EXECUTIVE SUMMARY

The 8 Key Takeaways

1. Significant improvement in the overall understanding of the **Integrated Water Resources Management (IWRM)** concept across all levels and involving all sectors so as to ensure its effective implementation in managing sustainably the nation's water resources

2. Establishment of a national **Data and Research, Development, Commercialisation and Innovation (RDCI) Centre** for the purposes of strategic planning and decision-making as well as the driver to develop local expertise and innovative technologies in the water sector

3. Preparation of the water sector towards implementing **IR4.0** and the use of smart technologies to drive the development of the overall water sector

4. Sustainable management of the water resources through implementation of the **Water-Food-Energy Nexus** so as to ensure nation-wide social and economic continuity

5. Preparation of a comprehensive and quantitative data regarding current water demand and needs as a guide to identifying the economic level of water usage by establishing **water footprints and determining virtual water usage** by every economic sector

6. Societal preparation to face the **impact of climate change** on the water sector

7. Development of a new **business model and financing models** to drive the nation's water industry sector to an industry which is competitive, attractive and profitable

8. Implementation of strategic programmes to position **the water sector as a new national economic sector**

PRIME MINISTER'S DEPARTMENT ECONOMIC PLANNING UNIT

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WST 2040

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WST 2040

EXECUTIVE SUMMARY

WHAT IS WATER SECTOR TRANSFORMATION 2040?

A national agenda to transform the water sector into a dynamic & vibrant economic sector that can contribute significantly to the national GDP & provide good quality affordable water to the Rakyat as well as create new job opportunities and facilitating resilient development of STIE & RDIC in the sector.

WST2040 objectives:

- Water security & sustainability
- Water as an economic opportunity

HOW DO WE IMPLEMENT THE TRANSFORMATION STRATEGIES?

2025 PHASE 1 12MP, 2021-2025

- **Accelerating adoption of IWRM**
- Developing indigenous technology to be on par with international standards
- Achieving economies of scale
- Becoming the regional water industry hub

2030 PHASE 2 13MP, 2026-2030

- Accelerating adoption of IWRM
- **Developing indigenous technology to be on par with international standards**
- Achieving economies of scale
- Becoming the regional water industry hub

2035 PHASE 3 14MP, 2031-2035

- Accelerating adoption of IWRM
- Developing indigenous technology to be on par with international standards
- **Achieving economies of scale**
- Becoming the regional water industry hub

2040 PHASE 4 15MP, 2036-2040

- Accelerating adoption of IWRM
- Developing indigenous technology to be on par with international standards
- Achieving economies of scale
- **Becoming the regional water industry hub**

WST2040 VISION

1. Water security so that every Malaysian has access to reliable, sufficient, clean, and quality water supply and sanitation systems at affordable costs
2. Water security for sustainable food production and the environment
3. Viable and economic alternative water sources are available at all times
4. Precision water supply and demand is practised at all levels for better efficiency and sustainability
5. The water sector becomes a vibrant economic sector with a fully competent workforce, contributing to the national gross domestic product GDP, and
6. Every Malaysian is protected from the risk of water-related disasters and the impacts are well mitigated.

WHY DO WE NEED TO TRANSFORM THE WATER SECTOR?

People – Increasing appreciation towards water & provide sufficient engagement platform to create mindset shift for collective well-being

Governance - Empowering water governance at the Federal, State, and Local Government levels towards Integrated Water Resources Management (IWRM)

Infrastructure & Technology - Application of smart technology and sustainable water infrastructure to support long-term development and resilience in the water sector

Information & RDIC - Enable data access and integration of data to promote data-based decision-making and encourage research & development in the water sector

Alternative Financing - Enhancing public and private sector cooperation towards making water as a dynamic economic sector

8 GAME CHANGERS

Public Awareness
Focuses on awareness-raising, advocacy, and capacity building related to water resources management, which is centered on four clusters: government, business, community, and academia. The main study outputs comprise four separate modules that addresses each of the four clusters.

Smart Technologies
Promotes the integration and adoption of IR4.0-based advanced technologies in water resources management towards an evidence-based, efficient and sustainable water sector. A high-tech equipped water sector is a prerequisite and will provide support and accelerate its position as a dynamic growth engine to ultimately become the regional water industry hub.

Data Integration
Highlights the need for Malaysia to establish a single-point reference centre that will provide reliable and quality water data and information, including primary and secondary water-related data. It is envisioned to be a vital element in facilitating water research consortia, which is the key to a successful development of a data-driven water sector.

Virtual Water
Emphasises the need to raise awareness about virtual water (VW) and water footprint (WF) amongst decision-makers and the public to ensure better planning, management, and consumption of water. It addresses elements, such as calculation of our national VW, establishment of WF inventory for selected economic sectors as well as the incorporation of WF elements in federal and state water governances.

Climate Change Adaptation
Addresses climate change impacts if the 1.5°C global warming is not arrested. It provides key strategies for strengthening climate change adaptation and leveraging on IWRM and water technologies. Strategic inputs and national strategies has been developed to enhance our adaptive capacity and build resilience for the water sector towards adapting to climate change.

New Economic Sector
Aims to enable transformation of the national water sector into a competitive economic sector that significantly contributes to the national GDP without jeopardising the sustainability and availability of resources and opportunities for the future generation. It will examine the economic value and viability of the water sector to become a contributor to the national GDP.

Financing Mechanism
Examines the existing funding mechanisms across the water sector and explores alternative financing mechanisms that are both sustainable and conducive to support the water industry in the long-term. The proposed mechanisms are a holistic system to ensure sustainability of the whole water sector value chain.

Water-Food-Energy Nexus
Centres on the interconnection and roles of water, food and energy in ensuring security and sustainability for the people's and nation's development. It addresses the intricacies and interlinkages of the nexus to allow better balance trade-offs and synergies.

WST2040 REFORMS AND SIMULATED TRANSFORMATION TRAJECTORY

RM 13.3B
WST2040 reforms can lead to this value-add by 2040

0.45%
Contributing to the national GDP

RM 172.6B
This simulated transformation trajectory for the water sector would contribute to the economy

WST 2040 ROADMAP

1 Comprehensive Roadmap with 87 Strategies

106 Immediately Implementable Projects (12MP)

601 Targets

601 KPIs

NATIONAL TARGETS

1. To ensure increase in effective participation of all stakeholders in planning, decision-making, implementation, monitoring and evaluation through education, public awareness raising, advocacy and capacity building
2. To ensure that the Malaysian population is made aware of the importance of rivers and river basins by 2040
3. To ensure that water resources with good quality water are available to fulfil the water demand up to 2040 and beyond
4. To establish a comprehensive and secure national water data centre to service all water sector stakeholders, including water managers for science-based decision-making
5. To ensure a whole-of-government and whole-of-society approach for an optimal return of value on water
6. To ensure that impacts of climate-related hazards are considered in water-related development plans
7. To use IR 4.0-enabled technologies to promote smart technologies for water management
8. To undertake additional water footprint studies and identify optimum water allocation for domestic, industry and agriculture use, and
9. To ensure that the water sector becomes a vibrant economic sector with a fully competent workforce, contributing to the national GDP

RECOMMENDATIONS

- 8 People
- 39 Governance
- 6 Information and RDIC
- 13 Infrastructure and Technology
- 16 Finance