



COORDINATING MINISTRY FOR MARITIME AFFAIRS
REPUBLIC OF INDONESIA

Improving Solid Waste Management Capacity as a tool for combating Marine Plastic Debris Issue

NATIONAL CONFERENCE ON WASTE TO ENERGY:
“Best International Practices in Waste Management and Waste to Energy Implementation“
Jakarta, 11 – 12 September 2017

Safri Burhanuddin
Deputy Minister for Human Resources, Science and Technology, and Maritime Culture

Jakarta, 11 September 2017

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INDONESIA

1. Largest archipelagic state in the world, with more than 17.000 islands
2. 6 million square km of waters, more than 91.000 km of coastal lines
3. Three time zones
4. 10 neighboring countries
5. Home of 23 % of global mangroves
6. Home of 30.000 km² Seagrass
7. Home of 75% of all known marine life
8. 4 Critical Choke Points for global navigations



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CHALLENGES



1. **Fight Poachers**
2. **Armed Robbers at Sea,**
3. **Hijackers at Sea**
4. **Slavery at Sea,**
5. **People Trafficking at Sea,**
6. **Mitigating Climate Change Effect,**
7. **Governmental Services to Remote Islands**
8. **Health of The Ocean**

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CHALLENGES: Health of the Ocean

OIL SPILL

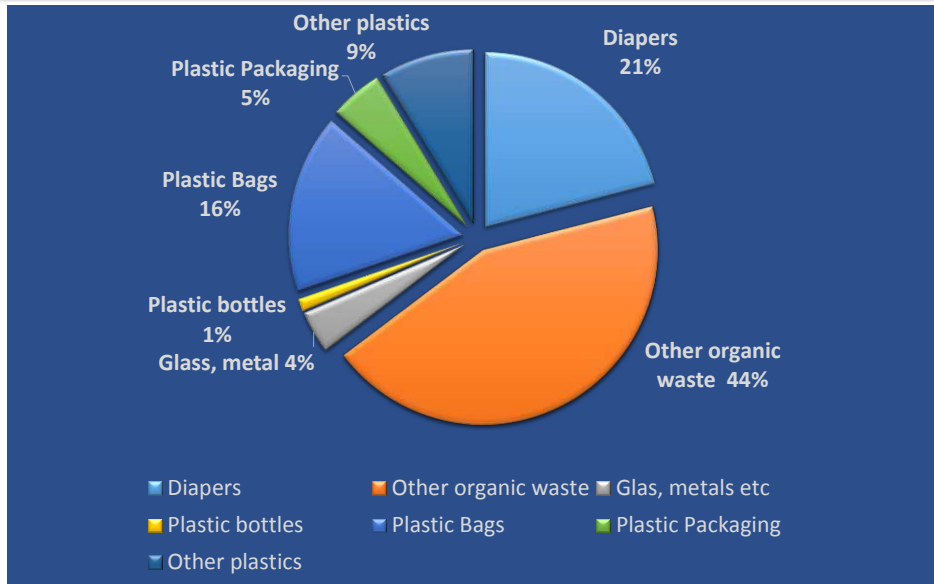
SLUDGE OIL

OIL POLLUTION FROM FIXED PLATFORM

MARINE LITTER

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COMPOSITION OF INDONESIAN MARINE LITTER



Source: World Bank 2017

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MARINE PLASTIC DEBRIS - CONSEQUENCIES



TOURISM : MARINE PLASTIC DEBRIS, INVADING MORE AND MORE TOURISM AND COASTAL AREAS



ENVIRONMENT AND MARINE LIFE : MILLIONS OF MARINE LIFE THREATENED BY MARINE PLASTIC DEBRIS

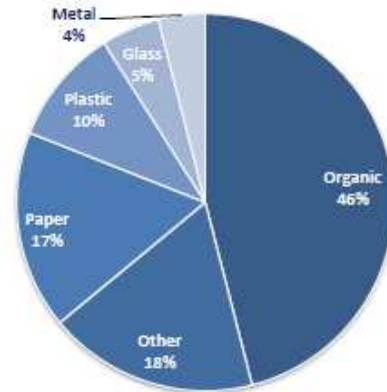


HUMAN HEALTH : IT WAS FOUND THAT MORE THAN A THIRD OF SAMPLED COMMERCIAL FISH CONSUMED PLASTIC OR MICROPLASTICS

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COMPOSITION OF GLOBAL MSW

Source / type	Composition	
Municipal solid waste (MSW)	Residential	Food wastes, paper, cardboard, plastics, textiles, leather, yard wastes, wood, glass, metals, ashes, special wastes (e.g. bulky items, consumer electronics, white goods, batteries, oil, tyres), household hazardous wastes, e-wastes.
	Industrial	Housekeeping wastes, packaging, food wastes, wood, steel, concrete, bricks, ashes, hazardous wastes.
	Commercial & institutional	Paper, cardboard, plastics, wood, food wastes, glass, metals, special wastes, hazardous wastes, e-wastes.
	Construction & demolition	Wood, steel, concrete, soil, bricks, tiles, glass, plastics, insulation, hazardous waste.
	Municipal services	Street sweepings, landscape & tree trimmings, sludge, wastes from recreational areas.
Process waste	Scrap materials, off-specification products, slag, tailings, top soil, waste rock, process water & chemicals.	
Medical waste	Infectious wastes (bandages, gloves, cultures, swabs, blood & bodily fluids), hazardous wastes (sharps, instruments, chemicals), radioactive wastes, pharmaceutical wastes.	
Agricultural waste	Spoiled food wastes, rice husks, cotton stalks, coconut shells, pesticides, animal excreta, soiled water, silage effluent, plastic, scrap machinery, veterinary medicines.	



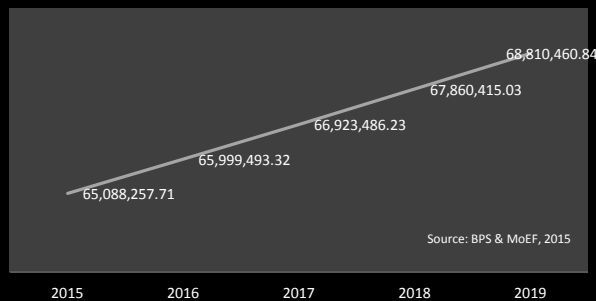
Municipal Solid Wastes

Source: World Energy Council 2016

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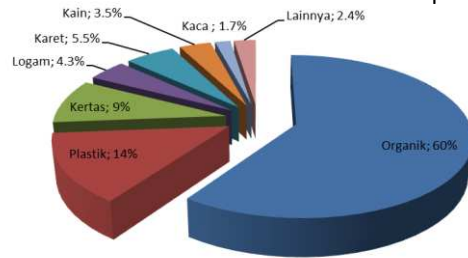
Indonesia SWM State

Projection of SW Generation



Source: BPS & MoEF, 2015

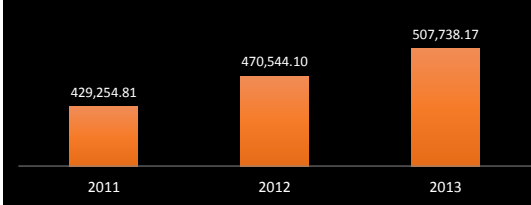
SW Composition



Source: Program Adipura, 2013

SW Management	State (%)
Landfilled	69%
Buried (traditionally)	10%
Composted and recycled	7.5%
Burned (openly)	5%
Un-managed	8.5%

Trend of Plastic Waste Generation in Several Big Cities (m3)



Source: Program Adipura, 2013

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COMMITMENT



Indonesia is to reduce wastes through **reduce-reuse-recycle** up to 30% until 2025, while targeting reduction of marine plastic debris as much as **70% by 2025**

President Joko Widodo, at the Leaders Retreat, G20 Summit, Hamburg-Germany, Friday July 7th, 2017

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INDONESIA'S ACTIONS

COORDINATING MINIST
FOR MARITIME AFFAIRS
REPUBLIC OF INDONESIA

Launched Presidential Decree of The Republic of Indonesia, No.16 of 2017 on INDONESIA OCEAN POLICY, February 2017

EXECUTIVE SUMMARY
INDONESIA'S PLAN OF ACTION ON MARINE PLASTIC DEBRIS 2017-2025

Established National Plan of Action on Marine Plastic Debris (2017-2025). May 2017

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1. PROMOTING BEHAVIORAL CHANGE



- EDUCATING YOUNG PEOPLE
- INCREASING STAKEHOLDER AWARENESS
- INTER GOVERNMENTAL COLLABORATION
- CROSS SECTOR COLLABORATION
- CHALLENGING OF ELIMINATING PLASTIC WASTE

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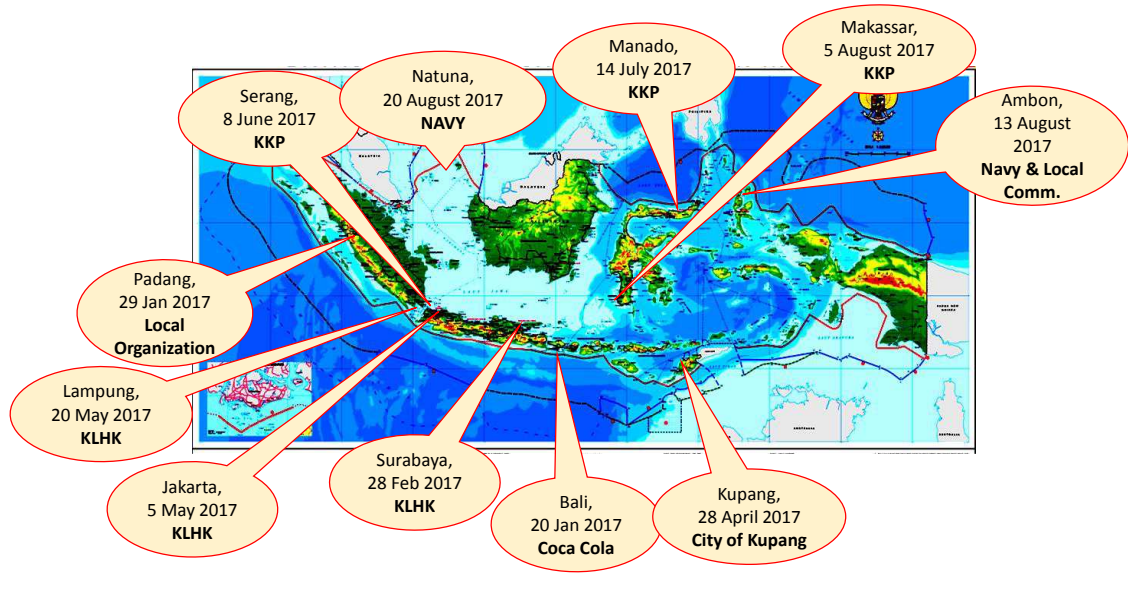
CAMPAIGN ON COMBATTING MARINE PLASTIC DEBRIS



Attended by more than 200 high school, college students and communities at @America, JAKARTA

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COORDINATED CLEAN-UP ACTIONS



2. REDUCING LAND-BASED LEAKAGE

JAKARTA CLEAN-UP ACTION



- **PLASTIC DEBRIS COME FROM HOUSINGS, CITY STREETS CARRIED INTO THE OCEAN THROUGH CANAL**
- **MARINE POLLUTION TO SEA LIFE, ECOSYSTEM AND HUMAN**



Cilincing - North Jakarta, May 4th 2017

CANAL CLEAN-UPS, May 6th, 2017



Minister Luhut Pandjaitan leads the Canal Clean Ups



Supported by foreign embassies (USA, Danish, Belgium, S. Korea)

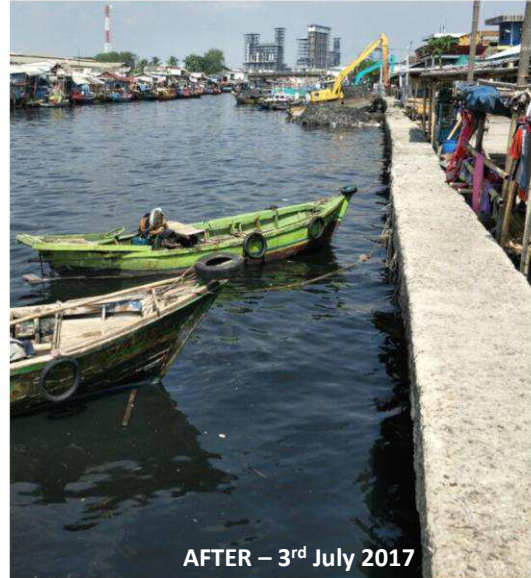
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Example Case – Cilincing Canal Clean Up, 2017



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CANAL CLEAN-UPS, before & 6 weeks later



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3. REDUCING SEA-BASED LEAKAGE

BEACH CLEAN-UPS



- GARBAGES COULD COME FROM MANY PLACES
- NEED BILATERAL AND REGIONAL COLLABORATION
- IMPROVING RELEVANT TECHNOLOGY FOR MONITORING AND COLLECTING THE PLASTIC DEBRIS FROM THE OCEAN

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4. LAW ENFORCEMENT, FUNDING MECHANISM, R & D, INSTITUTIONAL EMPOWERMENT

- INTRODUCING PAID PLASTIC BAG
- ENCOURAGING MANUFACTURERS TO USE RECYCLED PLASTICS AS INPUT MATERIALS AS MUCH AS POSSIBLE
- PRODUCING MORE BIODEGRADABLE PLASTICS FROM CASSAVA, SEAWEED AND PALM OIL
- DEVELOPING PLASTIC-TAR ROAD (started June 2017)
- **WASTE TO ENERGY SOLUTION**



INNOVATION

PLASTIC-TAR ROAD



ENHANCING FUNDING MECHANISMS, POLICY REFORM AND LAW ENFORCEMENT

FINANCING PLAN: 1ST PHASE

- Indonesia is structuring a budget to address the land-based management of wastes over a period of four years with financing of up to **One Billion USD**
- Policy Reform based on NPOA
- Law Enforcement



We hope to have more foreign investments in the waste to energy solution

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NPOA IMPLEMENTATION STRATEGIES



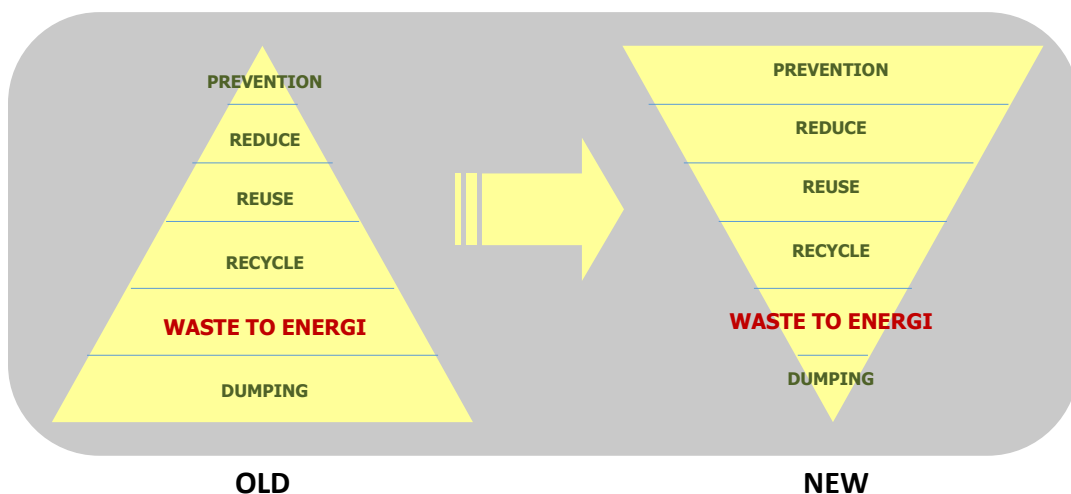
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5 STRATEGIES OF NATIONAL PLAN OF ACTION

- (a) **local authorities** - to take care of the waste management properly and reduce the amount of plastic waste leaking to the ocean.
- (b) **national level** - Indonesia is promoting paradigm change within the society towards plastic waste and to respect the coastal areas through education curriculum and campaign, waste to energy, paid plastic bag, plastic debris as asphalt mix for "plastic-tar road",
- (c) **international level** - Indonesia has been working with the World Bank, some donors and organize East Asia Summit Conference on marine plastic debris, on 6-7 September 2017 in Denpasar BALI, while also had executed discussions on this matter under the Indian Ocean Rim Association.
- (d) **industrial sector** - designed to encourage these manufacturers to use recycled plastics as input materials as much as possible, while at the same time producing more biodegradable plastics.
- (e) involvement of **academics and community service organization (CSO)** for new and efficient technologies to cope with the problem, such as recycling technologies, and waste for energy and so on into practice.

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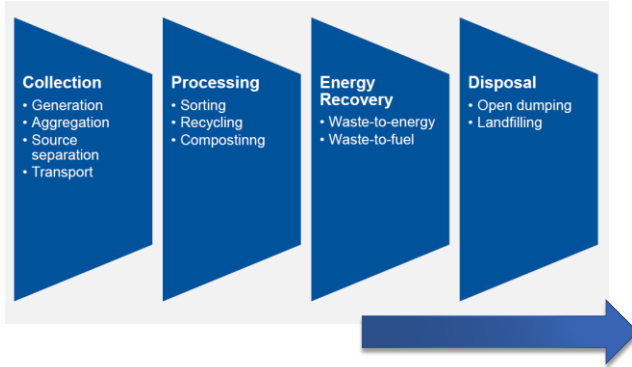
NEW PARADIGMA OF WASTE MANAGEMENT



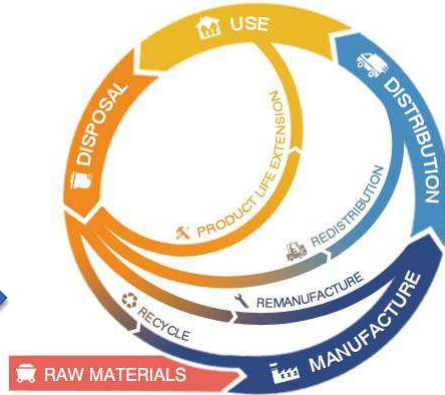
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MANAGEMENT VALUE CHAIN FOR MUNICIPAL SOLID WASTE



Circular Economy Principle



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THANK YOU