

# **The Water Restructuring Journey:**

***Way Forward & Key Success Factors***

***MALAYSIAN WATER ASSOCIATION***

**9.00 AM, 25 FEBRUARY 2020**

# Outline of Presentation

- 1. Introduction**
- 2. Water Restructuring Journey-**
  - a. Background**
  - b. Major Milestones**
  - c. Key Policy and Regulatory Reform**
  - d. Issues and Challenges**
- 3. Way Forward & Key Success Factors**
- 4. Concluding Remarks**

# 1. Introduction

The main objective of this Session is to enable sharing of experiences and key learning points on the journey of water restructuring in Malaysia as well as to provide some suggestions on the way forward. The main focus for this session will be on the water supply sector.



# The Water Supply industry landscape before Restructuring

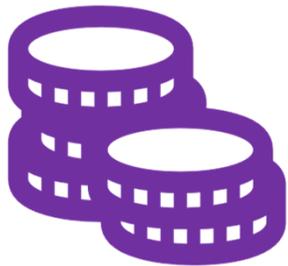
*Operations and economics (Prior to WSIA 2006)*

**~ 30 years no change in tariff rates** (some states)

**~ 40% – 50%** (some states)

**~ 200 lcd**

**~ RM1.1 bn\*** gap p.a.



+



+



=



↓ Tariff

↑ NRW

↑ Demand

↑ Subsidy

↑ Cross-subsidy

*(Source: MWIG 2000 – 2009, \* Revenue less Total Expenditure)*

# Water Restructuring Journey

## **2. Water Restructuring Journey**

### **a. Background**

- National Water Resources Council (Majlis Sumber Air Negara) decided in July 2003 that Federal Government to initiate taking over of the function of water supply in all states
- All Menteri Besar and two Chief Ministers (Melaka and Penang) agreed and endorsed the decision
- Sabah and Sarawak decided not to participate

# Water Restructuring

## Background

- In 2004, after GE, Federal Government formed a new ministry known as Ministry of Energy, Water and Communications (KTAK)
- Late Dato' Sri Lim Keng Yaik was appointed the KTAK Minister
- Malaysian Water Association in its annual dinner proposed to the Rght. Honorable Deputy PM and KTAK Minister to initiate water reform
- KTAK appointed KPMG as lead consultant to initiate reform/restructuring
- KPMG led a team of consultants which included SMHP and Zul Rafique as Technical and Legal Consultants

# Water Services Industry Bill 2006

Quotes from Explanatory Statement

*“ This Water Services Industry Bill 2006 seeks to provide for and regulate water supply services and sewerage services and matters incidental thereto. The objects of the proposed Act are to establish a licensing and regulatory framework for regulatory intervention to promote the national policy objectives for the water supply services and sewerage services industry. The proposed Act does not affect the general application of existing laws on environmental quality and land matters and existing State powers over the water source”.*

# The National Policy Objectives

1. To establish ***a transparent and integrated structure*** for water supply services and sewerage services that delivers effective and efficient service to consumers;
2. To ensure ***long term availability and sustainability*** of water supply including the conservation of water;
3. To ***contribute to the sustainability of the watercourses*** and the catchment areas;
4. To facilitate the development of ***competition to promote economy and efficiency*** in the water supply services and sewerage services industry;
5. To establish a regulatory environment ***which facilitates financial self sustainability amongst operators*** in the water services and sewerage services industry in the long term;

# The National Policy Objectives

6. To regulate for the *long-term benefit of the consumers*;
7. To *regulate tariff and to ensure the provision of affordable services on an equitable basis*;
8. To *improve the quality of life and environment* through the effective and efficient management of water supply services and sewerage services;
9. To establish *an effective system of accountability and Governance* between operators in the water services and sewerage services industry; and
10. To regulate the *safety and security* of the water supply system and sewerage system.

# Water Restructuring – The Pillars of Success

The Reform is premised on the following Key Success Factors:-

- Legal, policy and regulatory authority for Federal Govt. to undertake the restructuring;
- Availability of sufficient and low-cost capital to meet the cost of financial restructuring and fund future CAPEX requirements;
- Ensure all operators are efficient and effective in providing water services; and
- Put in place a Transparent and Fair Tariff Setting mechanism

## **b. Major Milestones**

- In 2005, led by AG Chambers, the Federal Constitution was amended. KPMG and team prepared draft for approval of AG
- The function of water supply was transferred from State List to Concurrent List. This is to allow FG to have jurisdiction on water supply
- Water resources remained with State Government (taking over water resources would require taking over catchment and forestry which was not agreeable by many State Governments or SGs)

# Key Learning Points of Why Past Water Privatization Failed

- High cost due to poor allocation of risk where private concessionaire taking most of the risks
- Banks imposed stringent rules and conditions on borrowings
- Concession Agreements (CAs) signed during 97/98 financial crisis where cost of borrowing was high resulting in very high returns (IRR)
- Lack of effective regulatory control and rates/tariff review mechanism benefited the concession companies
- State Governments could not pass through increase in concession rates to consumers e.g. increase in concession rates up to 45%

# Key Learning Points of Water Privatization

Some Classic Examples of High Cost under Water Privatization:-

- Transfer pricing for providing goods or services (meters, NRW projects, chemicals, pipe replacements, equipment etc)
- CAPEX works awarded to associate companies not based on arm's length or competitive prices
- Financial model based on **Project Internal Rate of Return (IRR)**, the higher the CAPEX and OPEX, the higher the amount of profit to the concession owner

# Key Learning Points of Water Privatization

- Many water privatization projects based on BOT adopted Project IRR (e.g. 14% to 18%) while cost of fund was much lower resulting in high FMP (Post Asian Financial Crisis)
- Concession companies only invested a small fraction of the cost of project. Example, RM2 billion project but initial investment is only RM50 million
- Besides high IRR, Fixed Monthly Payment (FMP) is further bloated due to high CAPEX
- In addition, there is a high variable cost for every cubic meter of water produced
- FMP is a form of take or pay (Pay even if no production)

# Key Learning Points of Water Privatization

- Privatization not the Panacea or answer to funding constraints in water infrastructure development unless it is well regulated and supported by comprehensive reform
- Need to develop a national strategic economic framework for the industry to avoid the pitfalls of autonomous decentralization
- Decision of several states in late 90s and early 2000 to break the supply chain by allowing one private company to take control of distribution and other companies to supply treated water resulted in multilayer profits and increased cost of water supply which eventually led to many social and financial problems
- Without holistic reform any privatization is likely to fail as had happened in the past

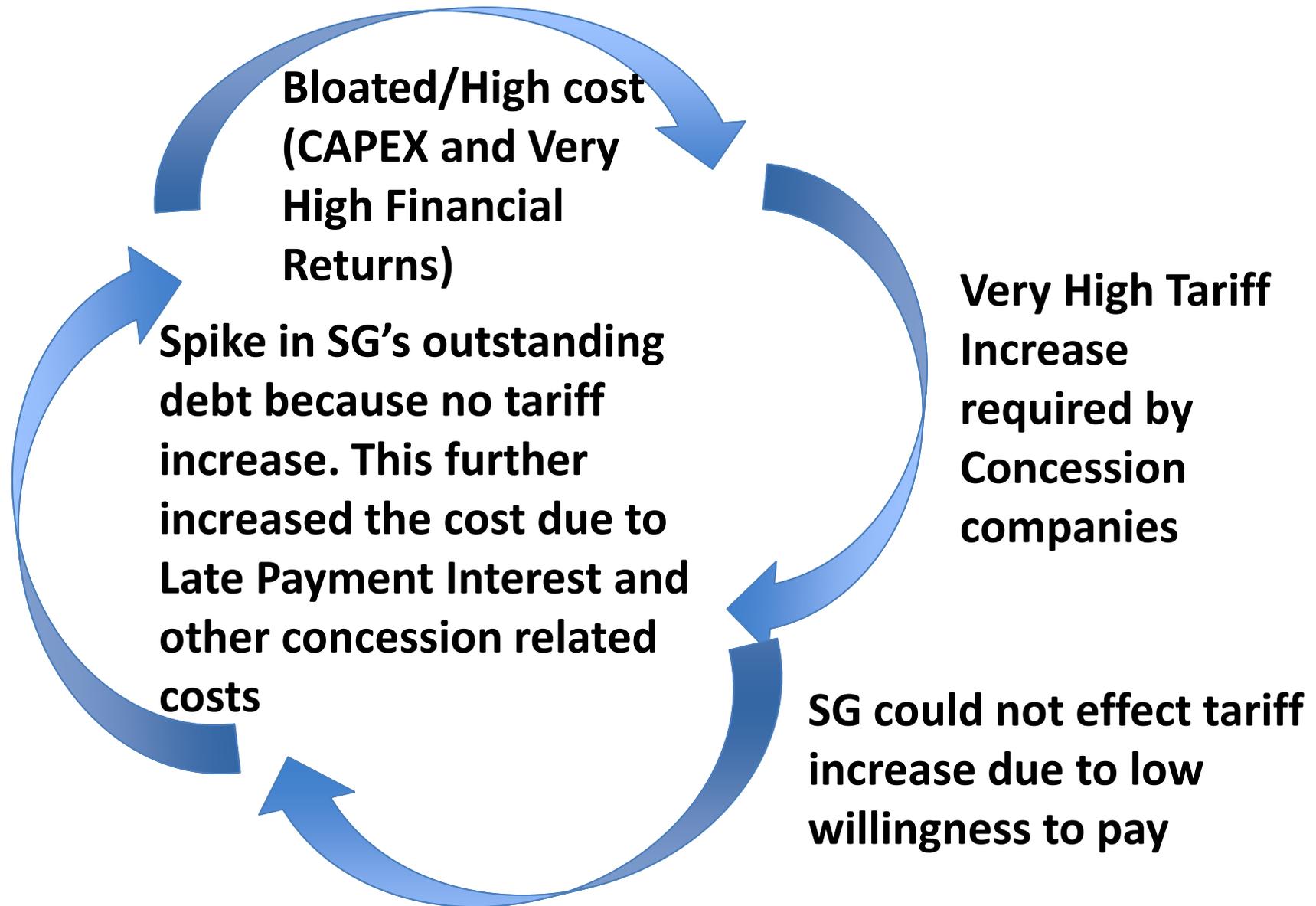
# Clarion Call for Policy Review

- Many NGOs called for review of policy on water supply privatization
- NGO formed a movement known as Coalition Against Water Privatization

Stop Water Privatization



# THE PRIVATIZATION TARIFF-COST VICIOUS CIRCLE



# Major Milestones

- Two new water laws were proposed i.e.:-
  - Water Services Industry Bill
  - Suruhanjaya Perkhidmatan Air Negara Bill (National Water Services Commission Bill)
- After extensive consultations with other FG Ministries and Departments, State Governments, Consumers' and Water NGOs and all stakeholders such as concession companies, banking and finance sector, international agencies etc., the two bills were tabled in Parliament in 2006
- ***Special briefings were conducted for both Government Backbenchers as well as opposition MPs***

***Note : The Government decided to de-classify the two draft bills and put on KTAK Website for public comments***

# Major Milestones

- SPAN Act 2006 came into effect in February 2007
- Water Services Industry Act 2006 (WSIA Act) in January 2008
- First SPAN Meeting was called in April 2007
- Water Services Licensing Regulations came into force in 2008

# **C. KEY POLICY AND REGULATORY REFORMS**

# The Restructuring Model

- All state water supply departments to be corporatized with equity wholly owned by SG
- All corporatized water supply entities to be licensed under WSIA
- Licence to be issued by Minister upon recommendation of SPAN and based on 30-year Rolling Plan and 3-year Business Plan of Operator
- Licence valid for a period of 3 years and renewable

# Rationale for Corporatization

- **Financial and management autonomy**
- **Clear line of responsibility**
- **Single purpose company**
- **Facilitate decision making process**
- **Commercial accounting system enables computation of true cost (traditionally State Govt. adopts cash accounting information to set tariff which does not reflect true cost. Cash accounting do not provide for asset depreciation and amortization)**
- **Ring-fence water revenue**

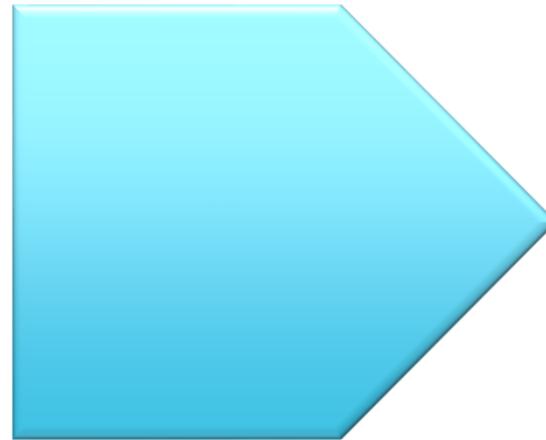
# Rationale for Corporatization

- Water Revenue must be Ring-Fenced, and actual cost computed to enable sustainable pricing/tariff

**Revenue collected  
should not go to  
State Consolidate  
Fund to pay other  
state expenses**

# Organizational Transformation

Transform  
Water  
Supply  
Department  
to  
Corporatized  
body. Adopt  
commercial  
accounting  
system



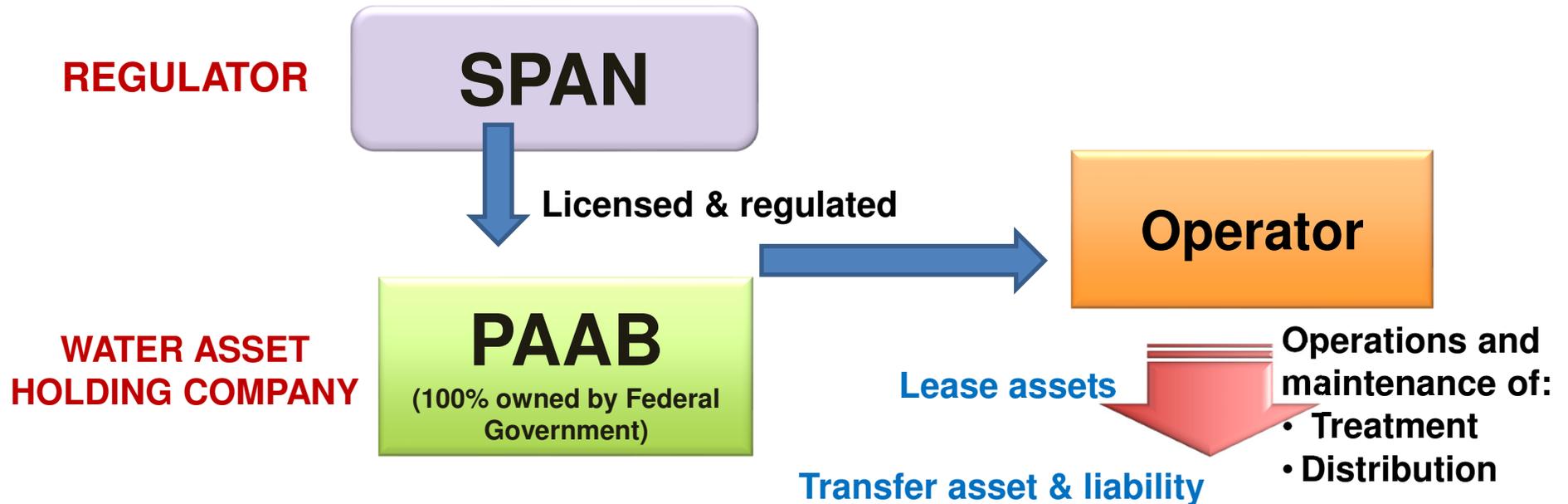
- JBA Negeri Sembilan > SAINS
- Lembaga Air Melaka > SAMB
- JBA Kedah > SADA
- JBA Terengganu > SATU
- JBA Pahang > PAIP
- JBA Kelantan > AKSB
- JKR (Unit Bekalan Air) > SAP

# **Water Restructuring- Strategic Proposals based on Win-Win Basis**

- All water loans (RM7.6 billions) to be taken over by Pengurusan Asset Air Berhad or PAAB
- PAAB is a special purpose vehicle wholly owned by MOF Inc.
- All water assets to be transferred to PAAB for a specific period based on agreed terms between FG and SG
- These water assets to be returned to SGs after the agreed period at nominal value
- No dilution of PAAB equity. Otherwise all lands will be returned to SG without cost

# The Restructuring Model

## New Funding Mechanism (Asset-Light Model)



- Owner of water assets (Limited duration)
- Source for competitive funding (cheap and long term finance)

- Asset-light
- Capex requirement in Business Plans
- Focus on operational and cost efficiency
- Achieve full cost recovery (long Term)

# Water Restructuring- New Funding Mechanism

- PAAB will source funding from the capital market to meet the cost of restructuring including taking over outstanding loans of operators/state governments
- Existing Concession agreements to be terminated or allowed to continue until end of concession period
- Lower cost of funds is a result of Government Guarantee and that PAAB is a federal-owned SPV
- State-owned or migrated water supply operator will be allowed to lease all PAAB water assets at rates to be agreed upon(30-45 years)

# Water Restructuring- Incentives to Migrate

- To incentivize all State Governments to adopt this new business model (Asset-Light Model), FG will finance all water resources infrastructure
- All existing assets and liabilities to be taken over by PAAB
- State Government to retain control of water operator and water resources
- All licensees must possess a valid raw water abstraction licence issued by SG

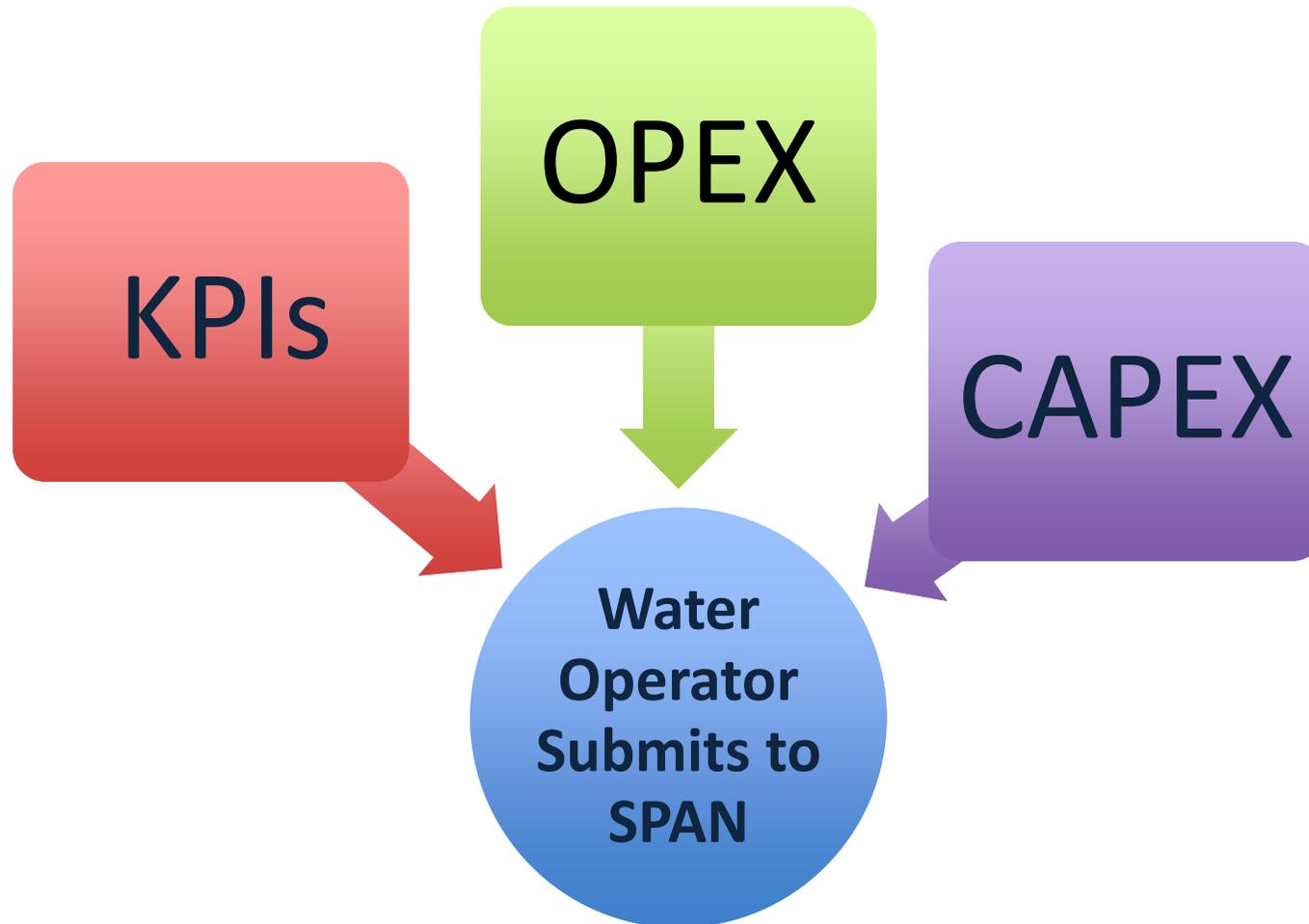
# Water Restructuring- CAPEX Development

- All new water infrastructures (CAPEX) to be implemented by PAAB based on requirements of Water Operator
- CAPEX proposals to be included in Water Operator's Business Plan
- SPAN will approve CAPEX based on KPIs for operator and Sustainability

# Water Restructuring- Water Tariff

- Tariff to be regulated by SPAN based on Business Plan submission
- Minister to approve the tariff based on recommendation of SPAN
- SPAN to propose tariff after consultation with stakeholders especially all categories of consumers and Water Forum (an NGO representing consumer voice)

# Tariff Review

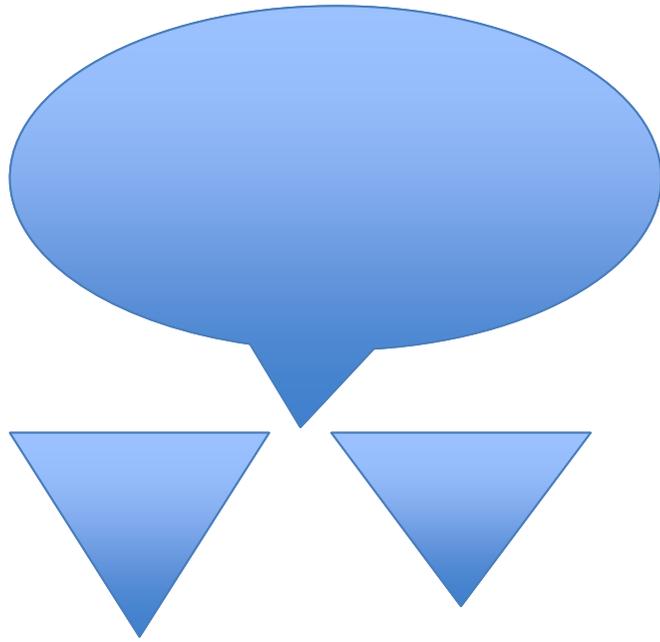


# Water Restructuring- Current Status

- Except for Kedah, Pahang and Terengganu, all other states have adopted the Asset-light Model
- Perlis had entered into agreements with FG but have not implemented the agreements
- All water operators have been issued with a license to supply water including Air Selangor (the biggest water operator in the country)

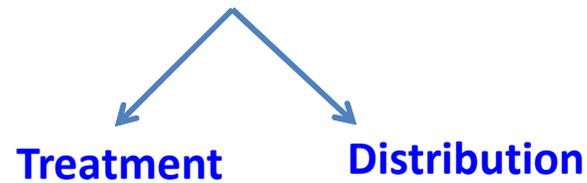
# Two Types of Licence

## Individual Licensee



Facilities Licensee

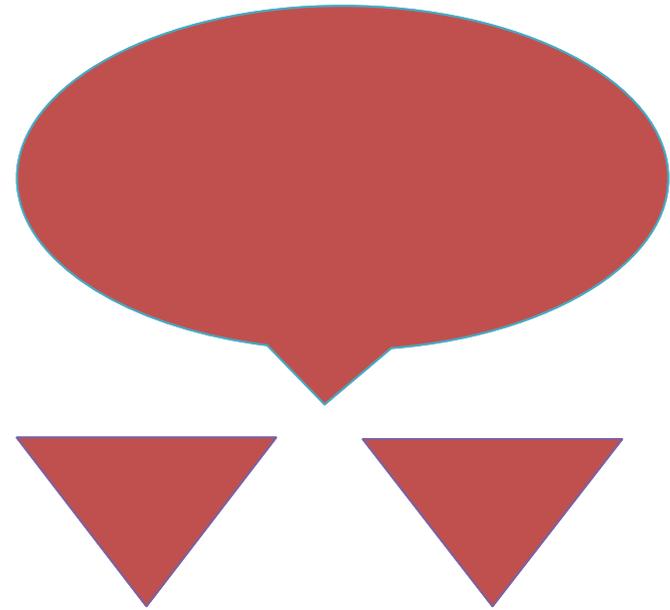
Service Licensee



Treatment

Distribution

## Class Licensee



Facilities Licensee

Service Licensee

# Two Types of Licence

- Individual Licence for public water supply



1. Facilities (FL)
2. Service (SL)

Example: PAAB = FL  
SAMB = SL

- Class Licence for private water supply



1. Facilities (FL)
2. Service (SL)

Example: Private Hotel/Resort = FL and SL

# Water Restructuring- Progress Since 2008

- Common water rules implemented
- Funding mechanism for CAPEX made available through PAAB (though some operators complained not enough)
- NRW for states using PAAB funding facilities have shown significant reduction and having sufficient water treatment reserved margin
- Proposed model for tariff setting mechanism has not been fully implemented. Except for Terengganu, Selangor, Perlis and Pahang, all other states have successfully revised water tariff at least once since 2008
- Perak have not revised tariff as there is no necessity to do so now



# Original Intentions of the Water Services Industry Reform

*PAAB – A Water Asset Holding Company or a Management Company of Water Assets*

“The rating reflects PAAB's strategic role pursuant to the Water Services Industry Act 2006 (WSIA), which is aimed at restructuring the water-services industry by consolidating the ownership of and responsibility for water assets in Peninsular Malaysia and the Federal Territory of Labuan.

According to RAM's rating methodology, PAAB SPV's sukuk (26/12/2017), 2016-2015

According to RAM's rating methodology, **dependent on the** to rely on external funding forms of support.

RAM Ratings  
AAA/Stable  
PAAB SPV's  
sukuk  
(26/12/2017), 2016-2015

government-linked entity  
**PAAB is deemed government** as it continues for capex as well as other

**PAAB will progressively acquires water assets** and related liabilities from state water operators, assumes the respective states' novated federal government loans, and funds the water infrastructure of migrated states, we expect the Group to continue to gear up in the coming years.”

(Source: RAM Ratings)

## **Water Restructuring- Termination of Concession Agreement(CA)**

- Johor and Selangor have successfully terminated all privatization agreements or CA expired without extension. Under WSIA these agreements are not allowed to be extended.
- Privatization agreement for Langkawi will expire in 2020
- Privatization agreements for Perak, Negeri Sembilan expired without any hitches as the rates were reasonable

# Water Restructuring- Perak's Strategic Decision

- Prior to the reform, Perak had the options of privatization or borrow loans from FG
- Perak Govt. took a very strategic approach and decided to take FG loans to fund construction of a dam and several WTPs
- Today Perak water company is the most profitable State-owned water operator with Asset-light Structure
- Profit >RM90 million for two consecutive years, 2016 and 2017)

***Note: Perak have yet to corporatize the Perak Water Board( which was agreed upon by SG as one of the conditions for FG support in its water restructuring)***

# Water Restructuring- Selangor

- Selangor Government decided to take over all private water concessions namely Puncak Niaga, Abbas, Splash and Syabas
- All operations are now consolidated under Air Selangor Sdn. Bhd. and operate under a single purpose licence effective 13 Sept. 2019
- The whole process took 10 years (initially policy of ***“taking over all concessionaires at the same time or none”*** was the main hurdle)
- 2014- both FG and SG agreed to take over in stages and need not all at the same time
- Valuation based on “Willing-Buyer-Willing-Seller”

# Water Restructuring- Johor

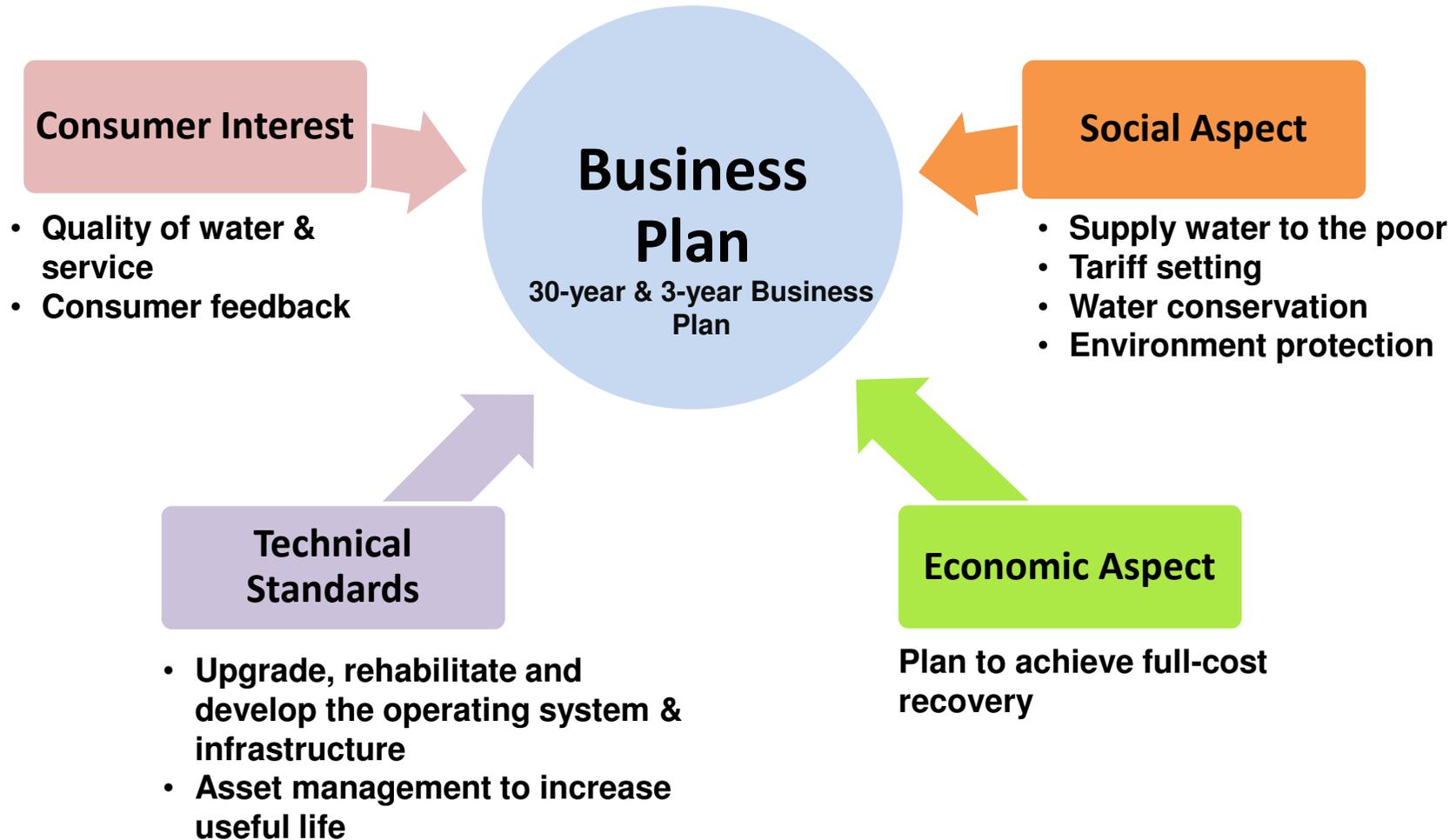
- Johor adopted a different approach whereby SG decided to allow SAJH to continue its operations based on the following conditions:-
  - Concession agreement between Johor Govt. and SAJH to be terminated
  - SAJH to adopt Asset-Light model
  - SG to own 20% equity in the licensed entity (SAJH)
  - SAJH and SG assets and liabilities taken over by PAAB based on 1 time book value

# Water Restructuring- Holistic Structure

- Currently except Kedah, all other states have a holistic structure where one operator is responsible for the whole supply chain from source to tap
- There are benefits of a holistic structure as it leads to lower cost, better economies of scales and economies of scope
- A vertically integrated structure facilitates decision making and reduce red-tapes
- Facilitates integration of water and sewerage services

# Driving Efficiencies

## The Monitoring and Evaluation Framework



# Water Restructuring- Tariff Review

Several states have successfully revised upwards (at least once) its water tariffs:-`

1. Johor- twice
2. Penang- twice
3. Negeri Sembilan- once
4. Kedah- once
5. Kelantan- once
6. Melaka- once
7. FT Labuan

Note:- As announced by the KATS's minister recently, all states will have new tariffs soon

# Need to have a Sustainable Tariff Setting Mechanism

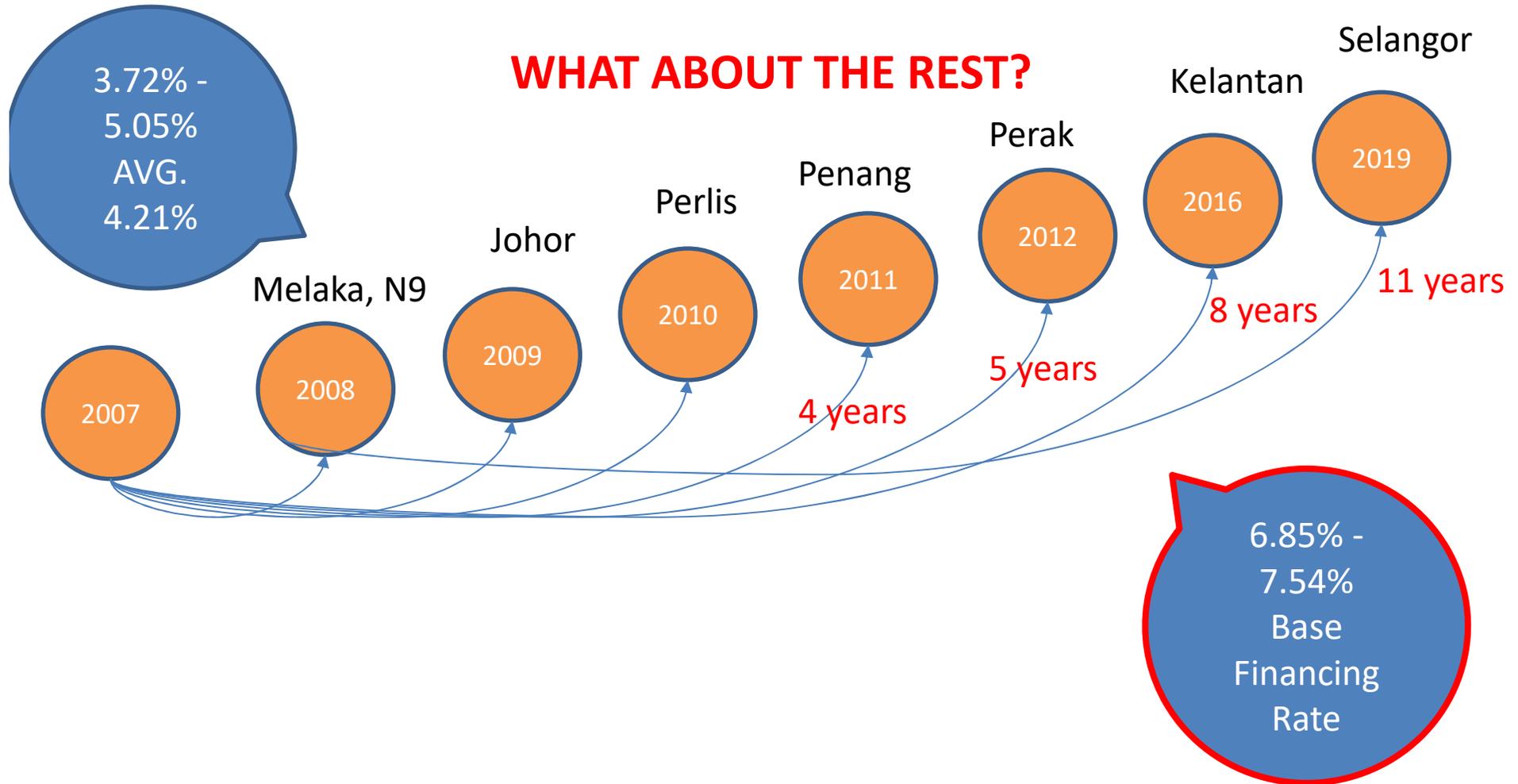
- Asset-Light Model does not mean no necessity for tariff increase
- Regulated Regime ensures more transparent and reasonable tariff setting resulting in higher consumers' willingness to pay
- Cost will be based on efficient benchmark cost (company as well as industry)
- Regulator will recommend any review after consultations with stakeholders
- Gradual increase of tariff towards Full Cost Recovery in the long term to ensure industry is financially self sustainable
- Protect the low income and socio-economic disadvantaged groups (social equity and acceptance)
- Polluters pay principle must be embedded in the tariff structure and focus on environmentally sustainable CAPEX projects

## **2 (d). Water Restructuring-Issues and Challenges**



# Current Standing of Water Operators till-date with the ALM

*Not All Water Operators Migrated to the ALM Despite the Economic Logic*



(Source: As at 19 February 2018, BNM)

# Water Restructuring- Migration to Asset-light not fully completed

- Three states (Kedah, Pahang and Perlis) yet to migrate to asset-light structure
- Major hurdles – high outstanding Federal Loans which these states could not afford to repay under new lease rental arrangement
- SGs wanted the FG to write-off existing loans at least for rural water supply
- Concerns of PAAB not able to deliver or not meeting project completion target

Note: The above three states may require slightly different considerations

# Water Restructuring- Lack of Policy Clarity

- Should FG continue to provide some states with development budgets even for WTPs and Pipe replacements, then there is no urgency for the remaining states to adopt new structure
- SGs and water operators not happy that they have to announce new tariffs, though under WISA, Minister is the final authority to decide on water tariffs and any changes are done through Water Regulations made by Minister
- A better option is for the Regulator (SPAN) to make the announcement as in the case of UK.

# Water Restructuring- Concern on Changes in Policy

- One of the incentives for State to adopt the Asset-light model is the assurance that FG will continue to fund the source works
- Concern amongst some state governments (migrated and not migrated) that this financial support will be stopped or Converted to loan

***Note: Unless water tariffs have reached a level where revenues are able to cover all CAPEXs and OPEXs (Full Cost Recovery level) , the needs for FG financial support on source works should continue***

# Water Restructuring- Tariff Setting the Weakest Link

- New Tariffs Setting Mechanism yet to be fully implemented
- Current tariffs for some states based on political considerations thus not sustainable
- Growing disparity in tariff between states that have adopted asset-light structure and those not migrated (e.g. Pahang, Perlis, Kedah tariffs much lower than Johor or Melaka)
- If not addressed this will create problem for water industry restructuring because of socio-political issues

# Water Restructuring- Need Clear Policy Direction on Water and Sewerage Integration

- Slow progress on water and sewerage services integration
- Pilot project on integrated billing started in FT Labuan
- Johor was supposed to follow-suit
- FG should have a clear policy on integration (e.g. the scope and responsibilities, incentives and benefits, wastewater reuse, CAPEX and OPEX support etc.)

# Water Restructuring- Raw Water a Major Challenge

- Effects of Climate change on raw water supply- some dams lost their yield as lands for catchment have been used for crops/plantation
- Increasing incidents of raw water contamination especially during dry seasons
- Lack of viable alternative sources (there are concerns on sustainability of Off River Storage and Coastal Reservoirs. This may require more technical consultations with State Water Operators)
- Over reliance on one single river as the main source (e.g. Sungai Selangor, Sungai Muda and Sungai Johor)
- Some states are water stress (Melaka, Perlis and Penang)

# Water Restructuring- Low Reserve Margin

- Low reserve margin for major water facilities such as WTP, Raw water Intake, Distribution Storage, Pumping capacities etc. Water operators will face difficulty in service restoration if there is scheduled or unscheduled shut down. Consumers will suffer as operators will take many days to normalize service
- SPAN has set a minimum reserve margin of 15% for WTP but many states are unable to meet this target due to under investment/unable to meet payment obligations because of low water tariffs

# Water Restructuring- High Consumers' Expectations

- Consumers demand for better quality (drinkable from the tap)
- Generally water quality meet the minimum WHO standard. Quality is monitored by MOH under the Quality Assurance System
- Old water pipes that caused frequent pipe bursts are the main cause
- Pipe replacements are costly but without sufficient revenue it is not possible to have effective pipe replacement program
- Lack of funds to modernize asset management and replacement, consumers billing and metering, online quality analyzer etc.

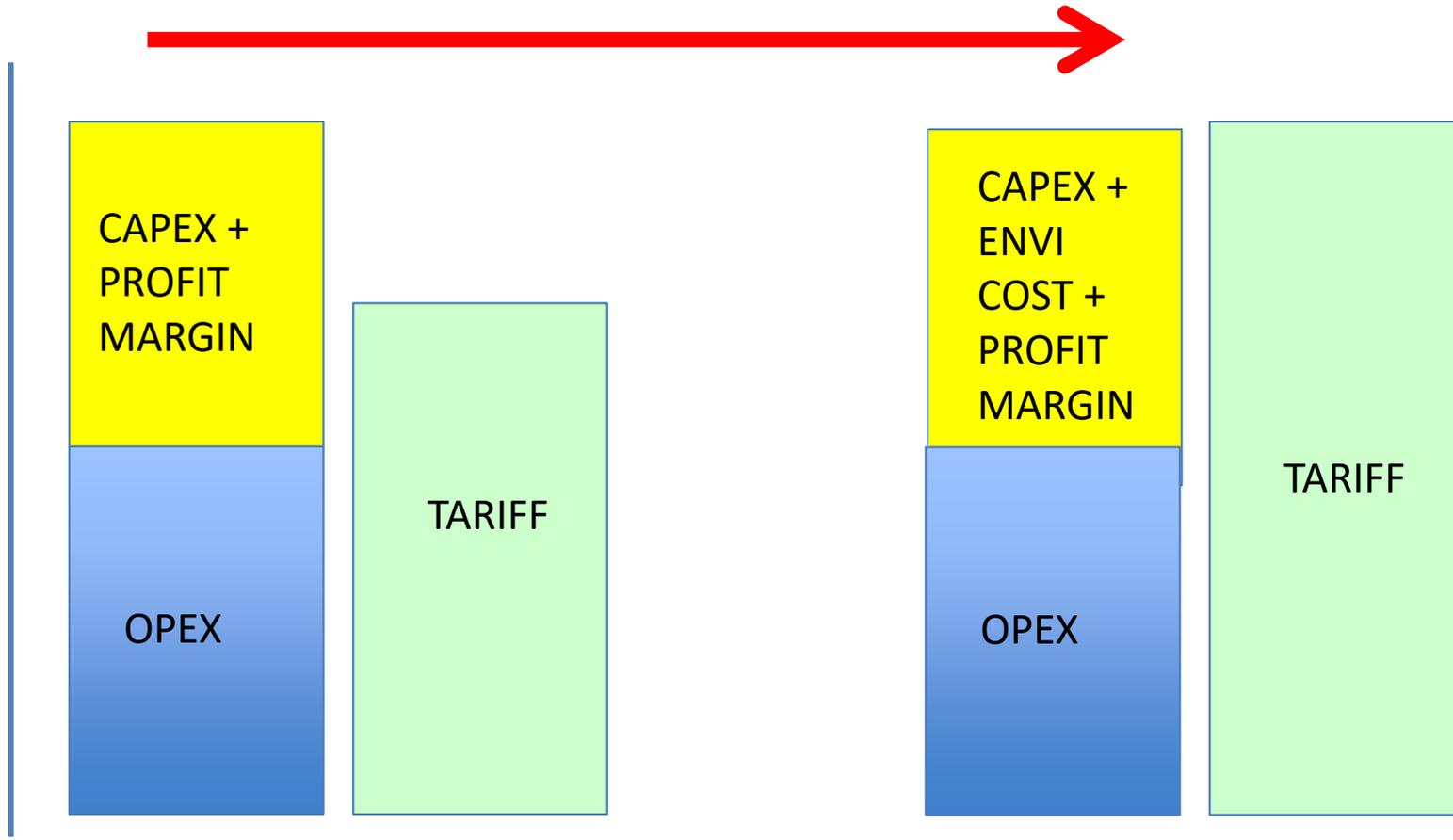
# **3. Water Restructuring- Way Forward & Key Success Factors**

# Water Restructuring – Way Forward

## A. Set a deadline to Implement the Tariff Setting Mechanism (TSM):-

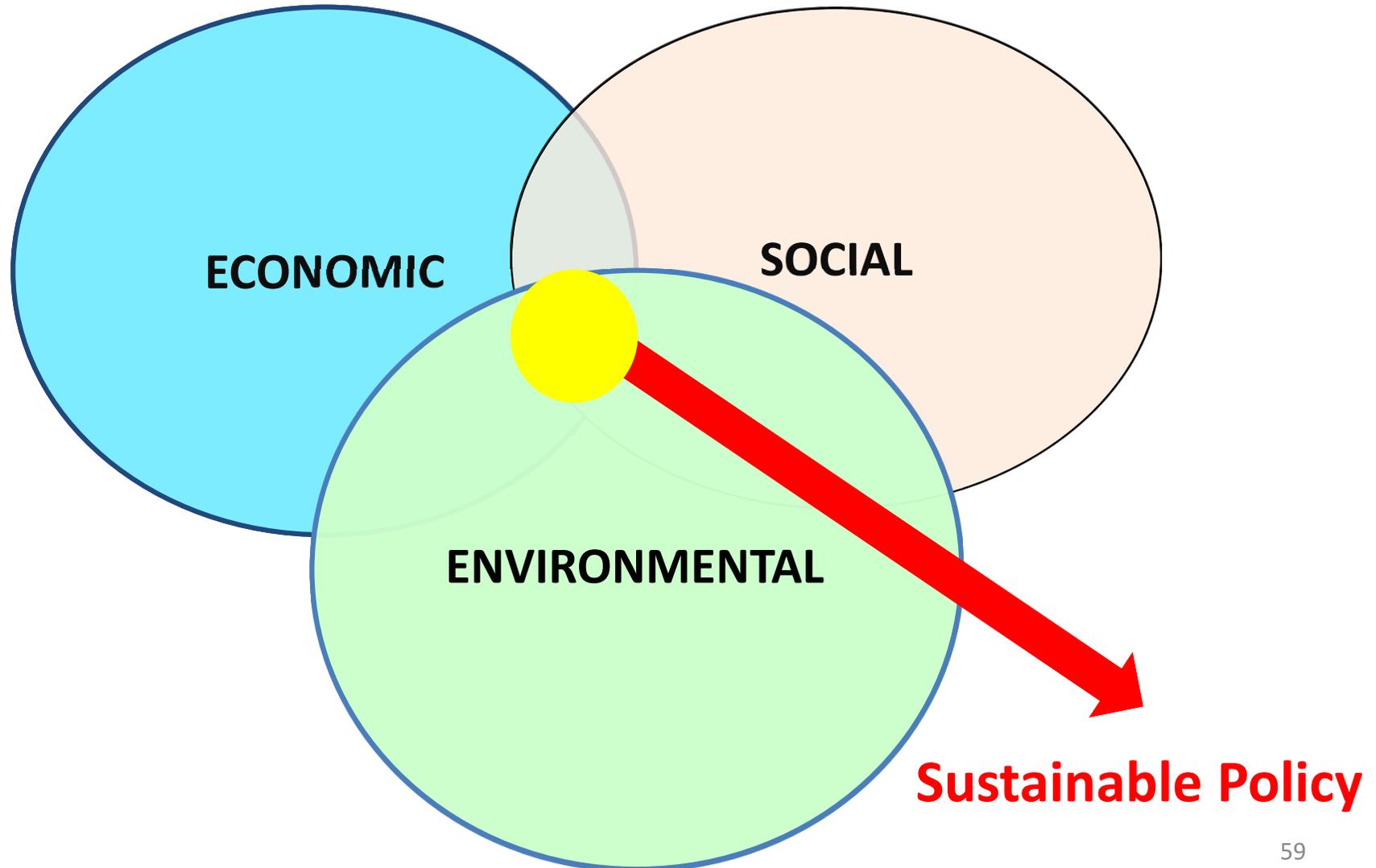
1. **TSM promotes transparency which could lead to better consumers' acceptance**
2. **It provides mechanism for states to protect interest of low-income consumers**
3. **TSM discourages wastage and promote water conservation; and**
4. **TSM is inline with SDGs initiative on sustainable development through recognition of cost on environment and social equity**
5. **Band 1 (0-20 M<sup>3</sup>) : Social Equity (OPEX)**
6. **Band 2 (20-35 M<sup>3</sup>) : Economic sustainability (OPEX+CAPEX)**
7. **Band 3 (above 30 M<sup>3</sup>) : Environmental sustainability (OPEX+CAPEX+ Environmental cost and profit margin)**

# Full-cost Recovery Model

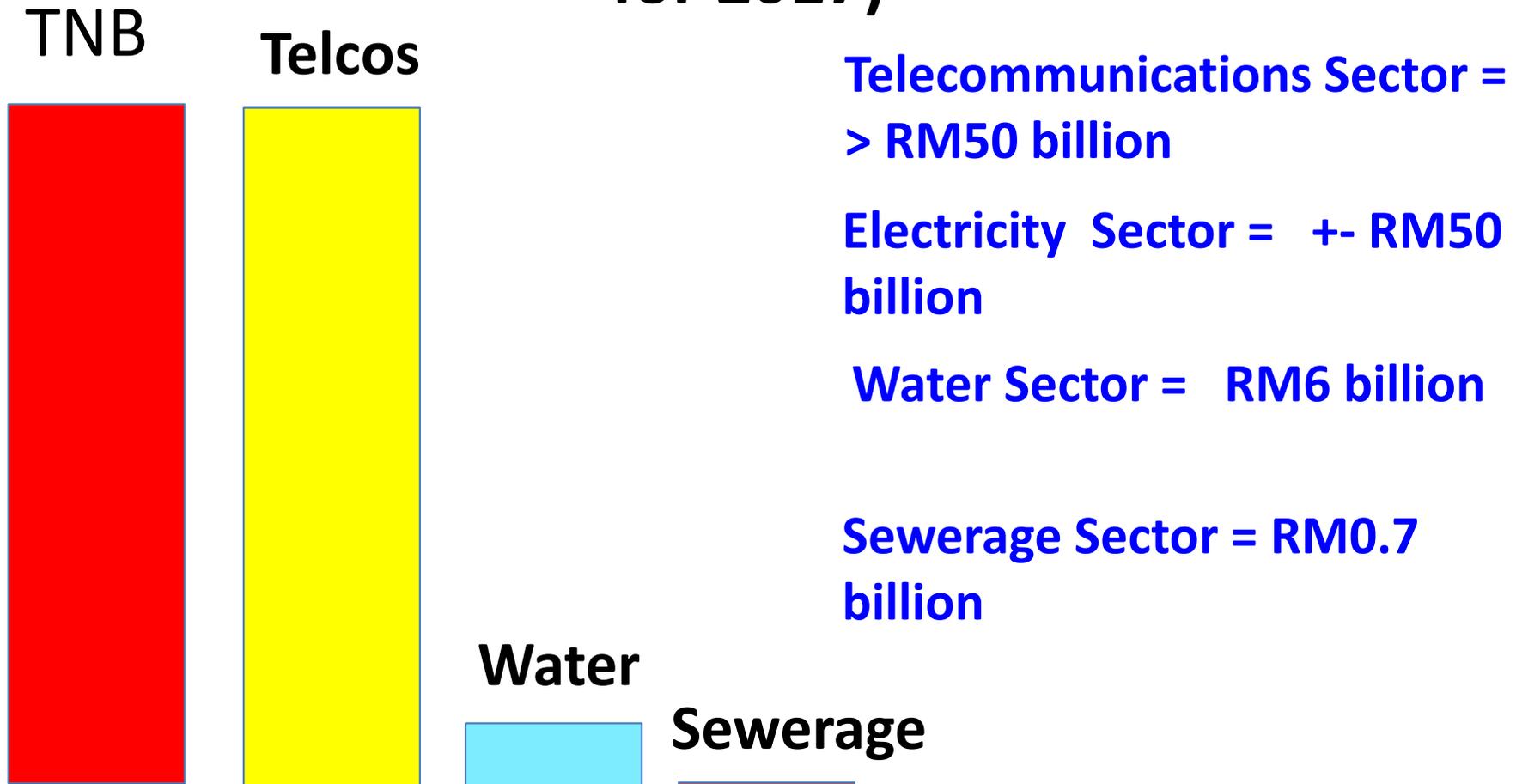


**Based on Triple Bottom Line approach to gradually take industry towards Full Cost Recovery . Leaving No One Behind (SDG)**

# Sustainable Water Services (Focus on Triple Bottom Line or EES)



# Water and Sewerage having Lowest Revenues amongst Major Utilities in Malaysia (Estimates for 2017)



- Water sector revenue is only 12% of Electricity sector or Telecommunications sector.
- Sewerage sector, less than 2%

## **B. Adopt Sustainable Development Principles (EES)**

- 1. Economic and financially viable- Towards full cost recovery in the long term for the whole value-chain (raw water to discharge of wastewater), digitalization (IR4.0, Economy 4.0 and Water 4.0)**
- 2. Environmentally sustainable- IWRM, IRBM, climate change resilience, minimal or no wastage, reuse-reduce-recycle, promote circular economy, meeting current generation's need but not at the expense of future generation wellbeing. Ensure policy on coastal reservoirs meets the triple bottom-line)**
- 3. Social inclusion and equity -Protect interest of disadvantaged group (B40) - frequent water rationing and supply disruptions affect the B40 more than the rest as they are forced to buy bottled-water. Ensure affordable tariff for Band 1 is a better Public Policy to protect the poor NOT suppress tariff revision.**

## C. Address Key Outstanding Issues

### *1. Restore Trust*

- Expedite completion of migration to asset-light model for remaining states
- Recognize value of water resources and develop a raw water pricing framework
- Re-assure state governments of FG's commitment to provide funding for source works. Put in place a mechanism to gradually phase-out Fiscal Support with Cost Recovery through Tariff Revenue (E.g. combination of loan and grant over mid to long term)

## **C. Address Key Outstanding Issues**

### **2. Address Grievances on CAPEX Implementation**

- PAAB to concentrate only on major approved projects and empower water operators to undertake implementations for smaller projects
- Allow Water Operator to source for own funding provided cost of borrowing is equal or lower than PAAB
- PAAB to address the trust deficit ASAP

- 3. Put in place clear policy and regulatory framework on water and sewerage integration**
- 4. Realign and Redefine Roles of institutions** involved in water and sewerage industry at the Ministry( transform NAHRIM as the Water Research and Innovations Agency)
- 5. Revisit the water laws and strengthen policy and regulatory provisions in WSIA and SPAN Act**

## **6. Expedite implementation of water and sewerage subsidiary legislations :**

- Individual Septic Tank De-Sludging Rules
- High Rise Building's Common Tank Maintenance Rules
- Wastewater Recycling and Non-Potable Water Supply Rules, etc.

## **7. Enhance Programs for Capacity Building** (Technical, NRW, regulatory, digital transformation, Economic and Environmental Pricing)

## **8. Leverage on Sewerage Capital Contribution Fund to roll out sewerage projects that benefit the people**

- Replace Communal Septic tanks and connect to STP;
- Made available more sludge treatment facilities;
- Develop a master plan to assist rural households to use ISTs;
- Provide incentives for households to connect to Regional STP

**9. Provide fiscal and non-fiscal incentives** for R&D and programs related to Digital Transformation, promote Industry development to drive export of Malaysian-made water and sewerage solutions and related technologies)

# CONCLUSION

- **Finalize negotiation with the remaining States on migration to Asset-Light Structure**
- **Implement the tariff Setting Mechanism without further delay**
- **Intensify consultation with State Government and all stakeholders to have a long-term Water Resources Policy including set policy guidelines on downstream and upstream source works**
- **Develop A Win-Win Policy to incentivize State Governments to adopt water and sewerage services integration. This should include areas related to human resource, future CAPEX requirement, unlocking sewerage lands for development, etc)**

# CONCLUSION

- **Finalize amendments to the Water Services Industry Act to address new challenges and problems faced by the industry**
- **Set clear policy and regulatory guidelines to promote private sector investments in wastewater reuse/recycle**
- **Re-align and transform water and wastewater institutions to support water restructuring to bring the industry forward**
- **Leveraging on new and emerging digital products and services**
- **Promote greater partnership in industry development and capacity building particularly in new and emerging technologies and regulatory practices**
- **Felicitate sharing of water sources and expand areas of cooperation among states**

# Thank You

Dated : 19 February 2020