

# FROM POLICY TO PRACTICE : IMPLEMENTING AND ENFORCING WATER SUPPLY REGULATIONS

## SPAN'S PERSPECTIVE

**NATIONAL WATER SERVICES COMMISSION**

OCTOBER 2024



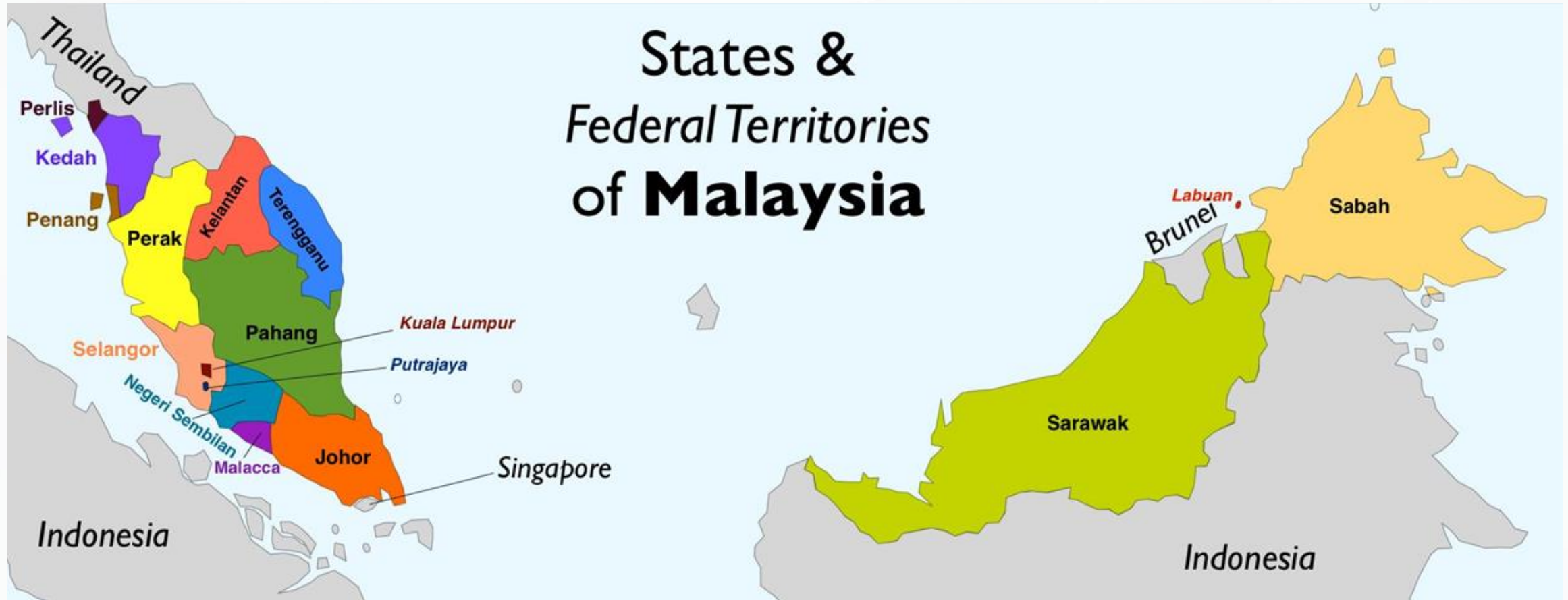
# OUR ESTABLISHMENT

- *SPAN is a regulatory body which governs the economic, social and technical aspects of water supply and sewerage services in Peninsular Malaysia and the Federal Territory of Labuan.*
- *SPAN was established on 1<sup>st</sup> April 2007 under the Suruhanjaya Perkhidmatan Air Negara Act 2006.*
- *The Water Services Industry Act 2006 (WSIA) was enforced on 1<sup>st</sup> January 2008 and provides for the regulation of water supply and sewerage services and related incidental matters*

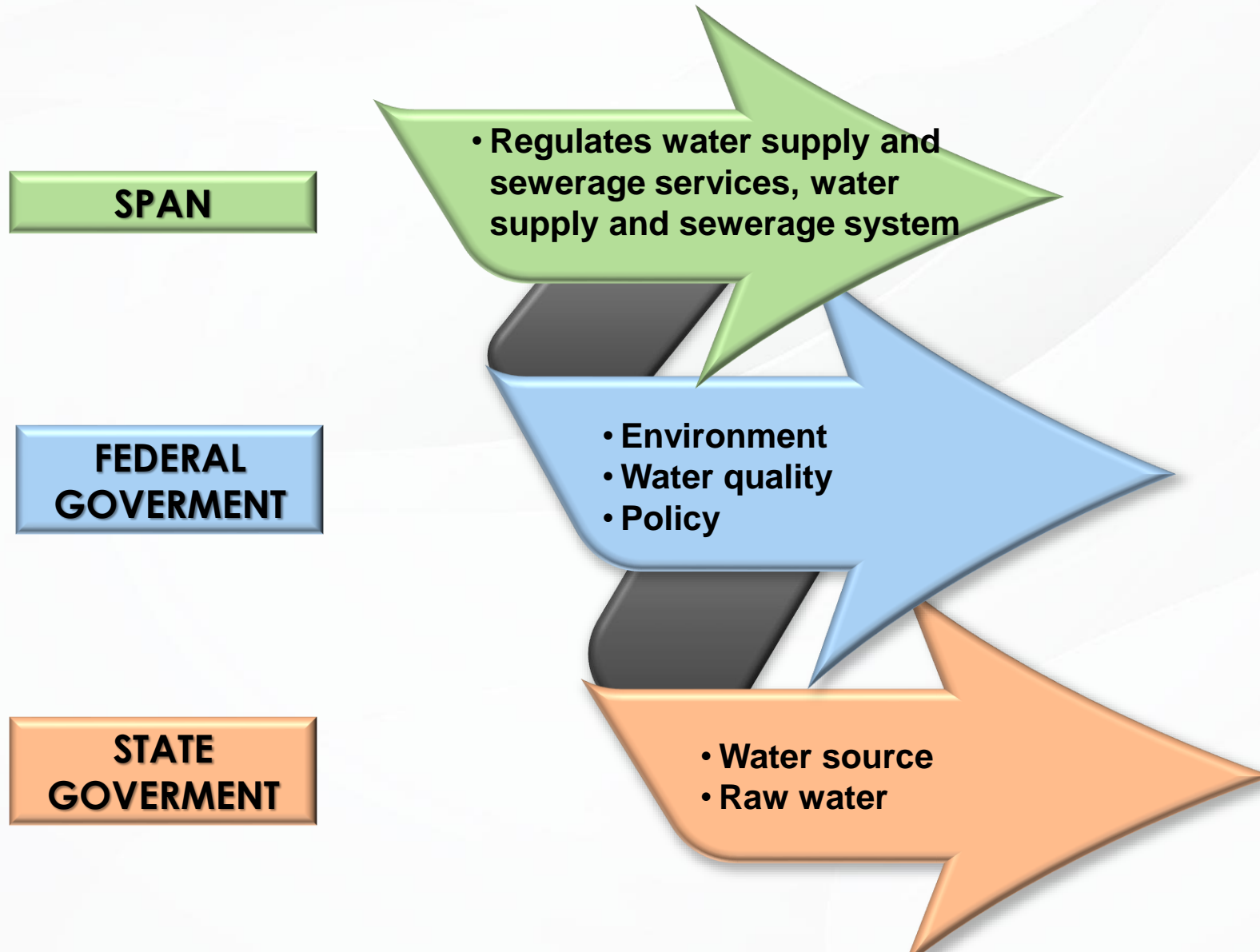


# REGULATORY SCOPE

SPAN regulates water supply and sewerage services in Peninsular Malaysia and Federal Territories of Putrajaya and Labuan



# OVERALL GOVERNANCE



# ESTABLISHMENT OF SPAN

## CONSTITUTION AMENDMENT

- Matters related to water supply and its services in Peninsular Malaysia and the Federal Territories of Putrajaya and Labuan are enlisted in the **Concurrent List** of the Constitution
- The amendment to the Constitution does not hinder state powers to continue in control and supervise water catchment areas, water resources and river basins.

## GAZETTEMET

National Water Services Commission Act 2006  
[Act 654]

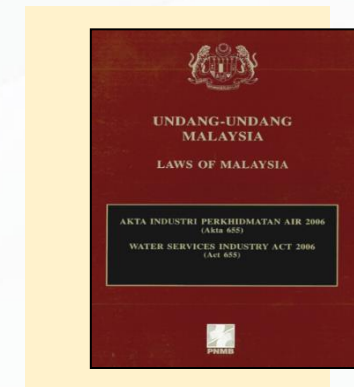
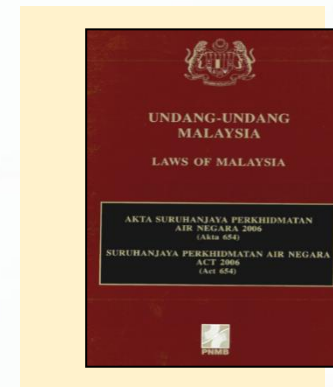
Water Services Industry Act 2006  
[Act 655]

## ACT 654

- An act to establish SPAN to regulate water supply and sewerage services matters.
- Enforced on **1st Feb 2007**
- SPAN established on **1st April 2007**

## ACT 655

- An act to provide and regulate water supply and sewerage services.
- Enforced on **1st Jan 2008**



2005



2006



2007

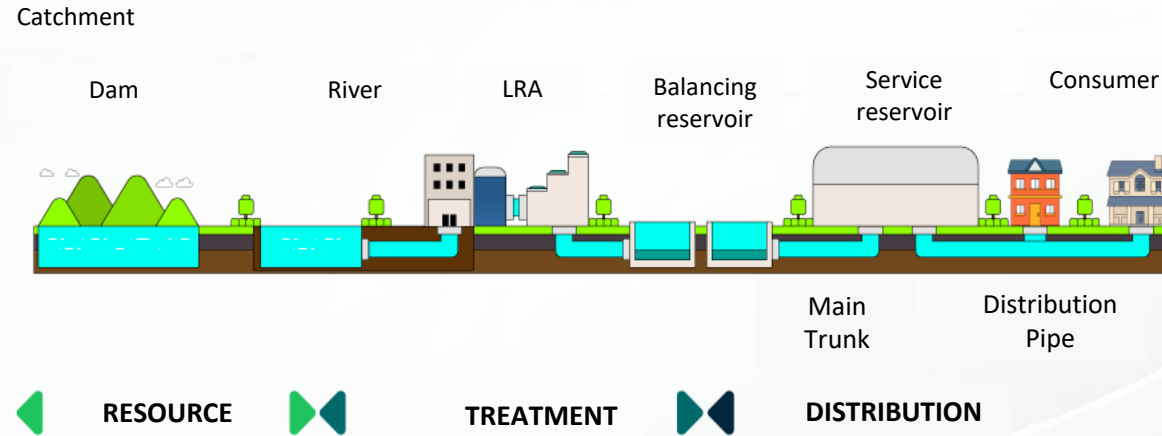


2008

# WATER SUPPLY MANAGEMENT

PRIOR TO ACT 655

## STATE

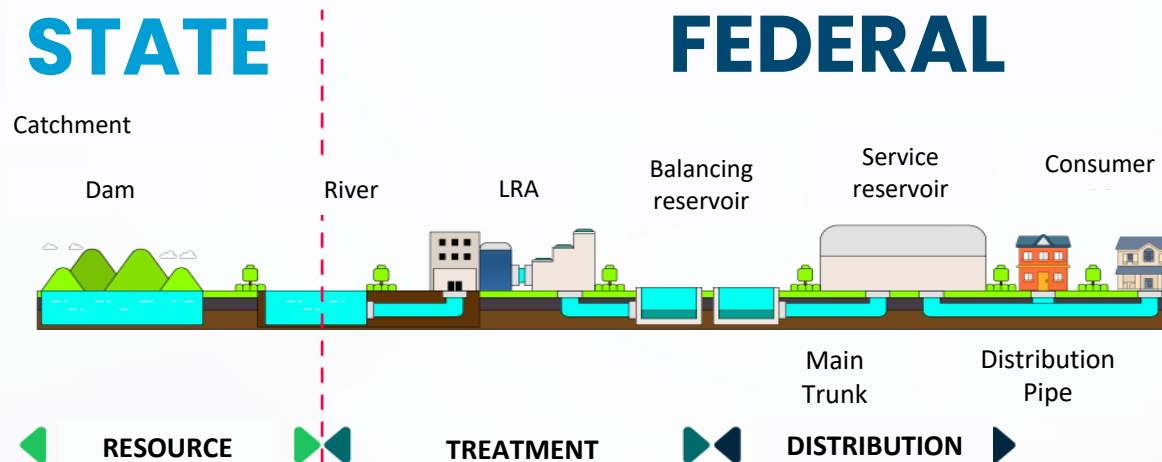


- Non- uniform legislation
- Non-uniform tariff setting principles
- Different levels of service standards
- Different Key Performance Indicators (KPIs)
- Non-uniform material/product standards
- Non-uniform operational/technical procedures and standard

AFTER ACT 655

## STATE

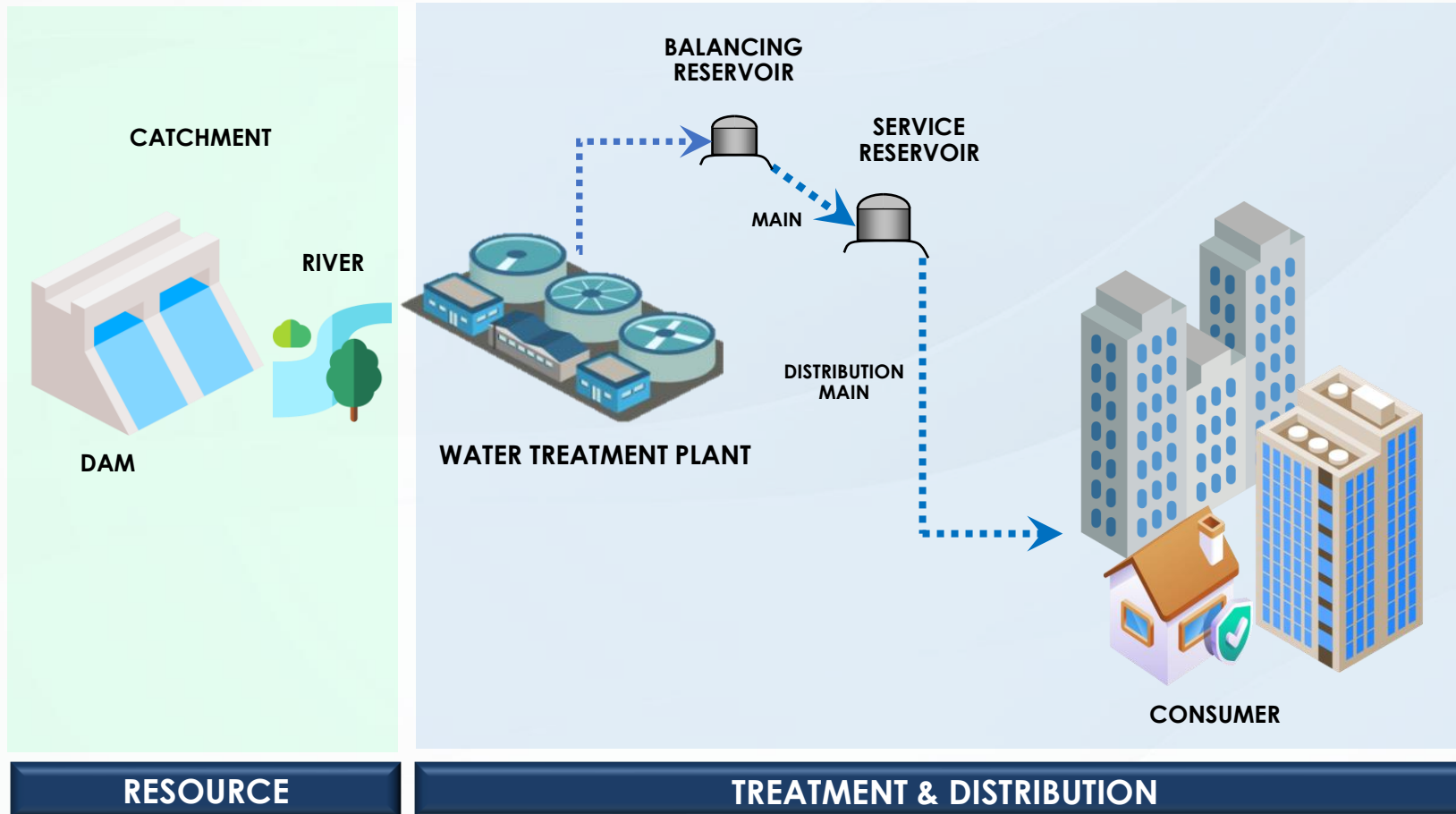
## FEDERAL



- Single regulatory body
- Uniform legislation
- Uniform tariff setting mechanism
- Uniform Key Performance Indicators (KPIs)
- Uniform operational/technical procedures and standard
- Uniform material/product standards

# REGULATORY JURISDICTION OF WATER SERVICES

## WATER SUPPLY SYSTEM



- State & Federal Gov

SPAN

# ROLES

**01**

## **MINISTRY'S ADVISORY**

In terms of national policy, tariffs and matters related to water supply and sewerage

**02**

## **REGULATORY BODY**

Regulate the water services industry in accordance with the provisions of Acts 654 and 655

**03**

## **PERFORMANCE MONITORING**

Monitor the performance of service and facilities licensees

**04**

## **NRW MANAGEMENT**

Advising the ministries on NRW matters and monitoring and evaluating NRW management programs of water operators

**05**

## **INDUSTRY SUSTAINABILITY**

Assure the continuous access to safe drinking water supply and sewerage services

**06**

## **WATER SUPPLY ACCESS**

Ensure that water supply coverage and access is achieved

**07**

## **CATCHMENT PLAN**

Prepare sewerage catchment plan enlisting policy and proposal for new and existing sewerage system

**08**

## **OTHER ROLES**

Carry out other duties as assigned by other written laws



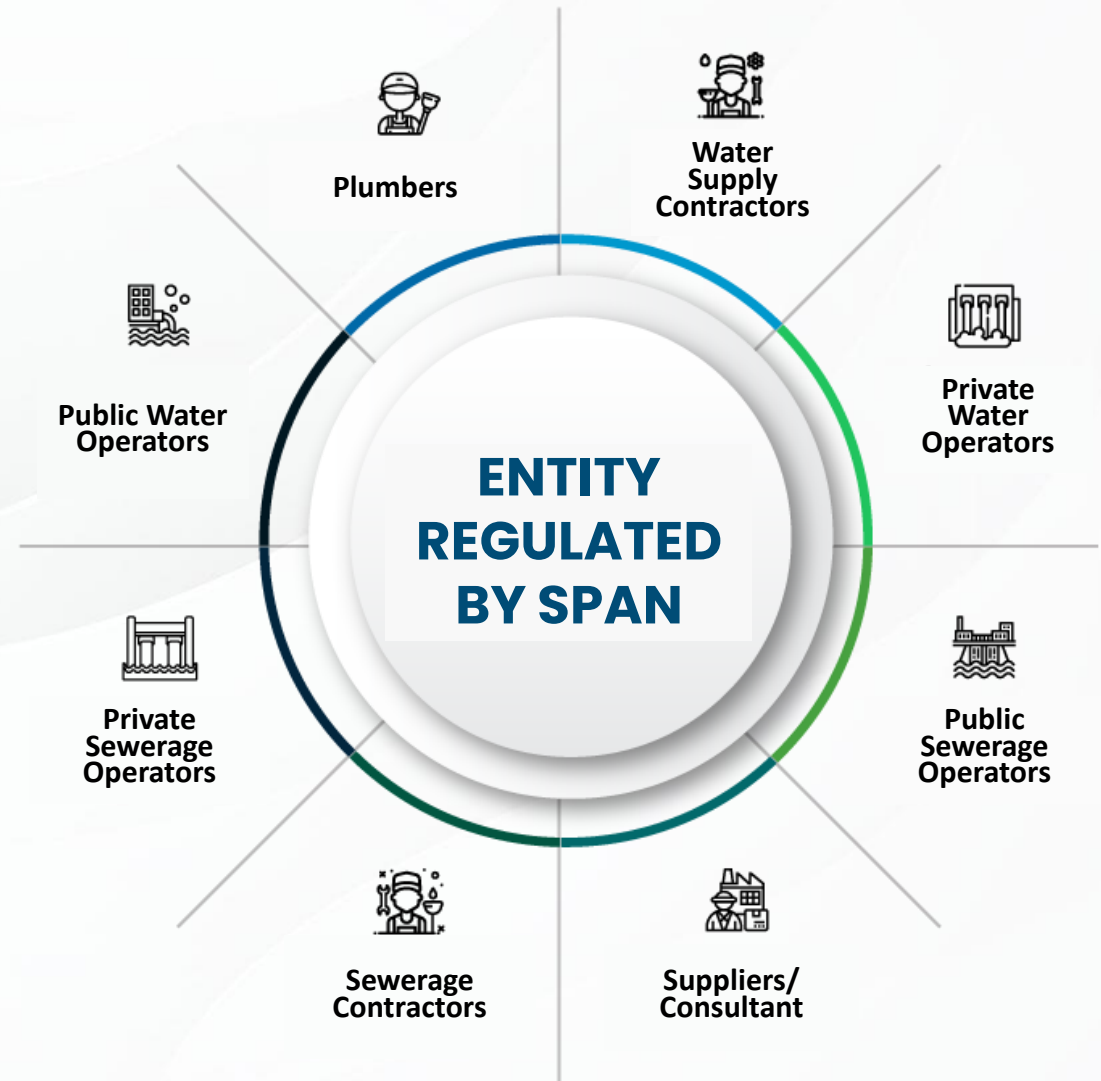
# REGULATORY SCOPE

01

Regulatory agency that regulate the water services industry (Peninsular Malaysia & WP Labuan)

02

To enforce water service industry laws under the WSI Act 2006 (Act 655)



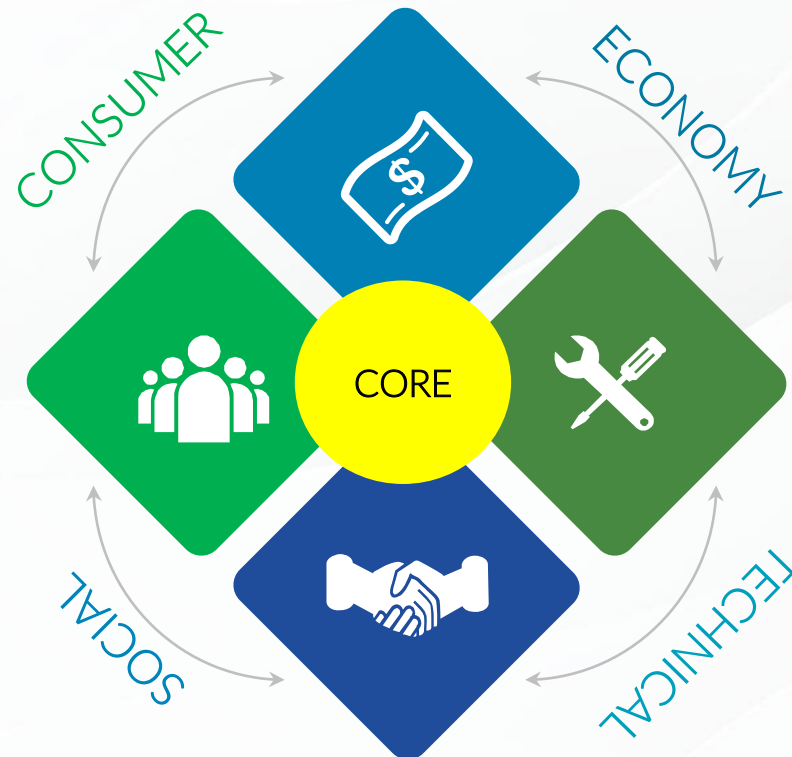
# REGULATORY INITIATIVES

## Consumer

- Consumer Code
- Communication, Education & Public Awareness
- Enforcement Activities

## Social

- Review and amend existing legislation/regulation
- Consultation with stakeholders
- Integrity



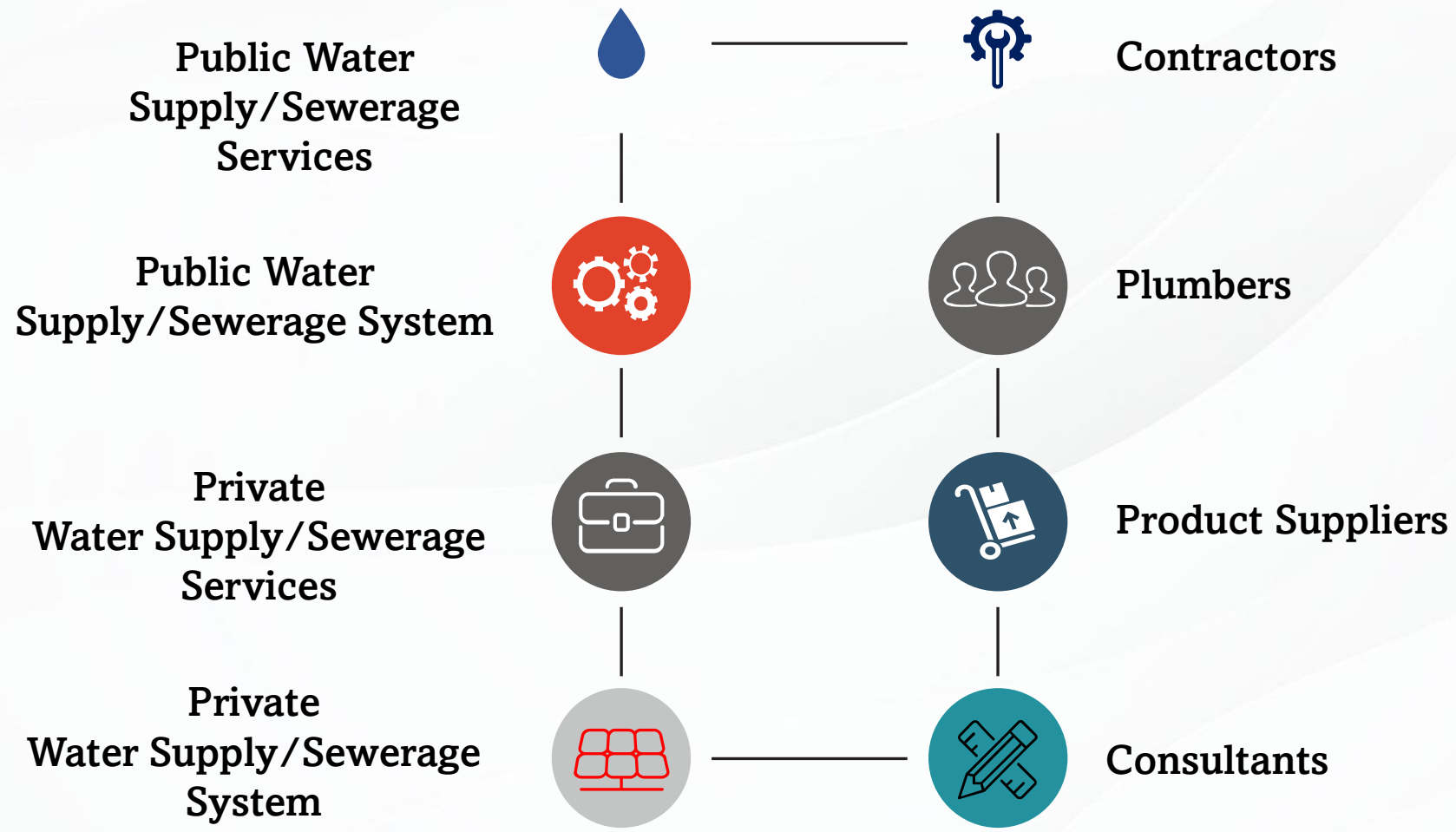
## Economy

- Licensing Regulation
- Permit Rules
- Tariff Regulations
- Tariff Setting Mechanism

## Technical

- Desludging Regulations
- Design and Construction Rules
- Guidelines
- Technical Standards
- Prohibited Effluent Regulations

# REGULATED ENTITIES



# RESTRUCTURING OF WATER SUPPLY SERVICES - ASSET LIGHT MODEL

Setting the policy and direction of the water services industry

**FEDERAL GOV**

**STATE GOV**

Preserve and manage water resources



**WATER OPERATOR**



- State government loan collection
- Provides CAPEX water supply
- Getting sources of financing from the open market

- Provide water supply services to consumers
- Operating on an "asset-light" basis
- Focus on service efficiency and effectiveness

4  
Loan Repayment

1

- Novation and restructuring of the loan balance
- Transfer of Ownership water supply assets

2

Leased Water Assets

3

Pay Lease Rental

5

Water royalty payments and dividends/bonuses

Regulate water services industry through Act 655

# LICENCE REQUIREMENT

## Water Supply System

Water Treatment Plant

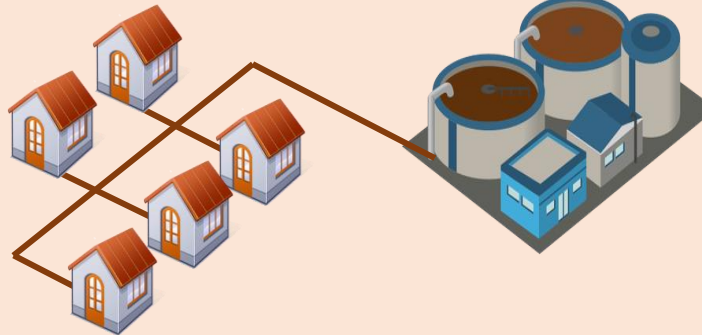


Supply to the public



## Sewerage System

Sewage Treatment Plant



### Section 4 : Individual License

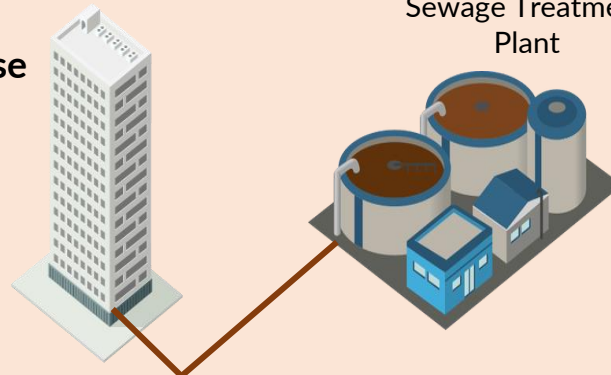
Water Treatment Plant



Single Premise



Sewage Treatment Plant



### Section 20 : Class License

#### INDIVIDUAL LICENCE

#### Public System

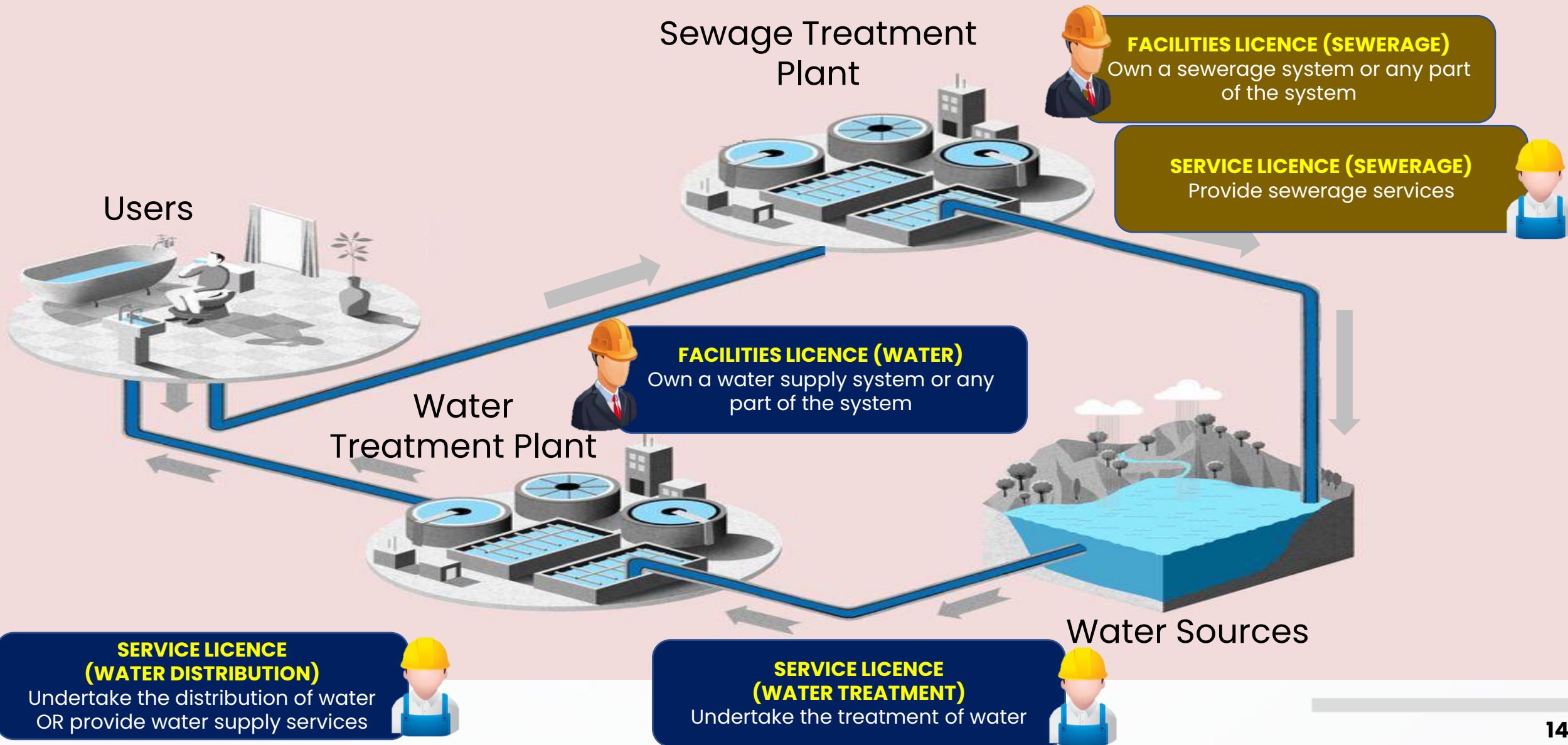
- Strict rules
- Limited number
- Comprehensive obligation
- Approved by Minister through SPAN recommendation

#### CLASS LICENCE

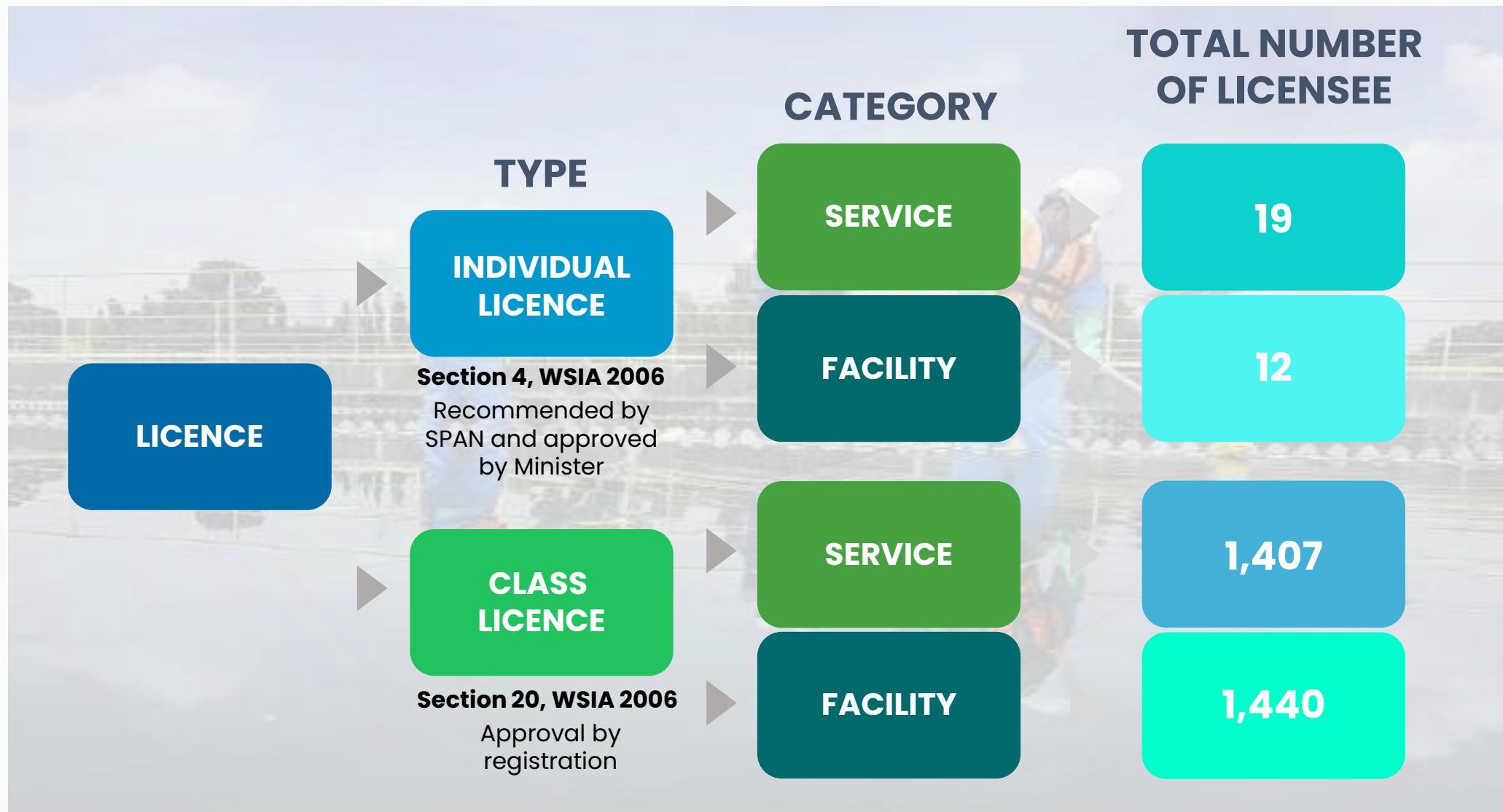
#### Private System

- Lenient/more flexible than individual licenses rules
- Unlimited number
- Minimum obligations
- Approval by registration

# LICENCE CATEGORY



# NUMBER OF LICENSEE



**Note: The data indicates licensees as of 15 June 2024**

# KEY PERFORMANCE INDICATORS (KPI)

## Water Supply Sector (Service Licensee)

No	Area	No	KPI
1.0	Water Service Performance	1.1	Area of Supply Coverage
		1.2	Water Quality
		1.3	Continuity of Water Supply
		1.4	Water Pressure
		1.5	Security of Supply
2.0	Customer Service	2.1	Water Supply Complaint
		2.2	Customer Satisfaction Index
3.0	Operational Performance	3.1	Non- Revenue Water
		3.2	Operation Cost
		3.3	Collection Efficiency
		3.4	Operation Ratio
4.0	Environmental Performance	4.1	Residual Management
5.0	Competency	5.1	Requirements for staff to be recognized as qualified persons to operate and maintain water treatment plant & water distribution



# KEY PERFORMANCE INDICATORS (KPI)

## Sewerage Services Sector (Service Licensee)

No	Area	No	Main Indicator	No	Sub Indicator
1.0	Operation and Maintenance	1.1	Effluent Compliance	i	Effluent Compliance
		1.2	Safety and Security Aspect	i	Security Risk
				ii	Asset Safety
		1.3	O&M Works	i	Scheduled Asset Visitation
2.0	Customer Service	2.1	Billing Accuracy	i	Billing Complaints
		2.2	Enquiry Response Time	i	Billing, Operational and Desludging Enquiry Response Time
		2.3	Service Reliability	i	Operational Complaints Resolution Time
3.0	Financial	3.1	Billing Efficiency	i	Non-Revenue Customer
				ii	Billing Issuance Compliance
		3.2	Collection Efficiency	i	Collection Rate
				ii	Average Collection Period for Connected Services
				iii	Outstanding Amount of Debt for Connected Services
		3.3	O&M Cost Efficiency	i	Total O&M Cost per Design PE for Connected Services
				ii	Total O&M Cost per Connected Population Equivalent (PE)
				iii	Operational Cost Efficiency for Connected Services
				iv	Operational Cost Efficiency for Desludging Services
				v	Revenue for Connected Services

# TYPES OF PERMITS



## Permit A

Plumbers (Individual)

4,404



## Permit B

Contractors who make connections of sewer pipes from the premises to public pipes

714



## Permit C

Contractor/ sub-contractor  
Construction of Water Supply System

5,499



## Permit D

Supply System Maintenance Contractor

3,838



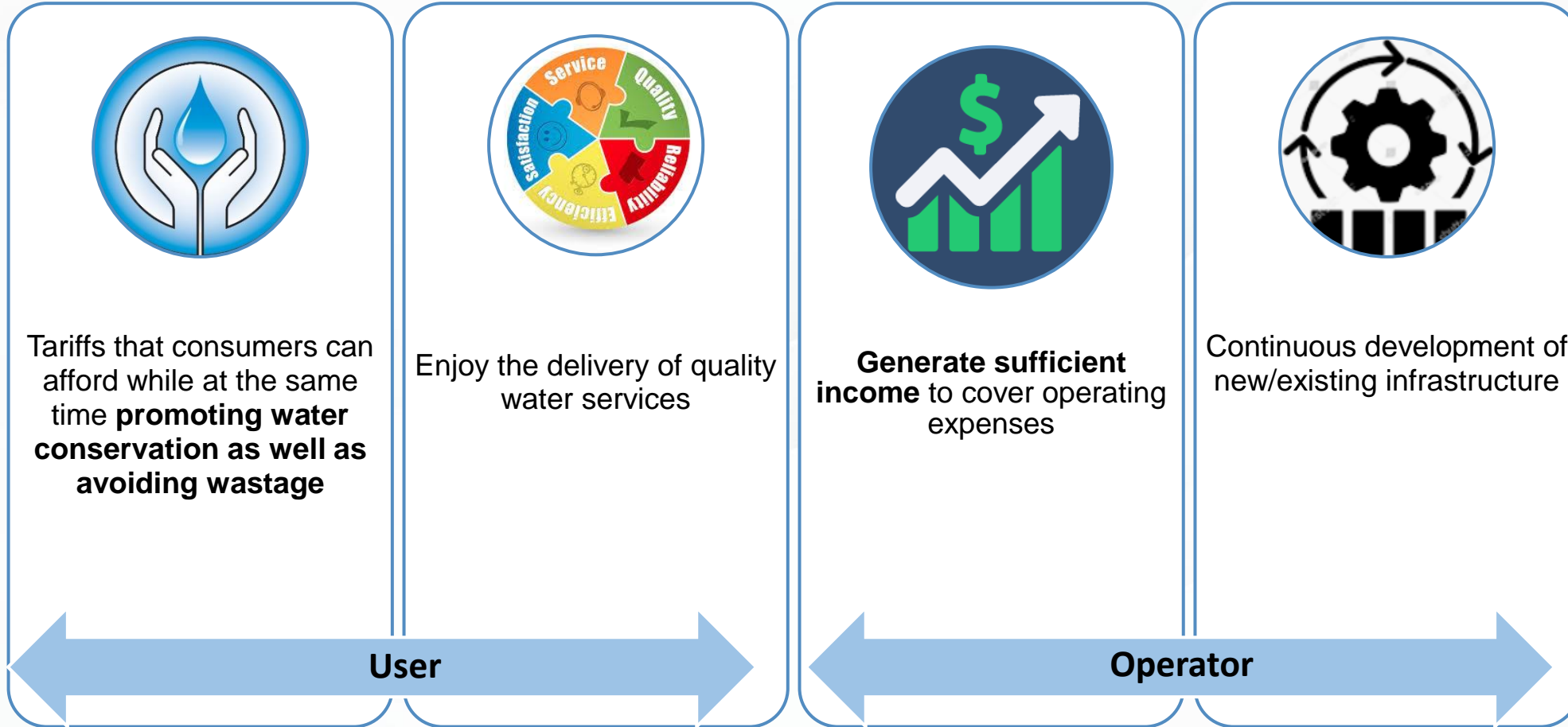
## Permit E

Desludging Contractors

193

**Note: The data indicates permit holders as of 1<sup>st</sup> Jan 2024**

# TARIFF ADJUSTMENT



# WATER SUPPLY STATISTICS 2023

12

Water Services  
Operators

16,113 person.  
Workforce

Population  
Served

97.1%

Urban 97.1% | Rural 97.0%

Domestic  
Consumption Per  
Capita

228

liter/capita/day

Reserve Margin

15.3%

Water  
Treatment  
Plant

348

8.2 Mil  
Accounts

138,036km

Pipeline Length

5/5

Water Quality

98.8%

Surface  
Water Source  
81% River  
17.8% Dam

NRW

5,042 JLH | ~RM2 Billion

34.6%

# SEWERAGE FACILITIES STATISTICS 2023

## PUBLIC STP

### CENTRAL

111 Unit. 11,482,550 PE

### MULTIPOINT

7,491 Unit. 20,352,460 PE



## PRIVATE STP

Number: 6,304

7,785,854 PE



## COMMUNAL SEPTIC TANK (CST)

Number : 4,230

365,616 PE



## INDIVIDUAL SEPTIC TANK (IST)

Number: 1,363,886

7,151,742 PE



## TRADITIONAL SYSTEM

Number: 1,156,314

5,781,570 PE



Total Workforce  
3,407 Person

# WATER INDUSTRY MAIN CHALLENGES

01

## LOW WATER TARIFF

Revenue is insufficient to cover OPEX and CAPEX

## LOW RESERVE MARGIN

Recommended reserved margin is 15%.  
6 states are below recommended reserve margin

02

03

## INSUFFICIENT WATER RESOURCES

The inadequacy of water resources especially during long droughts has resulted in licensees requiring to reduce production and implement scheduled water supply

## WATER SOURCE POLLUTION

Affects water treatment plant capacity to treat and supply water

04

05

## HIGH WATER CONSUMPTION (LCD)

High domestic water consumption of 228liters/capita/day compared to the target set of 160 LCD by 2030

## HIGH NRW

High NRW of 34.6% compared to the target 28.8% by 2030.

06

# SEWERAGE INDUSTRY MAIN CHALLENGES



01

## LOW SEWERAGE TARIFF

Revenue is insufficient to cover OPEX and OPERATIONAL CAPEX

## LOW PROPERTY CONNECTION

- Existing regional sewerage systems not fully utilized
- Property connection – Connection to regional STP need to be carried out
- Refusal/Less acceptance from premise owner for connection service

02

03

## POINT SOURCE POLLUTION

- About 1.3 million septic tanks need to be desludged at least once every 2 years.
- STPs need to be upgraded to meet DOE's effluent standard

## PRIVATE ASSETS OPERATING WITHOUT LICENSE

- More than 4,500 assets operating without license.

04

# DATA COLLECTION SYSTEMS

## CURRENT SYSTEMS



### WATER INDUSTRY BUSINESS INTELLIGENT SYSTEM (WIBIS)

Data collection and reporting for water industry

### Supplier e-Registration System

#### e-REGISTRATION

System for registering suppliers and products including 'Water Efficient Products'

### e-Complaint System



Assists the consumer, water and sewerage operator representatives in resolving inquiry and complaint



### e-PERMIT

Online application to apply and registering Permit B, C, D & E.



### e-QP

Registration for Qualified Person in water industry

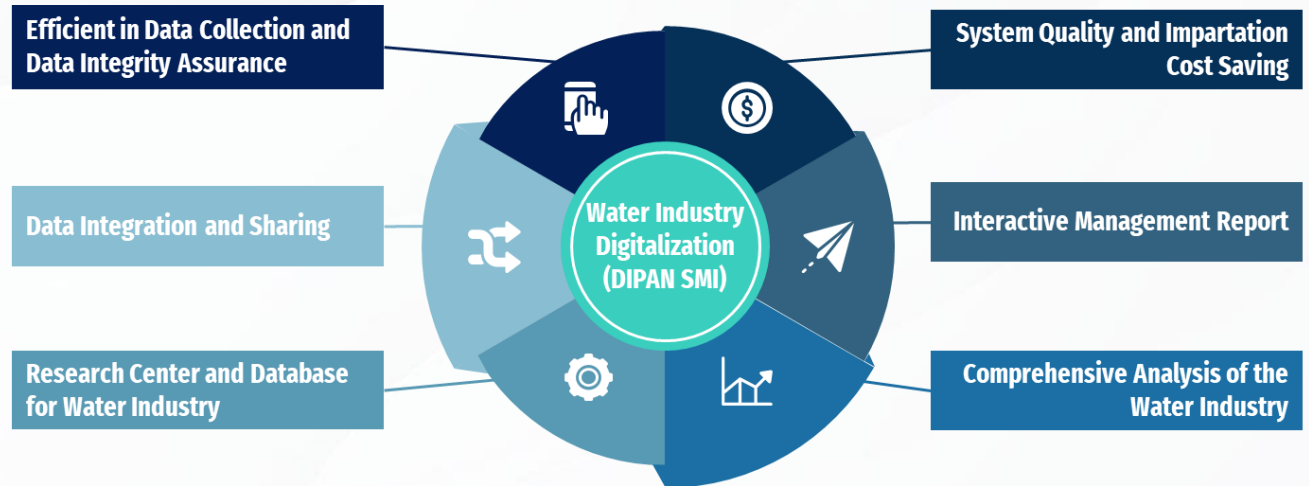


### e-CLAPS

Centralized License & Permit System – Online application to apply and register Class License and Permit A

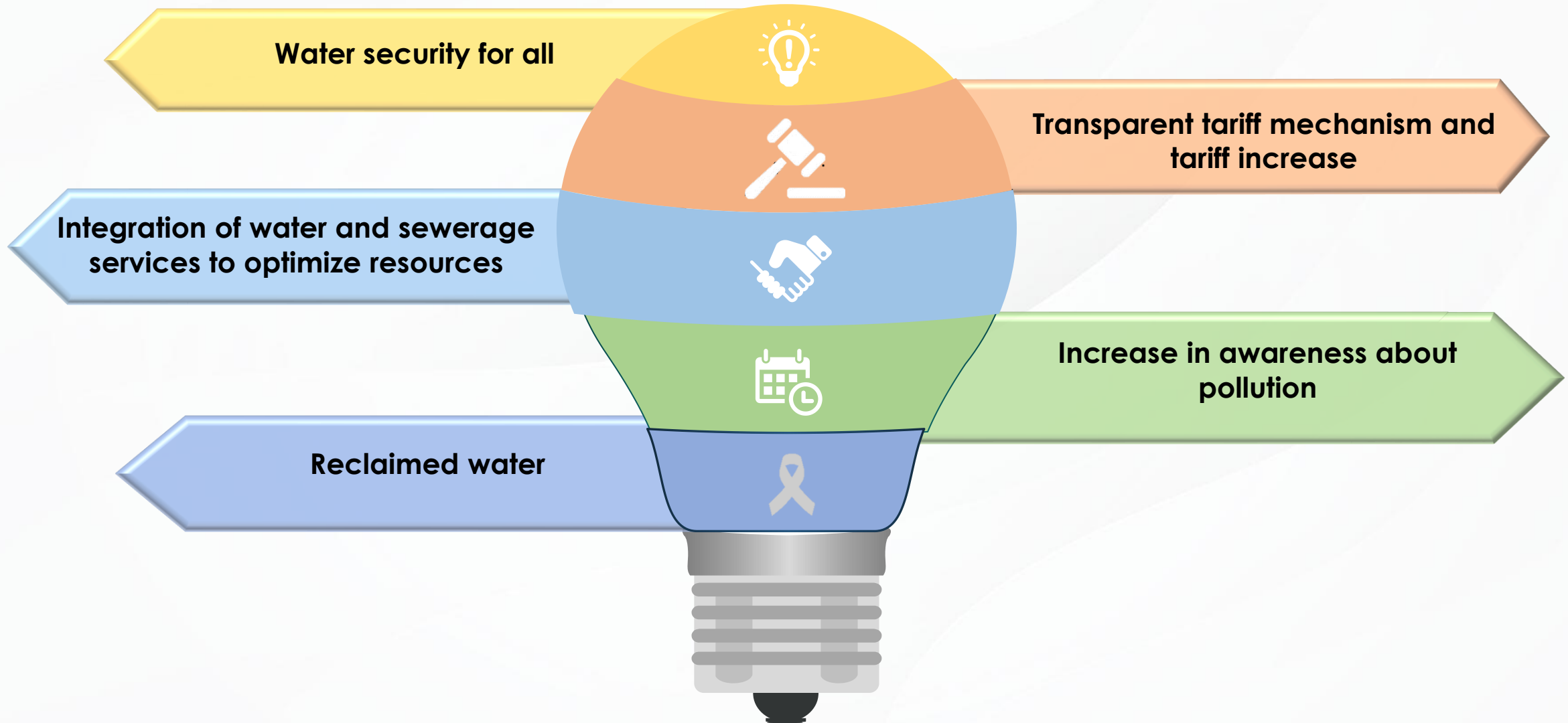
## WATER SERVICES INDUSTRY DATA – SPATIAL MAPPING INTERACTIVE (DIPAN SMI)

- The need to create a database, analysis to describe water and sewerage services across the country. The project requirements are also in line with digital transformation (IR4.0) and targets towards Big Data Analytic (BDA).
- Three (3) main indicators – **Water Resources**, **Water Supply** and **Sewerage** are developed in phases with the availability of existing data.





# CONCLUSION



**THANK YOU**