



Ministry of Environment/
National Agency for Environmental Control

NATIONAL POLICY AND STRATEGY ON SOLID WASTE MANAGEMENT

**BPK RI the 10th Seminar on Environmental Auditing
Yogyakarta, 24 February 2025**

AGUS RUSLY

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Deputy for Solid Waste, Hazardous Waste, and Hazardous Substance Management**



Indonesia is the largest archipelagic country Mega Biodiversity



the Largest Archipelago Country

270 million people in 514
Cities/Regencies
the Fourth Most Populated Country

17,500+ Islands
according to Countries by Coastline, Wisevoter

95,181 km Coastline Length
the Second Longest Coastline

WASTE MANAGEMENT APPROACH

PERSUASIVE

- Conducting discussions with all relevant parties, both government and non-government institutions to synergize in solving waste management problems comprehensively
Conducting socialization and collaboration with educational institutions in order to carry out behavioral transformation efforts for all elements of society through communication, information and education

PREVENTIVE AND PREEMPTIVE

- Establishing national policies to accelerate the resolution of waste management problems, for example by stopping the import of recycled plastic raw materials and recycled paper raw materials and encouraging the optimization of the use of recycled raw materials from within the country
Implementing Extended Producer Responsibility (EPR)
All stakeholders are required to immediately establish policies to resolve waste problems according to their respective roles, especially at the local government level

CURATIVE

- Implement environmental monitoring, evaluation, and supervision of landfills that are still managed as Open Dumping Sites
A warning letter has been issued to 343 Regional Heads throughout Indonesia who are still operating Open Dumping Landfills
Building industrialization of waste management using environmentally friendly and low-emission technology accompanied by professional management

REPRESSIVE

- Law enforcement against waste management actions that cause environmental pollution



WASTE POLICIES IN INDONESIA

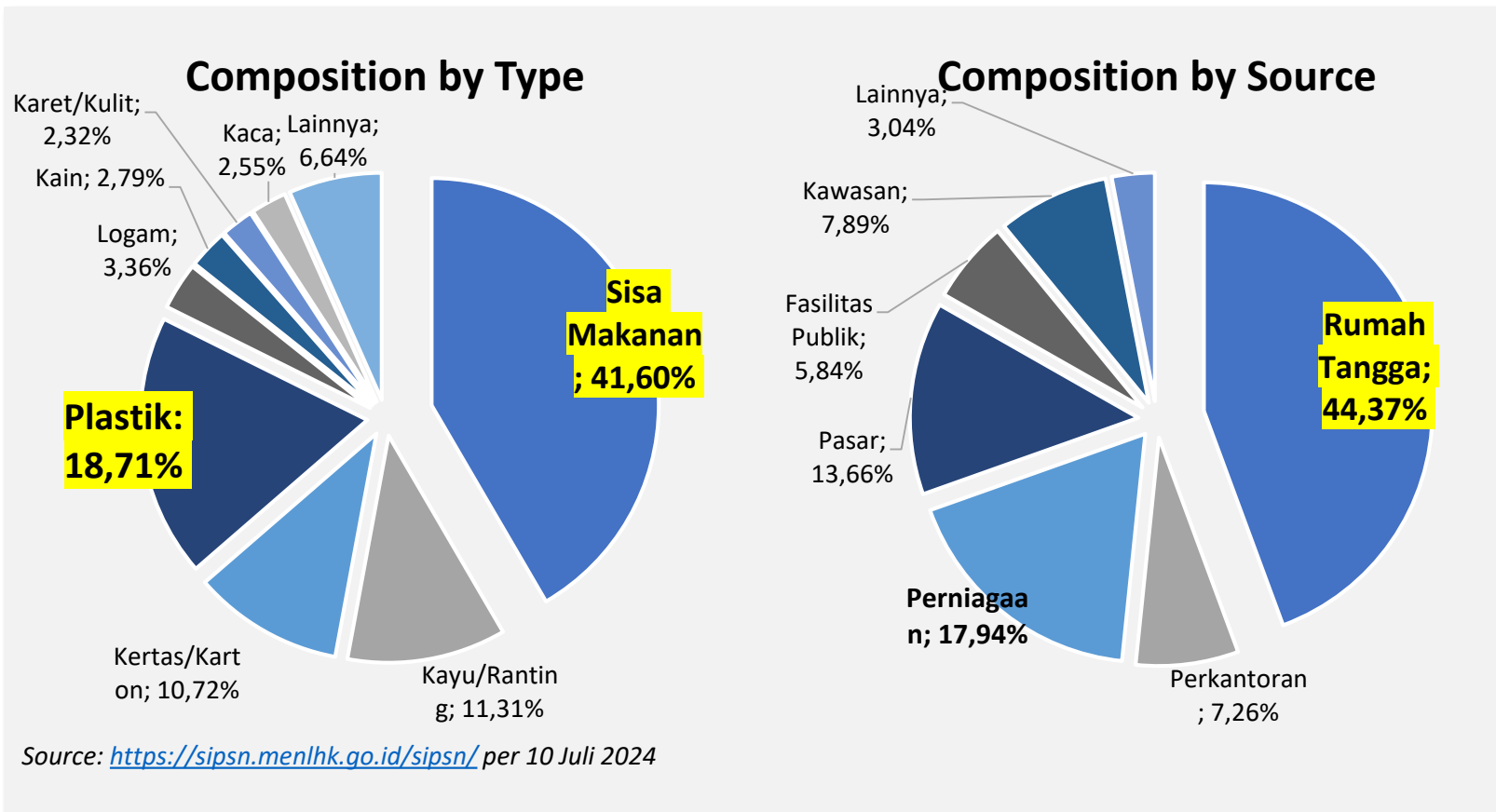
	UU No. 18 / 2008 Law on Solid Waste Management		UU No. 32/2009 Law on Environmental Protection and Management		Ministry of Environmental and Forestry	Ministry of Public Works	Ministry of Trade	Ministry of Industry		
National Law	UU No. 18 / 2008 Law on Solid Waste Management		UU No. 32/2009 Law on Environmental Protection and Management							
Government Regulation	PP No. 81/2012 Government Regulation on Management of Household and Household-like Waste		PP No. 101/2014 Government Regulation on Hazardous Waste Management		DRAFT Government Regulation on Excise on Plastic		DRAFT Government Regulation on Specific Waste Management			
Presidential Regulation	Perpres No. 97/2017 Presidential Regulation on National Policy and Management Strategy of Household Waste and Household-like Waste		Perpres No. 83/2018 Presidential Regulation on Marine Debris Management		Perpres No. 18/2015 Presidential Regulation on Income Tax Facilities for Investment in Certain Business Fields and/or in Certain Regions		Perpres No. 15/2018 Presidential Regulation on Acceleration of Damage and Pollution Control on Citarum River Basin		Perpres No. 35/2018 Presidential Regulation on Acceleration of Development of Waste-to-Energy Installation using Environmentally-sound Technology	
Presidential Decree	Keppres No. 61/1993 and No. 47/2005 Presidential Decree on Ratification of the Basel Convention on the Control of the Transboundary Movement of Hazardous Waste and Their Disposal									
Ministerial Regulation	Ministry of Trade Regulation No. 31/2016 on Non-Hazardous Waste Import		Ministry of Public Works Regulation No. 3/2013 on Implementation of Solid Waste Infrastructure and Facilities		Ministry of Environment and Forestry Regulation No. P.75/2019 on Roadmap to Waste Reduction by Producers		DRAFT Ministerial Regulation (MoEF) on Shopping Plastic Bag Reduction			
	Ministry of Trade Regulation No. 48/2015 on General Provisions in the Import Sector			Ministry of Trade Regulation No. 70/2015 on Importer Identification Number			Ministry of Industry Regulation No. 48/2015 on Requirements for Income Tax Facilities Implementation			
Regional/Local Regulation	Regional/Local Regulations on Single-use Plastics Ban: - Pergub Bali No. 97/2018		- Perwali Denpasar 36/2018 - Perwali Bogor 61/2018 - Perwali Banjarmasin 18/2016			- Perwali Balikpapan 8/2018 - Perwali Padang 36/2018 - Perda Purwakarta 37/2016				

(Source: SWI analysis, 2019)



Municipal Solid Waste Statistics 2023

ESTIMATED AMOUNT OF MSW GENERATION IN 2023: 56.6 million tons

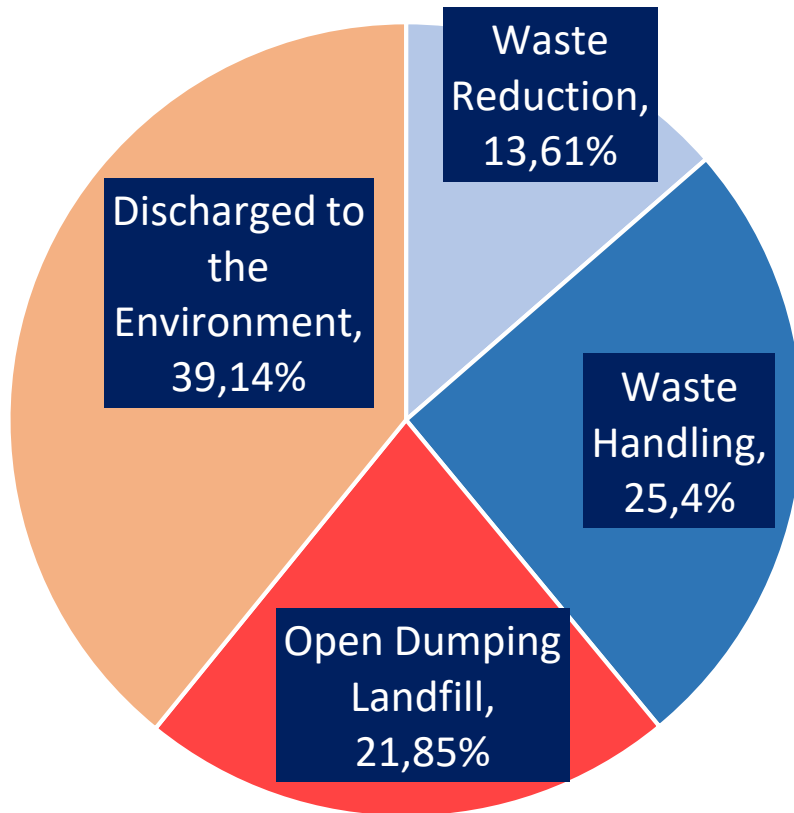


- By type of waste, food waste (41,60%) and plastics (18,71%) are the biggest fraction.
- Plastic waste is increased significantly from 11% in 2010 become almost 19% in 2023.
- Plastics waste portion in Mega Cities like Jakarta and Surabaya is above national average (23%).
- Main sources of MSW are household (44.37%), business area (17.94%), and market (13.66%)

WASTE MANAGEMENT CONDITION IN INDONESIA

WASTE GENERATION (2023)

56.63 MILLION TONNES/YEAR



Source: Ministry of Environment, 2024

Managed Waste (2023)

39,01%

THE PROBLEMS

- Landfilling is still the main system in Indonesia
- Some landfill sites are still managed as open dumping sites and are already overloaded

343 Cities/ Regencies/ Provinces

- 6 Provinces (Regional Landfill Site)
- 51 Cities
- 286 Regencies

343 cities/ regencies/ provinces in Indonesia are still managing open dumping site



Vulnerable to environmental pollution

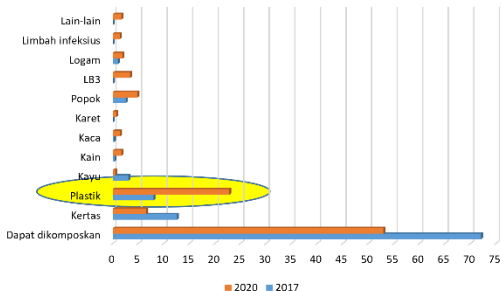


Data and Facts of Plastic Waste and Marine Plastics

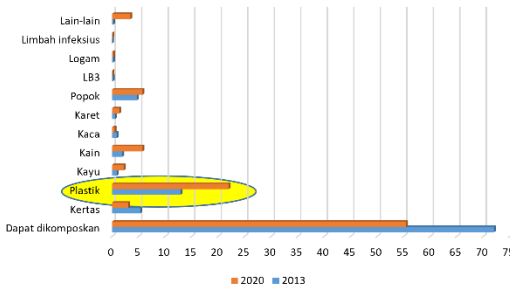
Plastic Waste Increased Significantly in Surabaya

1. Plastic waste fraction at source of generation in Rungkut District was increased from 7.99% in 2017 to 22.83% in 2020
2. Plastic waste fraction at Benowo Landfill was increased from 12.96% in 2013 to 22.01% in 2020.
3. The amount of plastic waste in Surabaya is about 22% of 2.200 tons or 484 tons a day.

Trend of plastic waste composition at source in Surabaya

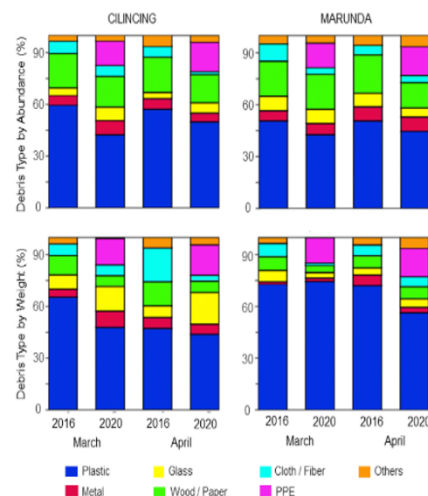


Trend of plastic waste composition at Landfill in Surabaya



Source: Case Study of Waste to Energy in City of Surabaya Warmadewanthi, Pusat Penelitian Infrastruktur dan Lingkungan Berkelanjutan, Laboratorium Sampah dan Limbah B3 ITS Surabaya

Plastic Waste Generation in Jakarta Bay Area

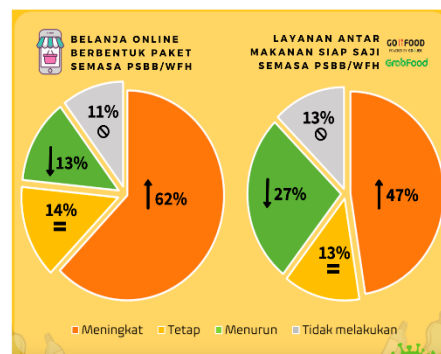


- Plastic waste was monitored in the rivers that flew to Jakarta Bay during coronavirus pandemic in March and April 2020.
- During monitoring, plastic waste was discharged into the rivers increased significantly both by weight and volume.
- Composition of waste in the rivers was dominated by plastic, 46% by volume and 57% by weight.
- Used medical appliances such as mask, glove, and hazmat suit were found in the rivers as a *new type* of plastic waste that accounted of 15-16%.

Source: Unprecedented plastic-made personal protective equipment (PPE) debris in river outlets into Jakarta Bay during COVID-19 pandemic Muhammad Reza Cordova, Marindah Yulia Iswari, Intan Suci Nurhati Ety Riani, dan Nurhasanah <https://www.sciencedirect.com/science/article/pii/S004565352033558X>

Online Shopping: Surging Plastic Waste

- Online shopping is booming during coronavirus pandemic that caused surging of plastic waste from wrapping items, food container, cup and plastic bag.
- Based on P2O LIPI research conducted in April to May 2020 showed that:
 - ✓ Online shopping in form of packaged items increased by 62% dan food delivery increased by 47%
 - ✓ Frequency of online shopping increased double-fold from 5 times/day to 10 times/day
 - ✓ 96% of online shopping package was contained, wrapped and carried using single-use and disposable plastics



Use of plastic bag at modern retail in 2015 as amount of 9.85 billion pieces and increased by 870 million pieces in 2018.

Source: MOEF 2015 & 2018



Source: Drive Clean Action 2018

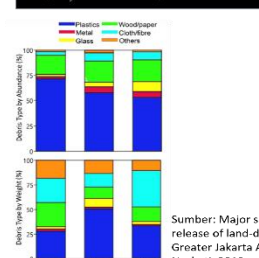


Source: Beach clean up by One Voice One Island Bali, Januari 2019



Research on Plastic Waste & Marine Litter in Indonesia

Result of beach clean up in Bali Island:
 ❖ Collected marine plastic 30 tons at once
 ❖ Type of marine plastic was dominated by: snack wrapping 22%, bottle and cup 16%, plastic bag 15%, straw 12%, cigarettes butt 8%, and others 9%



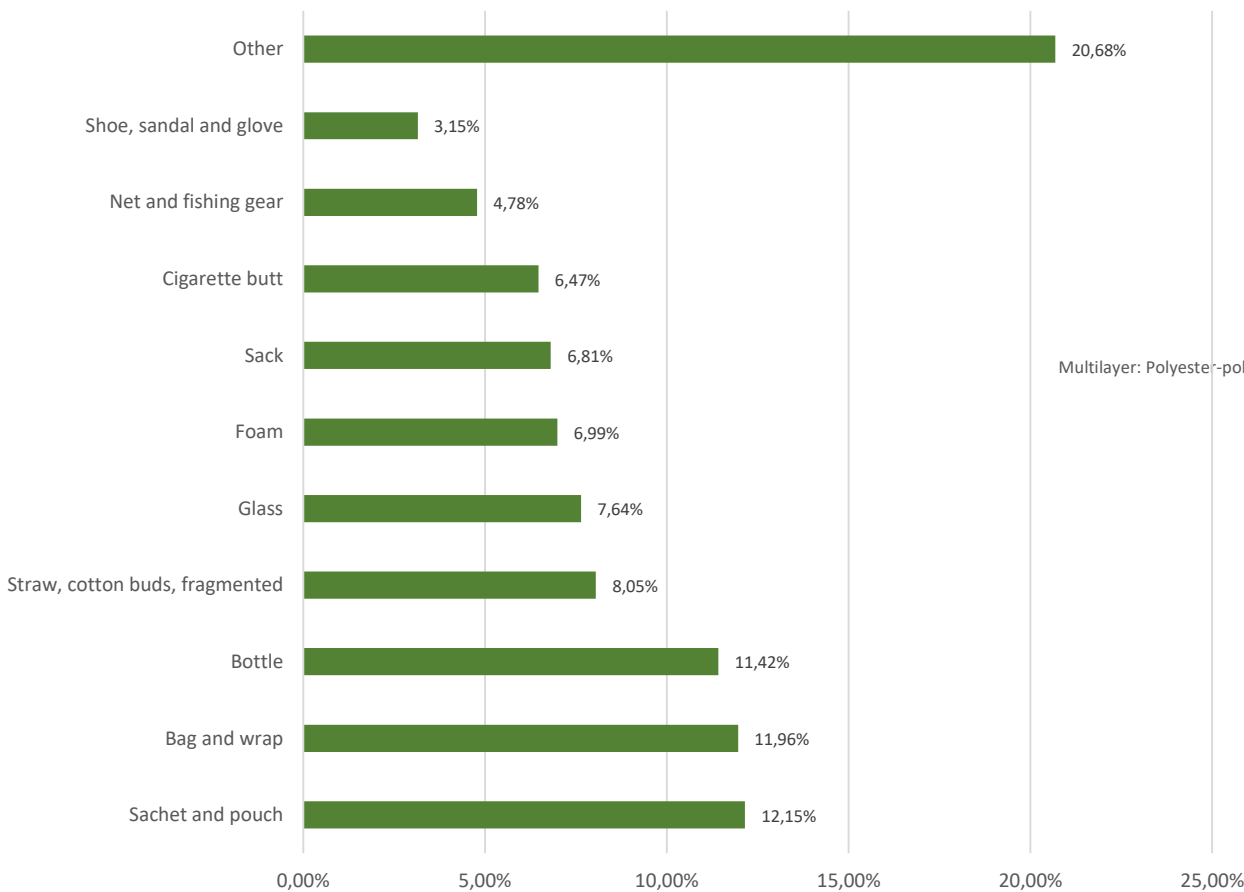
Research on plastic and microplastics in the Ocean conducted by P2O LIPI 2018 showed:
 • Carried out in 18 common locations, 13 locations of microplastics in water, 8 locations of microplastics in sediment & 10 locations of microplastics in sea biota
 • MPL generation was estimated 400-600 thousand tons/year
 • Source of MPL was single-use plastic items in form of PET, PP, PS & nilon
 • Microplastics were found in water and sediment at all research locations, mostly in South Sulawesi and Jakarta Bay water area
 • Microplastics were found in 58-89% of anchovy population

Sumber: Major source and monthly variations in the release of land-derived marine debris from the Greater Jakarta Area, M. Reza Cordova & Intan Suci Nurhati, 2019, www.nature.com/scientificreports

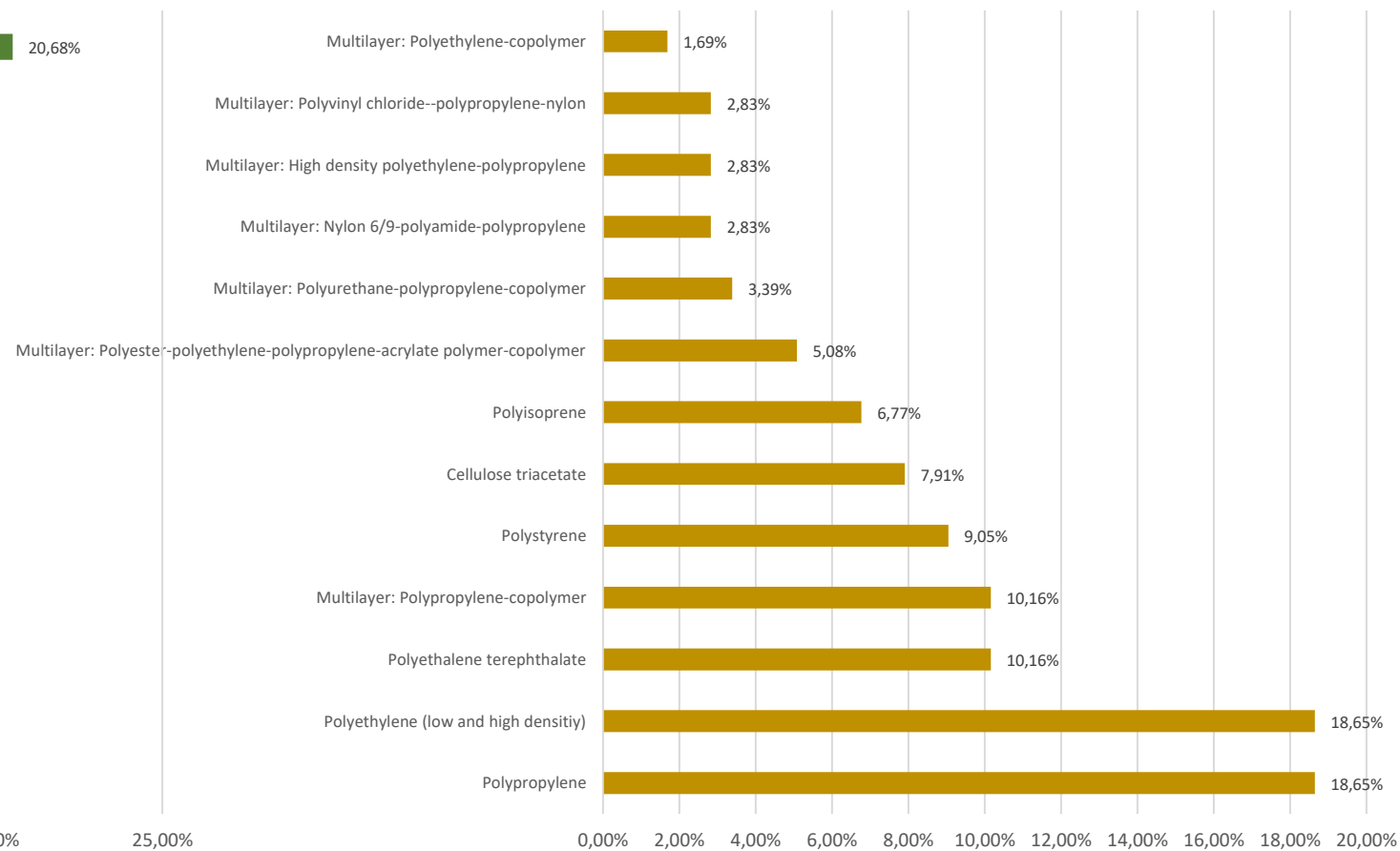


Data and Facts of Plastic Waste and Marine Plastics

Top-ten Marine Plastic Litter in Coastal Area in Indonesia



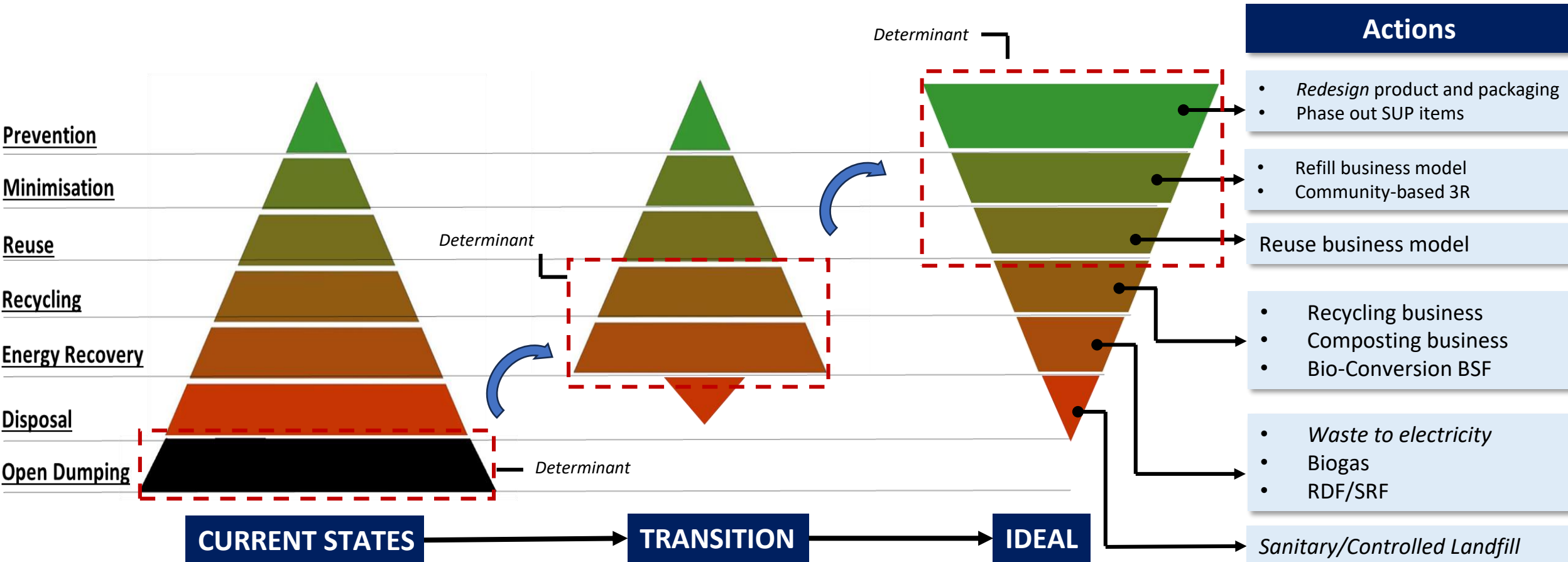
Composition of Marine Plastic Litter by Type of Polymer



Source: Policy Paper on Enhancement of plastic recycling industry as a strategic action for national action plan of marine plastic litter handling (Presidential Regulation 83/2019), Cordova, et al, National Agency for Research and Innovation, 2023



Municipal Solid Waste Management Transformation



- Target Zero Waste Zero Emission 2050
- No open dump sites and landfill only for residual waste
- No development of new landfills
- Capacity building of SSWM including recycling and energy recovery)



National Policy Directive and Target on Municipal Solid Waste Management

Policy Directive (Law No. 18/2008 and Govt. Regulation No. 81/2012)

SHIFTING THE PARADIGM



- WASTE AS POLLUTANT LOADS
- NO WASTE REDUCTION
- NO WASTE TO RESOURCE
- NO RESOURCE EFFICIENCY
- FULL VIRGIN RESOURCE EXTRACTION
- LINIER ECONOMY: MAKE-USE-DISPOSE



- REDUCE WASTE AS POLLUTANT LOADS
- REDUCTION AT SOURCE
- WASTE TO RESOURCE
- RESOURCE EFFICIENCY
- LIMIT VIRGIN RESOURCE EXTRACTION
- PRODUCER RESPONSIBILITY



- ELIMINATE SINGLE-USE PLASTIC ITEMS, DESIGN FOR REUSE & RECYCLE
- MAKE WASTE A NEW LIFE AS LONG AS POSSIBLE
- ACHIEVE SUSTAINABLE CITIES AND COMMUNITIES (SDG GOAL NO 11)
- ACHIEVE RESPONSIBLE CONSUMPTION AND PRODUCTION (SDG GOAL NO 12)

National Policy and Strategy of Solid Waste Management Target 2018–2025 (Presidential Regulation No. 97/2017)

Indicator	2018	2019	2020	2021	2022	2023	2024	2025
Waste generation (mil tons)	66.5	67.1	67.8	68.5	69.2	69.9	70.6	70.8
Waste reduction target (mil tons)	12 (18%)	13.4 (20%)	14 (22%)	16.4 (24%)	17.99 (26%)	18.9 (27%)	19.7 (28%)	20.9 (30%)
Waste handling target (mil tons)	48.5 (73%)	50.3 (75%)	50.8 (75%)	50.7 (74%)	50.5 (73%)	50.3 (72%)	50.1 (71%)	49.9 (70%)



National Target: Solid Waste Management and Marine Plastic Litter

30% REDUCTION AT SOURCE
BY 2025

INDICATORS:

1. DECREASING WASTE GENERATION PER CAPITA
2. REDUCING WASTE AT SOURCE (COMMUNITY-BASED 3R)
3. REDUCING WASTE OF GOODS & PACKAGING (PRODUCER RESPONSIBILITY)

70% PROPER HANDLING
BY 2025

INDICATORS:

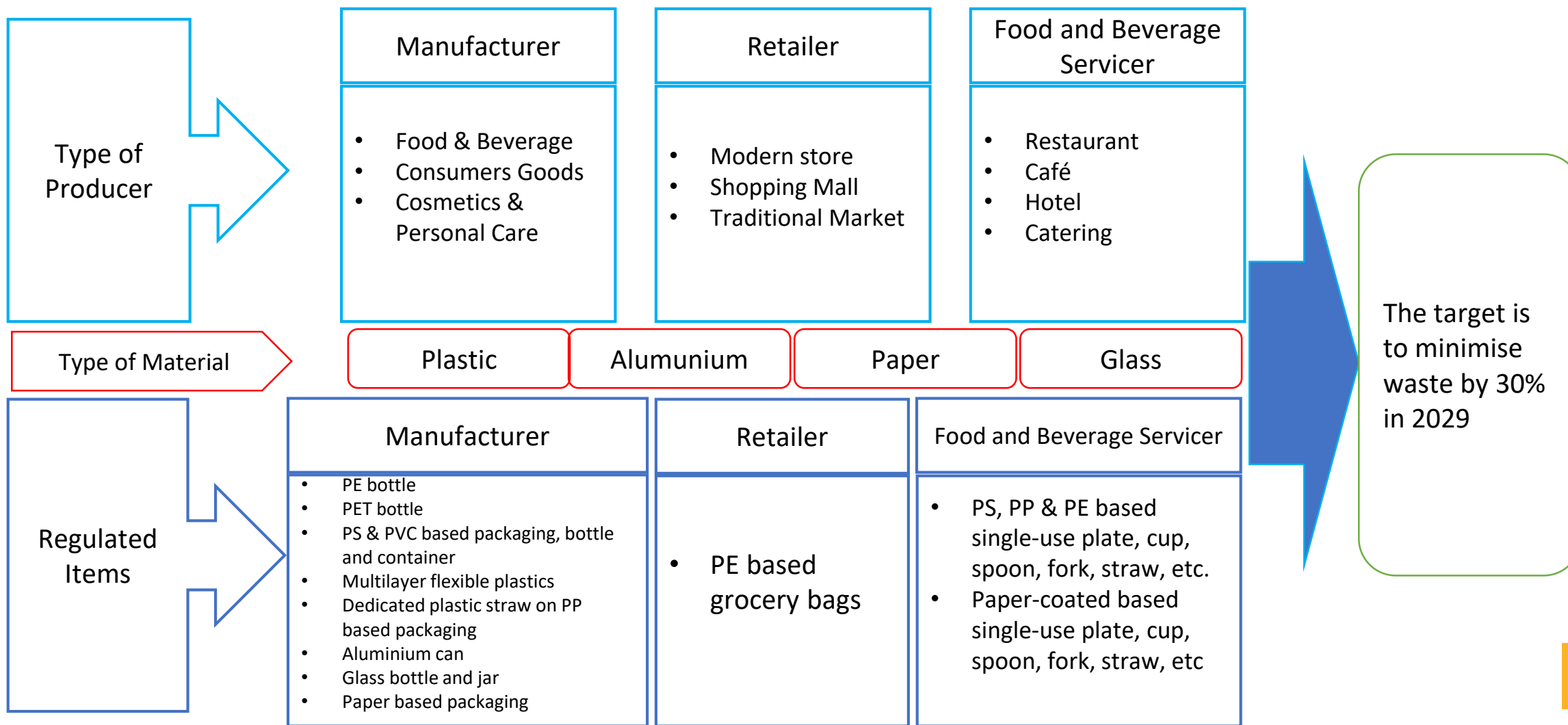
1. INCREASING WASTE TO BE TREATED (RECYCLING, COMPOSTING, BIOGAS, THERMAL RECOVERY, RDF, ETC)
2. REDUCING WASTE TO BE LANDFILLED
3. REDUCING WASTE LEAKAGE TO ENVIRONMENT

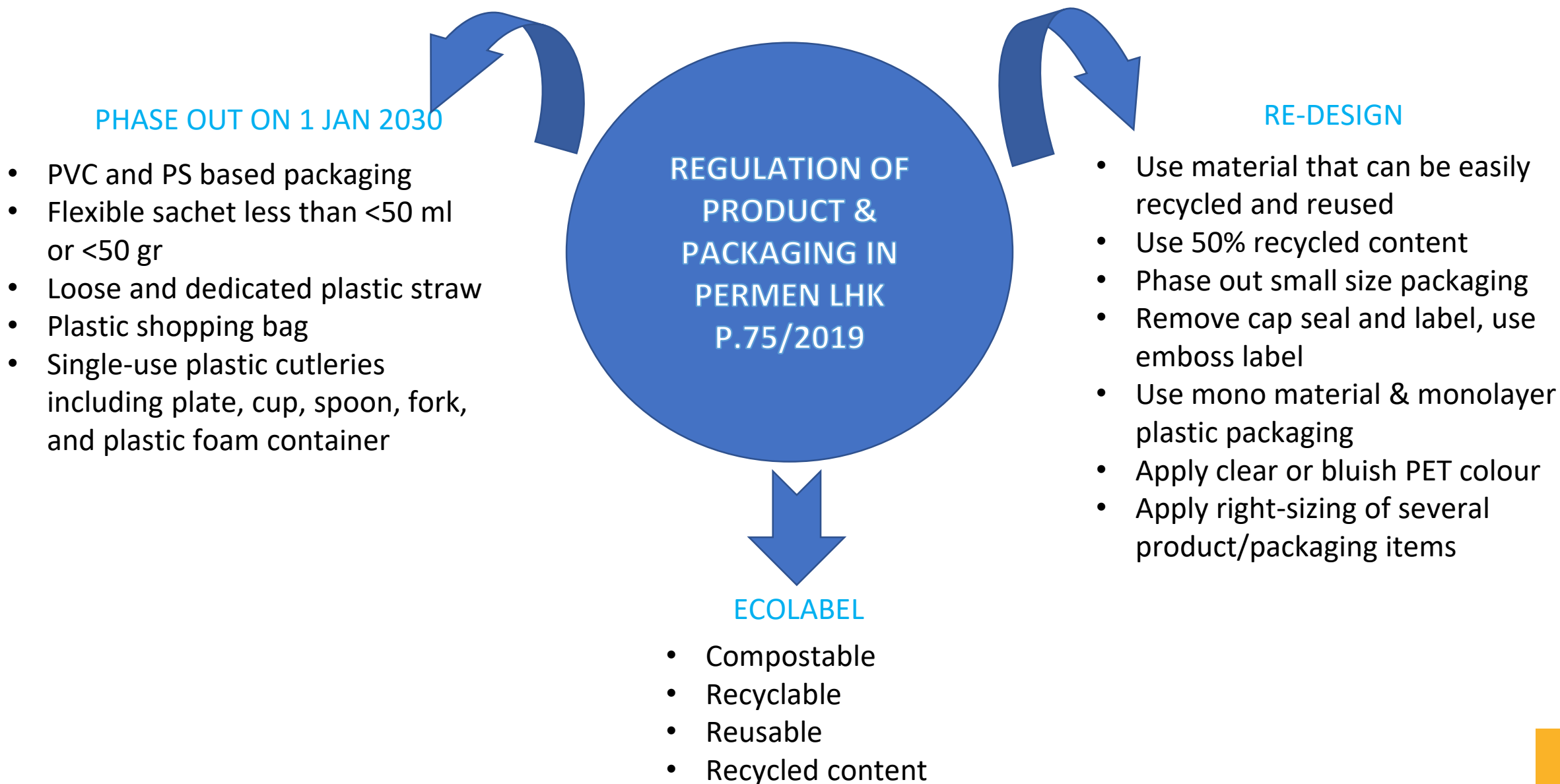
Achieving the goal

REDUCED
70% MARINE
PLASTIC BY
2025



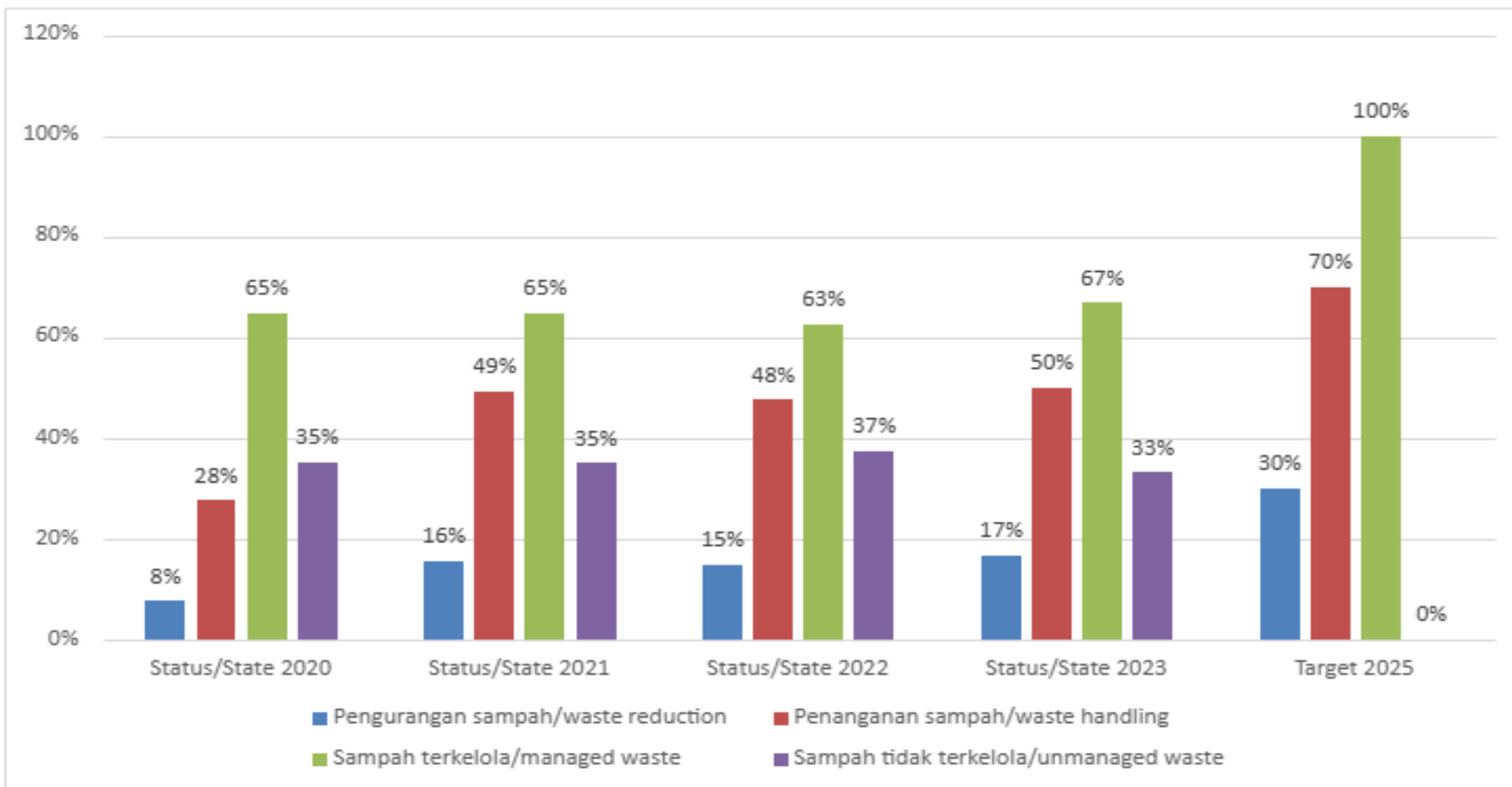
Roadmap of Solid Waste Reduction by Producer 2020-2029 (Ministry of Environment and Forestry Regulation P.75/2019)





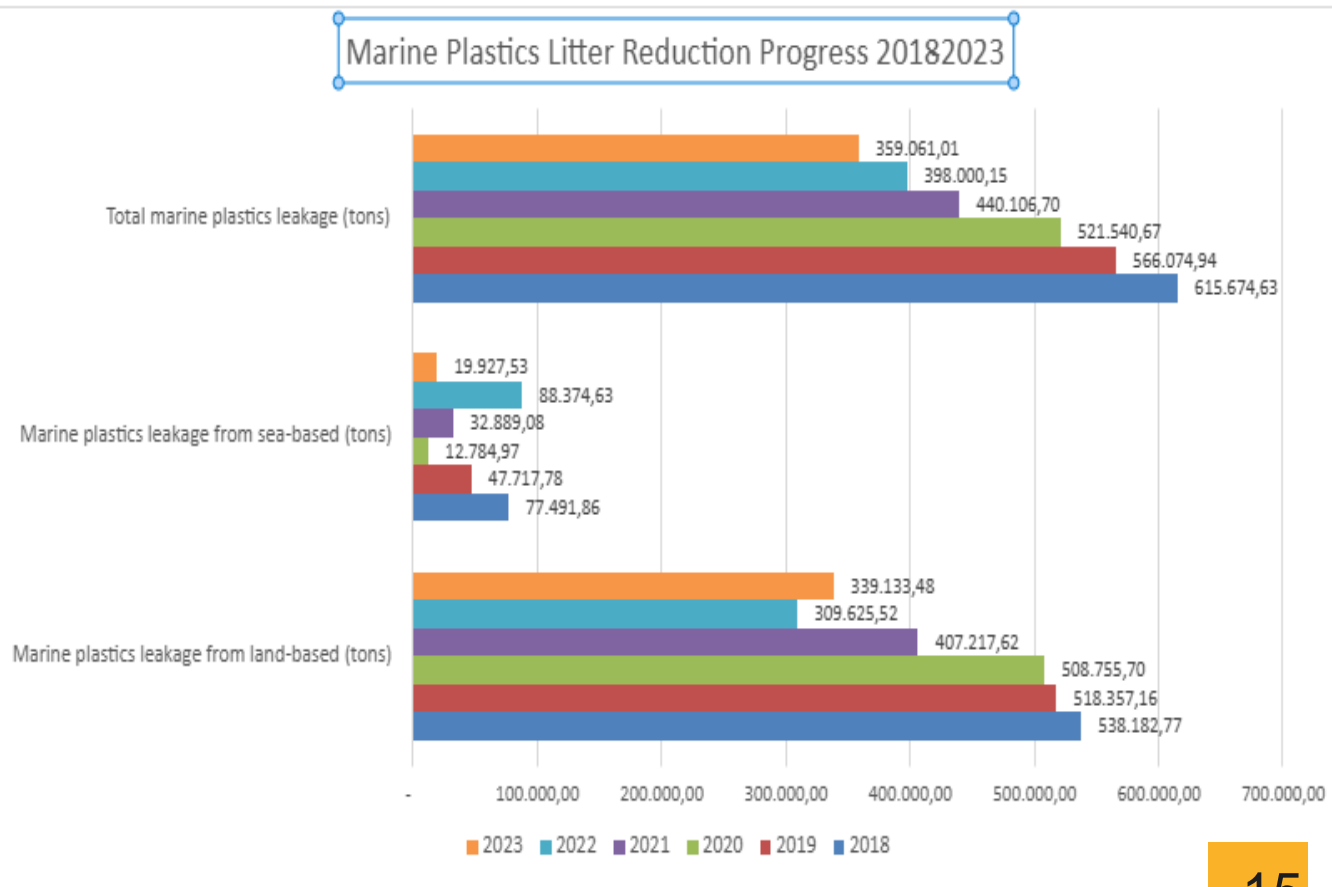
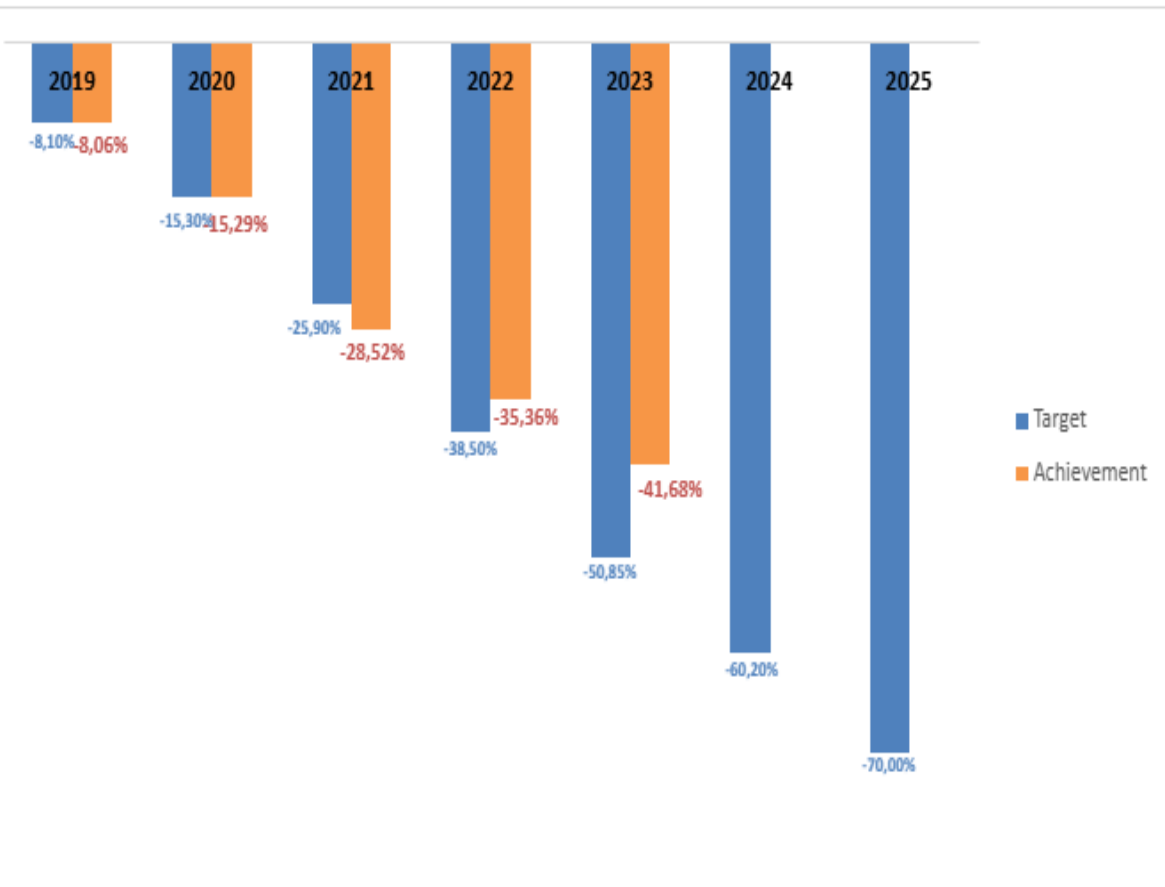


National Performance of Municipal Solid Waste Management





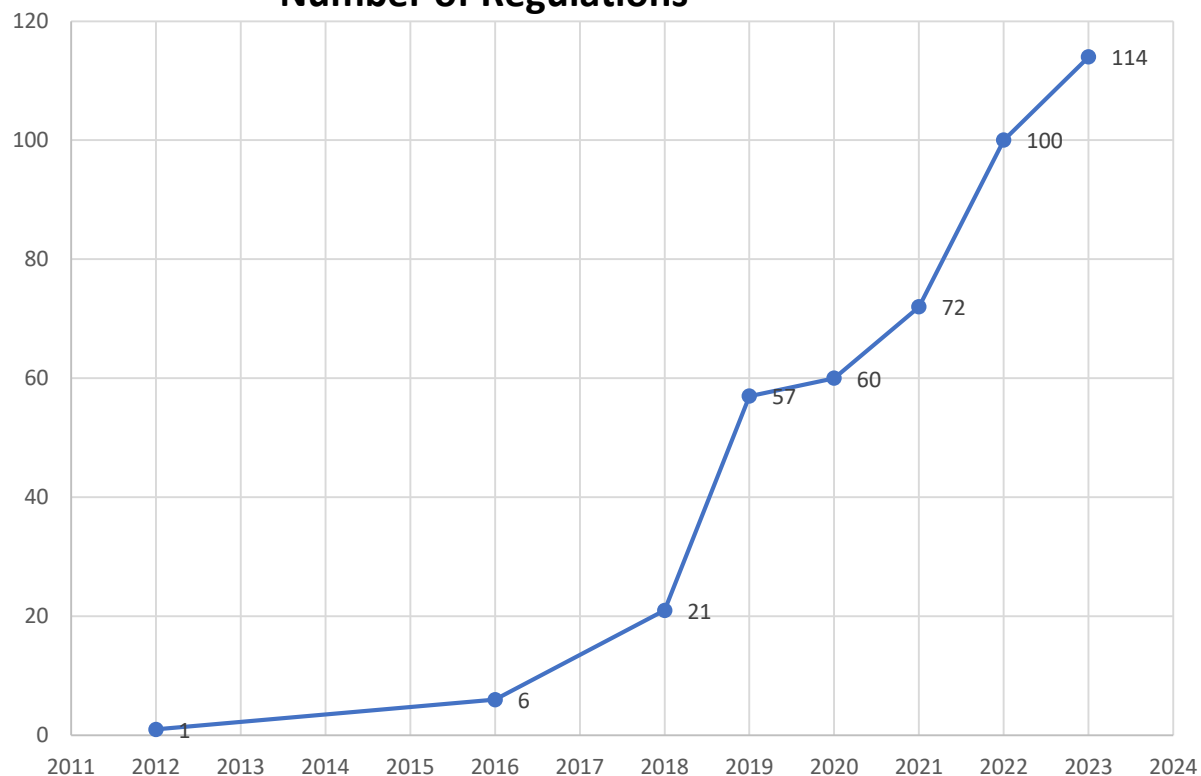
Target and Achievement of Marine Plastics Litter Reduction in Indonesia



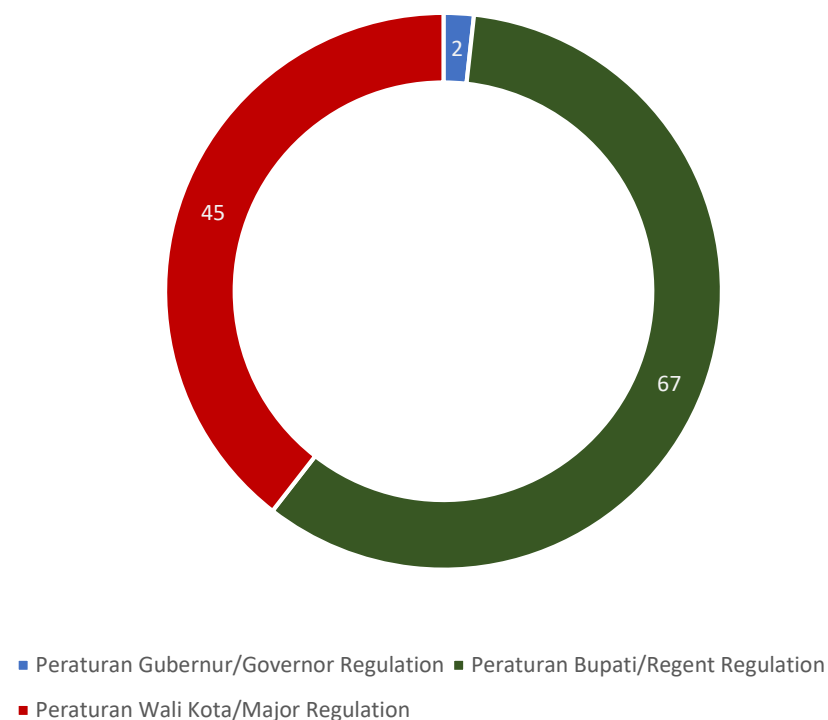


TREND OF LOCAL POLICY ON SINGLE-USE PLASTIC RESTRICTION

Number of Regulations



Type of Regulations





ECONOMIC OPPORTUNITIES FROM SUSTAINABLE WASTE MANAGEMENT

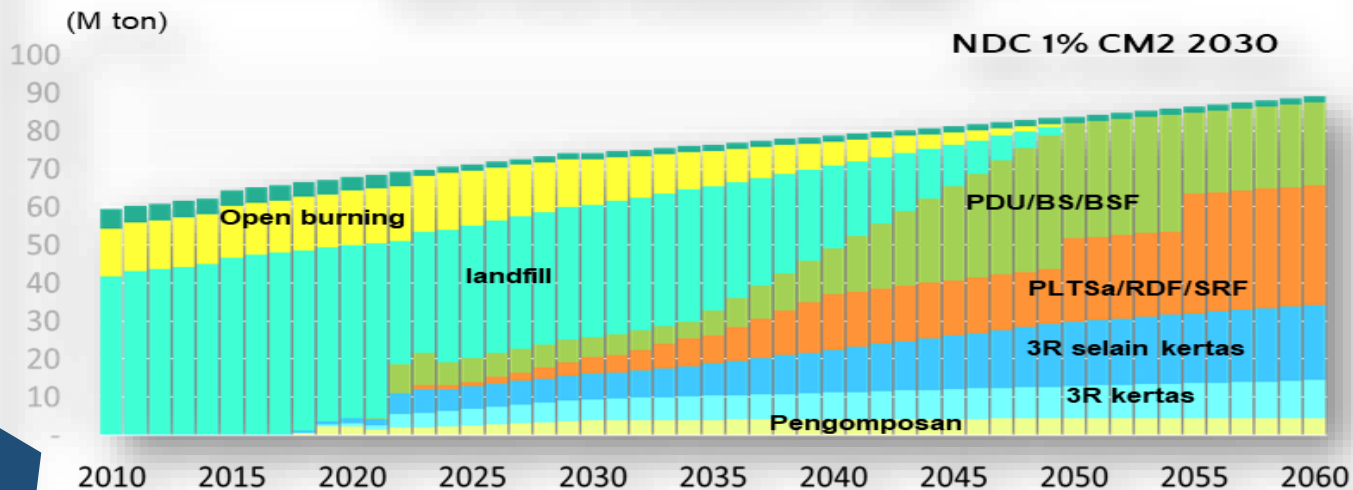
Estimated waste generation
56.6 mil tons

Waste managed
64,52%

Economic opps:
± Rp 426 mil

Zero Waste & Zero Emission

Near Zero Waste 2050 Untuk Mencapai Net Zero GHG Emissions 2060



Rp 1,44 Trillion

5 MSW Business

- Waste managed at 36 TPSTs: **27.886 tons**
 - Waste managed at 175 composting halls: **16.105 tons**
 - Waste managed at 22 PDUs: **18.689 tons**
 - Managed waste at 282 TPS3Rs: **87.574 tons**
 - Waste managed at 1 RDF: **50.804 tons**
 - Waste managed at 2 WTEs: **6.036 tons**
- Source: SIPSN, 2022

PRODUCERS

1

Producer responsibility:
16 businesses

Waste reduced:
1,146 tons

Target producers: **353 businesses**

COMMUNITY (BANK SAMPAH)

2

Amount: **14.457 units**

Registered accounts:
403.197

Waste managed:
460,555 tons/year

Economic benefits:
Rp. 5.1 bilion

WASTE PICKER

3

INFORMAL SECTOR

Amount:
15.325 persons (in 44 cities)

Waste managed:
10–20 kg/person/day

Omzet per person in average:
Rp. 2-5 mil/mo

AGGREGATOR

Waste managed:
200–700 kg/day

Omzet in average:
Rp. 30-60 mil/mo

4

SOCIAL ENTREPRENEURSHIPS

Units : **176**

Managed waste per unit:
50 tons/mo

Omzet in average: **Rp. 2 bil/mo**



Ministry of Environment/
National Agency for Environmental Control

THANK YOU
TERIMA KASIH