In Collaboration with KAI

Pengelolaan Sampah di Indonesia & Kenapa Kita Harus Perduli

Presented by Saka Dwi Hanggara

19 Juli 2024

www.waste4change.com

Presentation Outline

- Mengenal Sistem Pengelolaan Sampah di Indonesia
- Akar Masalah Persampahan Indonesia
- Solusi Pengelolaan Sampah
- Peran Kita dalam Pengelolaan Sampah

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KONDISI PENGELOLAAN SAMPAH DI INDONESIA

270 juta penduduk Indonesia

Sumber: BPS, 2020

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Indonesia menghasilkan sampah

185.753 ton/ hari

Sumber: KLHK, 2020

68,7 juta ton/ tahun

Sumber: KLHK, 2022

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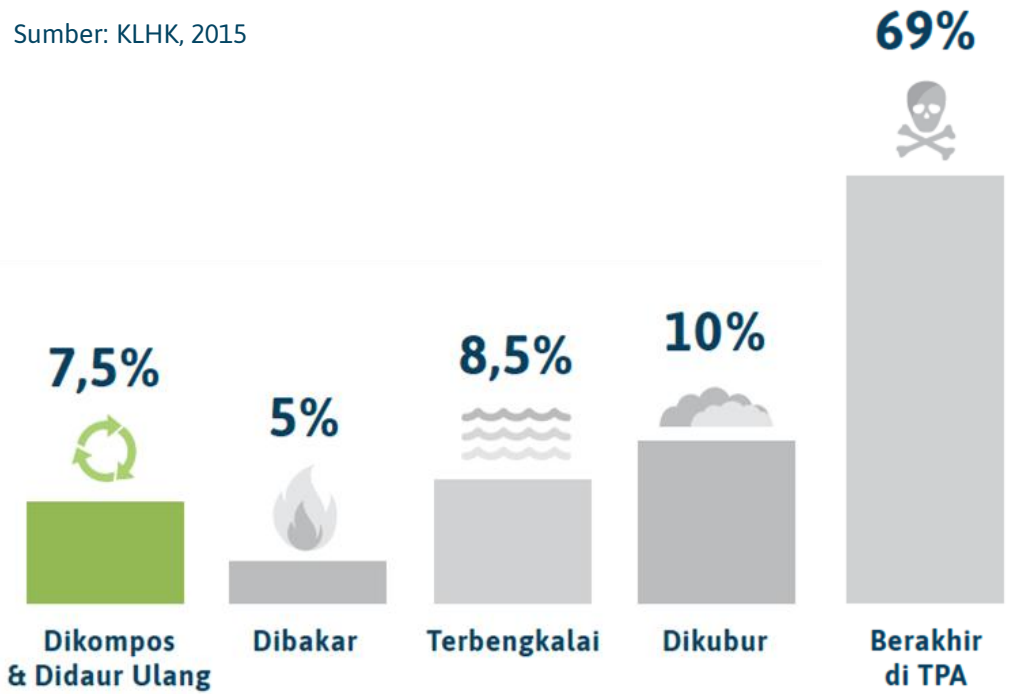
Pengelolaan Sampah di Indonesia

Sumber: KLHK, 2015



Sumber: BPS, 2014

Tingkat **pemilahan sampah yang rendah** menjadi salah satu faktor yang menyebabkan **rendahnya tingkat daur ulang** sampah.

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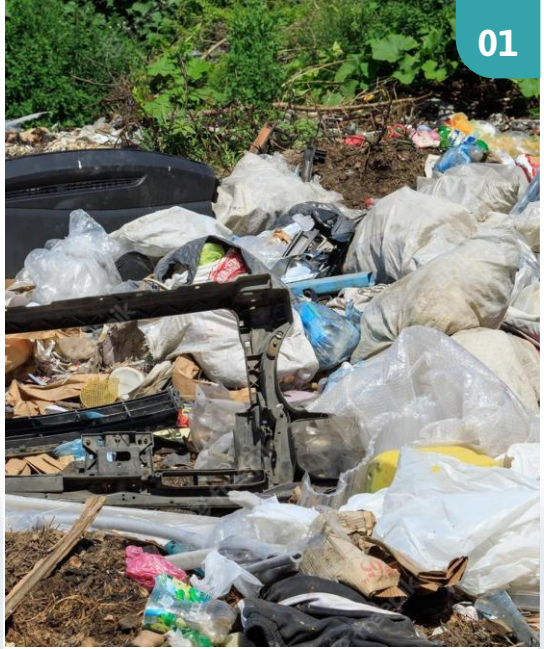
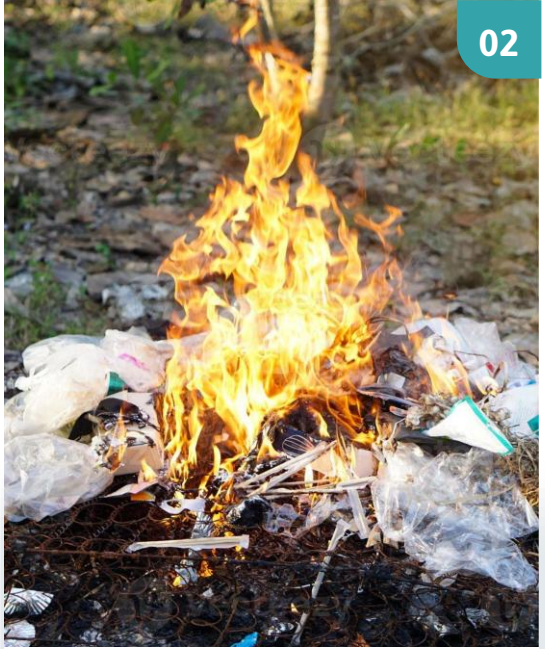
01



Dikubur

- mengganggu penyerapan air
- mengganggu kehidupan organisme tanah
- menyebabkan penurunan kesuburan tanah
- mencemari air tanah

02



Dibakar

- menghasilkan emisi udara
- Pembakaran plastik menghasilkan Dioksin yang bersifat karsinogenik, artinya berpotensi menyebabkan kanker
- menghilangkan nilai material

03

Tidak terkelola
(lepas ke lingkungan)

- 8 juta ton sampah berakhir di laut setiap tahun
- 80% sampah yang berakhir di laut berasal dari darat
- berdampak negatif pada mahluk hidup lain dan menyebabkan penurunan kualitas lingkungan hidup

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BAKAR SAMPAH: SOLUSI ATAU POLUSI?

Pembakaran sampah terbuka merupakan aktivitas pembakaran yang tidak terkontrol sehingga menghasilkan zat kimia dan polutan yang berbahaya bagi lingkungan. Aktivitas ini dilakukan secara sengaja, tanpa izin (ilegal), dan tidak menggunakan teknologi atau bangunan khusus.

240,25 Gg/Tahun

Estimasi sampah terbakar secara tidak terkontrol di wilayah Jabodetabek

12.627,34
Gg/Tahun
Emisi CO_2 dari aktivitas pembakaran sampah di wilayah Jabodetabek

7,21
Gg/Tahun
Emisi PM 10 yang dihasilkan dari aktivitas pembakaran di wilayah Jabodetabek

2,35
Gg/Tahun
Emisi PM 2,5 yang dihasilkan dari aktivitas pembakaran di wilayah Jabodetabek

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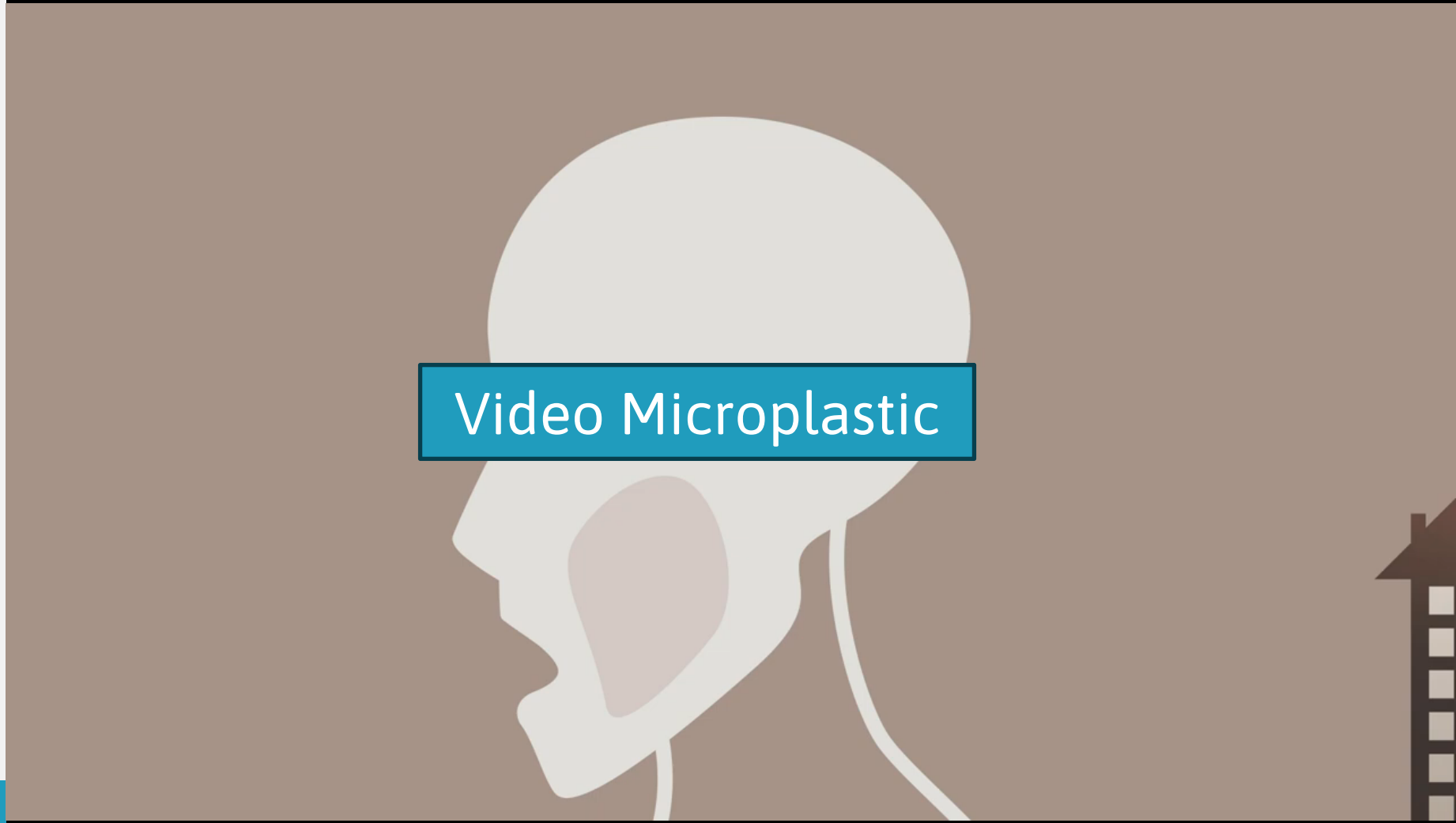

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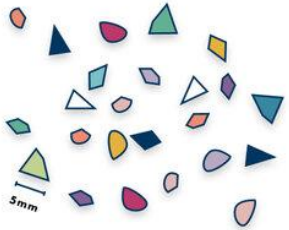
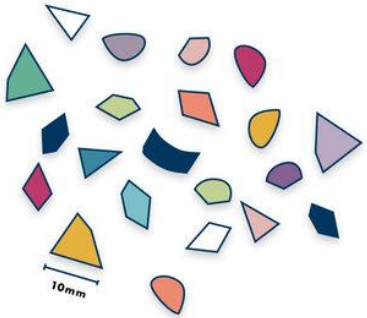
PLASTICS BY SIZE



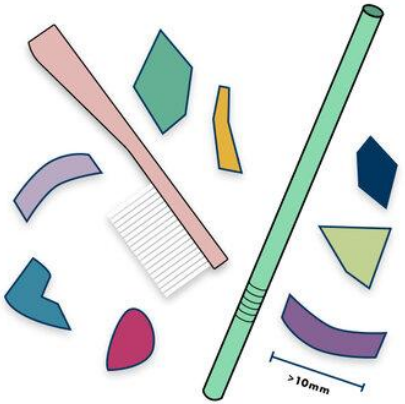
MICRO

<5mm at longest edge



MESO

5-10mm at longest edge



MACRO

>10mm at longest edge

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Manusia mulai
merasakan langsung dampak sampah

Microplastics revealed in the placentas of unborn babies

Health impact is unknown but scientists say particles may cause long-term damage to foetuses

▲ One charity said: 'Babies are being born pre-polluted.' Photograph: Zffoto/Getty Images/iStockphoto

Microplastic particles have been revealed in the placentas of unborn babies for the first time, which the researchers said was "a matter of great concern".

Microplastics found in human blood for first time

Exclusive: The discovery shows the particles can travel around the body and may lodge in organs

Microplastics cause damage to human cells in the laboratory. Photograph: David Kelly/Photograph David Kelly

Microplastic pollution has been detected in human blood for the first time, with scientists finding the tiny particles in almost 80% of the people tested.

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04

Tempat Pemrosesan Akhir

- menghasilkan gas rumah kaca yang mendorong pemanasan global
- mencemari air tanah
- gangguan kesehatan bagi warga sekitar
- korban jiwa
- suatu saat akan *overload*

TPA Leuwigajah, Bandung (2005)
Meledak dan longsor pada 21 Februari 2005

Menyebabkan 143 jiwa tewas dan menghapus 2 Desa dari peta

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KENAPA BISA TERJADI?

GUNUNG ES PERMASALAHAN SAMPAH INDONESIA

PERMUKAAN: MASALAH YANG TAMPAK TERJADI

- Marine debris
- Bencana longsor TPA
- Hewan mati akibat plastik
- Kotor, Bau dan Banjir
- Tingginya penyakit Diare dan ISPA

POLA PERILAKU PENGELOLAAN SAMPAH

- Buang sampah sembarang
- Bakar sampah sembarang
- Pola hidup konsumtif
- Tidak membayar iuran/retribusi
- Tidak mengurangi sampah
- Tidak memilah sampah

TATA KELOLA SISTEM PERSAMPAHAN

- Pengumpulan-pengangkutan sampah belum 100%
- Sistem Kumpul-Angkut-Buang hanya memindahkan masalah
- Minimnya edukasi/ pendidikan lingkungan
- Retribusi persampahan yang tidak layak dan adil
- Minimnya upaya penegakan hukum
- Belum terpisahnya regulator & operator pengelola sampah

TATA KELOLA BIROKRASI & POLITIK

- Kebergantungan terhadap komitmen kepala daerah
- Kebijakan berdasarkan politik populis & kelompok
- Kasus KKN/Korupsi pengelolaan sampah
- Penegakan aturan ≠ kebijakan populis
- Tingginya laju perpindahan jabatan
- Minimnya kapasitas pejabat pengelola sampah

NILAI/MORAL/KARAKTER/AKHLAK BANGSA

- Minimnya tingkat kepedulian
- Minimnya kedisiplinan
- Minimnya tanggung jawab
- Hilangnya rasa empati
- Rendahnya tingkat kesadaran
- Karakter/mental koruptor
- Karakter “ga enakan” untuk menegur
- Karakter mau menang sendiri

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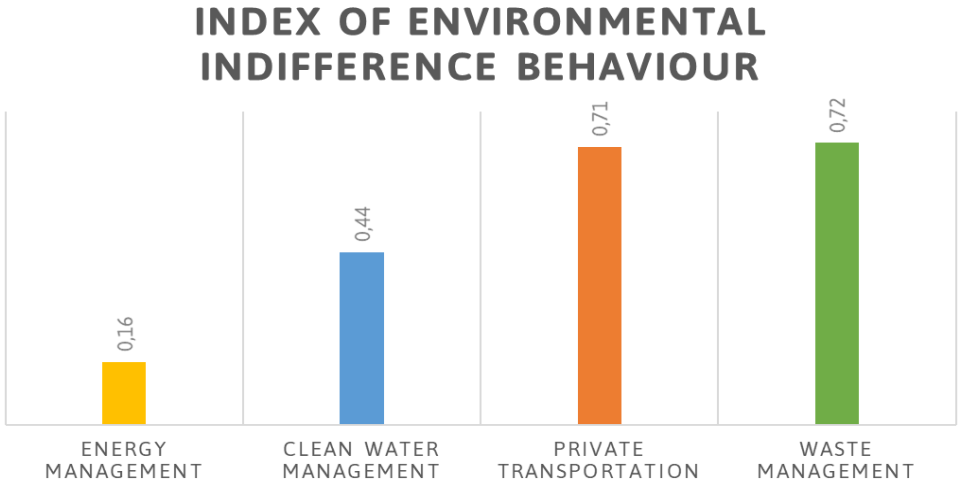
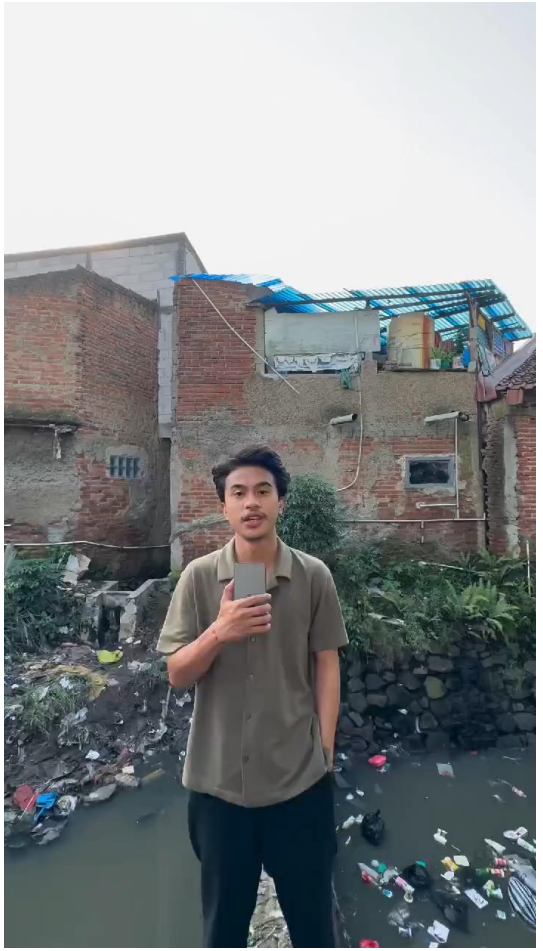
KETIDAKPERDULIAN MASYARAKAT

Mengenai Isu Lingkungan



Source : Badan Pusat Statistik (2017)



Source : @pandawaragroup

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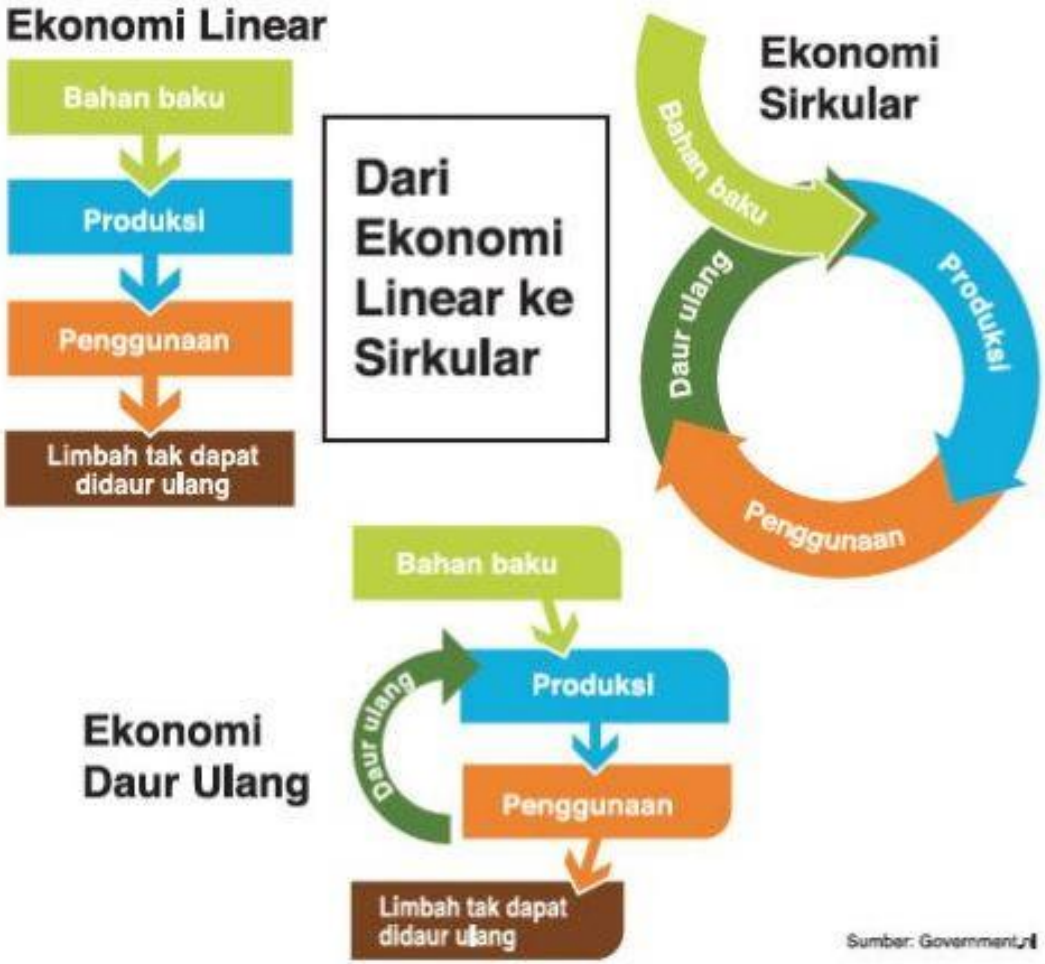
APA SOLUSINYA?



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Solusi Pola Perilaku Masyarakat = Regulasi & Penegakan Hukum

Peraturan

- UU No 18/2008
- Peraturan Pemerintah 81/2012
- Peraturan Presiden dan Peraturan Menteri
- Peraturan Pemerintah Daerah

Partisipasi Masyarakat

- Pemilahan Sampah
- Menggunakan Petugas Persampahan Formal
- Pelarangan Pembuangan Sampah Ilegal
- Pelarangan Pembakaran Sampah
- Biaya Retribusi Layak

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Skema Pengelolaan Sampah Ideal

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APA YANG BISA KITA LAKUKAN?

UU No 18 Tahun 2008

Bagian Kedua

Kewajiban

Pasal 12

(1) Setiap orang dalam pengelolaan sampah rumah tangga dan sampah sejenis sampah rumah tangga wajib mengurangi dan menangani sampah dengan cara yang berwawasan lingkungan.

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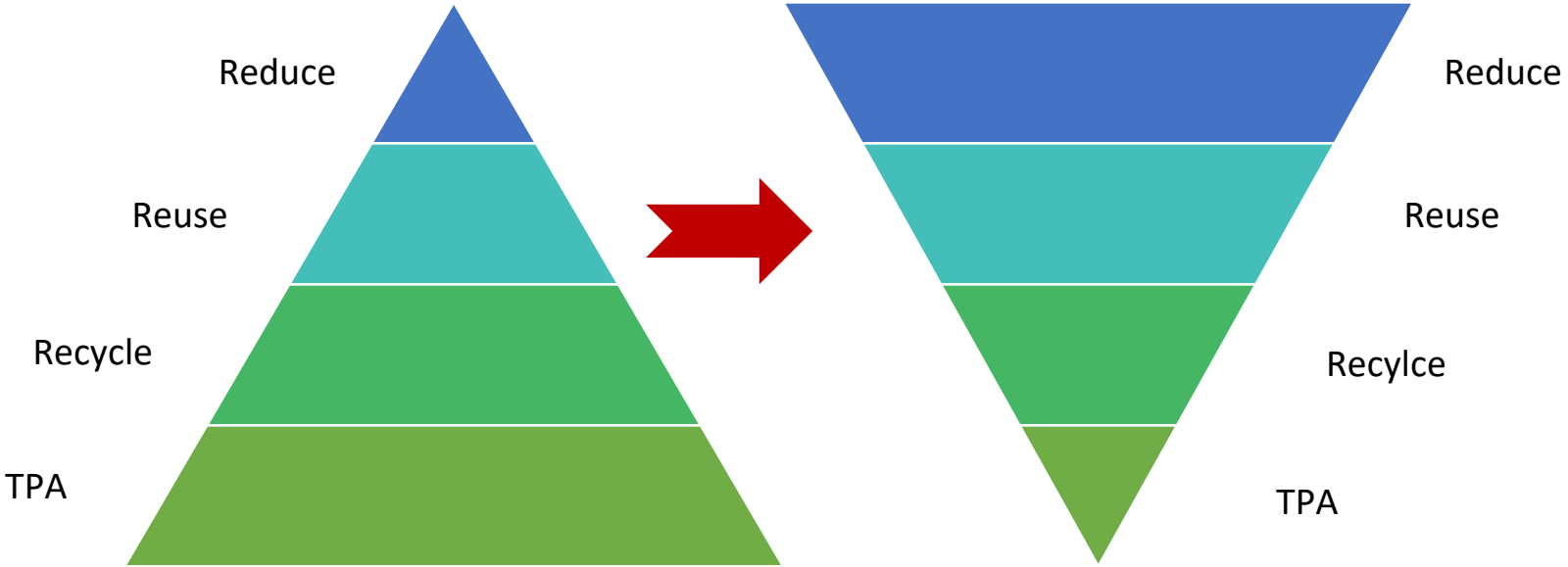
3R ADALAH PRIORITAS!

PARADIGMA LAMA

PARADIGMA BARU



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1

Reduce

Mengurangi/membatasi segala sesuatu yang menyebabkan timbulnya sampah

2

Reuse

Menggunakan Kembali sampah secara langsung, baik untuk fungsi yang sama maupun berbeda

3

Recycle

Memanfaatkan kembali sampah setelah mengalami proeses pengolahan

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Pilah Sampahmu

Organik

Left over food, fruits, vegetables, bone, leaves

Anorganik

Paper

All type of paper
Letter, used paper, newspaper, magazine, etc.

Used beverages cartoon
Milk, juice, tea, etc

Used cartoon
Box and other

Plastic

All type of hard plastic
Shampoo bottle, osmetics container

All type of soft plastic
Plastic bag, refill plastic, packaging plastic

Glass

All type of glass
Glass bottle, etc

Metal

All type of metal
Can, aluminum foil, etc

Residu

Other type of waste

Diaper, Sanitary Napkins, Wipes, Cigarette, Oil Paper, Multi-layered packaging, Ketchup Sachet

Dokumen Rahasia
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Windrow Composting

Aerobic. Menumpuk sampah, secara manual diaduk

Vermicomposting

Aerobic. Materi organik didegradasi & distabilisasi oleh mikroorganisme & cacing tanah

Anaerobic Digestion

Anaerobic. Materi organic diurai oleh mikrobiologi shg menghasilkan biogas dan nutrien

Biopori

Aerobic. Sampah dimasukkan ke lubang 1m yang berpori

Black Soldier Flies (BSF)

Aerobic. Menggunakan larva BSF untuk mentransformasi sampah organik menjadi lemak dan protein

Slow Pyrolysis

Anaerobic. Proses *Thermochemical* mentransformasi materi organik menjadi arang, *liquid,* dan gas.

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Sudah pilah sampah, tapi DICAMPUR kembali? JANGAN KHAWATIR

Pemilahan Sampah disumber

Pemulung

Pengepul

Bank Sampah / TPS 3R

Send Your Waste

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Anorganik

PET Bottle

Products : Press PET

HDPE Plastic

Products : Ember

LDPE Plastic

Products : Tutup Tabung Gas

PP Plastic

Products : Bijih Plastik

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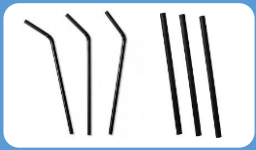
Anorganik

HVS Paper
Products : Recycle paper



Strirrer Straw
Products : Pallet Plastic

HD & PP Plastic Sheet
Products : Trashbag

Multi Layer Packaging
Products : Rebricks

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Anorganik

Paper

Metal

Residue

Plastic

Glass

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B3

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B3

Pemilahan dan pengemasan sesuai jenis dan karakteristik

Limbah B3 maksimal 3/4 dari ukuran kemasan. Kemasan terbuat dari logam atau plastik sesuai karakteristiknya

Kemasan memiliki penutup yang kuat, tidak bocor, tidak berkarat, dan tidak rusak

Source: Universal Eco

Copyright © Waste4Change All Rights Reserved

B3

Source: Universal Eco

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APA YANG BISA KAI LAKUKAN?

UU No 18 Tahun 2008

Pasal 13

Pengelola kawasan permukiman, kawasan komersial, kawasan industri, kawasan khusus, fasilitas umum, fasilitas sosial, dan fasilitas lainnya wajib menyediakan fasilitas pemilahan sampah.

Pasal 14

Setiap produsen harus mencantumkan label atau tanda yang berhubungan dengan pengurangan dan penanganan sampah pada kemasan dan/atau produknya.

Pasal 15

Produsen wajib mengelola kemasan dan/atau barang yang diproduksinya yang tidak dapat atau sulit terurai oleh proses alam.

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PerMen LHK No. 75 Tahun 2019

Pasal 6

(1) Pengurangan Sampah sebagaimana dimaksud dalam Pasal 4 dilakukan melalui:

a. pembatasan timbulan Sampah;

b. pendauran ulang Sampah; dan

c. pemanfaatan kembali Sampah.

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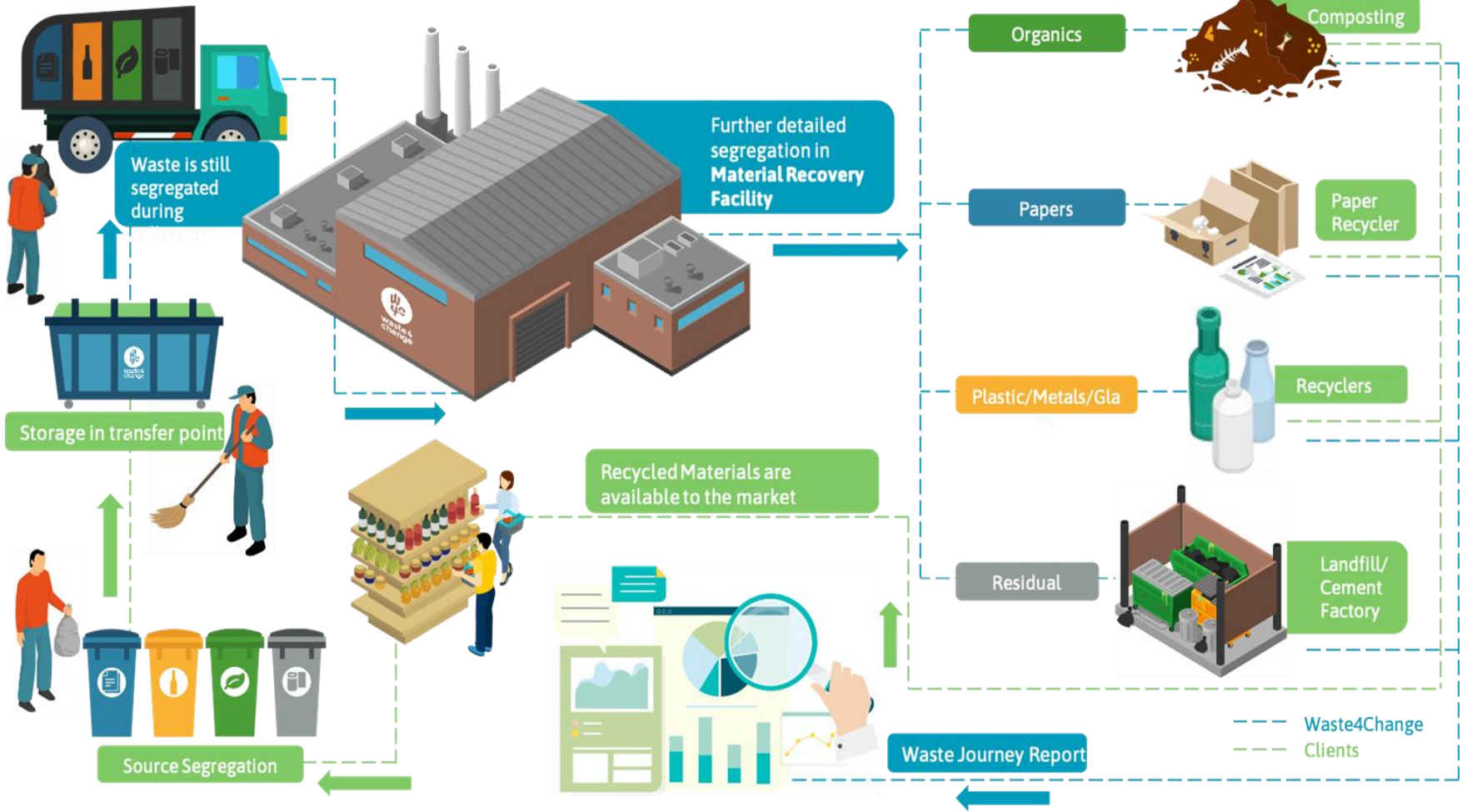

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Community Development
Previous Project

Office Development

PT Indonesia Power UP Suralaya
Client

Pembangkit Listrik Tenaga Batu Bara (PLTB) Area, Suralaya

Focus: Community Assistance

Background

- Waste generation in RW 3, 4 and 5 Suralaya is 1609 kg/day with the largest composition is organic waste at 70.71% (2018)
- Indonesia Power is companies that have a role important in increasing awareness of the environment so they want to provide assistance to community in the field of environment

What We Did

- Initiate corporate-level responsible waste management programs
- Design an actionable responsible waste management plan
- Assist in the procurement of waste management supplies and equipment
- Mediate in the drafting of responsible waste collection agreement between PT Indonesia Power UP Suralaya and vendors

Impact

- Increased employees awareness on waste management
- Increased waste recycling rate
- Reduced non-recyclable waste
- Created a composting model that provides economic value

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BEST PRACTICE PENGELOLAAN SAMPAH KANTOR

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EDUCATION DROPBOX

Instalation

Collection

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EDUCATION DROPBOX

THE METHODOLOGY

1

Waste collection by consumers

Consumers arrive at dropping box location with the sorted waste. The potential packaging waste to be submitted to the dropping box are:

1. Flexible plastics
2. PET bottles
3. Tetra Pak packaging
4. Beverage cans

2

Waste collection Waste Bank

- Waste collection will be conducted **once every week (tentative, depends on the quantity of waste)** by Waste4Change local partners
- At the time of collection, the collection staff will weight the waste.

3

Regular reporting

The collection of waste will be reported every month from Waste4Change to the sponsors and all stakeholders involved.

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EDUCATION DROPBOX

Paper

1. Cardboard
2. UBC: *Used Beverages Carton* (Tetra Pak)
3. Paper packaging

The packaging should be flattened

Non-Paper

1. Plastic Bottle
2. Glass bottle
3. Straws
4. Food/drink can
5. Sachet or Pouches

Packaging should be emptied and cleaned and flattened.

Organic waste and hazardous waste

Organic waste (food scrap),hazardous waste, and electronic waste are not allowed due to convenience and safety issue of dropping point.

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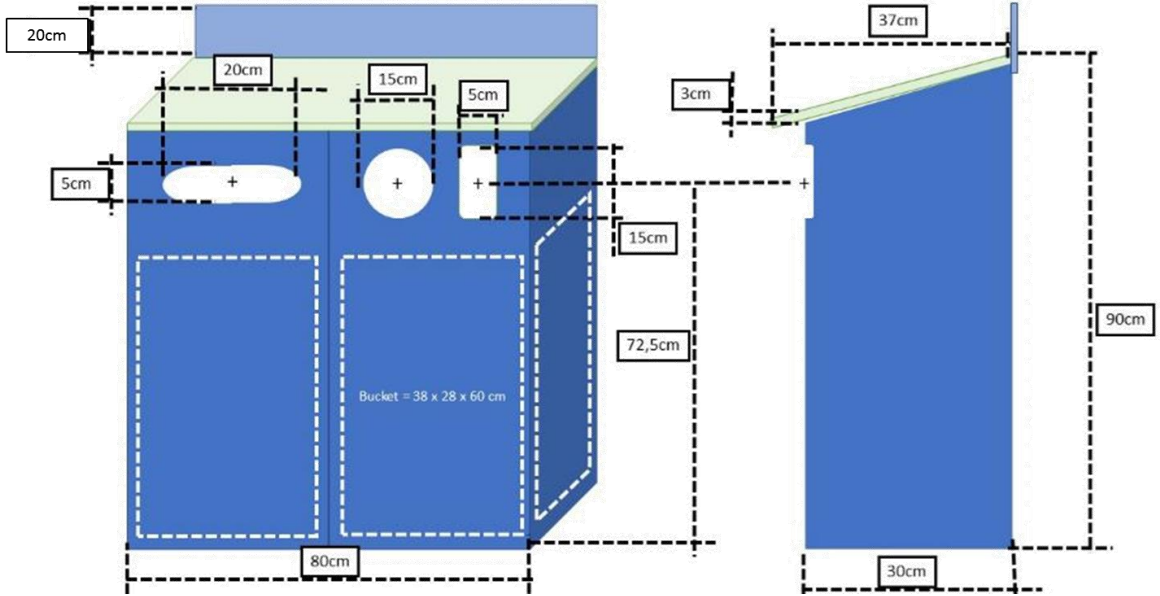
EDUCATION DROPBOX



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EDUCATION DROPBOX

Front Side

Drop Box Cap

Right & Left Side

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KENAPA KITA HARUS BERUBAH?

Video Motivasi Lingkungan

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Remember that

“ The world suffer a lot. Not because the violence of bad people. But because of the **SILENCE** of the **GOOD PEOPLE**. ”

Napoleon Bonaparte

- Terimakasih -