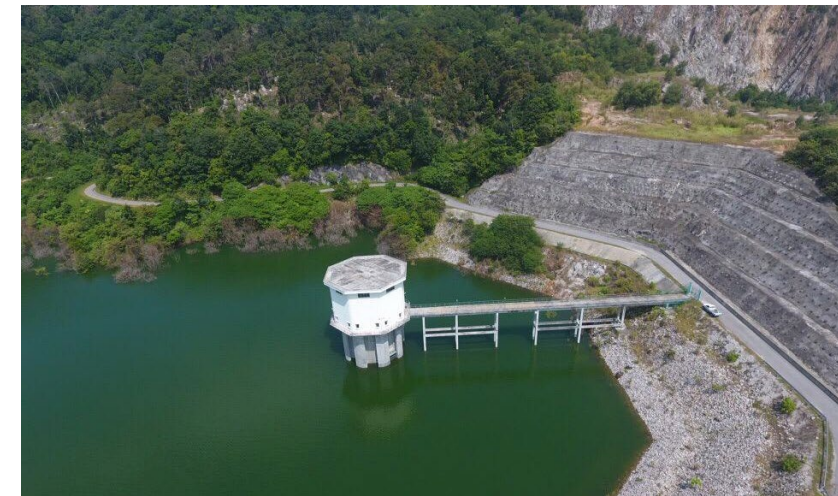
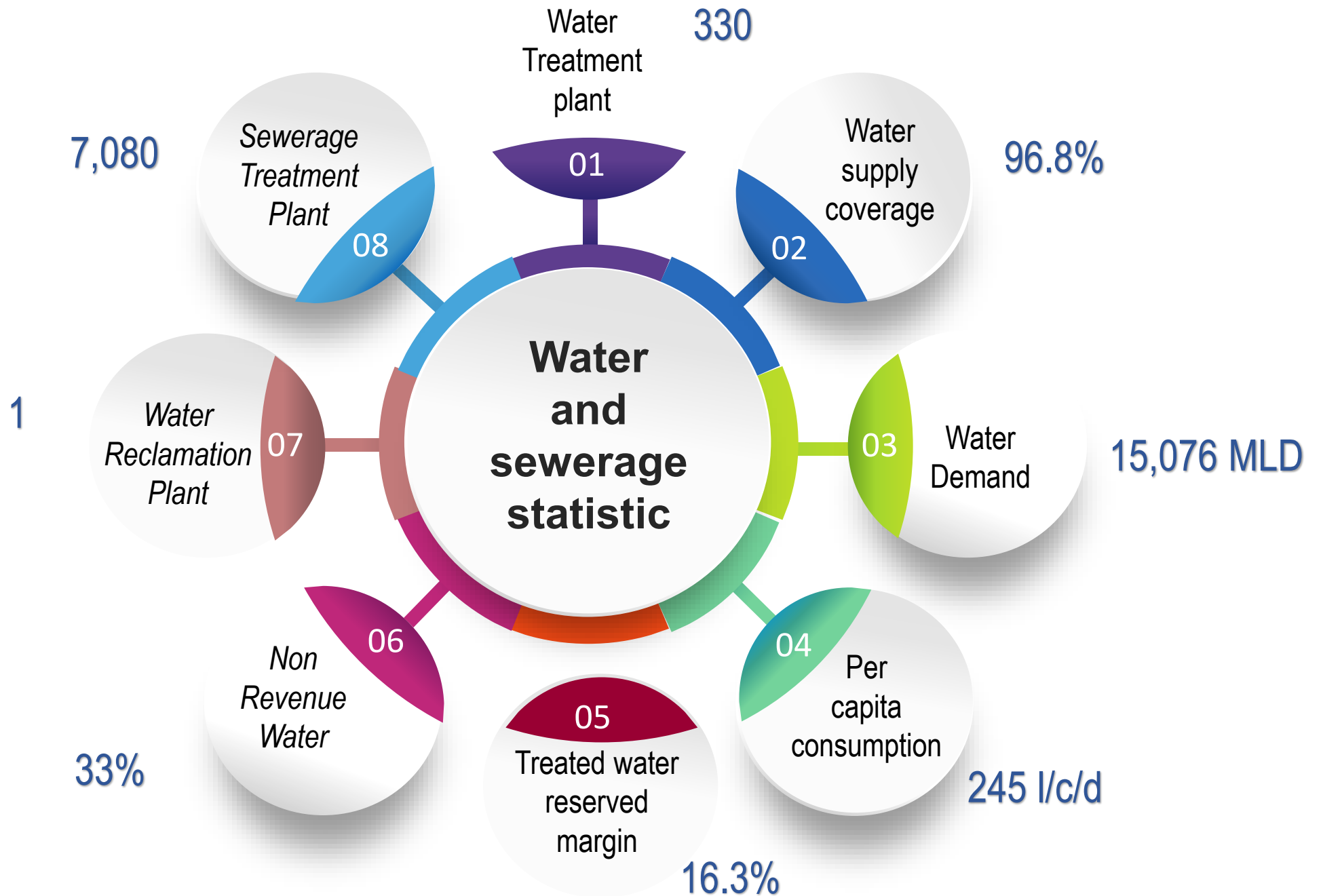


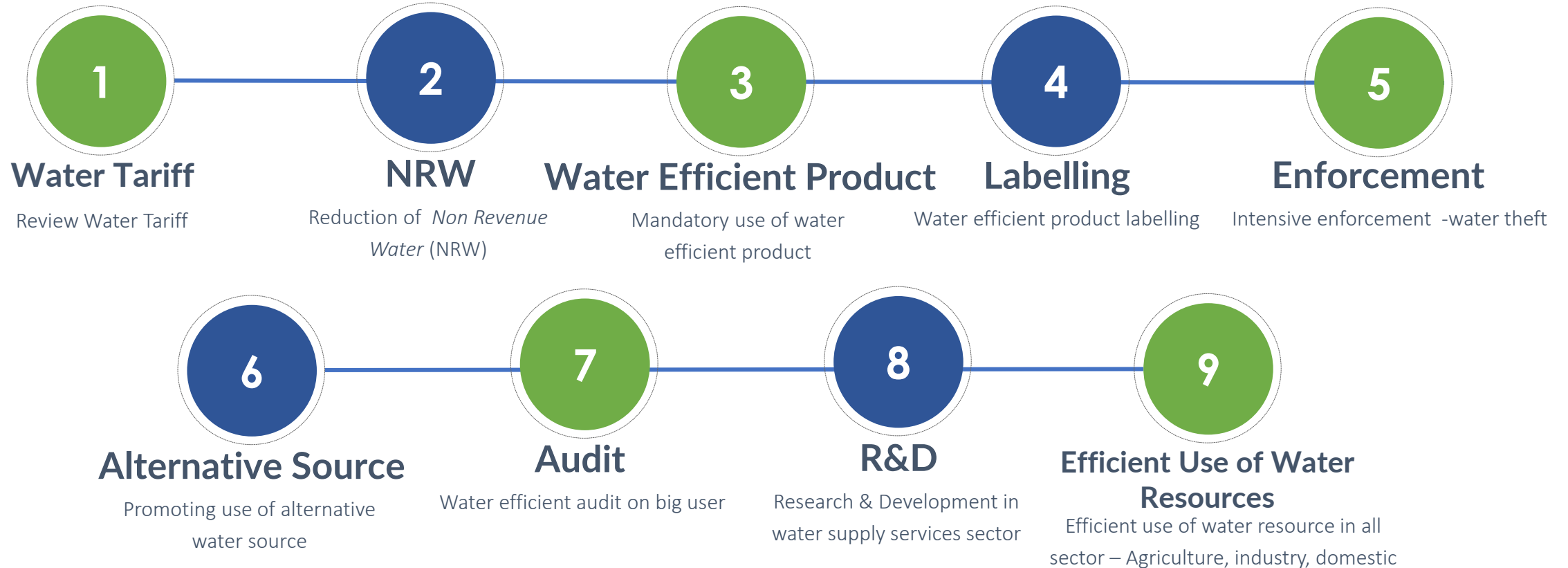
WATER BUSINESS WEBINAR:

**Ms Catherine Ridu
Under Secretary
Water and Sewerage Services Division
Ministry of Environment and Water**





Intensifying Water Demand Management to Overcome Water Supply Issues Holistically



MALAYSIA NATIONAL NON-REVENUE WATER PROGRAMME

12th MP TARGETS – 25%

- NRW reflect operational efficiency of water supply management .
- NRW level : range **30% - 70%** (for some states/districts up to 70%)
- 11th MP, National NRW Control Programme (2 Tiers – Approach 1 & Approach 2).
- Total cost **RM1.907 billion**.

Non-Achievement of Previous Approach ??

- NRW program treated as project basis
- Water supply operators lack resources to upgrade water supply system
- SIV not in-place / in-operation
- Pipeline mapping not in-place or not properly mapping



Approach 1

- NRW level **> 40 %**
- **7** states : Pahang, Kelantan, Kedah, Perlis, Sabah, Sarawak, and Federal Territory of Labuan
- **RM535.5 million (Federal Grant)**
- **4** scope - installation of System Input Volume (SIV) meters, replacement of individual meters, leaking tank repair and provision of Geographical Information System (GIS)
- Implementation by BBA.

Approach 2

- NRW level **< 40%**
- **7** states : Johor, Melaka, Negeri Sembilan, Perak, Pulau Pinang, Selangor dan Terengganu
- **RM1.371 billion (Matching grant)**
- **7** scope - pipe replacement, leak detection and repair, meter conversion and installation, establishment of District Meter Zone (DMZ), establishment of Pressure Management Area (PMA), development of monitoring systems and GIS system development
- States implement their own NRW Control Program, endorsed by NWSC (investment, program & target to achieved)
- Investment will be partially reimbursed by the Government (met the target 50% reimbursement or double the target get 75% reimbursement)
- Implementation by SPAN.

WAKAF FOR WATER (WAKAF AIR)

What is Wakaf for Water (Wakaf Air)?

- Collaboration with Yayasan Waqaf Malaysia
- Easy, fast and sustainable
- Alternative source of funding for small-scale water services projects.

How does Wakaf Air works?

- Endowment of money (or property) whose return or yield is dedicated towards a certain end.

Funds at Sept. 2021 :

- Collected : RM3.2 million
- Disbursed : RM266,486



AGIHAN WAKAF AIR

Sehingga 23 September 2021, sejumlah **RM266,486.00** telah dibelanjakan bagi tujuan membiayai projek-projek perkhidmatan air berskala kecil dengan pecahan sumber dana seperti berikut:



Kg. Padang Durian, Pendang, Kedah (RM45,350.00)	Kg. Sungai Mengkuang, Dabong, Kelantan (RM40,525.00)
Kg. Masjid Ehsaniah, Beruas, Perak (RM3,910.00)	Kg. Batu Balak, Jerantut, Pahang (RM49,475.00)
Kg. Sungai Sendat, Ulu Yam, Selangor (RM42,650.00)	Kg. Tanah Pindah, Bkt Mat Daling Ulu Tembeling, Jerantut, Pahang (RM49,800.00)
Kg. Melayu Seelong, Senai, Johor (RM34,776.00)	

Sumber : <https://www.ywm.gov.my/wakaf-air>

Untuk maklumat lanjut tentang Wakaf Air, anda boleh layari portal rasmi Yayasan Waqaf Malaysia di www.ywm.gov.my.

Salurkan sumbangan Wakaf Air anda ke Akaun Yayasan Waqaf Malaysia di

وقف أير  **2124 57600 01304**

Wakaf Air, Pahala Mengalir Seperti Air

Imbas dan wakaf melalui DuitNow



WAKAF AIR
MALAYSIA NATIONAL QR

www.ywm.gov.my  Yayasan Waqaf Malaysia

BACKGROUND

IWK'S COVERAGE OF SERVICES

11

States & 3 Federal Territories

101

out of 155 Local Authorities

26.86 mil

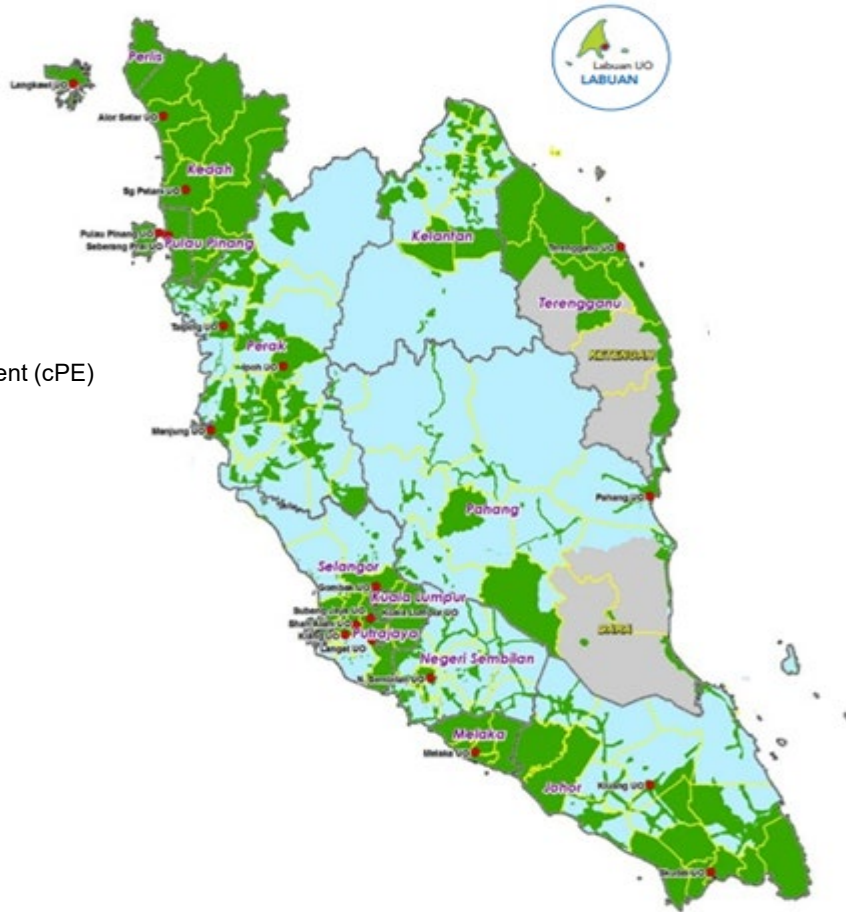
Connected Population Equivalent (cPE)

7,080

Sewage Treatment Plants

1

Water Reclamation Plant



Legend

- Unit Office
- State Boundary
- Local Authority Boundary
- Non - Local Authority Operational Area
- Indah Water Konsortium Operational Area
- Sabah, Sarawak, KETENGAH and DARA are not under Indah Water Konsortium Operational Area
- UO Unit Office

IWK AND MALAYSIA'S SECOND TAP



IWK produces an estimated amount of 5,679 MLD of treated effluent released from STPs around Malaysia that are being discharged to the water body on daily basis.



The complied, Standard A or B, treated effluent are suitable to be further treated via a water reclamation process and re-use for non-potable purposes.

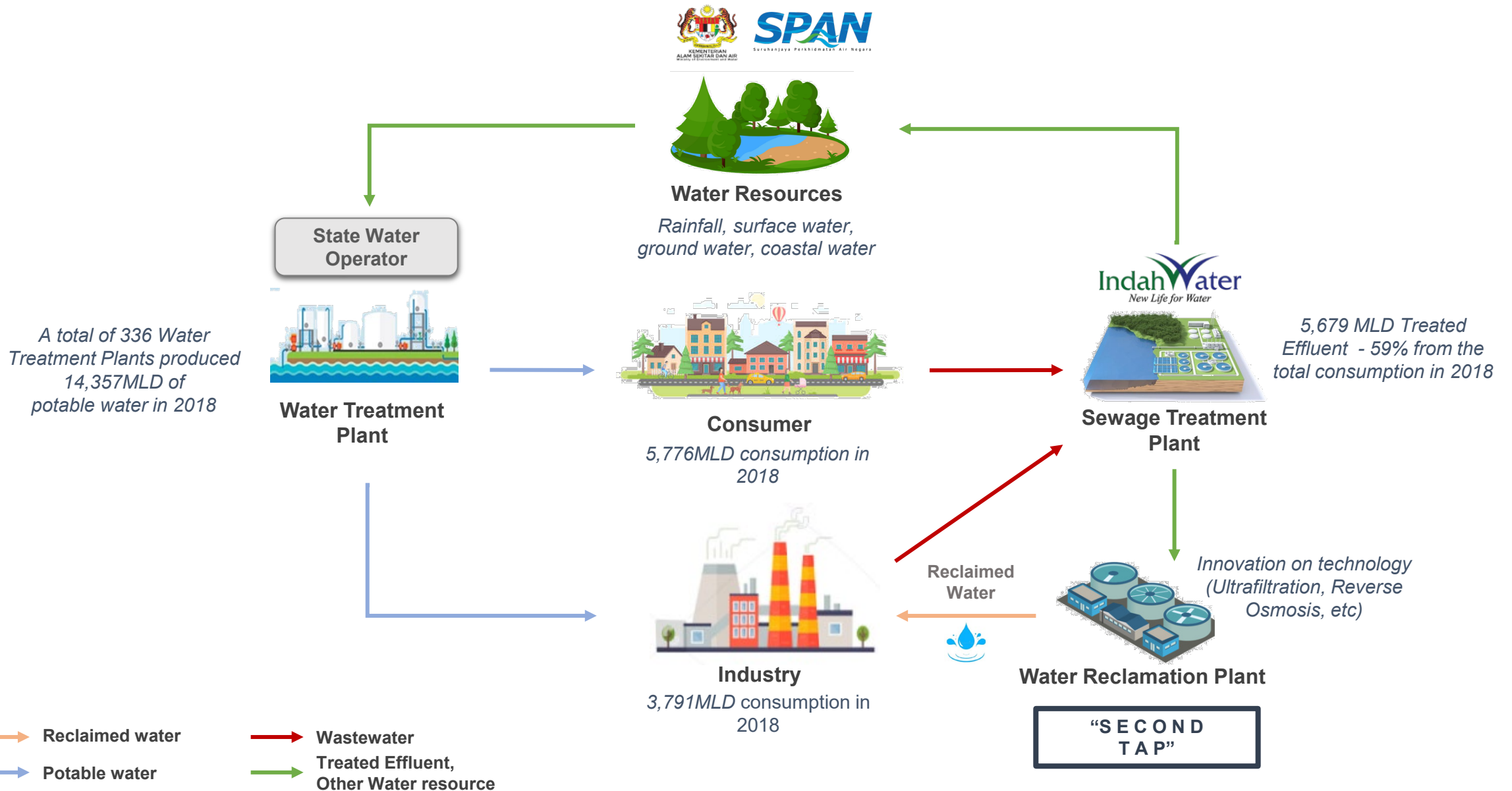


This initiatives will help to reduce water scarcity and environmental pollution.



Potentially, it will be able to reduce our dependency on clean water resources that can be used for domestic and potable purposes.

WRP AS PART OF CIRCULAR ECONOMY



A CLEAR DIRECTION AT NATIONAL LEVEL ON WRP

WRP development initiative is in line with the policies under KASA Sustainability Journey 2030, Green Technology Master Plan 2017 -2030 and Sustainability Development Goals.



33% Treated Effluent to be recycled by 2030

SDG #6 (Clean Water and Sanitation)
SDG #13 (Climate Action)

KELESTARIAN ALAM SEKITAR DI MALAYSIA 2020 - 2030

Kementerian Alam Sekitar dan Air (KASA) menerajui usaha ke arah Malaysia Lestari 2030. Pada dasarnya, 26 inisiatif dibangunkan berteraskan empat tunjang utama: penguatkuasaan, pertumbuhan hijau, kolaborasi strategik dan keterangkuman sosial, meliputi atmosfera (udara), hidrosfera (air), litosfera (darat) dan biosfera (makhluk hidup). Disebabkan keberagutungan kita kepada sumber semulajadi, kami merancang secara kolaboratif untuk meningkatkan tahap kesejahteraan alam.

PENGUATKUASAAN

- SUNGAI BERSIH (Berkurangnya 5%)
- KUALITI UDARA (Penggunaan 8.0m liter air pada tahun 2025 dengan purata tahunan PM2.5 < 35 µg/m³)
- INDEKS PRESTASI ALAM SEKITAR (Maksimum)
- PENUBIHAN SURUHANDAYA ALAM SEKITAR MALAYSIA (Pengingat persekitaran)
- KECEKAPAN PERKHIDMATAN METEOROLOGI
- KECEKAPAN AIR
- RIKAB HARGIN AIR TERAKUT
- KEMAMPUAN KEMAMANG
- REKAMAN AIR
- BI PEBETUNGAN
- PERKHIDMATAN PEBETUNGAN BERSAMBUNG BANGUN
- PENAMBAHAN AIR
- REHABILITASI HAKSIAN PANTAI
- PENGURUSAN RISIKO BANJIR
- PELAN PENGURUSAN LIMPAHAN SUNGAI BERSEPADU

PERTUMBUHAN HIJAU

- PERTUMBUHAN HIJAU (Maksimum)
- PELABURAN HIJAU
- PEKERJAAN HIJAU
- PENGURANGAN INTENSITI KARBON
- PRODUK PEROLEHAN HIJAU KEKULIAHAN, PolyHijau
- PENUBIHAN PUSAT INOVENSI GAS RUMAH KACA KEBANGSAAN (GCI) (Pengingat persekitaran jabatan)
- TENAGA BOLEH BAHARU DAN TENAGA HIJAU (SEDIA)
- APILAN BANGUNAN HIJAU (PENTAS KEMENTERIAN/AGENSI)
- PENUBIHAN FASILITI KEKAYAN DARI SASA (PENTAS KEMENTERIAN/AGENSI)
- LAUT BERSIH (SEACOB, WORLD BANK)
- DENAI SUNGAI NASIONAL (NATIONAL RIVER TRAIL)
- KADAR KITAR SEMULA
- PENUBIHAN YAYASAN KELESTARIAN ALAM MALAYSIA (Hydram)

KOLABORASI STRATEGIK

- PERUBAHAN
- KASA
- 2
- 5%
- 1,000
- 127 km
- 10%
- 30%
- 30%
- 25%
- 10
- 3

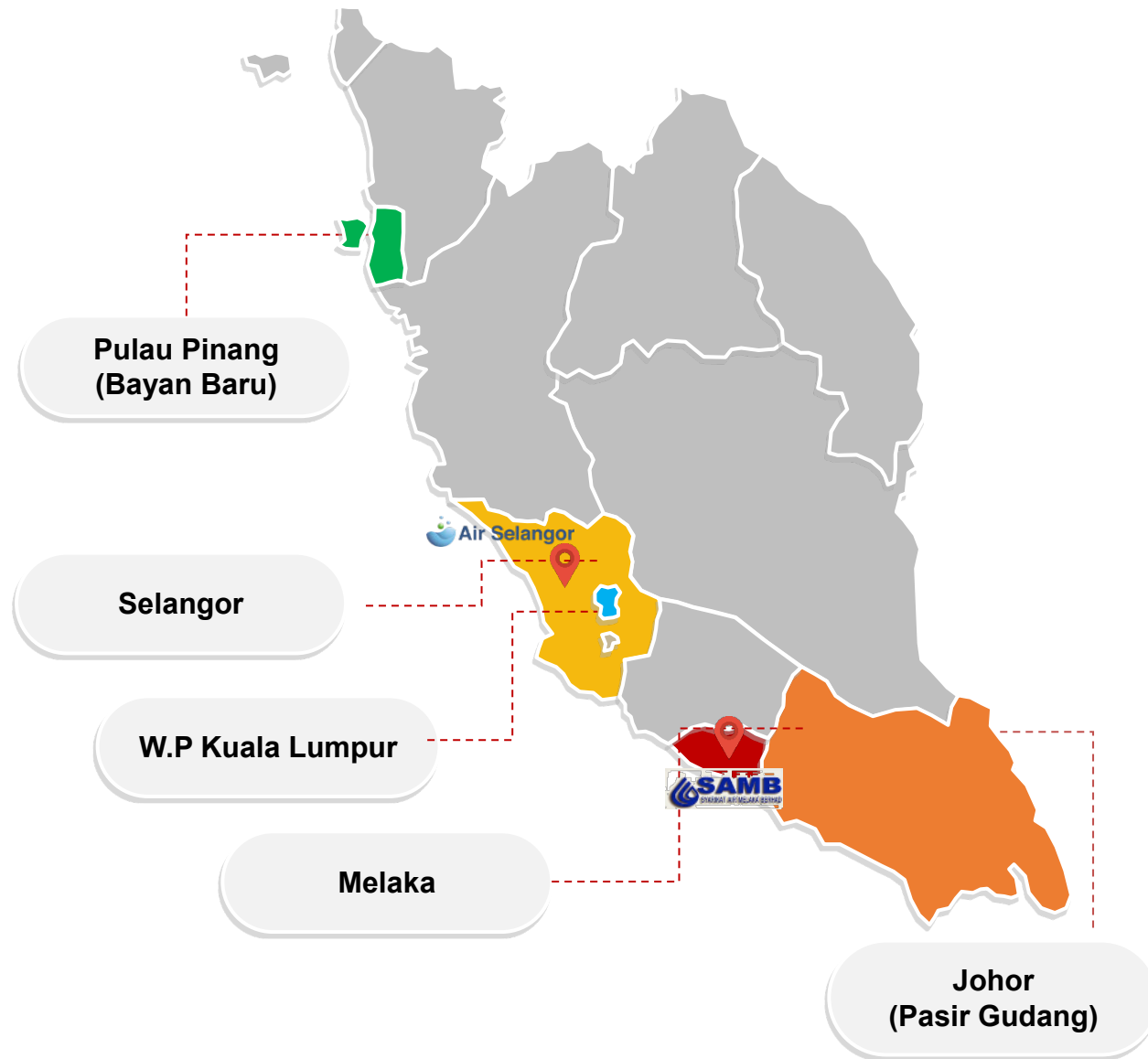
KETERANGKUMAN SOSIAL

- PERUBIHAN YAYASAN KELESTARIAN ALAM MALAYSIA (Hydram)

GREEN TECHNOLOGY MASTER PLAN MALAYSIA 2017 - 2030

SUSTAINABLE DEVELOPMENT GOALS

POTENTIAL TARGETED AREAS OF WRP DEVELOPMENT IN MALAYSIA



- 1 Areas where there are high water scarcity/water stress issues
- 2 High non-potable water consumption by industries
- 3 Located nearby to IWK STPs and with high volume of Treated Effluent production to ensure the viability of the projects.
- 4 New regional STPs to be integrated with WRP capability

PROGRESS OF WRP INITIATIVE

Implementation of WRP projects via collaboration with State Water Operators



2020 - 2021



Pilot Initiative and Collaboration

IWK had initiated a collaboration with Pengurusan Air Selangor Sdn. Bhd. ("Air Selangor") to undertake a WRP projects within Selangor, Federal Territory of Kuala Lumpur and Putrajaya via formation of a JV Company.

2021 - 2025



Future Collaboration

IWK has signed a Memorandum of Understanding with Syarikat Air Melaka Berhad ("SAMB") for the implementation of WRP projects in Melaka.

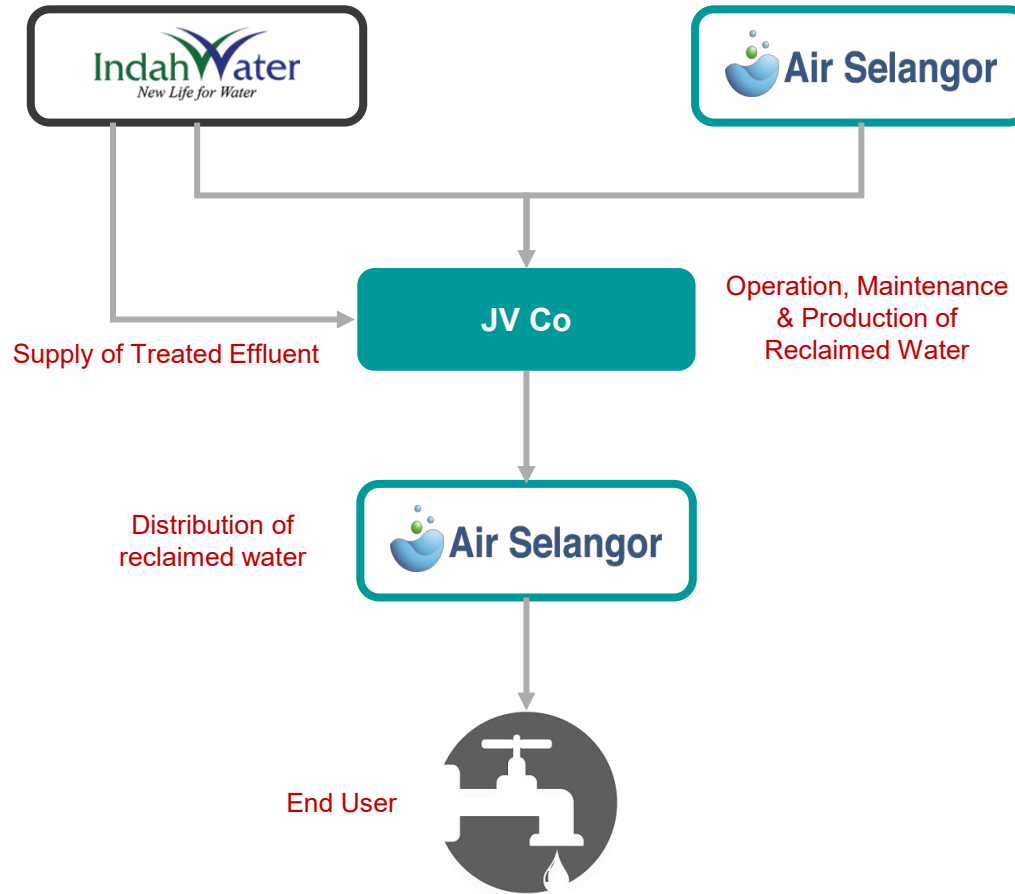
IWK has preliminary identified four STPs located in Melaka which are suitable (geographical and sociological) to develop and build WRP.

2030

Collaboration with other State Water Operators

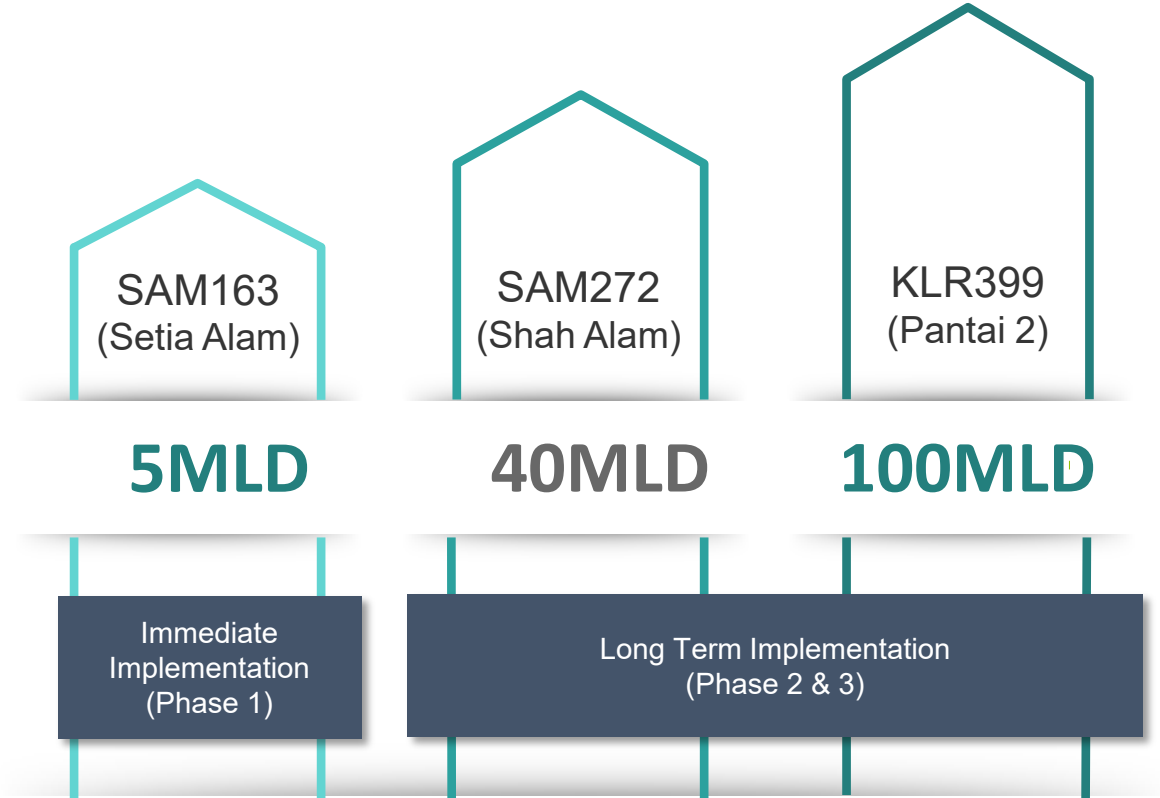
COLLABORATION WITH AIR SELANGOR

FIRST WRP IN MALAYSIA



CENTRAL WATER RECLAMATION SDN. BHD.

Potential to Develop Large Scale WRPs in Klang Valley



WRP SAM 163, SETIA ALAM SELANGOR



WATER RECLAMATION PLANT (JV Co)



Sewage Treatment Plant ("STP")

Quality of the Treated Effluent produced is comply to Standard B as set by DOE



1 Pre-Treatment



2 Ultra Filtration ("UF")



3 Reverse Osmosis ("RO")



Dedicated Distribution Pipe



Industrial End User

State Water Operator

Plant Capacity	5 MLD
Treatment Technology	Pre-treatment, Reverse Osmosis and Ultra-filtration
End user	Kossan Rubber Industries Berhad

EXPANSION OF WRP VIA LARGE SCALE NEW STPs

Langat Centralised Sewage Treatment Plant (LCSTP)







Design PE	920,000 PE / 207,000 m ³
System and Technology Installed	<ol style="list-style-type: none"> 1. Liquid treatment process 2. Solid treatment and biogas process 3. Green technology facility (solar panel, biogas system, rain water harvesting, effluent reuse)
Treated Effluent Quality	Standard A (Department of Environment Standard)
Average Treated Effluent Volume	72,390 m ³ per day



Water Reuse Facility

Technology Installed	Reverse Osmosis
Volume of water reused (25 May – 24 June 2021)	35,867 m ³

BENEFITS OF WATER RECLAMATION

 INDUSTRY	 WATER OPERATOR	 GOVERNMENT	 IWK
<ul style="list-style-type: none">▪ Ensure smooth business operation and secured water supply especially during water crisis (i.e. drought session).▪ Help to reduce water scarcity and environmental pollution	<ul style="list-style-type: none">▪ Able to reduce dependency on potable water supply and able to focus on domestic supply especially during the water crisis (i.e. drought session).	<ul style="list-style-type: none">▪ Implementation of KASA Sustainability Journey 2030, Green Technology Master Plan 2017-2030 and Sustainability Development Goals.▪ An introduction to the future aspect of integrated water management in Malaysia.	<ul style="list-style-type: none">▪ Contribute towards ensuring the sustainable supply of water via recycling program.▪ Help to preserves country's source of clean and potable water.

OBJECTIVES OF AMENDMENTS OF ACT 655

- To Implement new policies to improve the water services industry.
- Enhancing the functions and powers of SPAN including stronger law enforcement and higher penalties against water polluters; and
- To provide a clearer legal interpretation of Act 655.

70 AMENDMENTS

Water Services Industry Act 2006 (ACT 655)

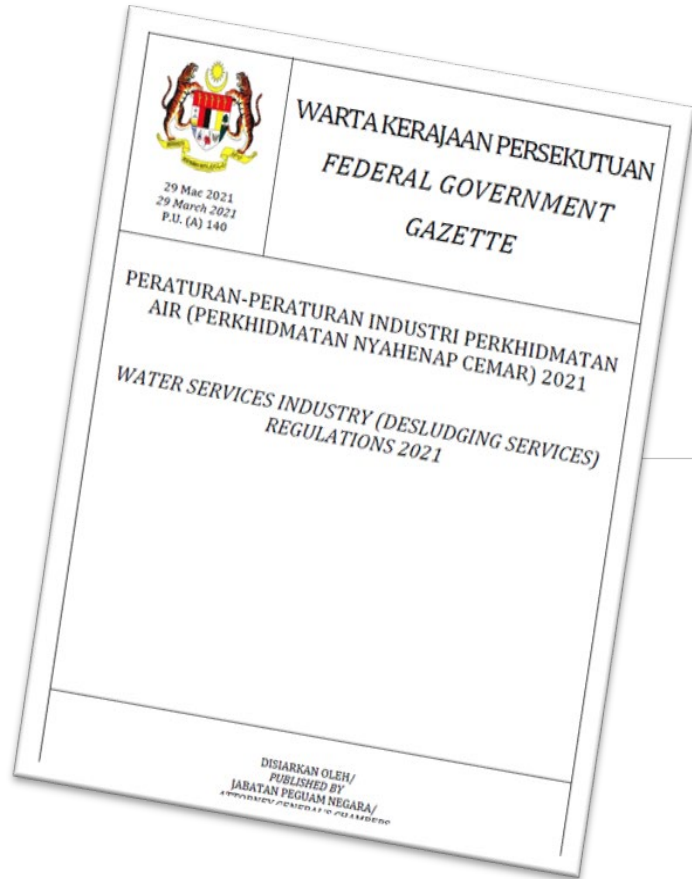


AMENDMENT OF ACT 655 IN RELATION TO WATER SECURITY

WATER RESOURCE PROTECTION

ITEM	SECTION	JUSTIFICATION
Offence of Contamination of Water	Section 121	<ul style="list-style-type: none"> • Making an act that poses a risk which cause or likely cause the closure of the water supply system or water supply disruption as an offense. • Enables the operators to recover the costs incurred to clean the contaminated water supply system.
Increase Penalties	Section 121	<ul style="list-style-type: none"> • To address offenses of contamination of water resources and water supply systems as very serious offenses. • As a precaution against the misconduct of this offense.
Wrongful Acts Discharge of sewage, effluent, matter or material into any manhole is made an offense	Section 122	<ul style="list-style-type: none"> • Reduce cases of water contamination caused by sewage disposal, etc. • Extends SPAN's powers to take action for these offenses. • Reduce the impact on operators who have to incur high costs for repair or cleaning of sewage treatment plants.

WATER SERVICES INDUSTRY (DESLUDGING SERVICES) REGULATIONS 2021



Enforcement

- The Government has gazetted the “Water Services Industry (Desludging Services) Regulations 2021” which came into effect on 30 March 2021.



Premises

- This regulation requires all owners, management corporations or occupants of any premises connected to a septic tank or having a septic tank to desludge their septic tank on a scheduled basis.



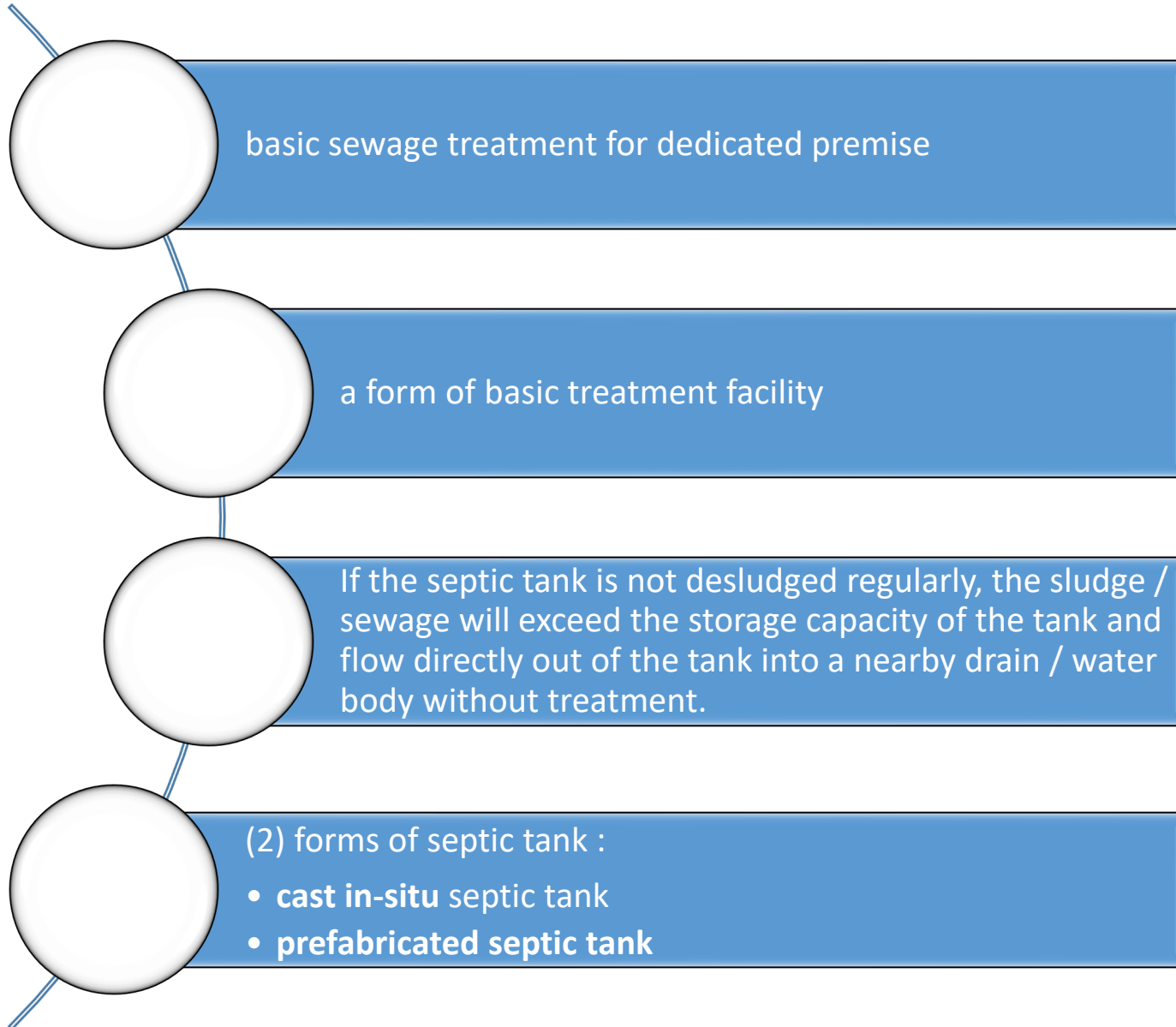
Operational Coverage

- Septic tanks located within the operating area of the local authority, desludging works is scheduled once in every 2 years
- Septic tanks outside the boundaries of local authorities, desludging works is scheduled once in every 3 years.

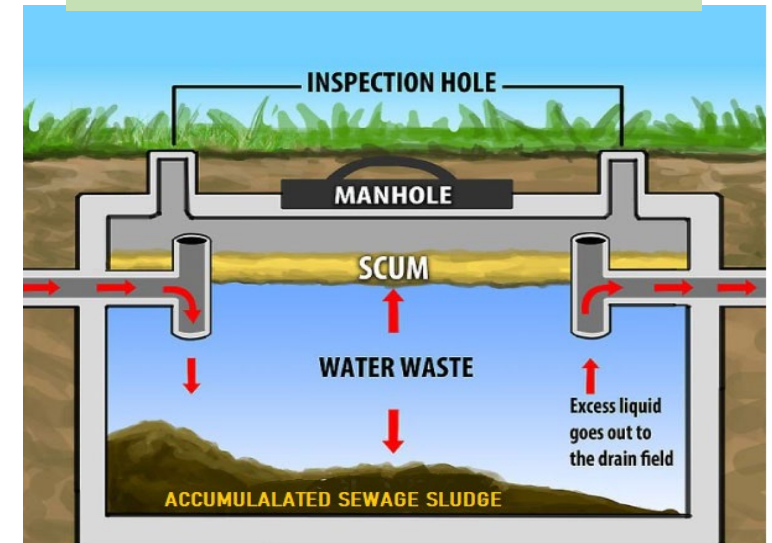


- The scheduled desludging works will be carried out by Indah Water Konsortium (IWK) Sdn Bhd.

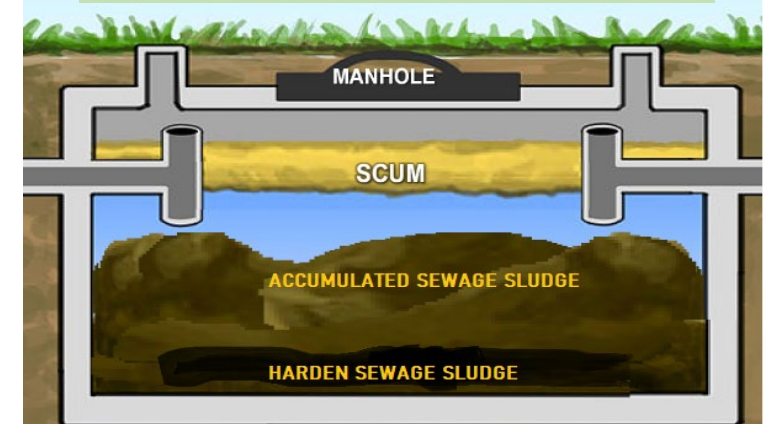
WHAT IS SEPTIC TANK?



EFFECTIVE SEPTIC TANK



INEFFICIENT SEPTIC TANK



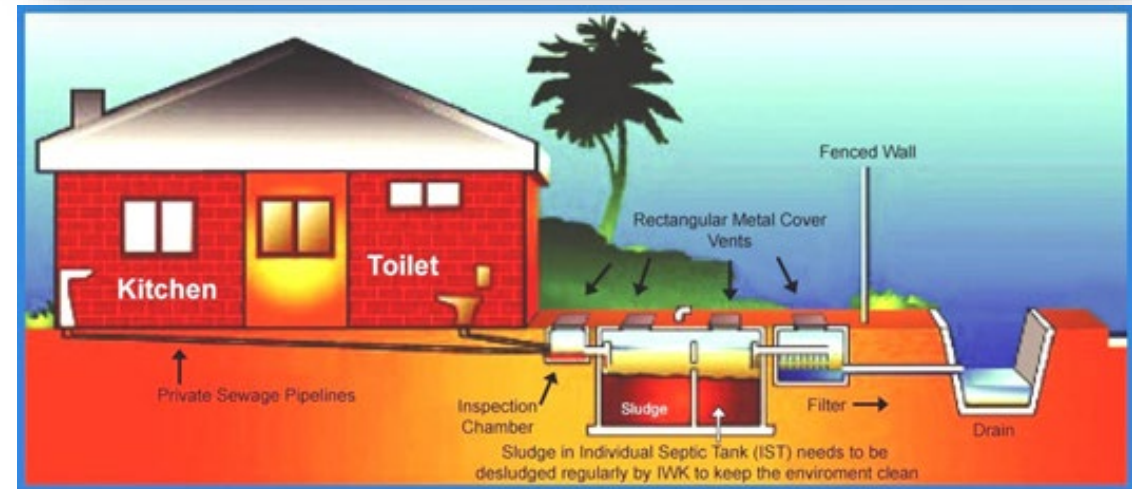
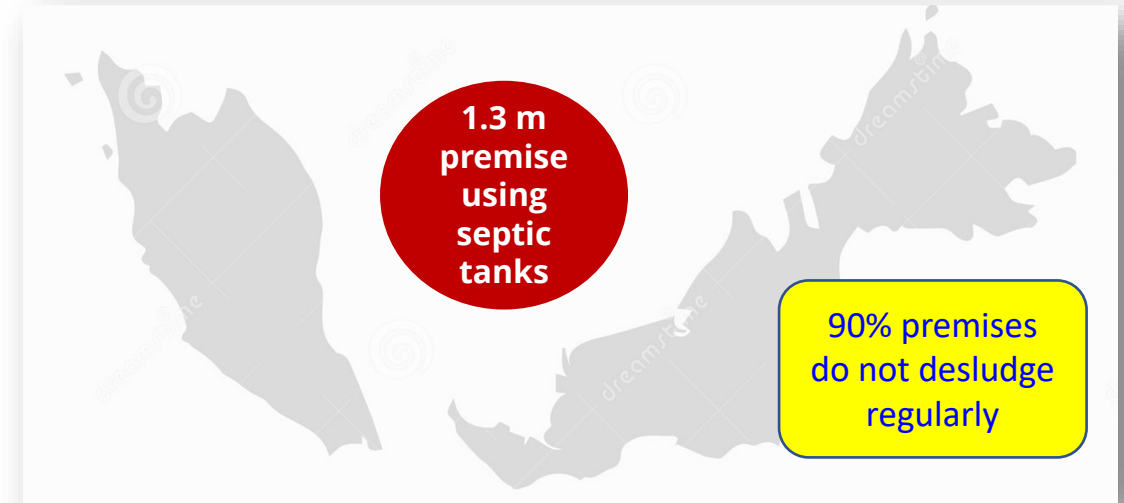
SEPTIC TANK, DESLUDGING WORKS AND WATER POLLUTION

- According to the World Health Organization (WHO), **every septic tank requires regular or scheduled** maintenance.
- to **prevent the user/community from water-borne diseases** such as cholera, hepatitis and etc.
- This desludging works initiative is in line with *Sustainable Development Goals 6, United Nations* which provides clean water and sanitation for all.



- 6.1 Safe Drinking Water for All
- 6.2 Sanitation for All
- 6.3 Better Water Quality
- 6.4 More Efficient Water Use

- However, when the septic not properly maintained or desludged, it can cause **contamination of surface and groundwater resources**, which leads **to public health and pollution problems**.



IMPLEMENTATION OF SCHEDULED DESLUDGING ACTIVITIES



- The owner of the premises will be given notice - to schedule the date of the desludging service that will be conducted by IWK
- The issuance of the notice commenced/started in June 2021 in stages.
- The rate charges payable for desludging services under this Regulations are as specified in the Sewerage Services (Charges) Regulations 1994



- ▶ Any owner of the premises who **fails to comply** with the second notice from IWK has committed an **offense under subsection 65 (3), Water Services Industry Act 2006** and may, upon conviction, be **fined not exceeding RM50,000**.



Thank you