Singapore’s blue economy innovations

See Wan Yin
Senior Executive, Ministry of Environment and Water Resources
Singapore: A Small Island State

- Population of 5.6 mil
- Land area of 719 km²
- Avg annual rainfall 2330 mm
- No Natural Resources

Singapore was ranked 171 out of 182 countries in terms of water availability *(source: UN World Water Development Report, 2003)*
Water is a national priority

Mr Lee Kuan Yew
Founding Prime Minister
at Singapore International Water Week 2008

“… (Water) dominated every other policy. Every other policy had to bend at the knees for water survival.”
Today, Singapore has a diversified supply of 4 different sources; Residents enjoy 100% potable water at tap & 100% sanitation
PUB manages the complete water cycle
Four National Taps

- Desalinated water
- NEWater
- Imported water from Johor, Malaysia
- Water from local catchment
NEWater is high-grade reclaimed water (from treated used water), and replaces use of potable water for non-potable uses in industries.
5 NEWater Plants today with total capacity of 175 mgd (up to 40% of demand).
Endorsement by leaders
Singapore’s Voluntary National Review

2018 High Level Political Forum on Sustainable Development
Reclaiming Used Water: Deep Tunnel Sewerage System

**DTSS Phase 1**
- S$3.6bil (2000 – 2008)
- 48km long, 20-55m underground

**DTSS Phase 2**
- S$6.5bil (2014 – 2025)
- 40km long

Tunnel diameter between 3.3 to 6.0m

Kranji Water Reclamation Plant
- 32mgd

Tuas Water Reclamation Plant
- 176mgd (4Q2025)

Changi Water Reclamation Plant
- 176mgd
  - (+22mgd 4Q2019)
Desalination

Current Total Capacity = 130mgd

**Hyflux**

Singspring desalination plant
- Capacity: 30 million gallons of water per day

Tuaspring desalination plant
- Capacity: 70 million gallons of water per day

Jurong Island

Third plant (Tuas)
- Capacity: 30 million gallons of water per day
- Completion: End 2017

Fifth plant (Jurong Island)
- Capacity: 30 million gallons of water per day
- Completion: 2020

ST Marine
- A company of ST Engineering

Fourth plant (Marina East)
- Capacity: 30 million gallons of water per day
- Completion: End 2019

Keppel

HSL

Tedagua

www.pub.gov.sg
Preparing for the Future

50-year Water Masterplan

NOW

DEMAND NOW
Domestic sector 45%
Non-domestic sector 55%

SUPPLY NOW
Water from local catchment
Imported water
NEWater 40%
Desalinated water 30%

* denotes % of demand

2060

DEMAND IN 2060
Domestic sector 30%
Non-domestic sector 70%

SUPPLY IN 2060
Water from local catchment
Imported water
NEWater [up to 55%]*
Desalinated water

* denotes % of demand
Thank You