



LEMBAGA URUS AIR SELANGOR
(LUAS)

THE 21ST WEPA ANNUAL MEETING AND INTERNATIONAL WORKSHOP

ZERO DISCHARGE POLICY (ZDP) TOWARDS SUSTAINABLE WATER RESOURCES MANAGEMENT IN SELANGOR

9 SEPTEMBER 2025

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Empangan Klang Gates, Ulu Klang



"Air Untuk Semua"





LEMBAGA URUS AIR SELANGOR
(LUAS)



Air Untuk Semua

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LEMBAGA URUS AIR SELANGOR
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INTRODUCTION

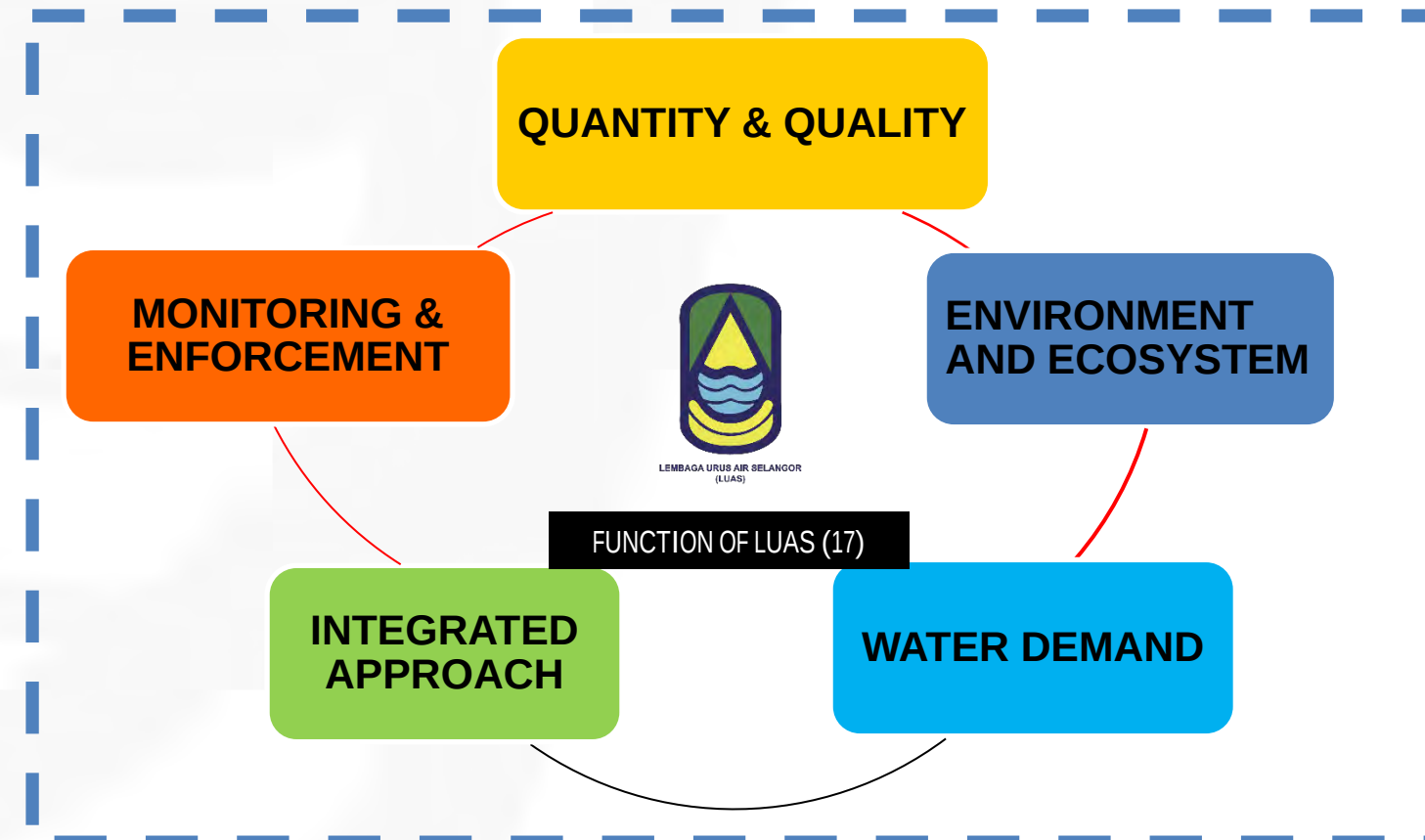
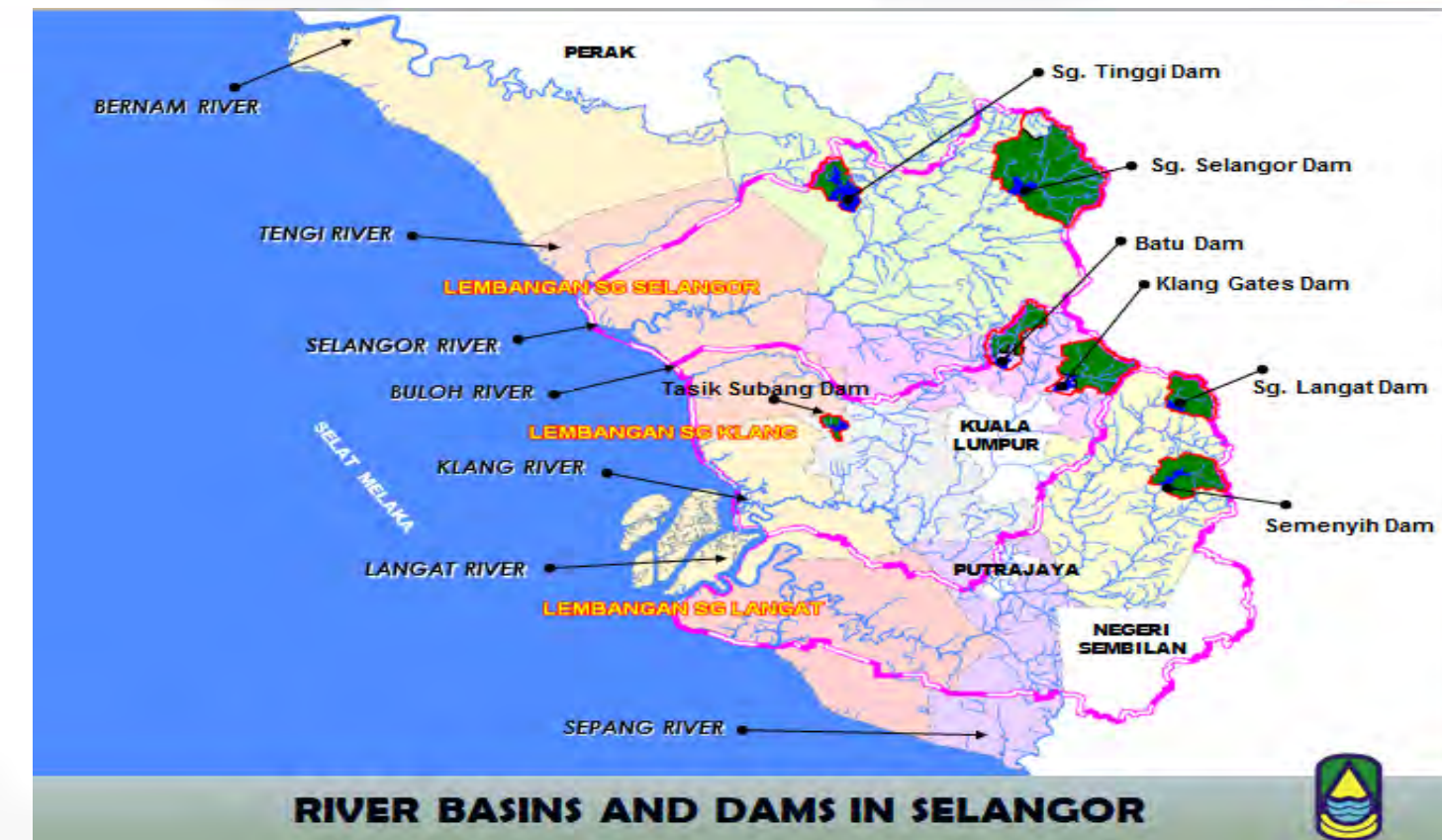


Air Untuk Semua

LUAS is a statutory body to regulate the management of water resources, river basins and coastal waters in the State of Selangor under the **LUAS Enactment, 1999**.

“The river-basin approach to water management in Malaysia was initiated with the establishment of Lembaga Urus Air Selangor (LUAS) in 1999.” (Source: RMK- 8 (2001-2005))

LUAS is also a MODEL for the implementation of Integrated Water Resource Management (IWRM) in Malaysia. (Source: “Transforming The Water Sector: National Integrated Water Resources Management Plan Strategies and Road Map Report”, 2017)





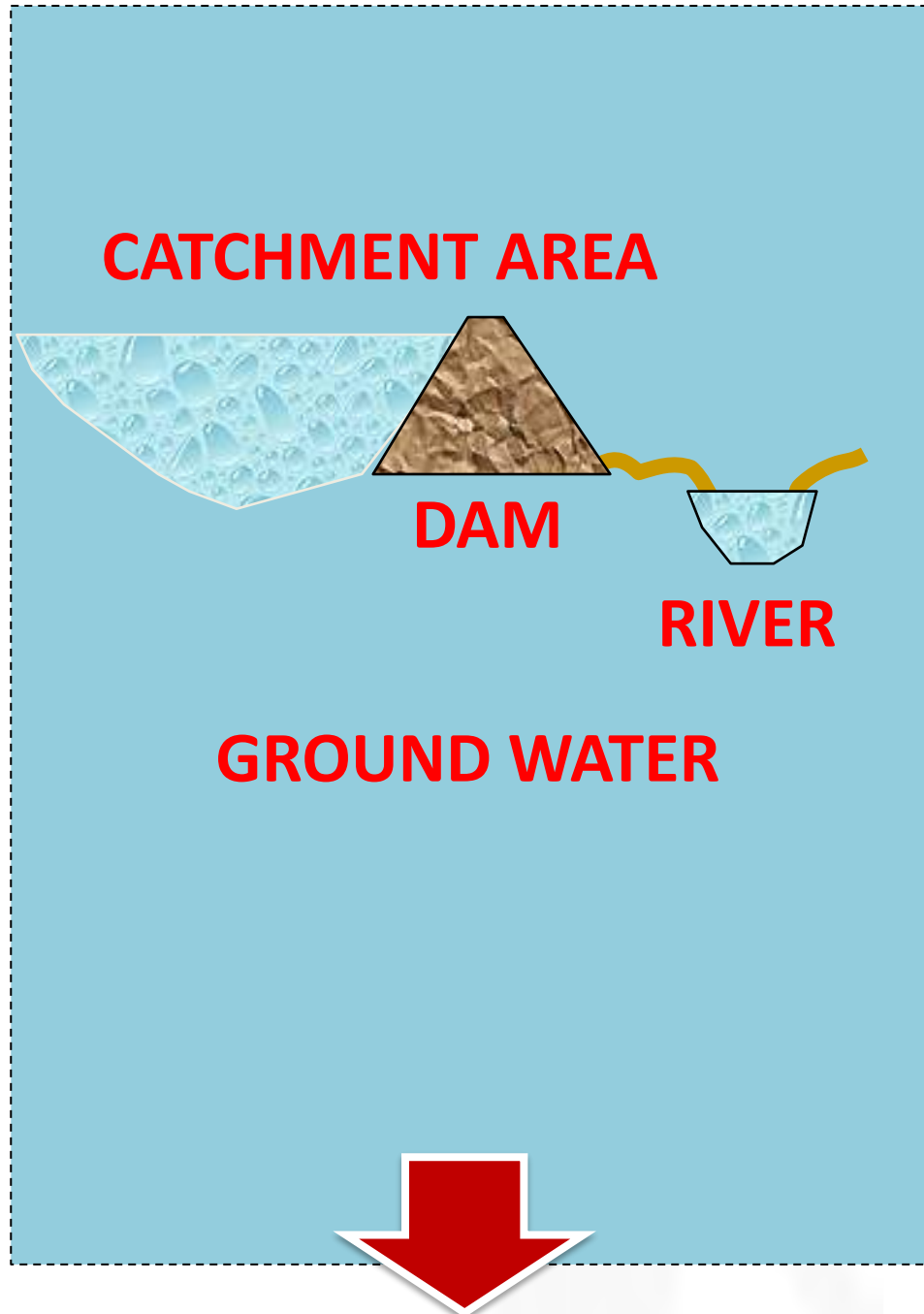
LEMBAGA URUS AIR SELANGOR
(LUAS)

INTRODUCTION : JURISDICTION



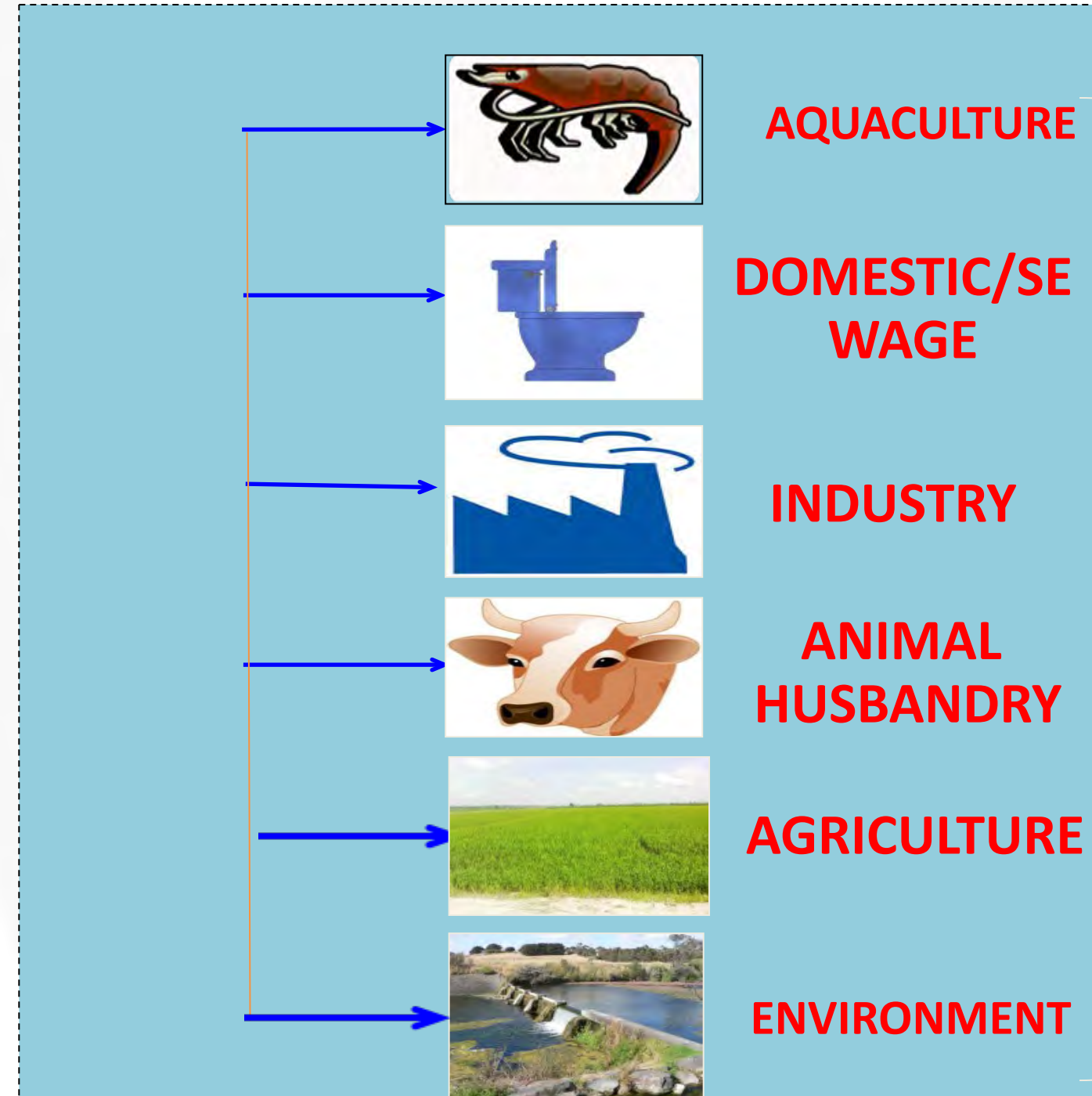
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WATER RESOURCES



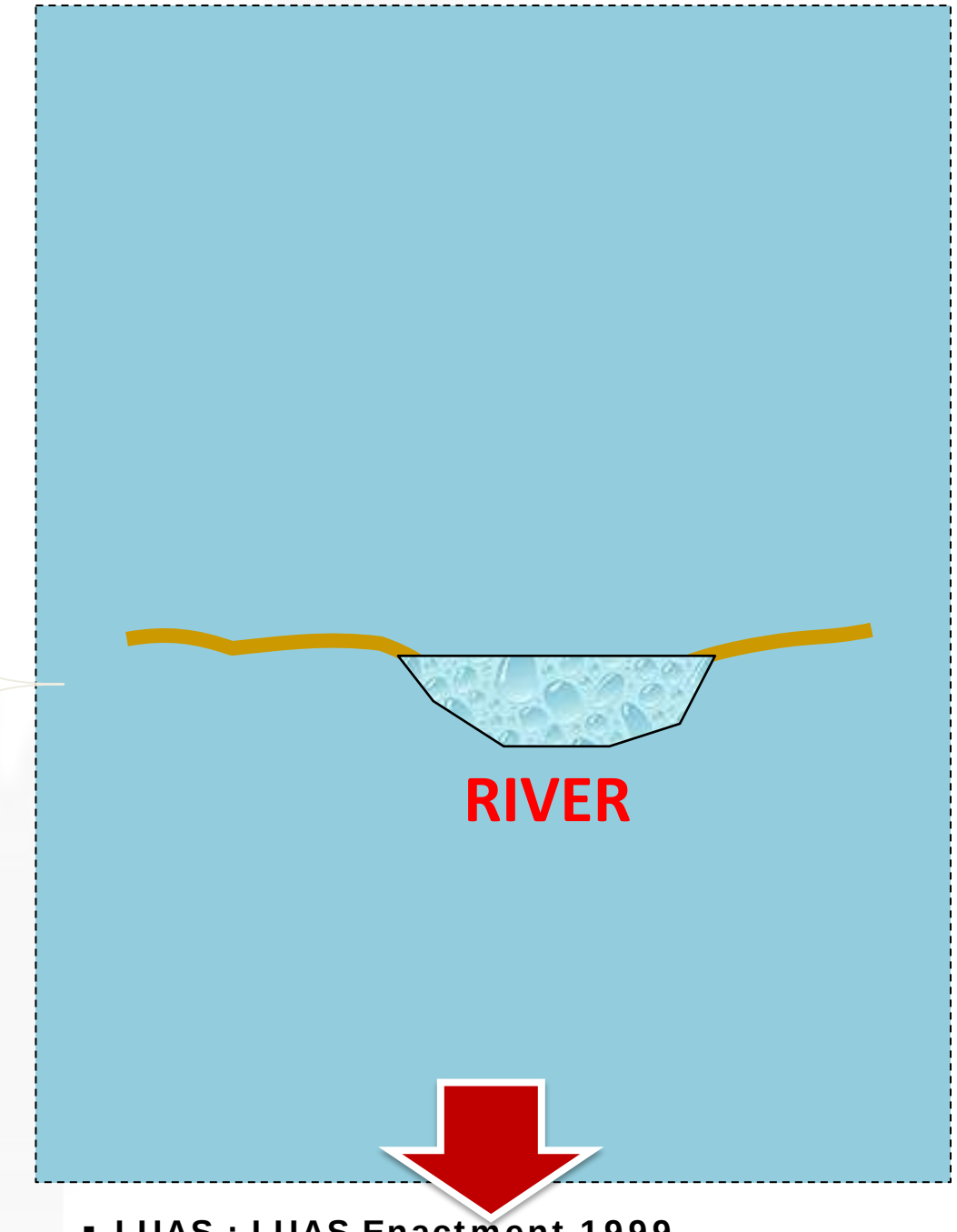
- **LUAS : LUAS Enactment 1999**
- DOE : EQA 1974
- Local Authority: Local Government Act 1976 and Street, Drainage & Building Act 1974
- Related Agencies

WATER DEMANDS



QUALITY CONTROL

EFFLUENT DISCHARGE



- **LUAS : LUAS Enactment 1999**
- DOE : EQA 1974
- Local Authority: Local Government Act 1976 & Street, Drainage & Building Act 1974
- Local Authority: Local Government Act 1976
- Related Agencies

IRBM IMPLEMENTATION

**Gazettement : LUAS IRBM
Plan Regulation 2019**

**POLICY 1: Ensure
Sufficient Water**



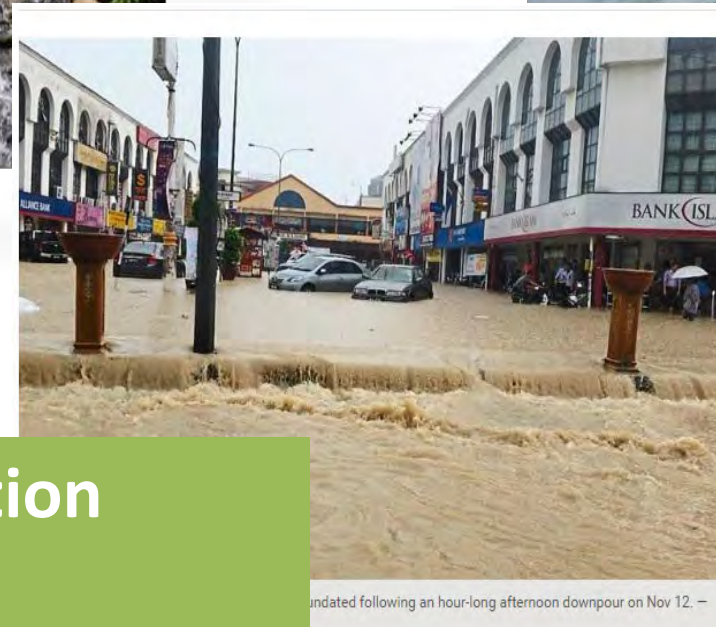
**POLICY 2: Ensure Clean
Water**



**POLICY 4 :
Environmental
Conservation**



**POLICY 3: Protection
Against Flood**

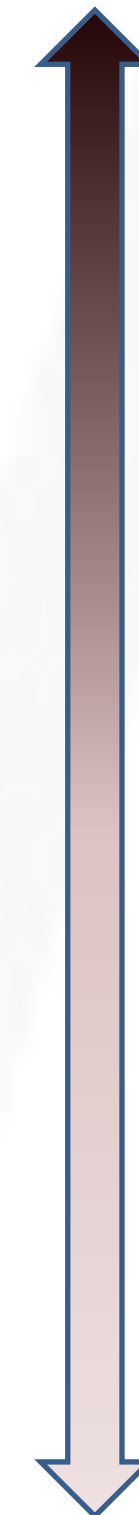


ISSUES AND CHALLENGES

- Rapid urbanisation and industrial development that have resulted in water, land and related resources within the basin becoming increasingly under stress
- Threat of climate change, creating extreme variability in climate
- Deterioration of river water quality/water pollution
- Degradation on environment
- Trans-boundary nature of the shared river basin illustrates the complexities to implement IRBM
- Water security challenges – Too much water, too little water, too dirty water

Too much or too little water – management issues

too much



too little





LEMBAGA URUS AIR SELANGOR
(LUAS)



WATER RESOURCES MANAGEMENT STRATEGIES

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QUANTITY AND QUALITY CONTROL

1

Licensing and Water Abstraction Charges, s.41(2)

2

Written Approval of Alteration Activities, s.43(1)

3

Licensing of Discharge of Return Water, and Entry or Discharge of Waste and Pollutants (State of Selangor) Regulations 2024, s.79(1)

**Zero
Discharge
Policy (ZDP)**

4

Licensing of Inland Waterway Navigation, s.97(1)

5

Licensing of Water Diversion for Hydropower Generation, s.42(3)

SOURCES : LUAS ENACTMENT 1999

ZDP – WHAT AND WHY ?

SPAN Urges States To Adopt Selangor's Zero Discharge Policy

By Business Today Editorial - January 21, 2025



The National Water Services Commission (SPAN) has urged other states to follow Selangor's lead in adopting the Zero Discharge Policy (ZDP), which focuses on the sustainable use of water resources, especially as Malaysia steps up efforts to attract data centre projects.

SPAN Chairman Charles Santiago praised Selangor for its pioneering approach to water conservation, emphasising that the ZDP, which promotes water recycling and reuse in industries such as data centres, is crucial for ensuring efficient water usage.

 S'gor to enforce Zero Discharge Policy from January

S'gor to enforce Zero Discharge Policy from January

By LEW GUAN XI



METRO NEWS

Monday, 04 Nov 2024



Jamaliah: People need time to understand the policy.

THE Zero Discharge Policy (ZDP) in Selangor is expected to be fully enforced from January, says state public health and environment committee chairman Jamaliah Jamaluddin.

She said Selangor Water Management Board (Luas) had been actively going to the ground to spread awareness.

"I have received feedback from Luas that many are walking in or calling to ask about ZDP.

"People need time to understand the policy," she said when met at the 4th Bandar

ZERO DISCHARGE POLICY (ZDP)

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In line with 6th SDG's goal : 'Clean Water and Sanitation' and a series of pollution incidents, it is suggested that **Zero Discharge Policy (ZDP)** to be introduced and implemented in Selangor.



The implementation of this ZDP is an improvement on the enforcement of existing regulation, namely Emission or Discharge of Pollutants (State of Selangor) Regulations 2012.



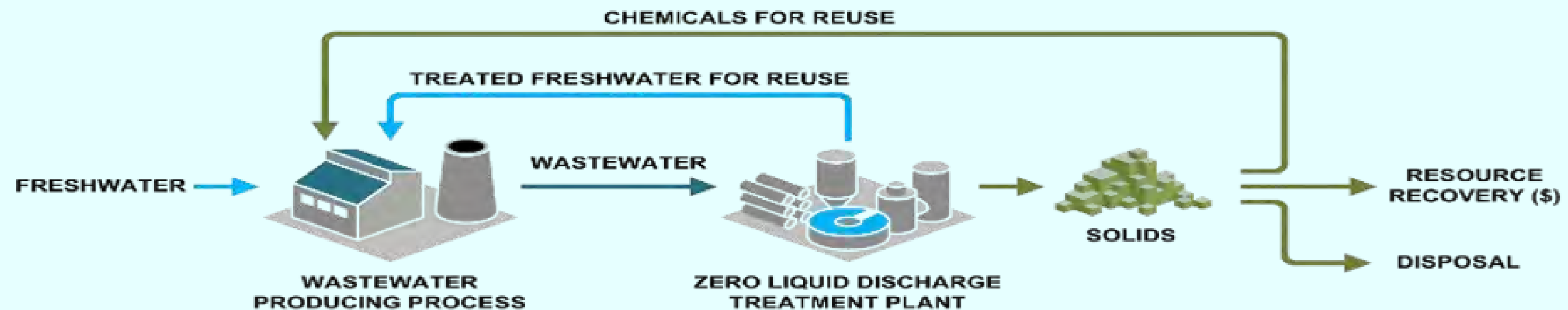
ZERO DISCHARGE POLICY (ZDP)



Air Untuk Semua

INTRODUCTION

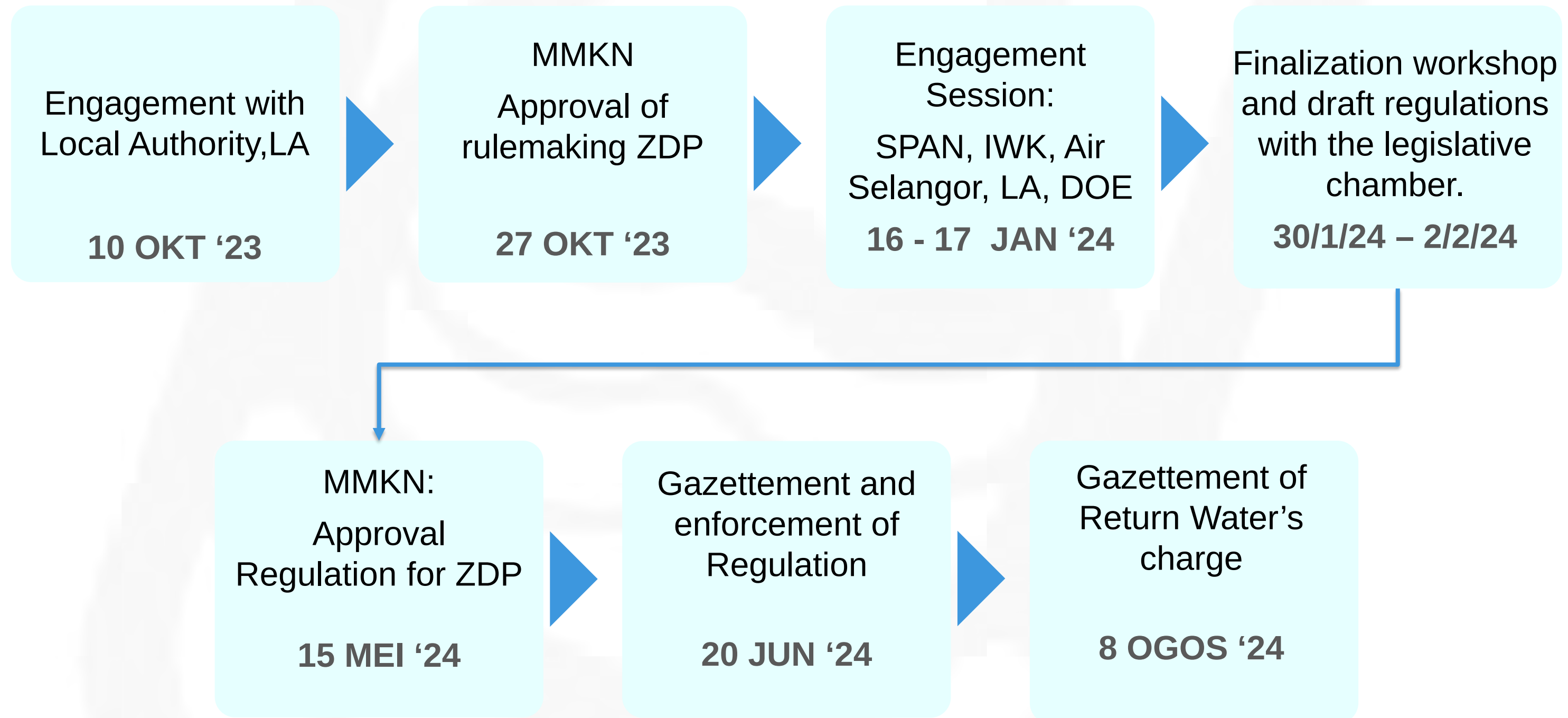
- Zero Discharge Policy (ZDP) : A policy that encouraged premises to minimize the quantity of effluent discharge.
- Encourage premises to carry out waste water reuse and recycling efforts.
- Not aimed at increasing operating costs, but aimed at fostering awareness to prioritize the implementation of programs related to the environment.



ZDP IMPLEMENTATION PROCESS



ZDP IMPLEMENTATION PROCESS



ZDP IMPLEMENTATION PROCESS



LAUNCH CEREMONY 10 AUGUST 2024

By : YAB Dato' MB Selangor

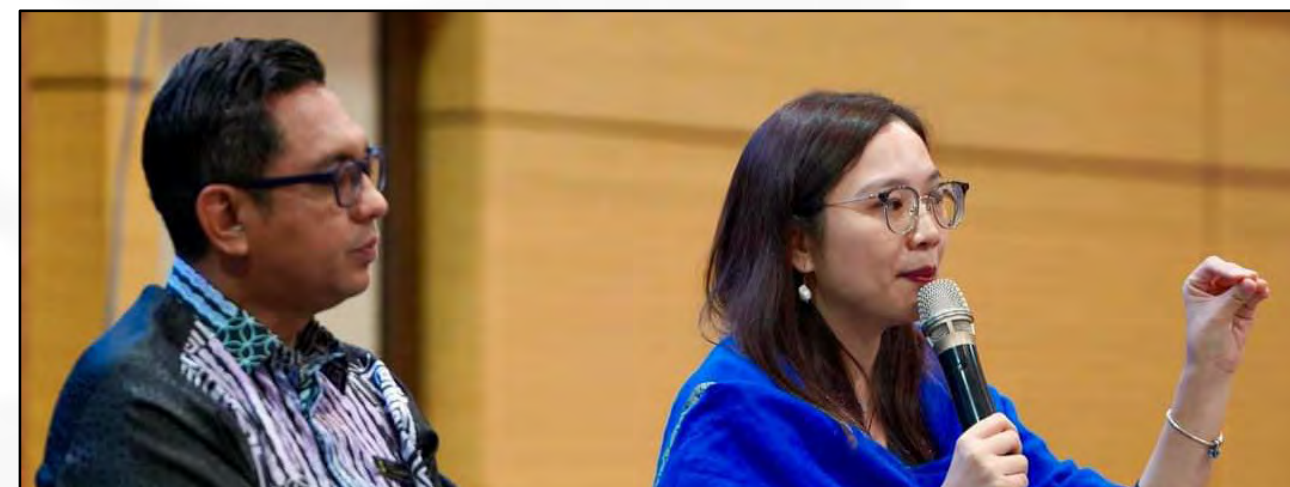


ZDP IMPLEMENTATION PROCESS



ENGAGEMENT SESSION **19 September 2024**

Attendance : 300 *stakeholders*



ZDP IMPLEMENTATION PROCESS

FIELD PROGRAM ZDP LICENSE HANDOVER 20 September 2024



First Premise For Industrial Activities

ZDP IMPLEMENTATION PROCESS



ENGAGEMENT SESSION

10 October 2024

Presentation with Rehda



ZDP IMPLEMENTATION PROCESS



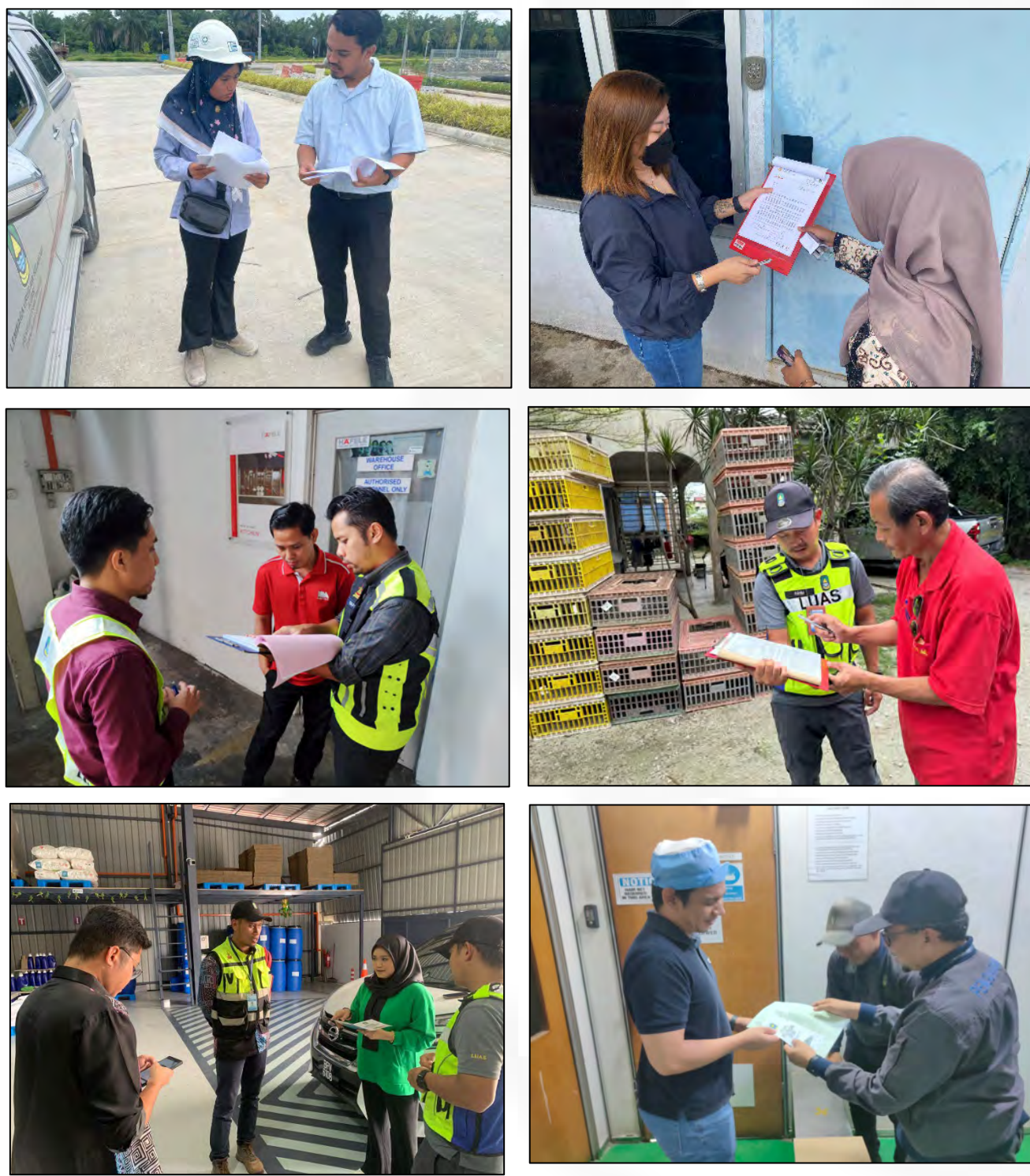
ENGAGEMENT SESSION 5 December 2024

Manufacturers Association of Telok Gong



ZDP IMPLEMENTATION PROCESS

OPERATION 272 (OPS 272)



Jadual 1.0. : Bilangan Kawasan/Taman Industri Mengikut PBT

Bil.	PBT	Bil. Kawasan/Taman Industri
1	Majlis Bandaraya Petaling Jaya (MBPJ)	14
2	Majlis Bandaraya Shah Alam (MBSA)	25
3	Majlis Perbandaran Hulu Selangor (MPHS)	20
4	Majlis Perbandaran Kuala Langat (MPKL)	13
5	Majlis Perbandaran Kuala Selangor (MPKS)	16
6	Majlis Daerah Sabak Bernam (MDSB)	10
7	Majlis Perbandaran Ampang Jaya (MPAJ)	7
8	Majlis Perbandaran Kajang (MPKJ)	54
9	Majlis Bandaraya Diraja Klang (MBDK)	33
10	Majlis Perbandaran Selayang (MPS)	43
11	Majlis Perbandaran Sepang (MPSPg)	16
12	Majlis Bandaraya Subang Jaya (MBSJ)	21
Jumlah		272

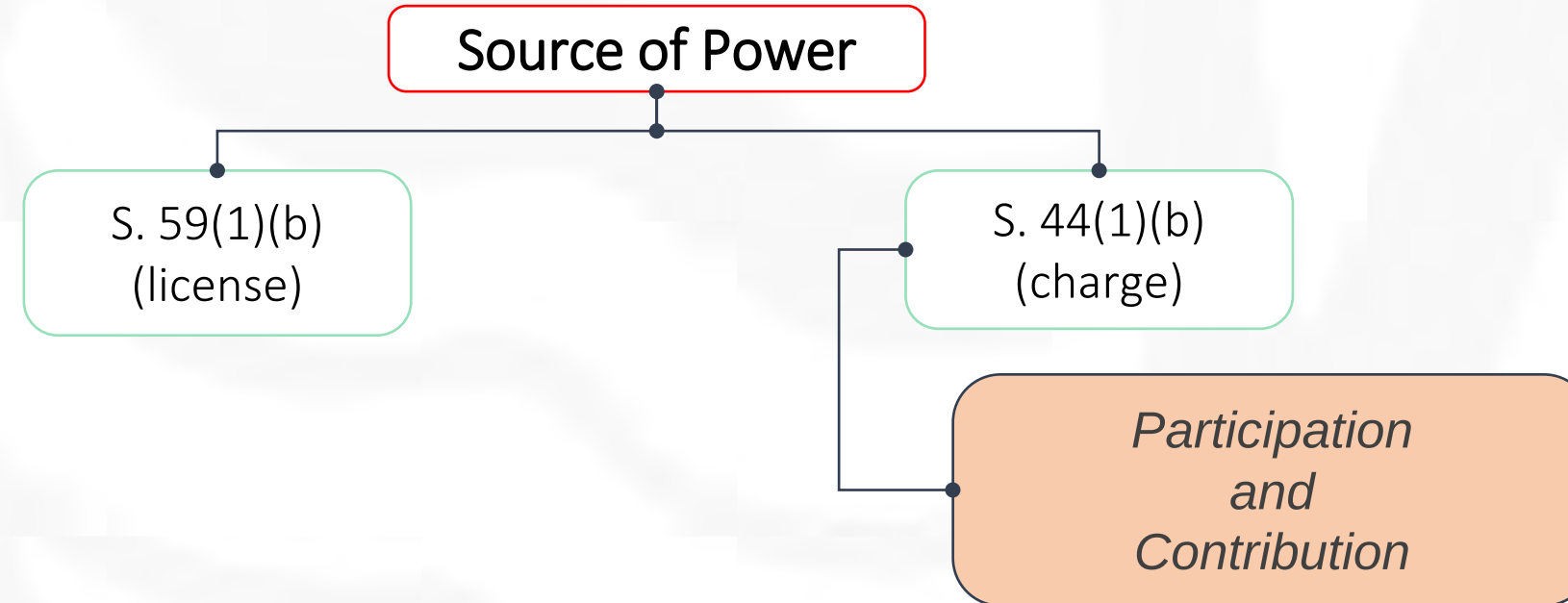
Jadual 2.0. : Bilangan Kawasan/Taman Industri Mengikut Lembangan Sungai

Bil.	Lembangan Sungai	Bil. Kawasan/Taman Industri
1	Lembangan Sungai Klang	99
2	Lembangan Sungai Langat	77
3	Lembangan Sungai Selangor	47
4	Lembangan Sungai Buloh	33
5	Lembangan Sungai Bernam	13
6	Lembangan Sungai Sepang	2
7	Lembangan Sungai Tenggi	1
Jumlah		272

STRENGTHENING LEGISLATION

INTRODUCTION OF ZERO DISCHARGE POLICY AND POLLUTERS PAY PRINCIPLE THROUGH
DRAFTING OF LUAS SUBSIDIARY LAW

1. Regulation of Licensing Discharge of Return Water, Waste or Pollutants (State of Selangor) 2024



REPLACE
Enter or Discharge of Pollutants Regulation
(State of Selangor) 2012

Source of Power and Interpretation



RETURN WATER

LUAS ENACTMENT 1999 - Sec. 44(1) & Sec. 59(1)(b)

Return Water : 'return of water from any licensed activity and discharged into the water source'



WASTE / POLLUTANT

LUAS ENACTMENT 1999 - Sec. 79(1) & Sec. 59(1)(b)

Waste : 'anything released into the environment in any volume, composition or manner that causes pollution'.

Pollutant : 'anything released, removed or placed from any source that may cause pollution to the environment'

ZERO DISCHARGE POLICY (ZDP)

ZDP & PPP MECHANISM



QUANTITY CONTROL

License of Return Water

Charge of Return Water (Volume / Bulk)



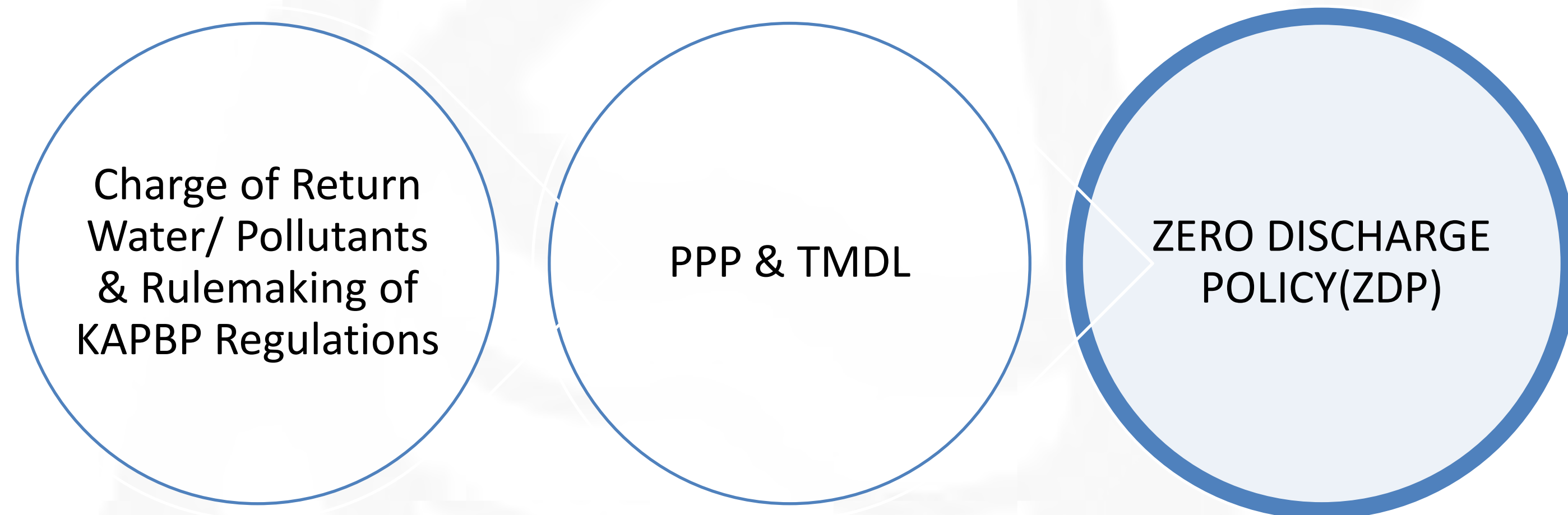
QUALITY CONTROL

Not Regulated Under EQA 1974

License of Waste / Pollutants

Charge of Waste (Violation Charges)

Implementation Strategy



- PPP: Polluters Pay Principle
- TMDL : Total Maximum Daily Load

List of Activities

NO.	ACTIVITY
1	Fresh Water / Brackish Water/ Saltwater Aquaculture
2	Poultry Farming
3	Ruminant Farming
4	Development/ Earthwork
5	Pets
6	Washing of Rock Material
7	Sand Mining

EXISTING

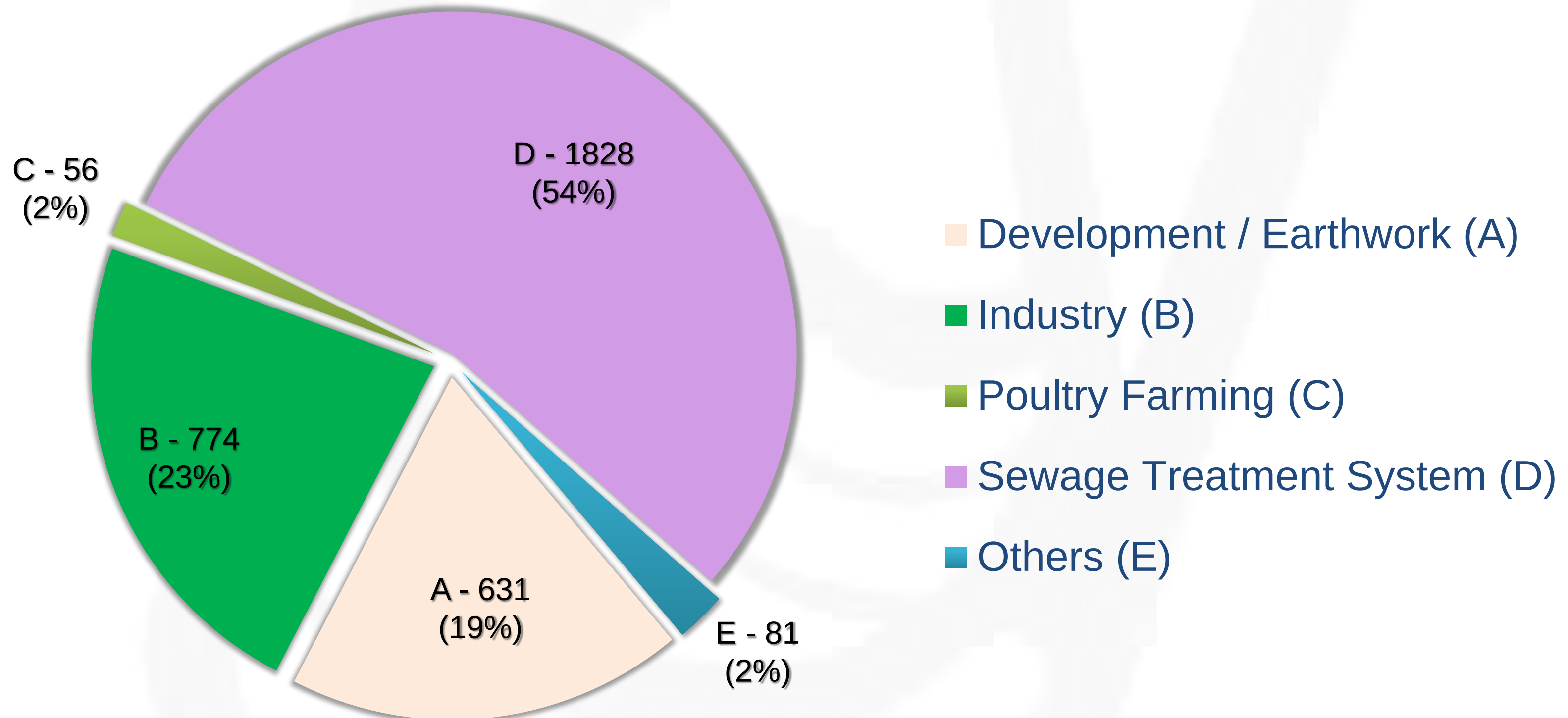
Enter or Discharge of Pollutants Regulation (State
of Selangor) 2012

NO.	ACTIVITY
8	Abattoir
9	Industry
10	Recreational Activities
11	Sewage Treatment System
12	Solid Waste Management Servuces
13	Water Supply Services
14	Municipal Activities (removed)

NEW ACTIVITIES

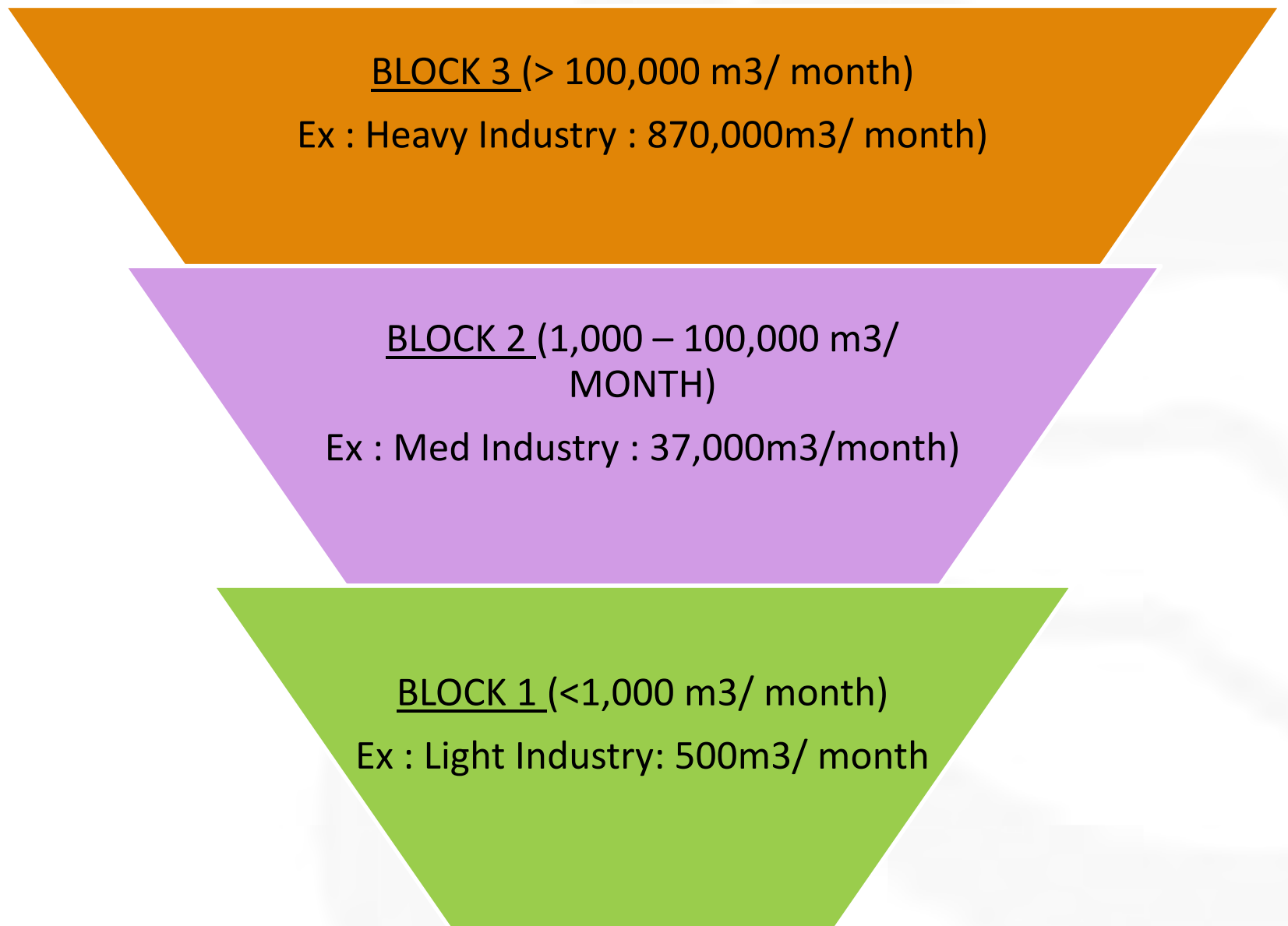
Regulation of Licensing Discharge of Return
Water, Waste or Pollutants (State of Selangor)
2024

Licensed Activity Under ZDP



License And Charge of Return Water

LIST A (Measuring devices is required/ other specified method)



LIST OF SCHEDULE ACTIVITY (LIST A)

1.	Washing of Rock Material
2.	Sand Mining
3.	Abattoir
4.	Industry
5.	Recreational Activities
6.	Sewage Treatment System
7.	Solid Waste Management Services
8.	Water Supply Services

LICENSE : YEARLY

CHARGE : MONTHLY



License And Charge of Return Water

(Charge based on bulk/ based on the type and scope of activities)

No.	Activity	Charge (RM)
1.	Fresh Water Aquaculture	Based on the premises area
2.	Brackish Water/ Saltwater Aquaculture	Based on the premises area
3.	Poultry Farming	Based on livestock number
4.	Ruminant Farming	Based on livestock number
5.	Pets	Based on livestock number

NOTES: Charges of return water apply to all activities listed in the schedule.

No.	Activity	Charge (RM)
6.	Development or earthwork: (a) Less than 10 acres (<i>pocket development</i>) Starting the earthwork until G3 issued.	Based on area
	(b) More than 10 acres (<i>township development</i>) Starting the earthwork until G1 issued.	Based on area

EXAMPLE : CHARGES OF RETURN WATER

Kurang 10 ekar (*pocket development*)
Bermula fasa kerja tanah sehingga perakuan Borang G3;



CHARGES OF RETURN WATER
= 10 acres x RM100 x 12 months
= RM12,000

Melebihi 10 ekar (*township development*)
Bermula fasa kerja tanah sehingga perakuan Borang G1



CHARGES OF RETURN WATER
= 70 acres x RM50 x 12 bulan
= RM42,000

ZERO DISCHARGE POLICY (ZDP)

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License of Entry or Discharge of Waste or Pollutant

No.	Licensed Activity	Descriptions Acreage/quantity/type	Parameter	Standard Limit A	Standard Limit B
1.	Fresh Water Aquaculture	No limit or acreage/ quantity/ type	Ammoniacal Nitrogen (AN) Biochemical Oxygen Demand (BOD5) Total Suspended Solid (TSS) Total Nitrogen (TN) Total Phosphorus (TP)	1 mg/l 20 mg/l 50 mg/l 5 mg/l 0.5 mg/l	5 mg/l 50 mg/l 100 mg/l 10 mg/l 1 mg/l
2.	Brackish Water/ Saltwater Aquaculture	No limit or acreage/ quantity/ type	AN BOD TSS TN TP	1 mg/l 20 mg/l 50 mg/l 5 mg/l 0.5 mg/l	5 mg/l 50 mg/l 100 mg/l 10 mg/l 1 mg/l

ZERO DISCHARGE POLICY (ZDP)

License of Entry or Discharge of Waste or Pollutant

No.	Licensed Activity	Descriptions Acreage/quantity/type	Parameter	Standard Limit A	Standard Limit B
3.	Development or earthwork	Less than 50 hectares	TSS Oil & Grease(O&G)	50 mg/l 1 mg/l	100mg/l 10 mg/l
4.	Poultry Farming	Livestock chicken, duck, geese, turkey, quail, guinea fowl, pigeon, ostrich and emu regardless of the limit of acreage or quantity.	AN BOD COD TSS	5 mg/l 10 mg/l 250 mg/l 50 mg/l	10 mg/l 250 mg/l 500 mg/l 100 mg/l
5.	Ruminant Farming	Livestock cattle, goat, sheep, buffalo, deer and others regardless of the limit of acreage or quantity.	AN BOD COD TSS	5 mg/l 50 mg/l 250 mg/l 50 mg/l	10 mg/l 250 mg/l 500 mg/l 100 mg/l

ZERO DISCHARGE POLICY (ZDP)

License of Entry or Discharge of Waste or Pollutant

No.	Licensed Activity	Descriptions Acreage/quantity/type	Parameter	Standard Limit A	Standard Limit B
6.	Pets	Pet activities of dogs, cats or other pets which amount to twenty (20) or more.	AN BOD COD TSS	5 mg/l 50 mg/l 250 mg/l 50 mg/l	10 mg/l 250 mg/l 500 mg/l 100 mg/l
7.	Washing of Rock Material	Any type of washing of sand, soil or rock material regardless of the limit of acreage or quantity.	TSS O&G	50 mg/l 1 mg/l	100 mg/l 10 mg/l
8.	Common Sand Mining	Common sand mining involving an area of less than twenty (20) hectares.	TSS O&G	50 mg/l 1 mg/l	100 mg/l 10 mg/l

ZERO DISCHARGE POLICY (ZDP)

Air Untuk Semua

License of Entry or Discharge of Waste or Pollutant

No.	Licensed Activity	Descriptions Acreage/quantity/type	Parameter	Standard Limit A	Standard Limit B
9.	Abattoir	All abattoirs licensed under Abattoirs (Privatisation) Act 1993.	AN BOD COD TSS	5 mg/l 50 mg/l 250 mg/l 50 mg/l	10 mg/l 250 mg/l 500 mg/l 100 mg/l
10.	Industry	i. produced industrial effluent or mixed effluent or less than 60 cubic meters per day; ii. total load of Biochemical Oxygen Demand (BOD ₅) at 20°C) or Suspended Solid or both, shall not exceed 6 kilograms per day (concentration of 100 milligrams per liter)	AN BOD TSS O&G	10 mg/l 20 mg/l 50 mg/l 1 mg/l	20 mg/l 50 mg/l 100 mg/l 10 mg/l

ZERO DISCHARGE POLICY (ZDP)

License of Entry or Discharge of Waste or Pollutant

No.	Licensed Activity	Descriptions Acreage/quantity/type	Parameter	Standard Limit A	Standard Limit B
11.	Recreational Activities	Any activities which discharge of return water, and entry or discharge of waste and pollutants.	AN BOD	5 mg/l 50 mg/l	10 mg/l 250 mg/l
12.	Sewage Treatment System	Premises that discharge sewage into water sources for residential or commercial development or both that have an equivalent population of less than 150	AN BOD TSS O&G	15 mg/l 35 mg/l 75 mg/l 7.5 mg/l	20 mg/l 50 mg/l 100 mg/l 10 mg/l
13.	Solid Waste Management Services	None			
14.	Water Supply Services	None			

ZERO DISCHARGE POLICY (ZDP)

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Licensed Activity	Registration Fee (RM)	License Fee (RM) (Annual)	
Industry	150	Discharge of Return Water	Entry or Discharge of Waste and Pollutants
		200	750
		Charge: Monthly based on the total volume effluent discharged	Charge: If it exceeds the designated standard limits.

KEGAGALAN



mendapatkan LESEN berkaitan ZDP ini adalah merupakan suatu kesalahan. Jika disabitkan :

DENDA TIDAK MELEBIHI RM50,000.00, PENJARA TIDAK MELEBIHI 2 TAHUN ATAU KEDUA-DUANYA.

SEBARANG PERTANYAAN, BOLEH HUBUNGI
LEMBAGA URUS AIR SELANGOR (LUAS)
+603 5511 1800 / aduan@luas.gov.my

Permohonan lesen berkaitan ZDP boleh dibuat secara atas talian melalui laman sesawang <https://elesen.luas.gov.my>

FINE NOT EXCEEDING RM 50,000.00, IMPRISONMENT NOT EXCEEDING 2 YEARS, OR BOTH.

ZERO DISCHARGE POLICY (ZDP)

License of Entry or Discharge of Waste or Pollutant

PENALTY CHARGES: POLLUTERS PAY PRINCIPLE	Parameter	Charge for each kg of pollutant released or introduced (RM)
	BOD5	0.06
	COD	0.08
	TSS	0.04
	OIL AND GREASE	0.22
	Total Nitrate	0.04
	Total Phosphorus	0.04
	Ammoniacal Nitrogen	0.05

ZERO DISCHARGE POLICY (ZDP)

Air Untuk Semua

License of Entry or Discharge of Waste or Pollutant

PENALTY CHARGES:

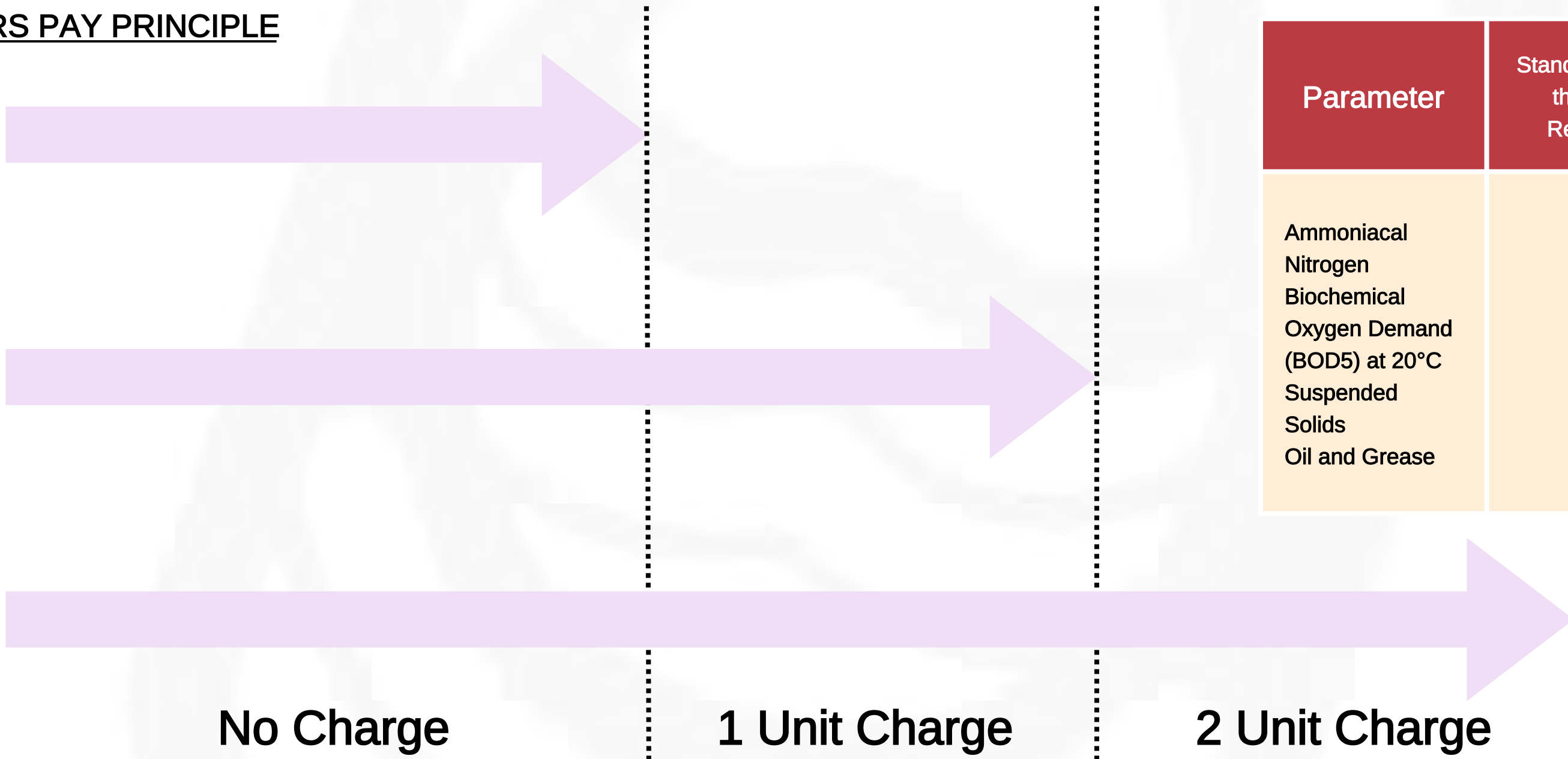
POLLUTERS PAY PRINCIPLE

Standard Limit A

Standard Limit B

INDUSTRY

Parameter	Standard Limits for the Entry or Release of A	Standard Limits for the Entry or Release of B
Ammoniacal Nitrogen	10 mg/l	20 mg/l
Biochemical Oxygen Demand (BOD5) at 20°C	20 mg/l	50 mg/l
Suspended Solids	50 mg/l	100 mg/l
Oil and Grease	1 mg/l	10 mg/l



'Water To Water' Concept



SUNGAI GONG BEFORE TREATMENT



SUNGAI GONG AFTER TREATMENT

Sg Gong Bioremediation Pilot Project – Initiative of Skim Jaminan Air Mentah Selangor (SJAM)

- 2021
- 5.6 km
- RM2.4 million
- No more incidents of water intake shutdown caused by activity in this area.

'Water To Water' Concept



Conservation of Fauna
Habitat



Biodiversity of
Marine Resources



Water Quality
Improvement



Conservation of
Aesthetic Value

THANK YOU



Lembaga Urus Air Selangor



lembagaurusairselangor



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LembagaUrusAirSelangor



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