What is plastic? 1 How is it different from residual wastes?
What is plastic?

- Plastic is a polymer
- Man made, 99% of plastics are synthetic polymers produced from petrochemicals that accounts for 4% of global annual use of oil and gas
First synthetic polymer was invented in 1869 by John Wesley Hyatt who innovated this to provide a substitute for ivory that has pressured by the growing popularity in billiards.
How is it different from residual wastes?
Plastics are not only in residual wastes, as there are plastics in recyclable wastes.

FUN FACT: Residual wastes can be further categorized as with potential (i.e. flexible plastics, textiles, rubber) that should be brought to the Material Recovery Facility for waste diversion and without potential (i.e. soiled paper, soiled plastics) that should be brought directly to the landfill.
How many plastic types are there?
How many **plastic types** are there?

There are **7** plastic types.
PARA SA UNANG BAHAGI NG IWASTThoughts, ipapakita natin ang iba’t ibang uri ng plastik na madalas natin ginoagamit sa look at labas ng ating mga takhanan. Halina’t alamin natin ang Standard Classification of Plastics (Resin Code L-7) na ginawa ng Society of Plastics Industries noong 1998. Laging tandaan, ‘pag may duda hanapin ang nakamarkaong resin code!

1. Polyethylene Terephthalate (PET) Bottles
2. High Density Polyethylene (HDPE)
3. Polyvinyl Chloride (PVC) Pipes
4. Low Density Polyethylene (LDPE)
5. Polypropylene (PP)
6. Polystyrene (PS)
7. Other
8. Multilayer Film Sachets (LDPE/PP)
Polyethylene Terephthalate (PET) Bottles

Ang PET ay isang uri ng plastik na hindi basta-basta tinatablan ng mikrobyo, na nakakaapekto sa kalidad ng pagkain at inumin, kaya madalas itong ginamit sa pag-iimbak ng pagkain at tubig. Hindi tulad ng boteng babasagin (glass bottle), ang PET ay maaan at matibay.

Hindi pwedeng gamitin nang paulit-ulit ang PET bottles dahil ang ilang additives na bahagi ng plastic (tulad ng Bisphenol A) ay maaaring sumama sa nilalaman nito at magdulot ng masamang epekto sa iinom nito.

Nang dahil ba sa pandemic ay bumili ka ng bleach? Maaaring gawa sa HDPE rin ang lalagyan nito. Ang istrakturang kemikal ng HDPE ay sadyang matibay para sa mga samu’t saring aplikasyon tulad ng mga laruan at lalagyan ng kemikal (kahit kasing laki ng drum pa ito).
Polyvinyl Chloride (PVC) Pipes

Marahil bihira lamang ang nakakakilala sa uri ng plastik na ito, ngunit ito na ang karaniwang ginagamit bilang daluyan ng tubig sa ating mga bahay. Ang mga tubo ng tubig na ito ay gawa sa PVC. Ang tubong gawa sa PVC ay mas matibay at pangmatagal.

Ngunit sa ibang mga bansang may taglamig na klima, ang PVC pipes ay hindi ginagamit upang pagdaluyan ng mainit na tubig sa kabahayan dahil ang mataas na temperatura ng tubig ay nakakasira paglaon sa ganitong uri ng plastik.

Low Density Polyethylene (LDPE)

Kumpara sa HDPE, mas magaan at mas nababaluktok o flexible ang LDPE. Madalas itong nakikita bilang manilip na plastik, tulad ng "plastic labo". Bilang isang film, ginagamit din ang LDPE bilang sisidlan ng mga dry goods tulad ng electronics. Ginagamit din ito bilang lining (isang layer sa ilang paper cups).

Ang polypropylene ay isang uri ng plastik na ginagamit sa samu't saring kagamitan. Ito ay dahil sa katangian nito na madali mamolde. Matatagpuan ang PP sa mga makinarya, sa mga kagamitan sa bahay, sa mga laruan, at kahit sa ilang lalagyan ng pagkain.

Polystyrene (PS)

Ang polystyrene ay mas pamilar bilang styropor. Pero hindi lamang sa styropor cup at mga pambalot ng mga babasagín o fragile na kagamitan matatagpuan ang polystyrene. Ginagamit din ito bilang casing ng ilang kagamitang elektroniko at aparato.

Other

Ang resin code 7 ay ginagamit para sa mga plastik na gawa sa iba pang uri o magkahalong uri (hybrid resin) ng plastik. Minsan, ang mga plastik na buhat sa niresiklong halo-halong plastik (recycled mixed plastic) ang minamarkahan ng ganitong resin code.

Multilayer Film Sachets (LDPE/PP)

Kung kilalisan ang mga sachet (hal. punitin at babalatan), ay makikita na marami itong sáray o layer (kaya tinawag na multilayer film) at kadalasan gawa sa magkakaibang uri ng plastik ang mga bahagi na ito. Ang pagtapon nito ay isang hamon sapagkat iba iba na ang uri nito depende sa pagkakagawa at layunin, iba iba pa ang laki nito at walang insentibo ang pagresiklo o pag-recycle nito.

Are all plastics recyclable? 3 How do we recycle each plastic type?
Are all plastics recyclable?

All plastic types are technically recyclable, but sometimes the technicalities and logistics for doing so in some types are non-economical.
HINDI LAHAT NG PLASTIC AY RECYCLABLE

*Bagamat halos lahat ng plastik (thermoplastic) ay maaring i-recycle, marami ring kadahilanan na nakahahadlang o nakaapekto sa proseso ng recycling.
Isang isyu sa pagrecycle ng tinatawag na post-consumer plastic o mga ginamit nang plastik ay ang pagiging marumi o kontaminado nito. Gugugol din ng karagdagang salapi, tao, enerhiya, at likas-yaman ang paglikod (kung kaya pa isaiba) ng mga sanitong plastik. Kinakailangang mataas pa rin ang kalidad at purity ng plastik upang mapanatili ang mga katangian nito kahit pa i-recycle ito.

Mahirap, kung hindi imposible, ang pag-recycle ng multi-layer plastics gaya ng paper cups at plastic sachet. Ang labas ng isang paper cup, halimbawa, ay gawa sa papel ngunit sa loob nito ay isang manipis na layer ng plastik. Dahil mayroong dalawang magkaibang material, ang paper cups ay hindi maaaring i-recycle maliban kung ang mga material nito ay paghihiwa-hiwalayin.
<table>
<thead>
<tr>
<th>Plastic Type</th>
<th>recyclability details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyethylene Terephthalate (PET)</td>
<td>Maaring gamitin muli bilang lalagyan ng pagkain</td>
</tr>
<tr>
<td>High Density Polyethylene (HDPE)</td>
<td>Hindi na maaring magamit bilang lalagyan ng pagkain</td>
</tr>
<tr>
<td>Polyvinyl Chloride (PVC)</td>
<td>Mahirap i-recycle dahil mataas ang taglay na chlorine at ibang additives tulad ng plasticizers</td>
</tr>
<tr>
<td>Low Density Polyethylene (LDPE)</td>
<td>Dahil sa pagiging magaan nito, mahirap ito kolektahan at hindi competitive ang presyo ng recycled na LDPE</td>
</tr>
</tbody>
</table>
**NARITO ANG RECYCLABILITY NG MGA PLASTIK BASE SA RESIN IDENTIFICATION CODE NITO:**

<table>
<thead>
<tr>
<th>Polypropylene (PP)</th>
<th>Polystyrene (PS)</th>
<th>Other</th>
<th>Multilayer Film Sachets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hindi na maaring gamitin bilang lalagyan ng pagkain</td>
<td>Sa aplikasyong pang-pagkain, mataas ang tsansa na mag-absorb ito ng mga mantika at sebo (isang contaminant) kaya halos hindi ito nire-recycle</td>
<td>Depende sa uri ng plastik, kadalasang mababa na ang halaga nito at hindi specified ang uri ng plastik kaya hindi ito nare-recycle basta-basta</td>
<td>Hindi madali ang pag-recycle nito dahil ito ay gawa sa iba-ibang uri ng plastik, at minsan'y may kalakip pang metal layer. Ang mga tinta o tina na ginamit sa sachet ay naituring ding contaminant kaya lalong komplikado ang pag-recycle nito. Iba rin ang katangian nito (film) kaya't hindi ito laging kompatible sa karaniwang makinara ng mga recycling plant.</td>
</tr>
</tbody>
</table>
How do we recycle each plastic type?

There are organizations that collect certain plastic types, but before thinking of recycling let us refuse and reuse.
WHERE THE WASTE GOES

check out these businesses and organizations where you can turn over / sell / donate your throw-away’s instead of sending them to the landfills

Plastic Waste & Packaging

Green Antz Builders – fb.com/GreenAntzBuilders
Clean Our Oceans Project (COOP) – cleanouroceansproject.com
Sentinel Upcycling Technologies – fb.com/SentinelUpcyclingTechnologies

Preloved Home Items

sell online through IG, FB, Shopee, etc.
Buhay Zero-Waste Pre-loved group on FB
Caritas Manila & Segunda Mana

Food Waste

GreenSpace Pilipinas Food Waste Collection – COMING SOON!
ShareWaste – sharewaste.com

E-Waste

Globe Telecom Project 1 Phone
globecomph.globerecycleproject.com/project1phone
The E-Waste Project
fb.com/TheE-WasteProject

Miscellaneous

Tetra Pak Philippines – Tetra Paks
Humble Sustainability – electronics, clothes, office supplies, accessories, furniture, books, & other recyclable waste (humblesustainability.com)
Silent Beads – brown paper bags (fb.com/SilentBeads)

It is Greenspace’s mission to help divert our wastes from going to our landfills.
With that, we have compiled a list of places to turn over donate, and/or sell the things you plan to throw away.
you can also submit resources as we continuously update the list. Check it out below:

cleanup.carrd.co

*some organizations have put collection on hold due to quarantine measures but you can check out their pages for updates

TYING UP LOOSE ENDS!
Collection Drive

From caps, covers, containers, casings, lids, milk scoops, utensils, dvd cases, there’s always a bit of plastic that is overlooked and thrown. Most of these plastics are recyclable, but not all are recycled. So let’s tie up loose ends!

HERE’S HOW WE CAN ALL HELP

COLECT

CLEAN

CREATE

Tying up Loose Ends is more than just a collection drive. This program aims to renew the common conventions often associated with plastic waste. As bits and pieces, these loose plastics are littered everywhere. Together, these can turn into vividly unique objects.

ALL DRIED UP AND READY TO GO?

GREAT! THERE’S TWO WAYS TO COLLECTING:

Send us a message @plastics.pilipinas.national to schedule a drop-off/pick-up or catch our Collection Checkpoints on our Facebook and Instagram page.
*pick-ups are within Katipunan, Kamias, Cubao and Marikina area
Can we really live in a plastic-free world?
Can we really live in a plastic-free world?

We can definitely live in a world free of unnecessary plastics – or plastics that we can live without (e.g. plastic straws, plastic cups, plastic bags).
What are the impacts of plastic pollution? How does it relate to food? water?
PLASTIC POLLUTION: A Serious Challenge to our Natural World, Society & Global Economy

Environmental Impacts
- Entanglement
- Ingestion
- Habitat damage

Social Impacts
- Unregulated plastic waste management
- Human plastics ingestion
- Soil and water contamination

Economic Impacts
- Fisheries
- Maritime trade
- Tourism

WWF-Dahlberg Report, 2019, citing various studies
Are biodegradable plastics really biodegradable?
Are biodegradable plastics really biodegradable?

They can degrade but can take a long time.
Are biodegradable plastics really biodegradable?

Biodegradable plastics do not degrade fully in the natural environment.

Without sufficient infrastructure, these materials can end up in landfills or in the environment.

Claims of biodegradability can lead people to believe that these materials can be littered without consequences.
Oxo-degradable plastics?

Oxo-degradable plastics are misidentified as biodegradable – they are made with additives that are sensitive to heat and light, and only degrade into microplastics which are even more harmful to the environment.
How has the pandemic affected plastic generation and consumption?
“If the global population uses one disposable face mask per day after lockdowns end, the pandemic could result in a monthly global consumption and waste of 129 billion face masks and 65 billion gloves” (Prata et al, 2020)

Anecdotal account says that about 10-20 improperly disposed face masks per day are collected in the Pasig River/ Baseco area.
“Packaged take-out meals and home-delivered groceries contributed an additional 1,400 tons of plastic waste during Singapore’s 8-week lockdown.” (Adyel, 2020)
What are the solutions out there to address the issue?
What are the solutions out there to address the issue?

- The Philippine government is now finalizing the National Plan of Action on Marine Litter
- Philippines support the adoption of a global treaty on marine plastic pollution.
- Businesses eliminating unnecessary plastics in their supply chain.
- Cities committing to stop plastic waste leakage in their jurisdiction.
- Driven general public in eliminating unnecessary plastics in their lives.
Share your solution in this knowledge platform for cities around the world.
What are the available alternatives for single-use plastics?
The best alternative are the reusables.

We should strive to eliminate single-use plastics and continuously reuse our reusables.

For plastic bags, we should promote reusable bags instead of paper bag as this has more environmental impact. WWF has developed an Alternative Materials Decision Tool to better guide businesses in this shift.
The Alternative Materials Tool

Debunking common packaging misconceptions.
What are your current projects to address the plastic waste problem?
Project IWASTO

Integrated Waste Analysis, Survey, and Technological Options

Duration: January 2020 - January 2022
Project Leader: Dr. Maria Antonia N. Tanchuling

Project IWASTO aims to describe and assess the solid waste management (SWM) activities in selected cities that are part of the Manila Bay watershed, and to develop integrated solid waste information and technology management system considering current conditions and future scenarios. IWASTO is one of the component projects under the Integrated Mapping, Monitoring, Modelling, and Management System for Manila Bay and Linked Environments (IM4ManilaBay) Program.

Funded and monitored by:
DOST - Philippine Council for Industry, Energy, and Emerging Technology Research and Development
STOP THE FLOW OF PLASTICS ENTERING NATURE BY 2030 elimination of unnecessary plastic; doubling reuse, recycling, and recovery; and ensuring the remaining plastic is sourced responsibly.

A global movement of cities and tourism destinations that are fighting plastic pollution.

**POLICY**

Pushing for national support to the global treaty on marine pollution and Extended Producers Responsibility

Working with businesses to make and implement public commitments to reduce or eliminate unnecessary plastics in their operations

Spark conversations and individual actions to address plastic pollution