



ADUPI

INDONESIAN PLASTIC RECYCLING
ASSOCIATION

www.adupi.org

ADUPI

Indonesian Plastic Recycling Association

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CLEAN
CITY

DISASTER
DUMP



DISASTER
DUMP





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ASOSIASI DAUR ULANG PLASTIK
INDONESIA

Introduction

OVERVIEW

ABOUT ADUPI

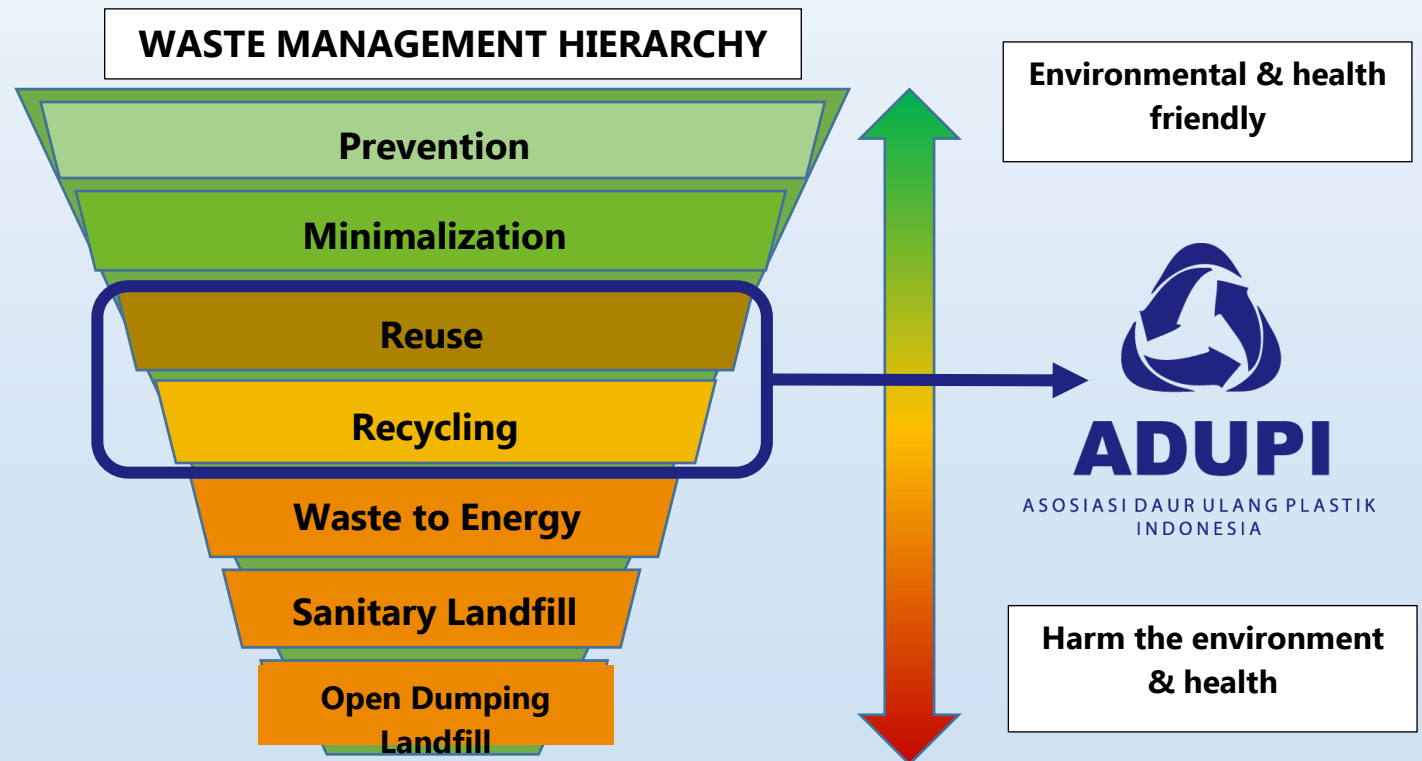
Vision

• Become an association that is beneficial for **members and the government in environmental management.**

Mision

- Fighting for the aspirations of members, increasing cooperation, and communication between members and the Indonesian government.
- Improving services and assisting members in providing direction related to government policies

- Founded in **1989** under the name **AIDUPI** and in **2015** changed its name to **ADUPI** in Surabaya, East Java.
- To create **the best recycling business, competitive, conducive, and able to compete both locally and abroad** by cooperating with all actors involved.
- Together with the government to build **standards for plastic recycling raw materials** and **make a major contribution to accelerating the circular economy in the plastics sector in Indonesia.**



ADUPI's PARTNERS – BRAND OWNERS



ADUPI's PARTNERS - GOVERNMENT

| | | | | | |
|--|---|---|---|---|---|
|  <p>KEMENTERIAN LINGKUNGAN HIDUP DAN KEHUTANAN</p> |  <p>KEMENTERIAN PERINDUSTRIAN REPUBLIK INDONESIA</p> |  <p>KEMENTERIAN KOORDINATOR BIDANG KEMARITIMAN DAN INVESTASI</p> |  <p>KEMENTERIAN PERDAGANGAN REPUBLIK INDONESIA</p> |  <p>BRIN BADAN RISET DAN INOVASI NASIONAL</p> |  <p>KEMENTERIAN DALAM NEGERI</p> |
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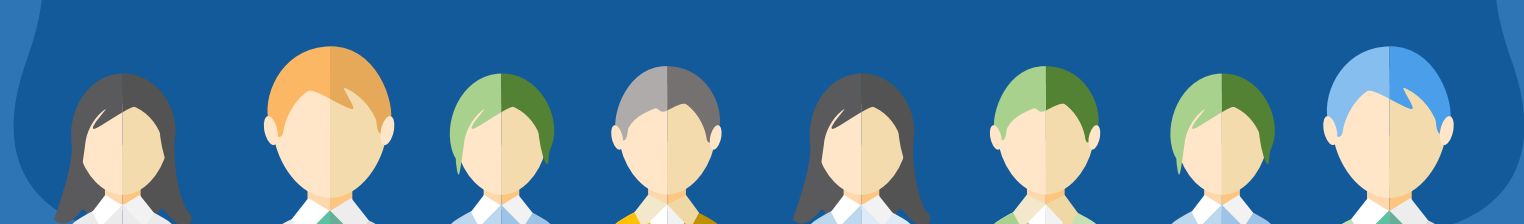
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|  <p>JAYA RAYA</p> |  <p>KABUPATEN TEGAL</p> |  <p>ASOSIASI PEMERINTAH KOTA SELURUH INDONESIA</p> |  <p>KOTA AMBON</p> |  <p>KOTA TEGAL</p> |  <p>KEMENTERIAN KOORDINATOR BIDANG PEREKONOMIAN REPUBLIK INDONESIA</p> |  <p>Kementerian PPN/ Bappenas</p> |
|--|--|---|--|---|---|--|

| | | |
|--|---|---|
|  <p>KEMENTERIAN KEUANGAN DIREKTORAT JENDERAL BEA DAN CUKAI</p> |  <p>BADAN KEBIJAKAN FISKAL KEMENTERIAN KEUANGAN REPUBLIK INDONESIA</p> |  <p>한국산업기술시험원 Korea Testing Laboratory</p> |
|--|---|---|

| | | | | | | | |
|--|---|---|--|--|---|---|--|
|  <p>UNITED STATES OF AMERICA EMBASSY</p> |  |  |  |  <p>NORWEGIAN EMBASSY</p> |  <p>BUNDESREPUBLIK DEUTSCHLAND HONORARKONSUL</p> |  <p>Kingdom of the Netherlands</p> |  <p>EMBASSY OF SWEDEN</p> |
|--|---|---|--|--|---|---|--|



OTHER PARTNER's



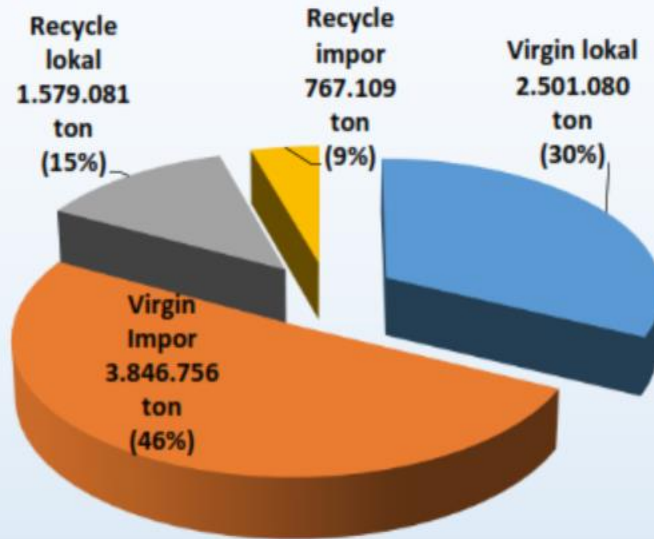


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ASOSIASI DAUR ULANG PLASTIK
INDONESIA

Recycling System

KEBUTUHAN INDUSTRI PLASTIK NASIONAL



Tenaga Kerja:
>3,4 Jt jiwa



Jumlah Industri:
>1.000 perusahaan



Investasi:
+ Rp 7,15 T

Data Tahun 2021

Sumber : Kemenperind, Direktorat IKHF, 2021

KEBUTUHAN INDUSTRI DAUR ULANG PLASTIK NASIONAL

Total Kebutuhan Bahan Baku Plastik Daur Ulang

- 2.300.000 Ton

Total Pasokan

- Lokal :1.579.081 Ton
- Impor : 767.109 Ton

FLOW OF POST CONSUMER RECYCLED (PCR) IN INDONESIA

Informal

85% Collected PCR



Low recycling rate (7%)

- Absence of regulation
- Limited budget
- Poor infrastructure
- Lack of awareness

Formal

15% Collected PCR

Source

Waste picker

Long chain

Recycle industry

Private/Government – Waste management service

Government - municipal waste Facility (TPS3R/TPST)

Land, water, air

Open dump landfill - forever waste

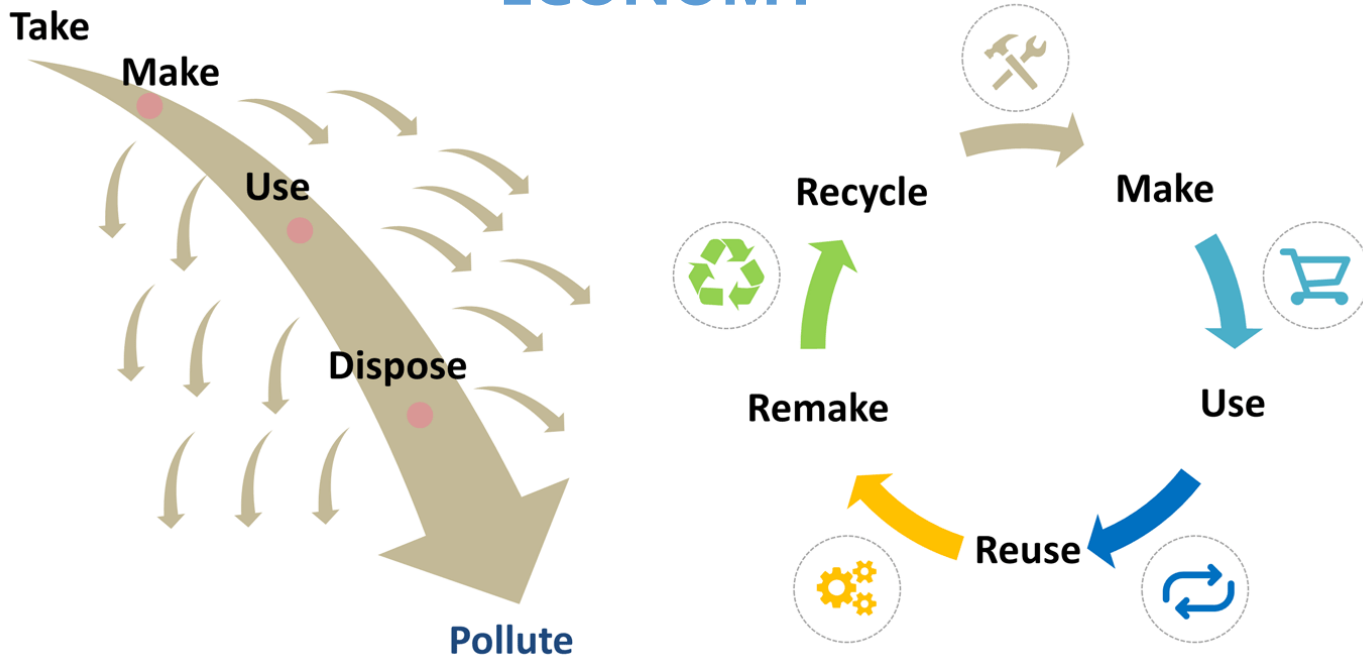
- Collecting & Dumping
- No Segregation

- Bad leadership & unskilled
- Lack of budget & infrastructure

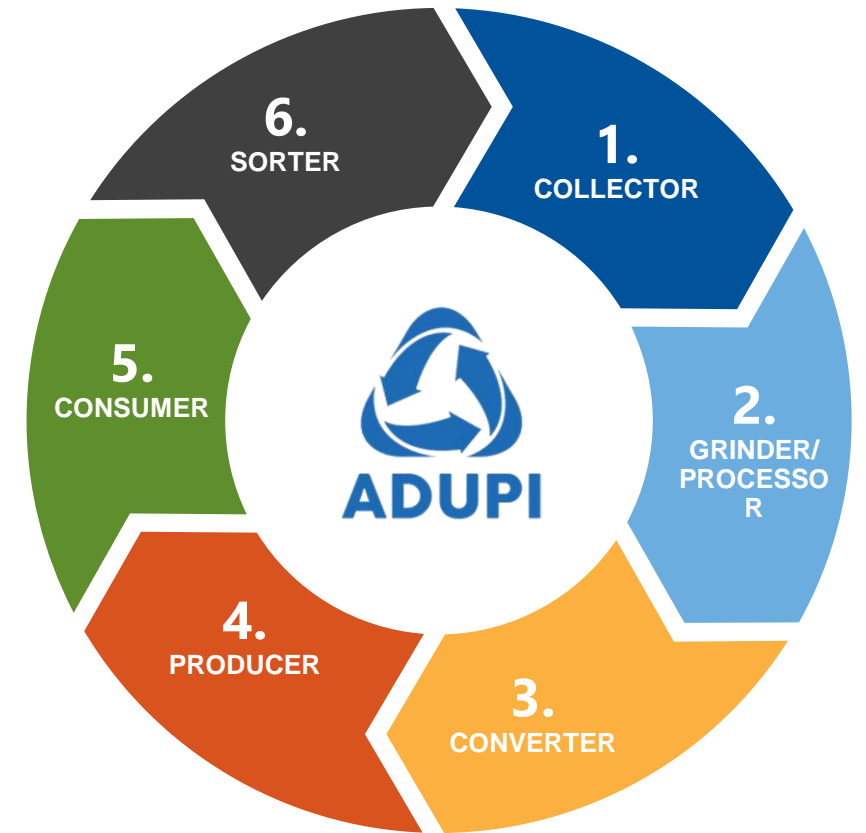


CIRCULAR ECONOMY

LINEAR ECONOMY VS CIRCULAR ECONOMY



INDONESIAN PLASTIC RECYCLING ECOSYSTEM











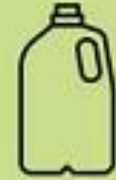





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Recyclable Plastics

Plastic codes

| P L A S T I C R E S I N I D E N T I F I C A T I O N C O D E S | | | | | | |
|---|---|---|---|---|---|--|
|  PETE |  HDPE |  PVC |  LDPE |  PP |  PS |  OTHER |
| Polyethylene Terephthalate | High Density Polyethylene | Polyvinyl Chloride | Low Density Polyethylene | Polypropylene | Polystyrene | Other |
|  |  |  |  |  |  |  |
| Recyclable | Recyclable | Recyclable at specialist points | Recyclable at specialist points | Recyclable | Recyclable at specialist points | Not easily recyclable |

PET

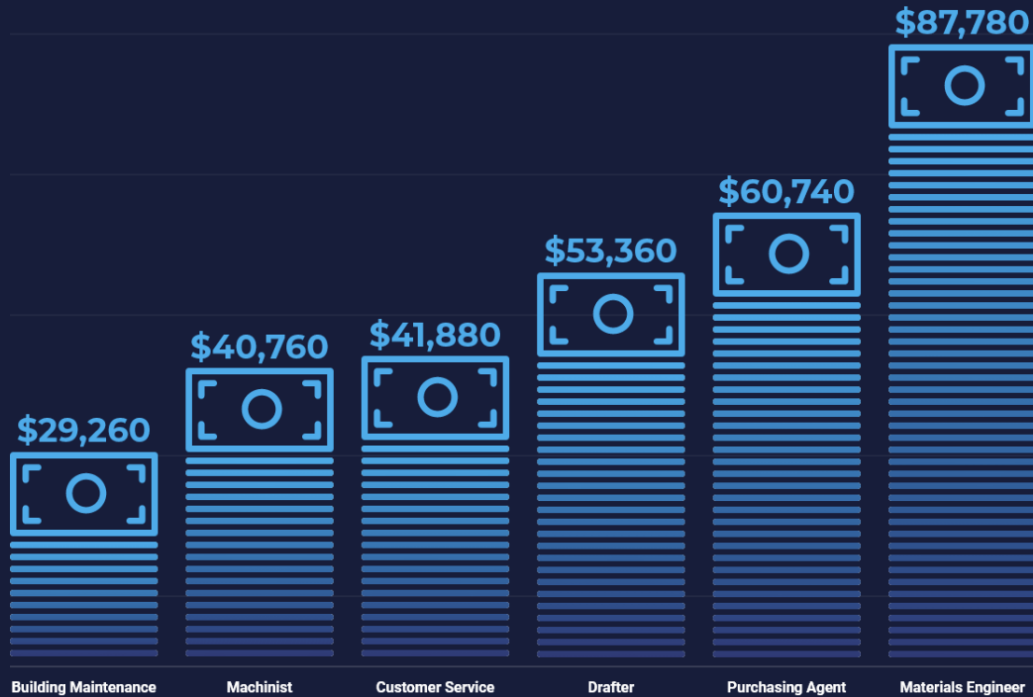


PET



PET Jobs Make Dollars and Sense

Plastics industry average annual U.S. wages by occupation.
Source: 2019 U.S. Bureau of Labor Statistics



Lower energy costs:

- The energy required for the recycling of **PET bottles** is only **30%** of the energy used during re-manufacturing)
- The use of recycled **PET flakes** reduces energy consumption by **84%** and GHG emissions by **71%** (Life Cycle Inventory Study, 2010).



Reducing the extraction of new materials by approximately **35%**, which helps conserve natural resources (LeBlanc, 2018).



The PET bottle recycling industry has an impact on **improving GDP and contributing to Indonesia's income** through export activities of up to **11.5 million USD** (BPS, 2022).

HDPE



In the United Kingdom, the Group's Closed Loop factory specializes in recycling high-density polyethylene (HDPE), enabling a **75% energy saving** compared with making plastic bottles from virgin materials.

The High-Density Polyethylene (HDPE) industry can earn a relatively good profit of \$250 per ton when using recycled materials.

PVC



Tubing/pipe



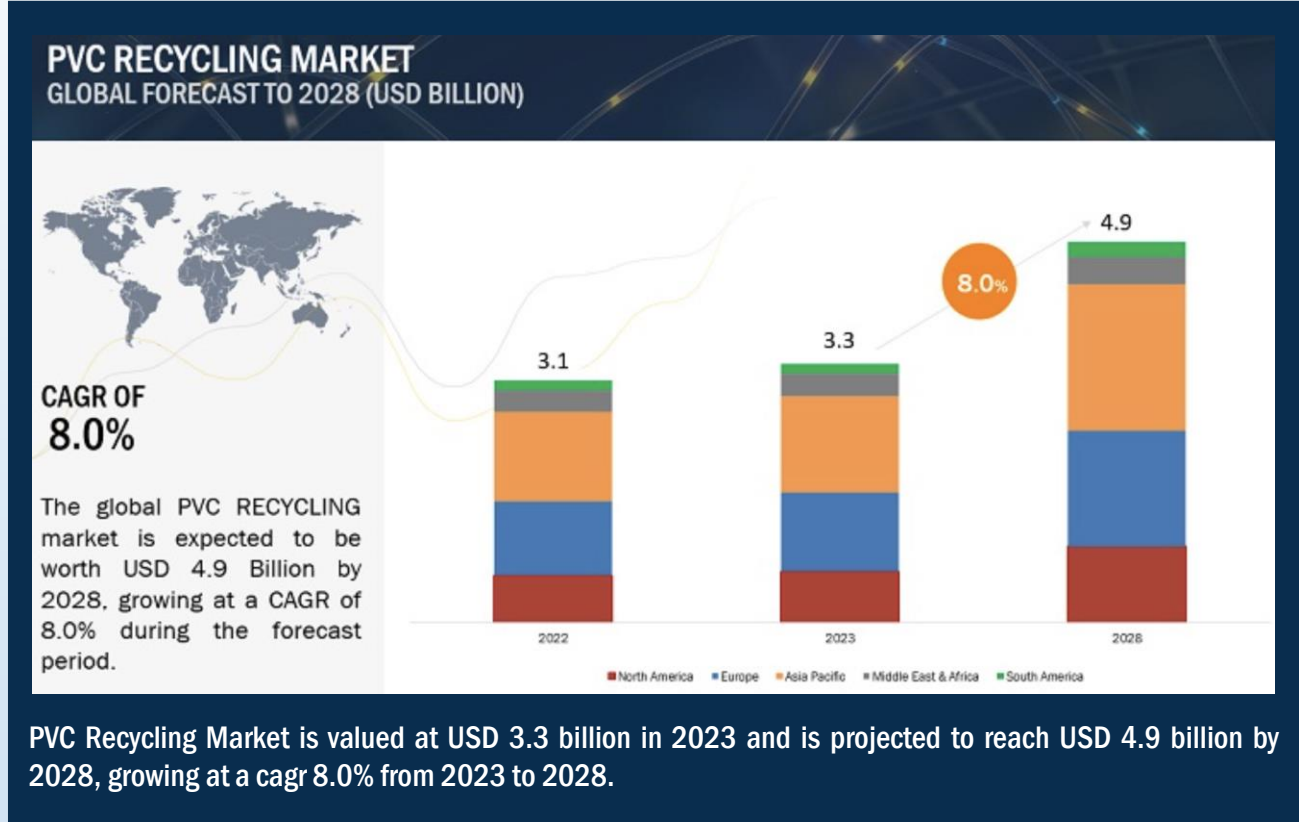
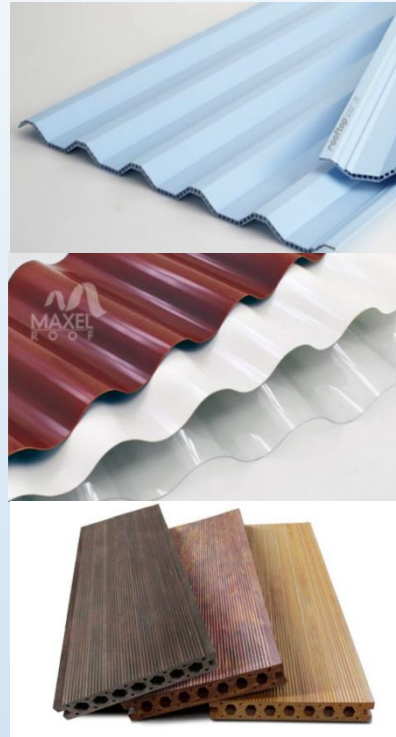
Cable scrap



Shrink labels

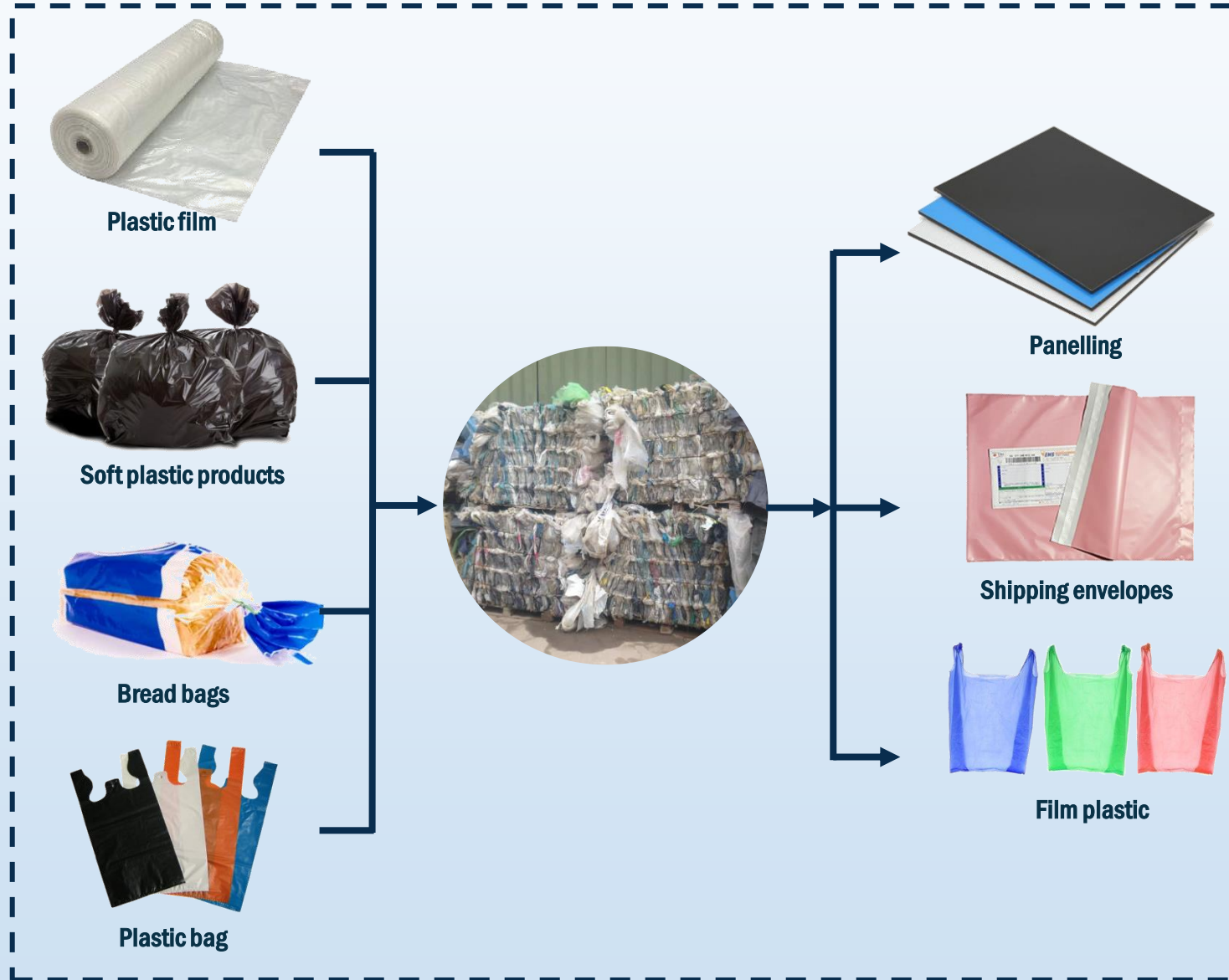


Window profile



PVC Recycling Market is valued at USD 3.3 billion in 2023 and is projected to reach USD 4.9 billion by 2028, growing at a cagr 8.0% from 2023 to 2028.

LDPE



PP



Food containers



Ice-cream tubs

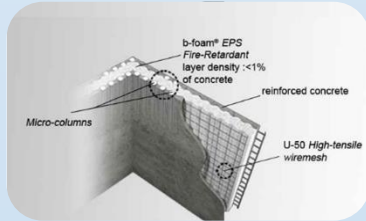


The global polypropylene recycling market is projected to grow from USD 8.2 billion in 2022 to USD 13.5 billion by 2023 at CAGR of 5.8% from 2022 to 2030.

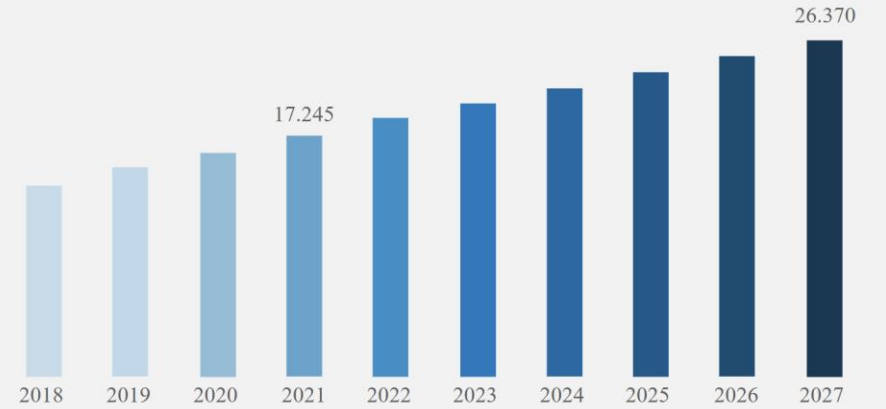
8.2 USD billion 2022 → 13.5 USD billion 2030

- The growing demand from various end-use industry such as packaging and automotive is expected to drive the demand for propylene recycling.
- Mechanical recycling process for polypropylene is one of the cost-effective process.
- Packaging is the largest end-use industry segment of the propylene recycling market in terms of value.
- Government regulations in various countries has increased the adoption of recycled polypropylene.

PS

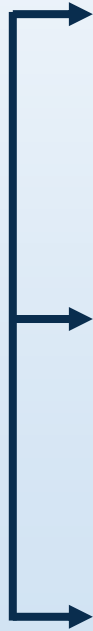


Global Expanded Polystyrene (EPS) Recycling Market Size, 2027 (USD Billion)



The global Expanded Polystyrene (EPS) Recycling market size was valued at USD 18453.87 million in 2022 and is expected to expand at a CAGR of 7.36% during the forecast period, reaching USD 28260.73 million by 2028.

MLP, PC, ABS, PLA, Acrylic, Nylon, etc



- Multi-material multilayer plastic packaging became an issue for the recycling industry due to the difficulties of sorting, separating layers and the high costs of treatment.
- Chemical recycling solutions (feedstock) are an alternative with high-expectations for the future, mainly in high-income countries.
- Low-performance recycling (downcycling) is seen as part of the solution, contributing to reduce plastic leakage to the environment



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CHALLENGES!!!!

Recycling Industry Challenges

In Supply Side → uncertainty of supply

- Lack of investment in collection points (R2)
- Lack of integration between SWM and recycling
- High dependency on informal sector
- Uncontrolled waste import
- Uncertainty in product design development (R1)

In Demand Side → uncertainty of demand

- High dependency on export market
- No recycling content → no national demand (R3)
- Green Washing (opportunistic behavior)

In Operational Side:

- State-of-the-art technology is mostly imported
- High technical skills for staff and operators

Typical Free Riders that do not solve problems:

- Opportunistic behavior of initiatives
- Non EPR-oriented regulation
- Pro-degradant product development



Recycling Industry Challenges

- Why only plastic is being labeled as “non-degradable”? How about metals? Or Glass? They are also non-degradable. Should we ban those materials? Or shall we add additives to make Bio-Aluminum or Bio-Glass?
- Collection & segregation is very important. Therefore, every type of materials must be separated; Each type of plastics, each type of plastics with pro-degradant, bio-plastics.
- Labeling or color coding needs to be determined which plastics are recyclable and which are not.



Specific Issues on Plastic Product Excise

The unclarity of the main objective(s) of the excise

- **To control plastic usage?** Fact: plastic is the most sustainable materials of all current alternative materials.
- **To disincentive the envr. & health impact of plastic?** Fact: there are efforts of EPR and recycling content that both can reduce envr. impacts which are proven to work to reduce plastic waste as well as increasing plastic recycling rate.
- **To increase govt. revenue?** This is the only rather acceptable consideration for the extensification of excise and fiscal towards plastic.

There is no alternative material of plastic which is proven to substitute the similar benefit of plastic while having less envr. impact

- Research and regulation banning across developed and developing countries are proof of the dire impact of pro-degradant products; supporting this pro-degradant as a substitute of plastic is an evidence of the absence of research



Excise is not a correct and direct tool for an SWM betterment and circular economy implementation

- Other alternative to finance SWM infrastructure should be prioritized, such as: PROPER waste retribution from polluters (which needs to be increased, as per SWM experts indicate)

The expenditure budget for the excise is not well-planned

- How much does the excise (% or number) go to SWM, recycler support, and other CE incentives? Is there any plan for this? Is it based on true CE principles & aligned with other ministries and agencies that develop CE?

Plastic excise incentive towards pro-degradant product has a potential towards unfair competition practice in plastic industry

- While the definition of environmentally friendly products are always misled, free riders of pro-degradant manufacturers are taking major benefit from the excise exemption

THANK YOU



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