



A Sustainable Water Future

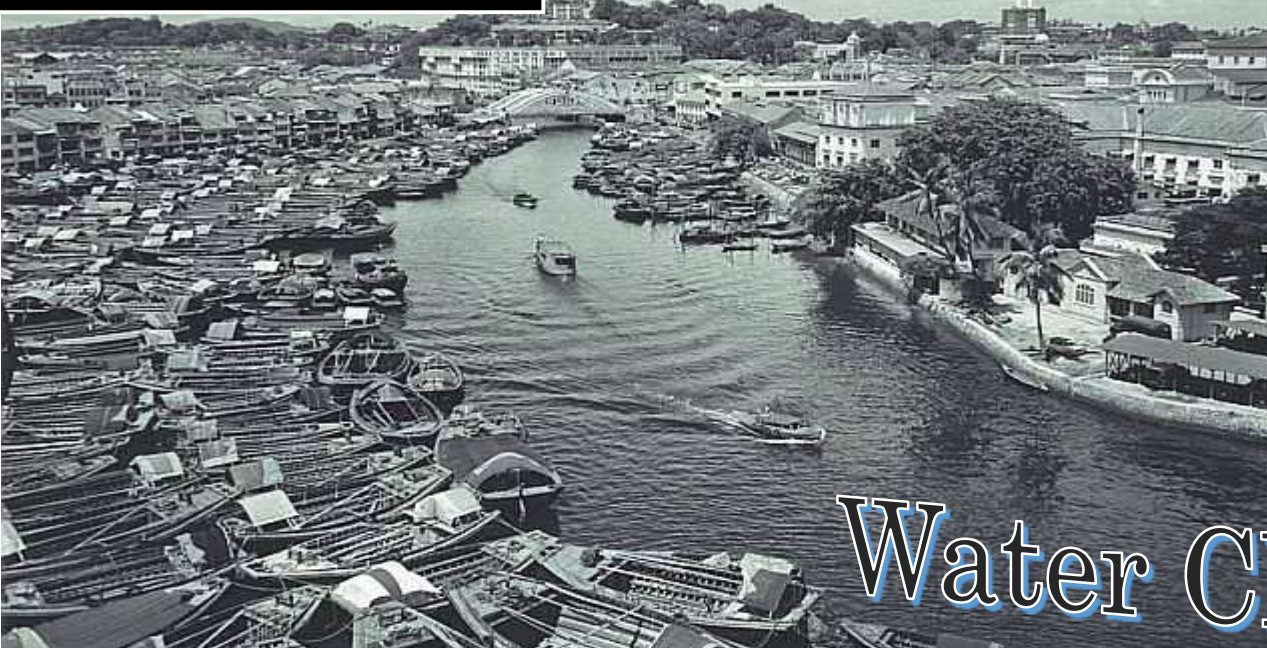
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UN Environment (SEAYEN)

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Singapore River in the 70s



Water Rationing in 1963



Water Challenges



Marina Reservoir

Global Water Leader



Bedok NEWater Visitor Centre

“At PUB, sustainability is central to our mission – to ensure a sustainable water supply for Singapore, tame stormwater and protect her coastline from rising sea levels”

Delivering Our Mission Responsibly

PILLAR 1: WATER AND SUSTAINABLE MANAGEMENT

Addresses the importance of resource sustainability as a major ingredient for PUB's mission and PUB's responsibility in managing its environmental impacts

- Sustainable Water System
- Resource Efficiency and Circularity
- Climate Change Adaptation

PILLAR 2: CAPABLE AND ENGAGED WORKFORCE

Addresses the importance of our people as the main driving force and cornerstone of PUB's operations

- Health and Safety
- Competent Workforce
- Inclusive and Fair Workplace

PILLAR 3: STRONG PARTNERSHIPS

Addresses the importance of the shared responsibility of all stakeholders in the community to conserve and protect our water resources and environment

- Customer-centric Water Service
- Partnership and Engagement

PILLAR 4: BUSINESS EXCELLENCE

Addresses the importance of business excellence to ensure a PUB that is responsible and trusted by all our stakeholders in delivering our mission

- Trust and Transparency
- Innovation
- Digitalisation and Cybersecurity
- Financial Sustainability

THE SMART PUB ROADMAP

Transforming PUB into the Smart Utility of the Future



SMART DRAINAGE GRID

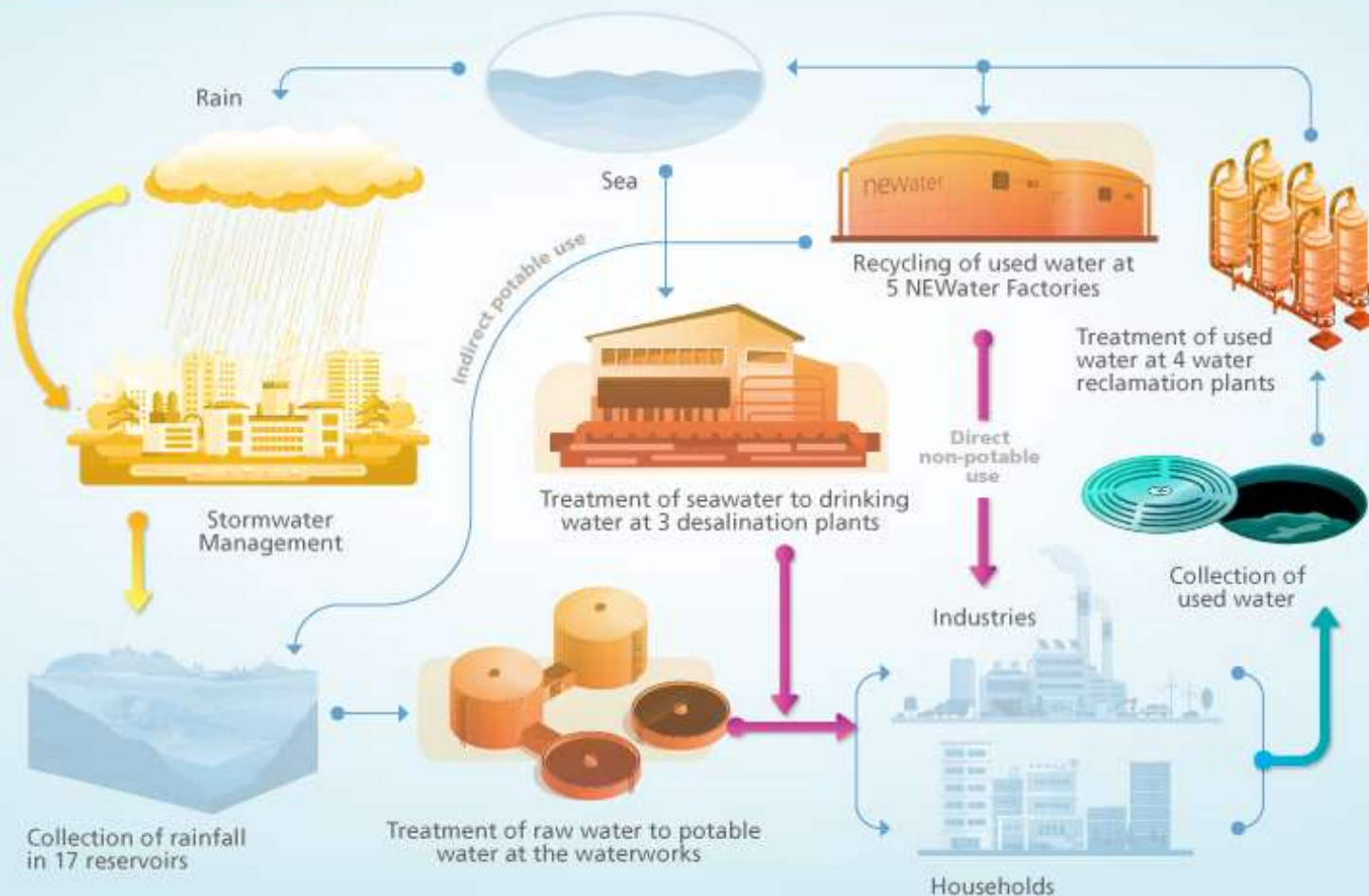
- Hydrometeorological and water quality monitoring
- Strategic planning and maintenance of infrastructure

SMART PLANTS

- Data-driven Decision Support with machine learning
- Autonomous systems to perform manual, high risk jobs
- Diagnostic troubleshooting

SMART WATER GRID

- Extensive monitoring of network pressure, flow and water quality
- Pre-emptive leak detection
- Predictive load dispatch: Using demand forecasting enabled by pervasive sensing and data analytics



DIGITAL OPERATIONS SUPPORT

- 360° situational awareness and system oversight with improved operations dashboards and mobile connectivity
- Reducing wastage and enhancing resilience with data analytics
- Enhancing productivity by automating manual workflows
- Encouraging collaboration and knowledge sharing through digital platforms

SMART SEWER GRID

- Pre-emptive asset repair and replacement
- Monitoring network and tunnel structural integrity
- Illegal discharge tracing and modelling

A Culture of Innovation and Digital Literacy

PUB'S R&D APPROACH

Upstream Fundamental Research

Partner with tertiary and research institutes in R&D projects with direct interest in PUB's operations

Pilot Scale Studies

Test laboratory-proven concepts in actual field conditions via an appropriately-sized unit

Demo Plant Studies

PUB may consider a demonstration-scale study with a pilot plant that will be put into operation to test for operational and process challenges, if any

The 9 technology domains of interests are:



Watershed Management



Water Treatment, Desalination And Reuse



Used Water Treatment



Water Quality and Security



Network Management



Industrial Water Solutions



Digitalisation



Coastal Protection and Climate Change Adaptation



Waste Reduction and Resource Recovery

COMMITMENT

Ensure **continuous innovation** in our work

PERFORMANCE



Innovation **ideas** submitted



Worked on **724 R&D projects** with a total value of **\$837 mil** since 2002

COMMITMENT

Ensure **robust IT and cybersecurity** management

PERFORMANCE



100% completion of cybersecurity literacy training (CSC Learn course) in FY2021

Thank You

