





Sarah Meyssonier/Reuters

Lake Montbel at the foot of the Pyrenees Mountains is more than 70% empty.



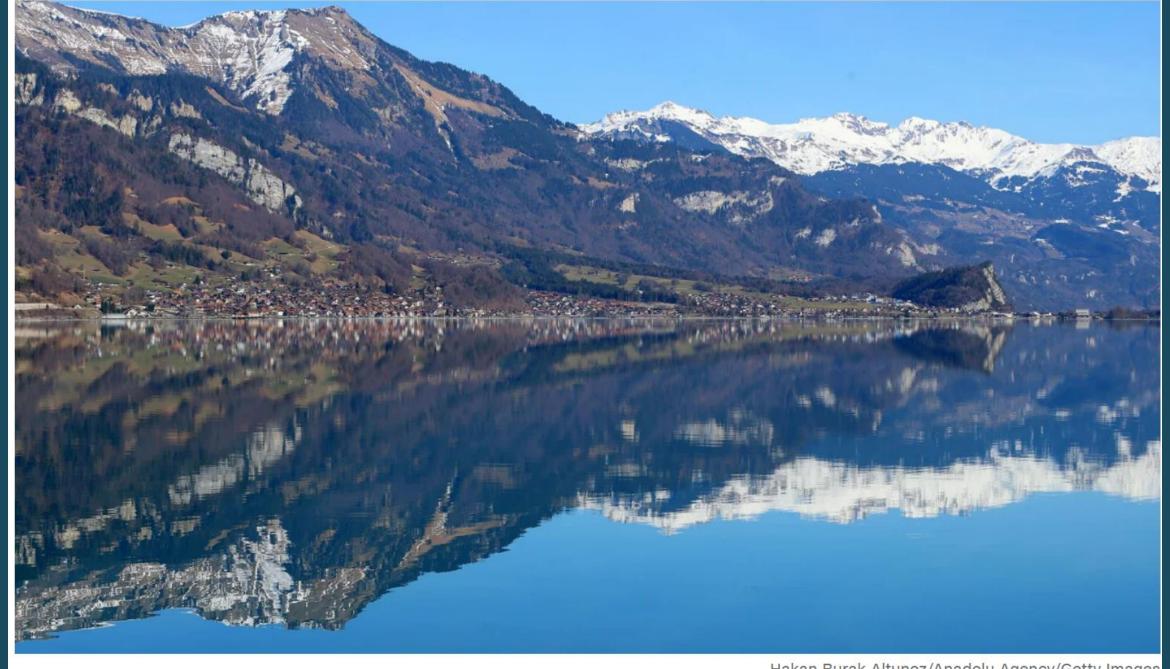
France eyes 'unprecedented' water curbs after driest winter since 1959 | Reuters

Visitar



Claudia Greco/Reuters

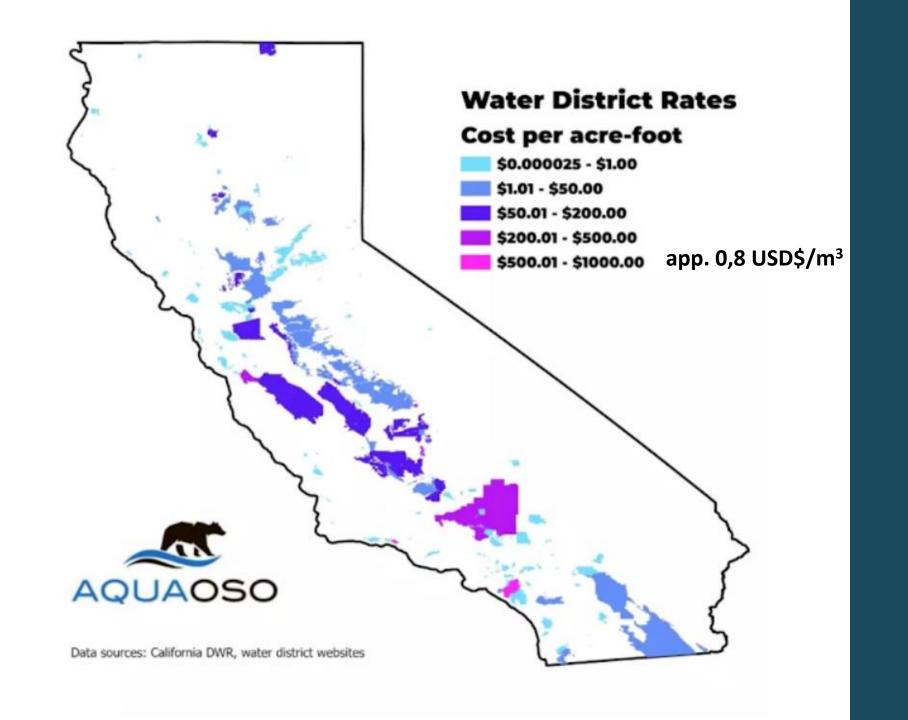
A view from Ponte di Valenza, Italy, on March 21 shows the River Po's dry riverbed.



Hakan Burak Altunoz/Anadolu Agency/Getty Images

A view of Lake Brienz, a popular tourist attraction in Bern, Switzerland on February 22

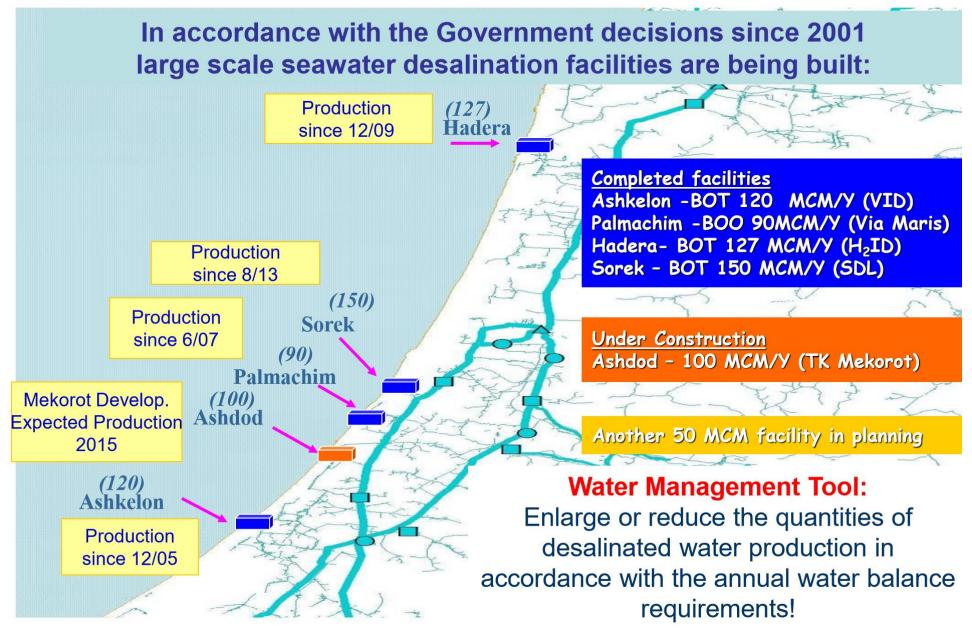






Sea Water Desalination





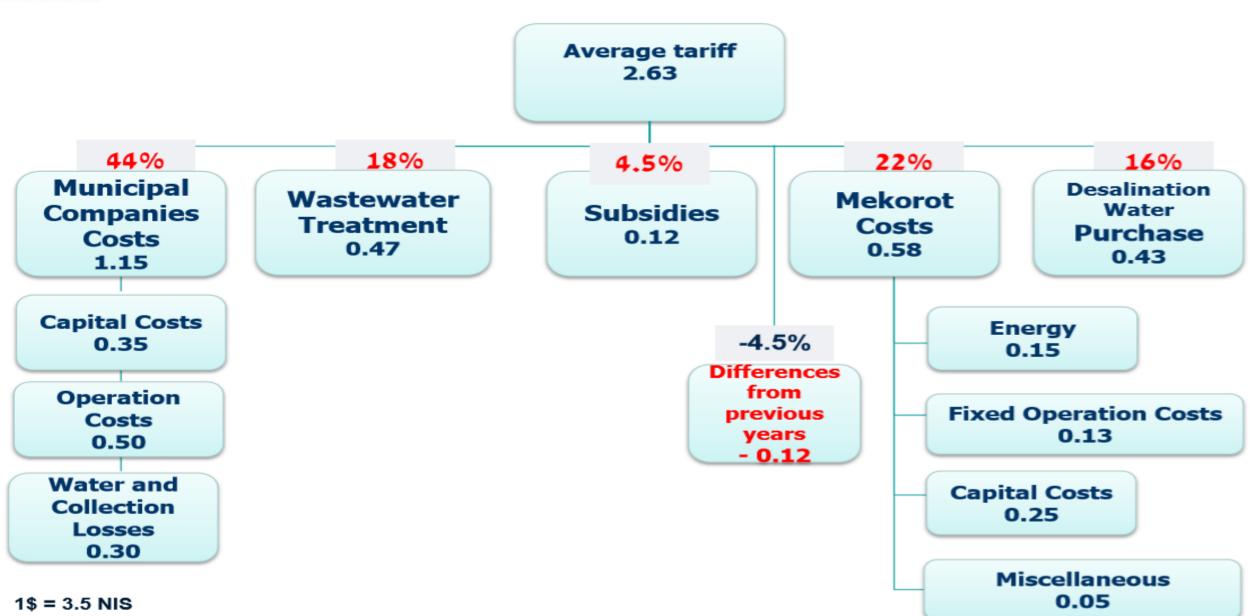


Water Tariff Components – 2015



2015 대구·경북 세계물포럼 7th World Water Forum 2015

(in US\$ without VAT):



REUSE OF ALL SEWAGE EFFLUENTS IN DAN REGION (GREATER TEL AVIV) WASTEWATER TREATMENT PLANT (SHAFDAN) AND THE PIPELINE TO NEGEV

Sewage from the Greater Tel Aviv area – 125 MCM/Y (2010)

Large-scale WWTP – secondary treatment quality

Six infiltration fields

Over 150 production and monitoring wells (quality permitted for "occasional drinking")

90km pipeline to Negev

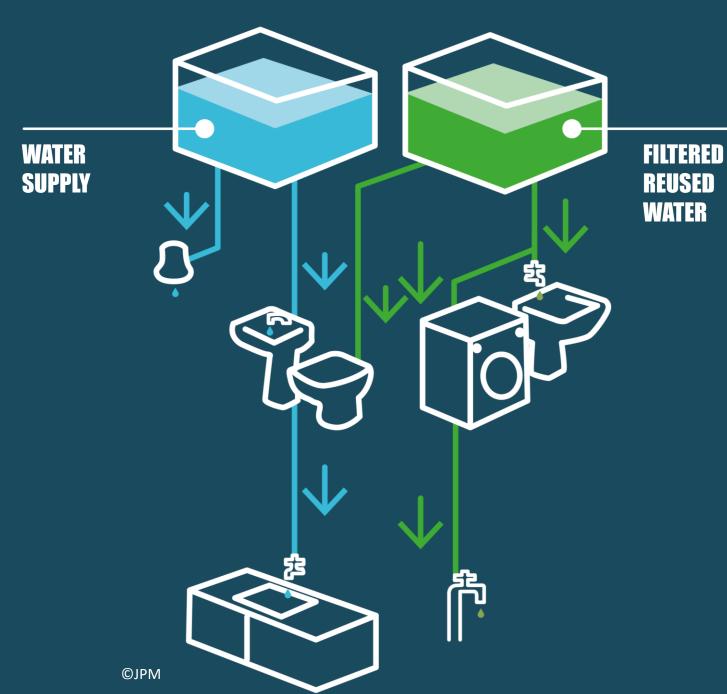
32 pumping stations, operational storages (0.51MCM) and seasonal storages (17.2 MCM)







REUSE Different uses, different water quality







ANNIVERSARY

DIRECT POTABLE RECLAMATION WITH A CLEAN BILL



GOREANGAB WATER RECLAMATION PROCESS GAMMAMS WATER CARE WORKS **GOREANGAB DAM** DISSOLVED AIR **FLOTATION RAW WATER BLENDING** COAGULATION RAPID GRAVITY SAND **FILTRATION** OZONATION **BIOLOGICAL ACTIV.** CARBON

FILTRATION

GRANULAR ACTIV. CARBON FILTRATION

ULTRA-

FILTRATION

FINAL

WATER

SUPPLY

DISINFECTION

STABILISATION

Following the multiple barrier approach



REUSE AS POTABLE WATER (750 000 Population - \$100/person

Process		Ozone- BAF	Full advanced treatment with RO Concentrate Disposal		
Cost/Impact			Ocean Outfall	Mechanical Evaporation	Evaporation Ponds
Capital Cost (millions)		\$91	\$120	\$172	\$303
Annual O&M Cost (millions)		\$4.2	\$5 9	\$10.9	\$6.3
Annual Environmental Costs (millions)		\$0.31 \$/m³ \$0.48 \$/m³			.48 \$/m³
Total TBL NPV (millions)					
Cost of Water (including environmental costs)	\$/AF	\$386	\$596	\$1,190	\$1,143
	\$/1000 gal	\$1.18	\$1.83	\$3.65	\$3.51
	\$/m ³	\$0.31	\$0.48	\$0.96	\$0.93
Power Consumption (MWh/year)		4,400	16,000	65,400	22,000
Chemical Consumption (dry tons/year)		1,770	1,860	3,020	1,860
Air Emissions (tons/year)	CO ₂	2,900	13,400	44,200	17,200
	Other	11	30	150	49

SINGAPORE NEWater

Where our water comes from Reservoir and imported water Newater Desalination Up to Up to Rest of Now 30% 10% demand Up to Up to Rest of 2060 50% 30% demand

Water catchment area From 67% now, it will grow to 90% of land area by 2060.

Singapore Water Day World World Clean Waters for Active, Beautiful, Clean Waters for NEWater Visitor Centre Newate

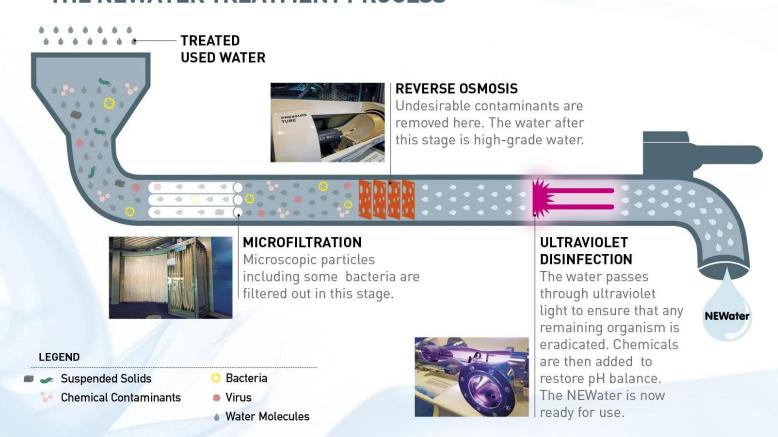
Main Strait

THE NEWATER TREATMENT PROCESS

Masai

MALÁSIA

Kampung Rekoh



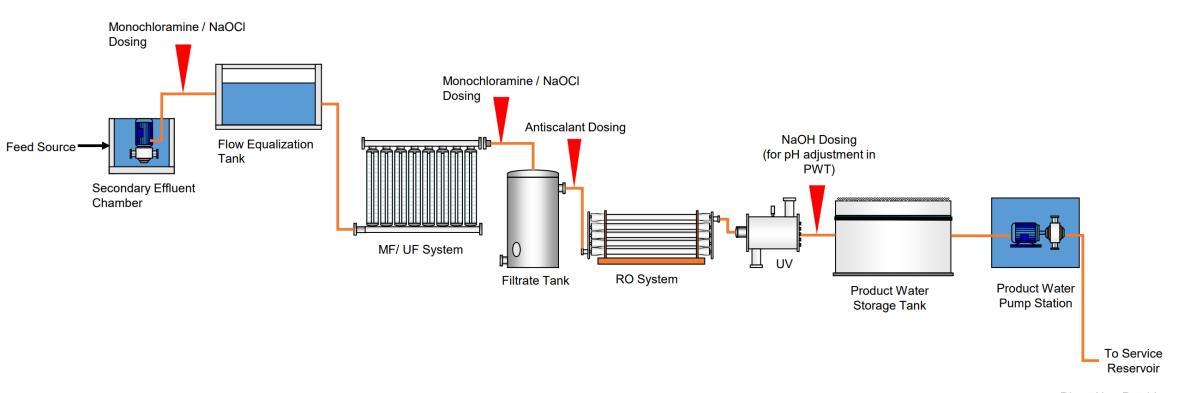
Tanjung Bauai

Sungai

Johor Kampung Tanjung Langsat



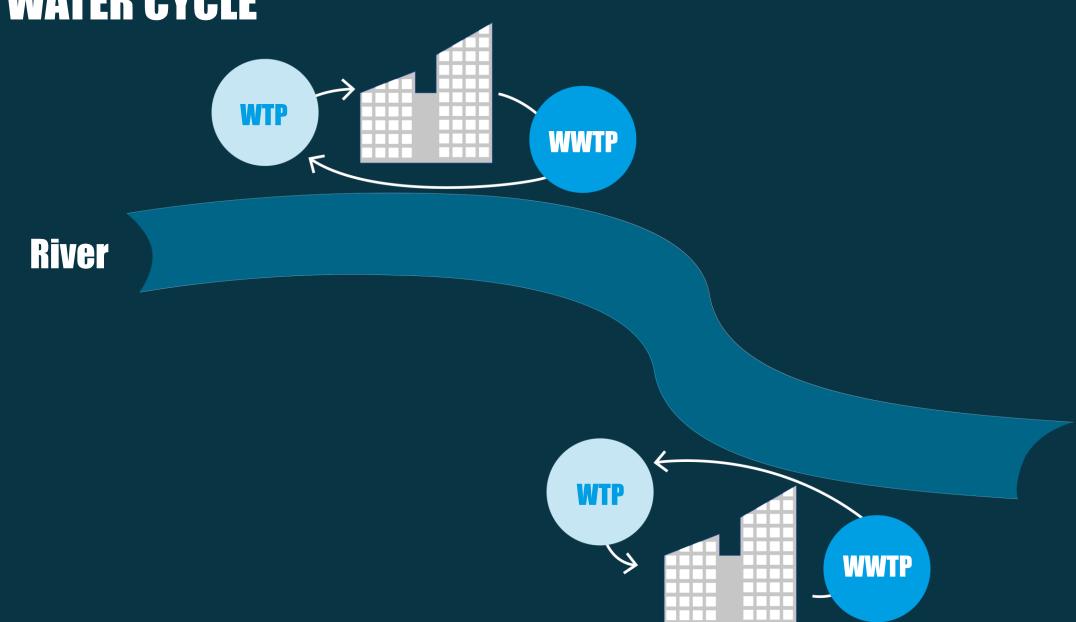
NEWater – General Process Schematic



- Direct Non-Potable Use
- Indirect Potable Use



URBAN WATER CYCLE



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