXIDE
 HYDROXYMETHOXYBENZALDEHYDE PHENOL
 CYCLOPENTASILOXANEDECAMETHYL
 GREENHOUSE GASES DECANE
 OCTANE TRICHLOROFLUOROMETHANE
 ETHANOL NAPHTHALENE FURANS
 TETRACHLOROBENZOFURANE TRICHLOROPHENOL
 ALCOOL LEAD CHLOROFORM ETHIL
 BENZOIC ACID BENZYL BUTYL PHTHALATE
 CAFFEINE DIMETHYL CYCLOPENTANE
 ACETONE FORMIC ACID MERCURY
 DIOXINS HEXACHLOROBENZENE
 PENTACHLOROBIPHENYL XYLENE
 CHLOROBENZOIC ACID FLUORENE



Burning of US plastic waste, Pulau Indah, Klang

“The waste from cleaning this rubbish from all over the world is then discarded at the river mouth. The nearby rivers are heavily polluted.”

According to **Ting**
 Jenjarom, local resident, Oct 13th, 2018

Source: "Health Hazards of Burning Plastics", Thanal.co.in, 2018 [21]

A local activist who has been investigating the facilities in the area pointed out the effects of dioxin:

“The burning and release of these serious air pollutants like dioxin which is extremely poisonous will inevitably affect the air. [...] In the long term, it will definitely cause a lot of breathing problems and maybe, even chronic illnesses.”

According to **Chiam**
 Klang, local resident, Oct 16th, 2018

Aside from respiratory problems caused by the burning of plastics, i-legal dumping of imported plastic waste may also be accompanied by worrying environmental impacts, including the seepage of polluted water from unregulated dumpsites into clean waterways such as rivers and underground water.



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Polluted ditch in Telok Panglima Garang



Polluted ditch in Telok Panglima Garang

Greenpeace discovered an unregulated dumpsite next to a prawn farm in the middle of a palm oil plantation in Jenjarom. The water run-offs from the dumpsite had flown into the ditch around the site's perimeter and seeped into the prawn ponds.

The local activists were able to get a copy of an official report, received through a letter from the Fisheries Department about the water quality of Kuala Langat River assessed earlier this year. The data showed an alarmingly high content of aluminium and iron in the water, and this, as mentioned in an official letter attached to the report, had infiltrated the prawn ponds owned by local businesses in the area [28]. The content of heavy metals in the water is disproportionately higher than the national water quality standards for Malaysia, as determined by the Water Environment Partnership in Asia [29], [30]. It would appear that these previously undisclosed locations are threatening not only the environment and health of the people but also their sources of income.

“We contacted the Fisheries Department to do a lab testing on the water (...) and (they found that) the water was toxic with an increased level of aluminium--up to 300 times (the normal level).”

According to **Tan**
Jenjarom, Oct 13th, 2018

| PARAMETER | INLET 1 (mg/l) | INLET 2 (mg/l) | FLOODGATE (mg/l) | GUIDELINE VALUES - NLWQS (mg/L) [23], [24] |
|-----------|----------------|----------------|------------------|--|
| Silver | <0.007 | <0.007 | <0.007 | 0.05 |
| Aluminium | 5.4 | 2.4 | 22.9* | 0.05 |
| Boron | 3.4 | 0.001 | 0.001 | 1.0 |
| Barium | 0.01 | 0.009 | 0.02 | 1.0 |
| Cadmium | <0.006 | 0.006 | 0.004 | - |
| Bronze | <0.007 | 0.004 | 0.01 | - |
| Iron | 3.5 | 1.6 | 13.7** | 1.0 |
| Manganese | 0.11 | 0.005 | 0.49 | 0.1 |
| Nickel | 0.01 | 0.007 | 0.012 | - |
| Lead | 0.02 | 0.03 | 0.03 | - |
| Chromium | <0.008 | 0.01 | 0.02 | 0.05 ^c |
| Zinc | 0.06 | 0.06 | 0.13 | 5.0 |
| Mercury | <0.0008 | <0.0008 | <0.0008 | - |

Source: Official data from the Department of Fisheries, Ministry of Agriculture and Agro-based Industry Malaysia [28]

*Acceptable limits of aluminium content in water = 0.05 to 0.2 mg/l [29], [30]

**Acceptable limits of iron content in water = 0.03 to 0.3 mg/l [29], [30]

The river where the samples were taken is located in a residential area. Local community activists believe the increase of aluminium and other metals came from the unregulated dumpsites and the burning, which is not unlikely, considering the release of toxic chemicals through the burning of plastic as shown by environmental group Thanal and the World Health Organisation [26], [27]

Initial investigations by the Kuala Langat Environmental Protection Association and Greenpeace showed that the concerns by the local community should be taken very seriously. The authorities must thoroughly investigate and address the hazardous health and environmental impacts (air, water and soil pollution) caused by unregulated dumping and burning of imported plastic waste.

LEGAL RESPONSIBILITIES OF MALAYSIA AND THE EXPORTING COUNTRIES

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal is a multilateral agreement negotiated under the United Nations Environment Program (UNEP) in 1988 to establish standards for transboundary movement of hazardous wastes and other wastes.

As a multilateral agreement, the States - referred to as Parties to the Convention - recognize the risks posed by wastes to human health. One of the responsibilities of the States is to take necessary measures to ensure the management of hazardous wastes and other wastes, including their transboundary movement and disposal, does not endanger human health or pollute the environment at the place of disposal.

States where the wastes are generated have to ensure that the transport and disposal of hazardous wastes and other wastes in an importing country are conducted in an environmentally friendly manner. The transboundary movement of wastes from the State of generation (where wastes are generated) to another State (importing country) should be permitted only when the operation of waste disposal does not endanger human health and the environment.

Countries exporting plastic waste to Malaysia and Malaysia itself have failed to fulfil their international legal responsibility under the Basel convention as illegal dumping and open burning of imported plastic waste in Klang and Kuala Langat continued to threaten the health of local citizens, including children, and pollute the air, water and soil around illegal dumpsites.

Importation of plastic wastes to Malaysia is supposed to be only possible through the approval of a permit from the National Solid Waste Management Department and upon the release of a compliance letter from the Department of Environment. Illegal traffic of hazardous and other wastes is a criminal act (under Environment Quality Act 1974, amended in 2005, under Section 34B) and is punishable through imprisonment and a fine of up to RM 500,000.00. Yet, how many illegal operators have Malaysian authorities prosecuted?

According to Minister Yeo Bee Yin in a parliamentary speech on 16th October 2018, the importation of plastic waste has been banned while scheduled surveys and enforcement operations will continue. A joint ministerial committee has been formed with an objective of implementing a full ban of HS 3915 plastics importation over the next three years and to review the Environmental Quality Act 1974 [32], [33]. Nevertheless, unregulated operators were apparently still processing imported plastic waste right under the nose of the Malaysian government at the time of writing this report.

Malaysia's Department of Environment relies on the Environmental Quality Act 1974 to regulate transboundary movement of wastes in to the country. The Environmental Quality (Scheduled Wastes) Regulations 1989 regulates the control, generation, transportation, and disposal of wastes through a notification and licensing systems of waste facilities. To fully comply with the Basel Convention, Malaysia and the exporting countries are supposed to engage in procedures under the guidelines set for exporting countries and the countries involved have to provide informed consent through bilateral agreements [24], [33].

RECOMMENDATIONS

Globally, plastic pollution has reached alarming proportions, forcing countries to rethink their national environmental policies. In the case of Malaysia, the government has announced on the October 26th, 2018 [2], to permanently ban the import of plastic wastes into the country. This is a welcome development and a step in the right direction. However, more proactive actions are still needed to be taken by the Malaysian government to confront the plastic pollution problem head-on.

Based on the investigation, Greenpeace recommends the following:

For the Malaysian government:

- Create a special enforcement Task Force on imported plastic waste, with a mandate to strictly enforce the implementation of the Environmental Quality Act and all other relevant laws on the issue. This task force should also work closely with local stakeholders affected by the issue, especially communities impacted by the pollution resulting from the burning and illegal dumping of imported plastic wastes across areas in Malaysia. Local stakeholders should be consulted and given the opportunity to help draft the policies, implementing rules and regulations on the permanent ban on imported plastic wastes to guarantee that the policy is anchored on the principles of environmental protection, sustainability and prioritizes the interests of the people and the environment over economic profit.
- Provide a safe space for whistleblowers to report on illegal operators and any public official receiving kickbacks from such operators.
- Immediate action must be taken against illegal operators that continue to burn and/or illegally dump imported plastic wastes on roadside, government lands, and other open spaces. As of the time of the writing of this report (late October 2018), despite the government's announcement to permanently ban the import of plastic wastes, local communities around the Klang Valley area still complain about the burning of imported plastic wastes around their communities and a perceived increase in air and water pollution in their surrounding areas.
- Identify and shut down all illegal facilities.
- Create an Action Plan for the clean-up and rehabilitation of the polluted sites, especially the areas used for open burning and illegal dumping of imported plastic wastes.

- The Department of Environment and Health Ministry should conduct further investigations, including thorough environmental (air, water, soil) particularly on the risk of leakage into rivers and the sea, and health impact studies on affected residents.
- Provide healthcare support for affected communities.
- Establish mechanisms to ensure better transparency and accountability in the plastic waste trade.
- Improve the domestic recycling industry: explore how it can create jobs and economic opportunities, as well as in promoting a circular economy for Malaysia.

For the global community

- Launch investigations into the recycling industry in plastic-exporting countries on possible fraud and illegal practices. Immediate action must be taken against recycling companies that knowingly export plastic waste to unlicensed operators in low- or middle-income countries.
- Put in place legislations requiring local councils and recycling companies in countries exporting plastic waste to conduct due diligence on importers in low- or middle-income countries. Impose hefty penalties on councils or companies that fail to carry out due diligence.
- All countries should put in place policies to reduce the use of throwaway plastics in phases, to a point where neither landfill nor incineration is necessary.
- Reduce, reuse, and recycle: Malaysia and other developing countries should not be used as the dumping ground for plastic wastes that other countries should be dealing with themselves. Most importantly, the flow of plastic waste must be cut off at the source - from the corporations that continue to produce single-use packaging for their products.

CONCLUSION

Relying on an illegal industry dealing with plastic waste imports for income and employment is not sustainable. An illegal industry creates only short-term economic activities and jobs that violate labor rights and standards while putting huge, undue risks on local communities and the environment.

Countries in the Global South still bear the burden of managing plastic wastes imported from the Global North as our research shows. Based on our evidence and investigation, the Malaysian plastic recycling industry is overwhelmed by the huge influx of imported plastic wastes and cannot accommodate these imported plastic wastes in a way that is sustainable and acceptable to global and national government's standards. This investigation adds to what has already been documented about the narrative on the recycling myth. It is a broken and collapsing system that needs to be urgently and seriously addressed not just by countries like Malaysia but by all countries, especially countries in the Global North, which produce much of the plastic wastes being exported into countries in the Global South.

We have to reduce, reuse and recycle for real, if we don't want our world to be covered in single-use plastic.



Unregulated dumpsite in Telok Panglima Garang

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APPENDIX

List of Brands and Countries of Origin of Imported Plastic Packaging Found in Malaysia

| No | Brands / Items | Company | Countries of Origin | Location |
|----|------------------|--|--|---------------------|
| 1 | Listerine | Johnson & Johnson, Maidenhead, UK | United Kingdom | Pulau Indah (Klang) |
| 2 | Ariel | Procter & Gamble, Switzerland/Belgium | Switzerland, Belgium | Pulau Indah (Klang) |
| 3 | Felix | Orkla Foods Sverige, Sweden | Sweden | Pulau Indah (Klang) |
| 4 | Dessange | Dessange Paris | France, Spain | Pulau Indah (Klang) |
| 5 | Kavli | O. Kavli AB, Sweden | Sweden | Pulau Indah (Klang) |
| 6 | Actif Formation | Actif Formation, La Grande-Motte, France | France | Pulau Indah (Klang) |
| 7 | Kirkland | Costco Wholesale Corporation, US | United States | Pulau Indah (Klang) |
| 8 | Applaws | MPM Products Swiss Sàrl, Genève (UK company) | Switzerland, United Kingdom | Pulau Indah (Klang) |
| 9 | Diamond Brand | MFS Seafoods Ltd, UK | United Kingdom | Pulau Indah (Klang) |
| 10 | Findus | Findus Sverige AB, Sweden | Sweden | Pulau Indah (Klang) |
| 11 | Nestlé Pure Life | Nestlé, US | United States | Pulau Indah (Klang) |
| 12 | Dasani | The Coca-Cola Company, US | United States | Pulau Indah (Klang) |
| 13 | Yves Rocher | Yves Rocher, France | France | Pulau Indah (Klang) |
| 14 | Palmolive | Colgate-Palmolive, Poland | Sweden, Denmark, Norway, Finland, Poland | Pulau Indah (Klang) |
| 15 | LaDorna-Dukat | Lactalis Romania / S.C. Dorna S.A., Romania | Romania | Pulau Indah (Klang) |
| 16 | Fleury Michon | Fleury Michon, France | France | Pulau Indah (Klang) |
| 17 | Dial | Henkel | European Countries | Pulau Indah (Klang) |
| 18 | Softlan | Colgate-Palmolive | Finland, Denmark | Pulau Indah (Klang) |

| | | | | |
|----|---|--|-------------------------|--------------------------------------|
| 19 | Plenty | SCA Hygiene Product, UK / Ireland | United Kingdom, Ireland | Pulau Indah (Klang) |
| 20 | Homefire | CPL Industries, UK | United Kingdom | Pulau Indah (Klang) |
| 21 | Angel Delight | The Premier Foods Group, UK | United Kingdom | Pulau Indah (Klang) |
| 22 | Heinz | Heinz UK | United Kingdom | Pulau Indah (Klang) |
| 23 | Hovis | Hovis Ltd, UK | United Kingdom | Pulau Indah (Klang) |
| 24 | Tiori | FEI Foods Ltd, Swansea, UK | United Kingdom | Pulau Indah (Klang) |
| 25 | Loel | Loel Ltd / Laiko Cosmos Trading, Cyprus | Cyprus | Pulau Indah (Klang) |
| 26 | Beyond | Well Beyond LLC, US | United States | Pulau Indah (Klang) |
| 27 | Beacon Coffee | Beacon Coffee, US | United States | Pulau Indah (Klang) |
| 28 | H.E.B. | H.E.B., US | United States | Pulau Indah (Klang) |
| 29 | 7UP | 7UP, US | United States | Pulau Indah (Klang) |
| 30 | Greatday Farmers | CCF Brands Inc, US | United States | Pulau Indah (Klang) |
| 31 | Toallitas para Bebés Frescas y Perfumadas | Ubesol S.L., Spain | Spain | Telok Panglima Garang (Kuala Langat) |
| 32 | Watsons | Watsons Dairies Ltd (by Medina Dairy Ltd), UK | United Kingdom | Telok Panglima Garang (Kuala Langat) |
| 33 | Caesar Salad | Harvest FreshCuts Pty Ltd (by One Harvest Pty Ltd, Australia) | Australia | Telok Panglima Garang (Kuala Langat) |
| 34 | Cué tara | Nutrexpa, Spain/Portugal (Adam Foods) | Spain, Portugal | Telok Panglima Garang (Kuala Langat) |
| 35 | Holstensegen-Disney | 11er Nahrungsmittel GmbH, Austria (Sold in Aldi Nord, Germany) | Austria, Germany | Telok Panglima Garang (Kuala Langat) |
| 36 | Coca-Cola Zero | The Coca-Cola Company, Spain | Spain | Telok Panglima Garang (Kuala Langat) |

| | | | | |
|----|-----------------------------|---|---|--------------------------------------|
| 37 | Lafuente | Quesería Lafuente S.A., Spain | Spain | Telok Panglima Garang (Kuala Langat) |
| 38 | Espinaca cortada, Hacendado | Ultracongelados Virto SA, Spain | Spain | Telok Panglima Garang (Kuala Langat) |
| 39 | Roger Karst | Choucroute du Rhin Roger Karst, France | France | Telok Panglima Garang (Kuala Langat) |
| 40 | Syoss | Schwarzkopf & Henkel | The Philippines | Telok Panglima Garang (Kuala Langat) |
| 41 | Cigarette box | - | Germany | Jenjarom (Kuala Langat) |
| 42 | Scotsburn | Saputo Inc, Canada | Canada | Jenjarom (Kuala Langat) |
| 43 | Windsor | K+S Windsor Salt Ltd., Canada | Canada | Jenjarom (Kuala Langat) |
| 44 | Armstrong | Armstrong Milling Co. Ltd, Ontario, Canada | Canada | Jenjarom (Kuala Langat) |
| 45 | Plastic from Nova Scotia | - | Canada | Jenjarom (Kuala Langat) |
| 46 | Sobeys | Sobeys, Canada | Canada | Jenjarom (Kuala Langat) |
| 47 | Ben's | Ben's Bakery, Canada | Canada | Jenjarom (Kuala Langat) |
| 48 | Canawick | Groupe Savoie Inc., Canada | Canada | Jenjarom (Kuala Langat) |
| 49 | Eastern Embers | Shaw Resources / The Shaw Group Ltd, Canada | Canada | Jenjarom (Kuala Langat) |
| 50 | McDonald's | McDonald's | European Countries (Italy, France, Germany, United Kingdom) | Jenjarom (Kuala Langat) |
| 51 | Finish | Reckitt Benckiser | Spain, Portugal | Jenjarom (Kuala Langat) |
| 52 | Aunt Bessie's | Aunt Bessie's Limited, UK | United Kingdom | Jenjarom (Kuala Langat) |
| 53 | HCC | Herefordshire Cider Company (HCC) Limited, UK | United Kingdom | Jenjarom (Kuala Langat) |
| 54 | pdv | Ineos Enterprise, London, UK | United Kingdom | Jenjarom (Kuala Langat) |

| | | | | |
|----|---------------------------|---|---|-------------------------|
| 55 | Broccoli & Stilton® | | United Kingdom | Jenjarom (Kuala Langat) |
| 56 | The Village Bakery | Aldi Stores Limited | United Kingdom | Jenjarom (Kuala Langat) |
| 57 | White Rolls | Aldi Stores Ireland Ltd | Ireland | Jenjarom (Kuala Langat) |
| 58 | Plastic from Kerry County | | Ireland | Jenjarom (Kuala Langat) |
| 59 | Mornflake | Mornflake, UK | United Kingdom | Jenjarom (Kuala Langat) |
| 60 | Coles Simply Less | Coles Supermarkets Australia Pty Ltd | Australia | Jenjarom (Kuala Langat) |
| 61 | Olive Grove | Goodman Fielder Ltd | Australia | Jenjarom (Kuala Langat) |
| 62 | Pommes de terre surgelés | Cité Gourmande | France | Jenjarom (Kuala Langat) |
| 63 | Clorox | National Cleaning Products Co Ltd (Clorox Arabia) | Saudi Arabia | Jenjarom (Kuala Langat) |
| 64 | Croutons | Interprovincial Cooperative Limited (IPCO), Toronto, Canada | Canada | Jenjarom (Kuala Langat) |
| 65 | Affinity-Brekkies | Affinity Petcare | France, Spain, Germany, Italy, Portugal, Belgium & United Kingdom | Jenjarom (Kuala Langat) |
| 66 | Président | Président España | Spain, Portugal | Jenjarom (Kuala Langat) |
| 67 | Mondo Italiano | Netto Marken-Discount AG & Co. KG | Germany | Jenjarom (Kuala Langat) |
| 68 | Scottex | Kimberly-Clark Europe Limited | Spain, Portugal | Jenjarom (Kuala Langat) |
| 69 | Eismann | Eismann, S.A., Barcelona, Spain | Spain | Jenjarom (Kuala Langat) |
| 70 | Ligeresa | Unilever España | Spain | Jenjarom (Kuala Langat) |
| 71 | Filosofia EcQlogic | Cafes Novell S.A., Spain | Spain | Jenjarom (Kuala Langat) |
| 72 | Finish | Reckitt Benckiser Ireland Ltd | Ireland | Tasek (Ipoh) |
| 73 | Pedigree | Mars Petcare Australia/ Mars NZ Ltd | Australia, New Zealand | Tasek (Ipoh) |

| | | | | |
|-----------|---------------------------|--|--------------------------|--------------|
| 74 | Grandior | Lidl UK GmbH, Lidl Ireland GmbH & Lidl Northern Ireland GmbH | United Kingdom, Ireland | Tasek (Ipoh) |
| 75 | Ceylor | Lamprecht Ltd, Switzerland | Switzerland | Tasek (Ipoh) |
| 76 | MAPA | Mapa Argentina Centro Industrial Garin, Argentina | Argentina | Tasek (Ipoh) |
| 77 | Hofburger | Aldi Nord | Germany | Tasek (Ipoh) |
| 78 | PurinaOne | Nestlé Purina Petcare Australia, Nestlé Purina Petcare New Zealand | Australia, New Zealand | Tasek (Ipoh) |
| 79 | Yardley | Wipro Enterprise Cyprus Limited, Cyprus | Indonesia, India, Cyprus | Tasek (Ipoh) |
| 80 | Regina Blitz | Sofidel Group, UK | United Kingdom | Tasek (Ipoh) |
| 81 | AS Home | Schlecker, Germany | France, Germany | Tasek (Ipoh) |
| 82 | First mile easy recycling | First Mile, UK | United Kingdom | Tasek (Ipoh) |
| 83 | Snowflake | Plevin Group UK | United Kingdom | Tasek (Ipoh) |
| 84 | Coon | Warrnambool Cheese & Butter Factory Company Holdings Limited | Australia | Tasek (Ipoh) |
| 85 | Finest Catch | Finest Catch, UK / Good Food Graphics Limited | United Kingdom | Tasek (Ipoh) |
| 86 | M&S | Marks and Spencer Foodhall | United Kingdom | Tasek (Ipoh) |
| 87 | Liddells | Murray Goulburn Co-operative Co. Ltd | Australia | Tasek (Ipoh) |
| 88 | Durstons | Durston Garden Products Ltd | United Kingdom | Tasek (Ipoh) |
| 89 | Sunshine Sugar | Sunshine Sugar Milling Co-operative Ltd and Manildra Stockfeeds | Australia | Tasek (Ipoh) |
| 90 | McCain | McCain Foods (GB) Ltd | United Kingdom | Tasek (Ipoh) |
| 91 | Clover | Clover Peat Ltd | United Kingdom | Tasek (Ipoh) |
| 92 | Country Life | Dairy Crest Limited | United Kingdom | Tasek (Ipoh) |

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|------------|-----------------|---|-----------------------------------|--------------|
| 93 | Mt Barker | Mt Barker Chicken / Milne AgriGroup Pty Ltd | Australia | Tasek (Ipoh) |
| 94 | SPAR | SPAR (UK) Limited | United Kingdom | Tasek (Ipoh) |
| 95 | Australian Pure | Natures Organics | Australia | Tasek (Ipoh) |
| 96 | Hovis | Hovis Ltd | United Kingdom | Tasek (Ipoh) |
| 97 | Neat Feat | Neat Feat Products Ltd, New Zealand / Neat Feat Warehousing Pty Ltd, Australia / Medic Marketing Pte Ltd, Singapore | Australia, New Zealand, Singapore | Tasek (Ipoh) |
| 98 | GOODO | Mars Petcare Australia, Mars NZ Ltd | Australia, New Zealand | Tasek (Ipoh) |
| 99 | Argos | Argos Limited | United Kingdom | Tasek (Ipoh) |
| 100 | Tesco | Tesco PLC | United Kingdom | Tasek (Ipoh) |
| 101 | YAZOO | FrieslandCampina UK | United Kingdom | Tasek (Ipoh) |
| 102 | Mibell | EUCO GmbH | Germany | Tasek (Ipoh) |
| 103 | Flora | Unilever UK (currently own by Upfield UK Limited) | United Kingdom | Tasek (Ipoh) |
| 104 | Make-A-Wish | Make-A-Wish Foundation® UK | United Kingdom | Tasek (Ipoh) |
| 105 | Card Factory | Card Factory, UK | United Kingdom | Tasek (Ipoh) |
| 106 | Sainsbury's | Sainsbury's Supermarkets Ltd, UK | United Kingdom | Tasek (Ipoh) |

Source: Greenpeace Field Investigations October 2018.

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Unregulated waste-processing facility in Jenjarom © Nandakumar S. Haridas / Greenpeace

We refer to sites as unregulated, where at the site illegal operations seem to be conducted, but it couldn't be established without doubt, whether the establishment had any permit or not. We also refer to sites as unregulated, where despite having permits, the establishments appear to be poorly regulated and/or in violation of permit requirements, e.g., where our investigation identified signs of open burning or seemingly harmful dumping.