

UPDATES ON WASTE SEGREGATION@SOURCE POLICY IN PENANG

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- 03** Segregation at Source (SAS)
- 04** Future Plans

PENANG
2030

WASTE MANAGEMENT IN PENANG



Recycling Rate

2019 – 44.04%

Total Waste Generation

1,900 tons/day



Total Area

1,031km²

Total Population

1,800,000

Density

1,746/km²

Local Councils

Penang Island City Council
Seberang Perai City Council



OVERVIEW



Penang State was **exempted** from the Solid Waste Management and Public Cleansing Act 2007 [Act 672].



Local Government governed by:

Local Government Act 1976 [Act 171]

Street, Drainage and Building Act 1974

Town and Country Planning Act 1976 [Act 172]

By-Law

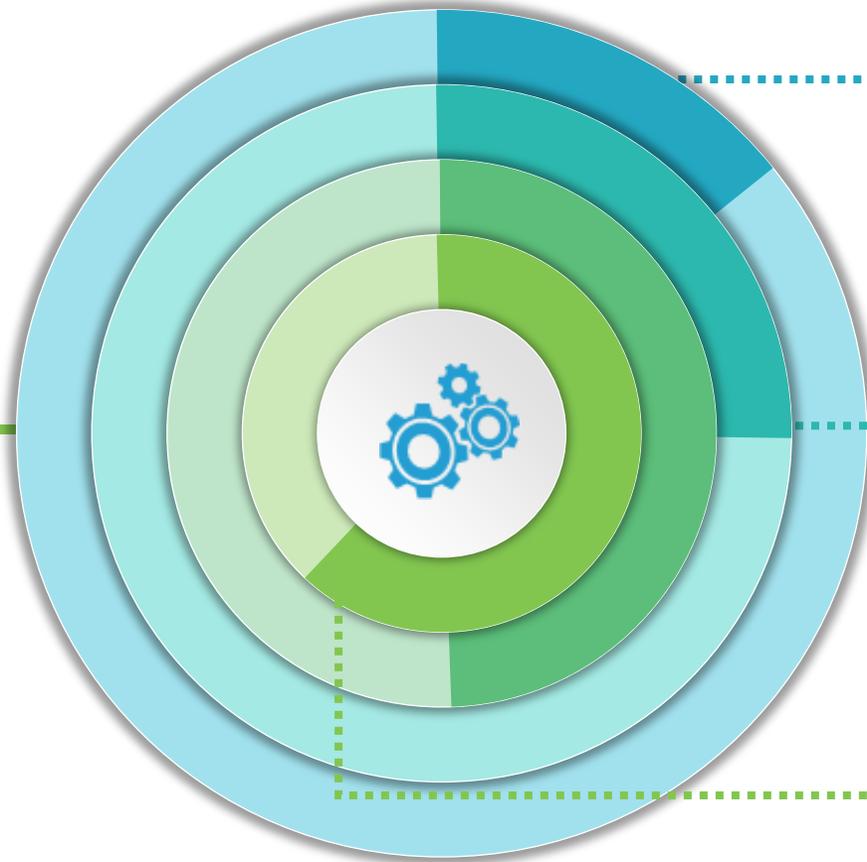


Local Government Act 1976

72. (1) A local authority shall have power to do all or any of the following things, namely:

- (a) to establish, maintain and carry out such sanitary services for the removal and destruction of, or otherwise dealing with, rubbish, litter, dead animals and all kinds of refuse and effluent;

SOLID WASTE MANAGEMENT



To ensure a good and efficient system to manage waste from source to disposal.

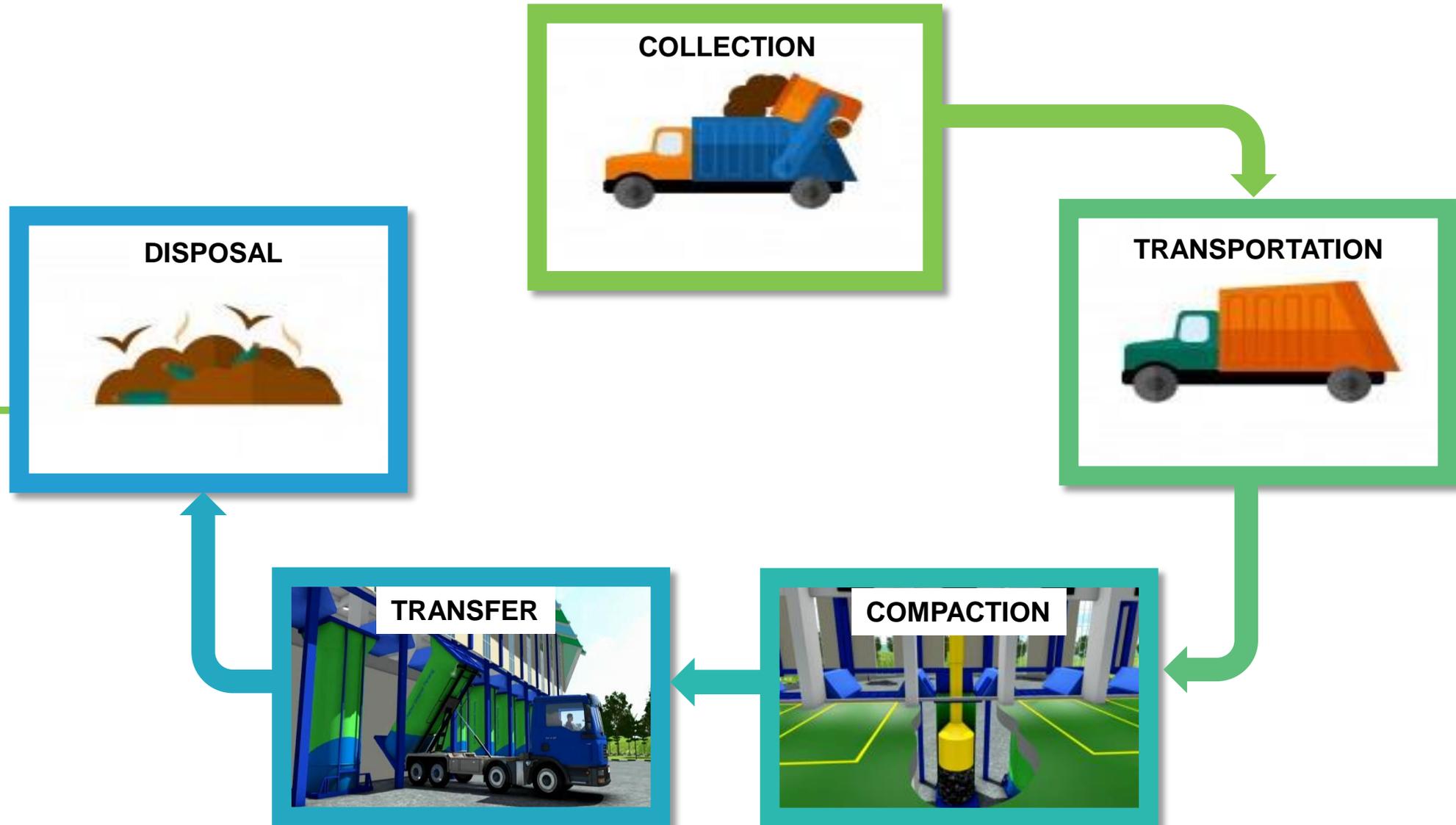


Taking into consideration logistics, technology, manpower, cost, traffic and environment.



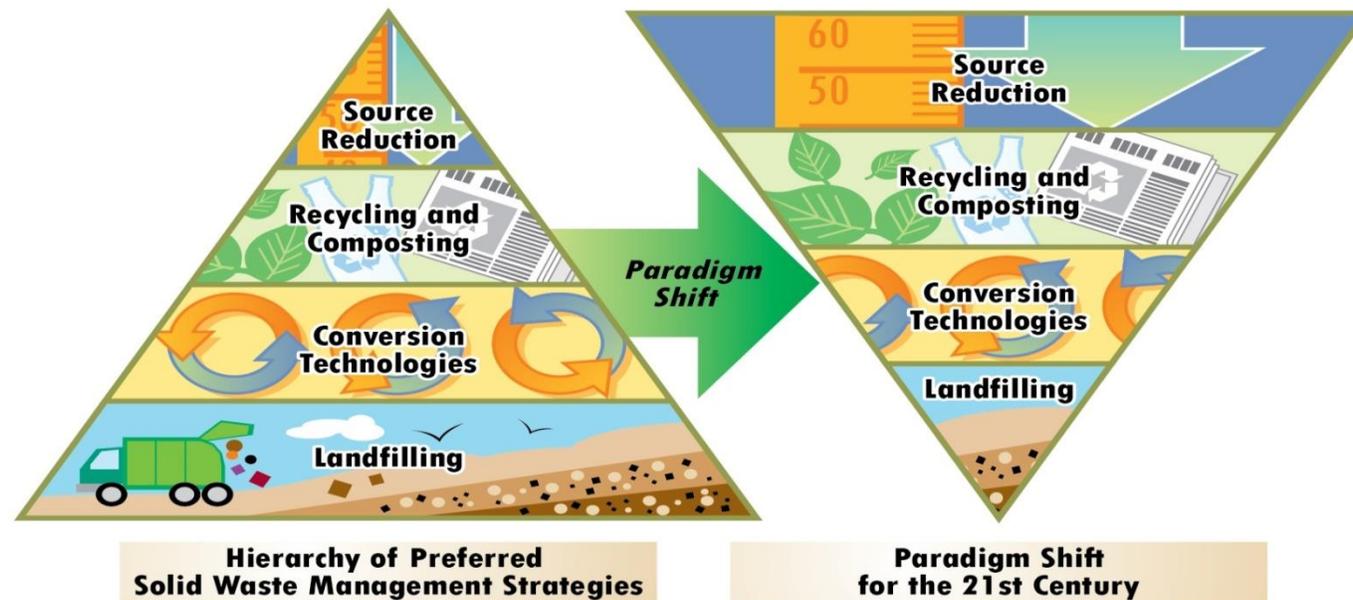
Careful monitoring from collection to disposal.

SOLID WASTE DISPOSAL PROCESS



New Approach Needed For SOLID WASTE MANAGEMENT

- **Current** approach in managing solid waste is **LANDFILLING**.
- Penang State Government pursuing more sustainable solutions due to Rapid development and land constrain.



WASTE MANAGEMENT INITIATIVES IN PENANG

CLEANER GREENER PENANG



Waste Segregation at Source

Waste Generators Pay Policy

No Plastic Bag Policy

No Single Use Plastic

Organic Waste Diversion

Environment Resource Centre

Green Schools

SEGREGATION AT SOURCE



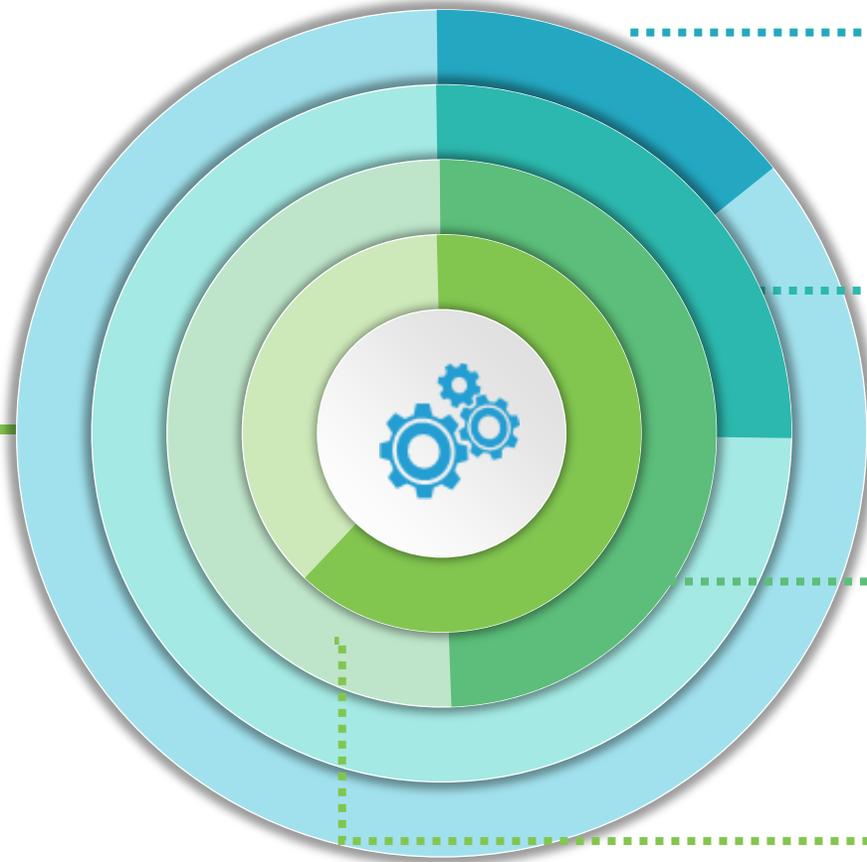
Process of separating solid waste at source into 2 streams; recyclable waste and general waste.



Implementation – 1st June 2016
Enforcement – 1st June 2017



OBJECTIVES OF SAS



Increase recycling rate



Reduce waste generated to landfill

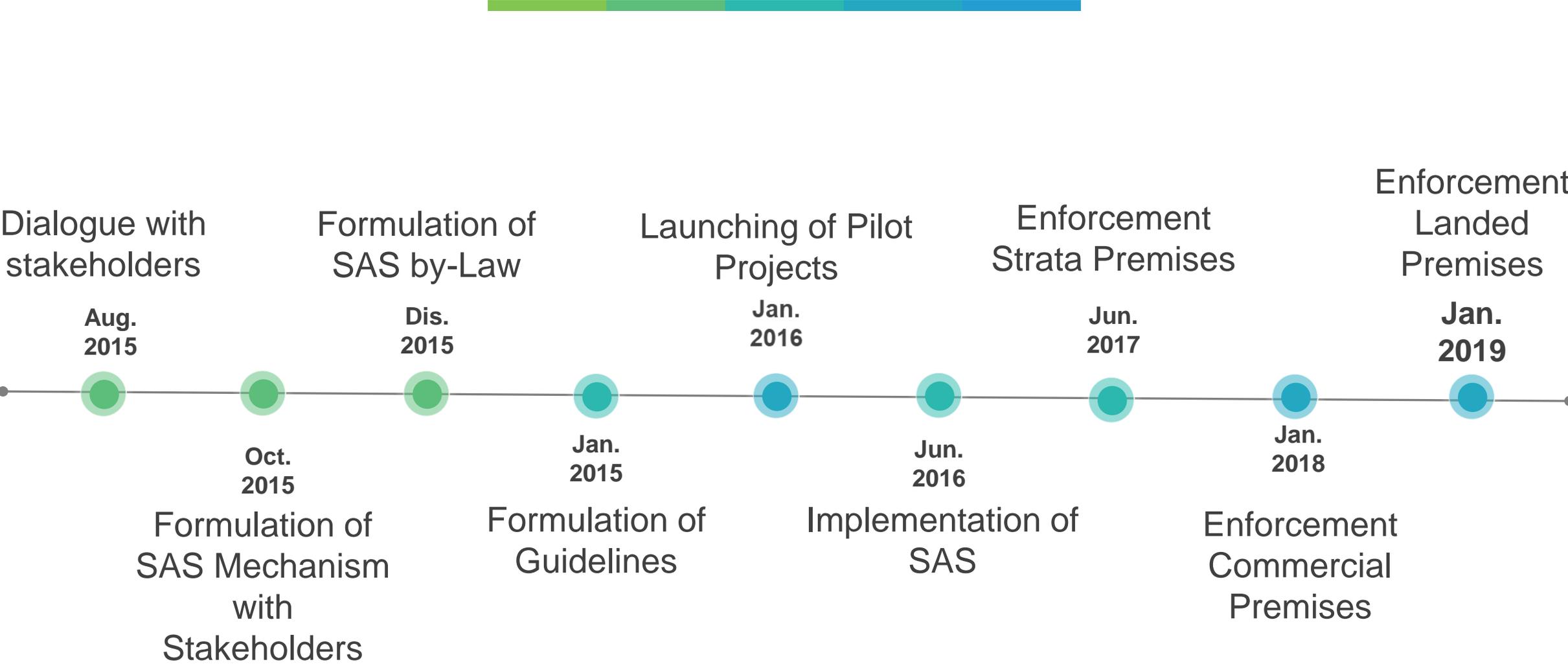


Prolong lifespan of landfill



Reduce cost of waste management

SAS TIMELINE



Waste Segregation at Source Policy

Formation of by-law and guidelines

Bottom-up Approach

Top-down Approach

Lab Sessions

Pilot Projects

Stakeholders

Stakeholders

MECHANISM FOR COLLECTION

-  Kampung Premise
-  Landed Residential
-  Low Cost Highrise
-  Residential Highrise

-  Factories
-  Shopping Malls
-  Government & Institutions
-  Hotels & Restaurants

PUBLICITY & MEDIA

Publicity for SAS headed by Penang Green Council (PGC)

- House to house campaign & education by PGC
- Presentation by BKT to Govt. Agencies
- Publicity and promotion by City Councils
- Video/Poster separation@source for JMB/MC
- Exhibitions/Roadshows - various agencies

Websites : State/Local Govt



PUBLICITY & MEDIA



DASAR PENGASINGAN SISA DI PUNCA BERMULA 1 JUN 2016



KERTAS

CONTOH:
suratkhabar / kotak /
majalah / kadbod / buku



PLASTIK

CONTOH:
botol plastik / bekas plastik /
beg plastik / bekas makanan
plastik / baldi plastik



SISA KITAR SEMULA



KACA

CONTOH:
botol kicap /
botol minuman



TIN ALUMINIUM/ BESI/LOGAM

CONTOH:
tin aluminium / tin
makanan / besi / logam



SISA MAKANAN

CONTOH:
kulit buah-buahan /
sayur-sayuran /
kulit telur / nasi



SISA KOTOR

CONTOH:
lampin pakai
buang / tisu kotor /
bahan-bahan kotor /
kotak / kertas tercemar



SISA BAKI



STAKEHOLDER ENGAGEMENT

- Briefing/Edu-Talk



- House to House Campaign



STAKEHOLDER ENGAGEMENT

- Briefing/Edu-Talk



- House to House Campaign



First Pilot Project- Kg Changkat, SPS



Pilot Project for Shopping Mall & Residential Strata Premise



Launching SAS by CM



MBPP Mayor and MPSP President appointed as implementers of SAS by CM in policy launching on 1st June 2016.

Enforcing SAS



A guideline for each category of premise.



SOP for enforcement by PBT.



Bylaw for effective enforcement/prosecution



Penalty : RM250.00 compound by PBT.



Punishment for hardcore offenders



convicted in court : RM2,000 /1 year jail or



both.



SAS STATISTICS



Year	MBPP		MBSP	
	Weight (kg)	Revenue (RM)	Weight (kg)	Revenue (RM)
2016	37,582.0	10,087.64	60,138.9	14,034.23
2017	25,490.2	9,635.79	137,790.0	30,009.04
2018	11,881.7	4,045.53	81,944.0	16,920.93
2019	15,907.9	5,536.87	107,786.0	21,497.20
Total	90,861.8	29,305.83	384,658.9	82,461.40

Total weight and revenue of recyclables collected by PBT: **475,520.7kg / RM111,767.23**

SAS STATISTICS

Premises	Inspections			Notices			Compounds		
	MBPP	MBSP	Total	MBPP	MBSP	Total	MBPP	MBSP	Total
Landed Residential	8,855	287,113	295,968	1,055	29,056	30,111	102	1,002	1,104
Residential Strata	824	719	1,543	148	359	507	6	38	44
Commercial Premises	1,744	26,147	27,891	107	14,598	14705	66	300	366
Total	11,423	313,979	325,402	1,310	44,013	45,323	174	1,340	1,514

Period: 1 Jun 2016 - 31 December 2019

Future Plans

- i. Encourage private sector participation in SAS
eg. Darco, EESB, ICycle.

SAS PROJECTS

Two (2) proposals from the private sector:

a) Darco WtE Biogas Project

b) Organocycler: Use of waste as resource

Both projects able to divert around 30% of solid waste away from landfill.

DARCO WTE BIOGAS PROJECT

- Darco propose collection of food waste from premises to convert to biogas and digestate (organic fertilizer)
- Biogas will be channeled to produce electricity for national grid
- Pilot Project initiated at Batu Maung Waste Transfer Station
- Minimum 150ton/day diversion for project viability.

DARCO WTE BIOGAS PROJECT

- Discussions on to secure land for full scale plant at Pulau Burung Landfill/Ampang Jajar.
- Target construction of wte in 2022.

ORGANOCYCLER EESB Project

- Waste diversion in transfer stations; Ampang Jajar (275tons/day) and Batu Maung (200tons/day).
- Proposal generates protein from organic MSW for animal feed.

Objectives:

- Reduces total MSW sent to landfill.
- Reduces operational cost, transport and disposal for City Council.
- Reduces GHG and carbon footprint
- Project uses plasma technology to produce electricity.



Future Plans



- ii. Continue education, monitoring & enforcement of SAS.
- iii. Introduce incentives/recognition for SAS/recycling.
- iv. Encourage more buy back centres.
- v. Set up more Environment Resource Centres

A photograph of a city skyline, likely New York City, viewed through the opening of a dark cave. The city is bathed in a teal or cyan light. The cave's interior is dark and textured. A semi-transparent white horizontal band is overlaid across the middle of the image, containing the text "Thank You".

Thank You

The logo for Penang 2030, featuring the word "PENANG" in a sans-serif font above the numbers "2030". The numbers are stylized with diagonal lines through them, and the "0" is a solid circle.

PENANG
2030