



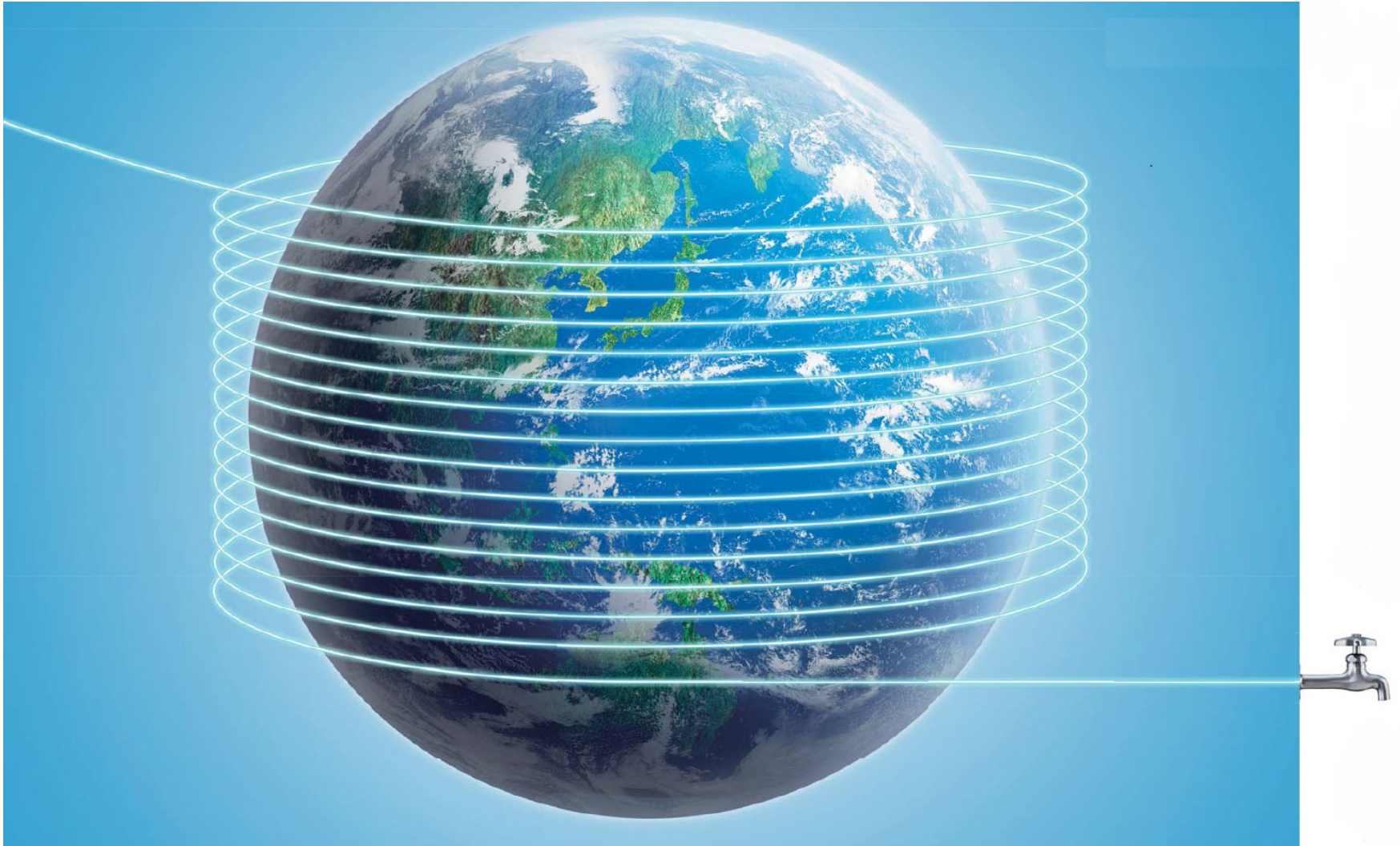
Introduction to High Quality Water Infrastructure in Japan

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Total length of water supply pipes in Japan

644,723 km = 16 rounds of the earth



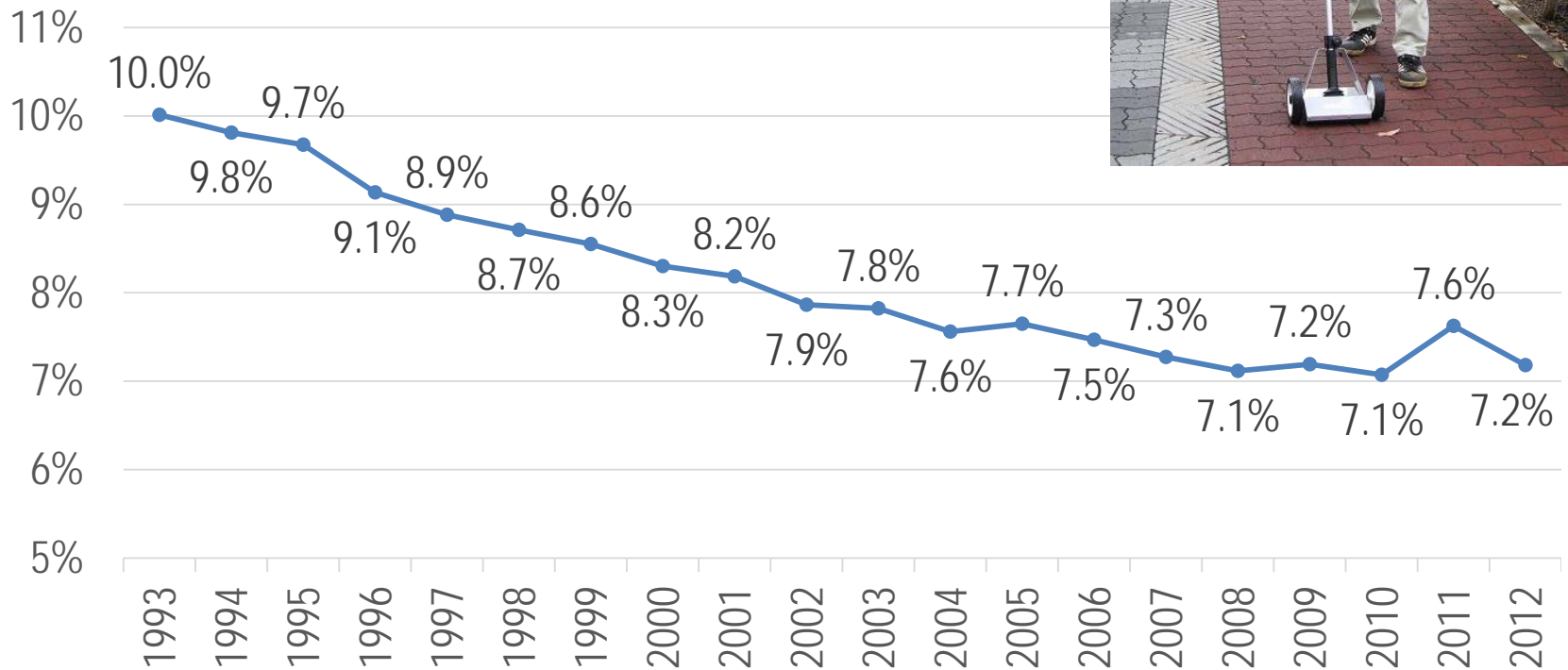
Waterworks in Japan

First Modern Waterworks: Yokohama in 1887
Average Supply Volume: 326 LCD

		2010	2011	2015
Total Population	1,000 capita	128,000	127,713	127,440
Water Supply Population	1,000 capita	124,817	124,657	124,466
Coverage Ratio		97.5%	97.6%	97.8%
Daily Maximum Water Supply Volume	1,000 m ³	48,149	47,240	46,383
Daily Average Water Supply Volume	1,000 m ³	41,482	40,838	40,611

Reduction of Water Leakage

Water Leakage: 7.2% (JPN Ave.)
Tokyo Metro.: 2.0% (2012)



Reduction of water loss

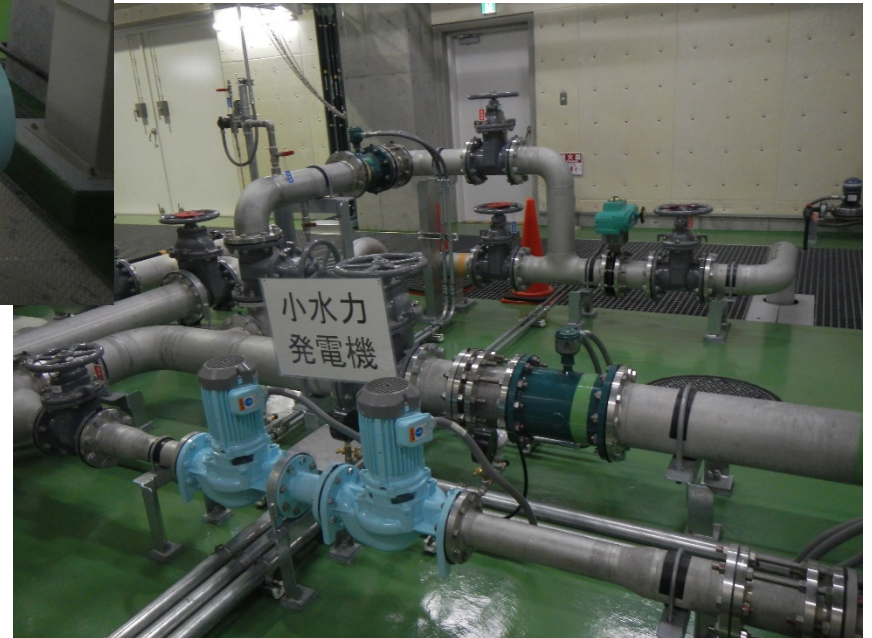
Energy recovery from sewage sludge



VVVF Inverter Pumps

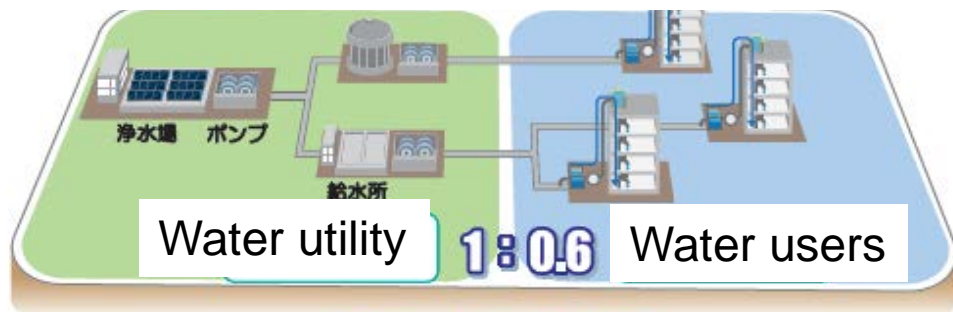
- Variable flow
- Max. 50% energy saving

Small-scale hydro-power station



City-wide energy saving in Water Supply

Energy consumption for water supply in Tokyo



再生可能エネルギーの導入推進
省エネルギーの推進
エネルギー利用の効率化

水道局の取組による効果

- クリーンエネルギー創出による電力安定供給への貢献
- 水道事業の使用エネルギー抑制

約 1,800 万 kWh

お客様の取組による効果

- 直結給水化によるお客様の使用エネルギー抑制

約 750 万 kWh (試算値)

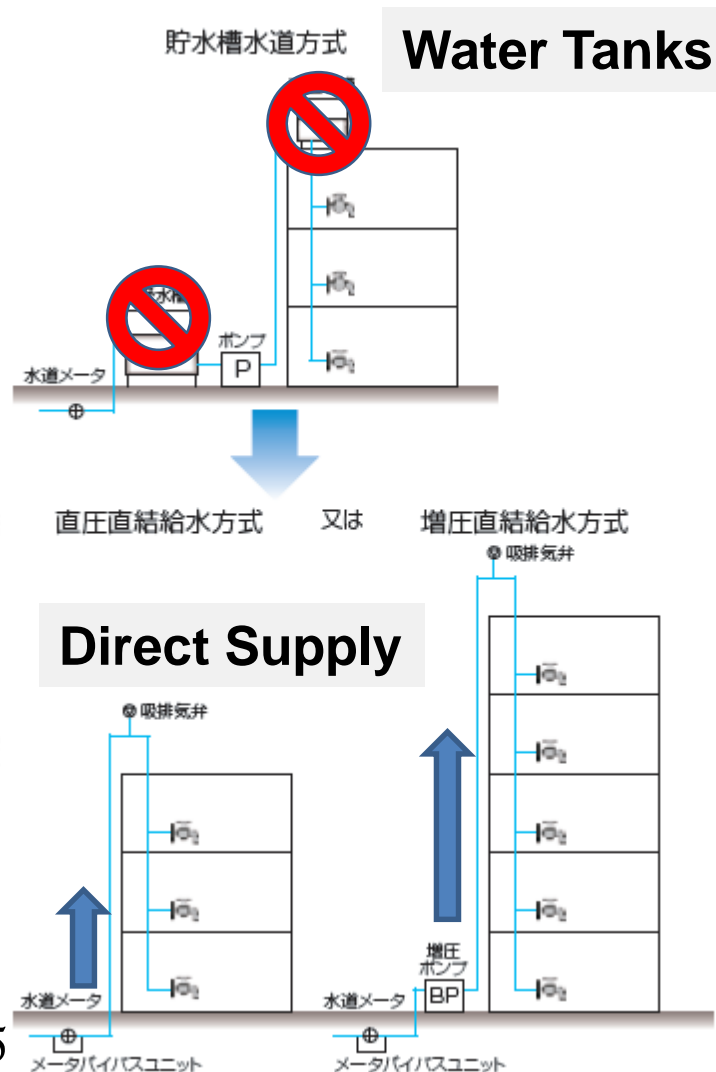
Energy saving in 3 years: **削減目標**

3年間で累計 **2,500万kWh以上**※2のエネルギーを削減

※2 大規模浄水場(東村山浄水場)が1年間に使用している電力使用量以上になります。

Tokyo Waterworks: Environmental Plan 2013-2015

<http://www.waterworks.metro.tokyo.jp/water/torikumi/kankyoku/kankyokeikaku2013-2015pamphlet.pdf>



Tokyo Olympic Game 2020

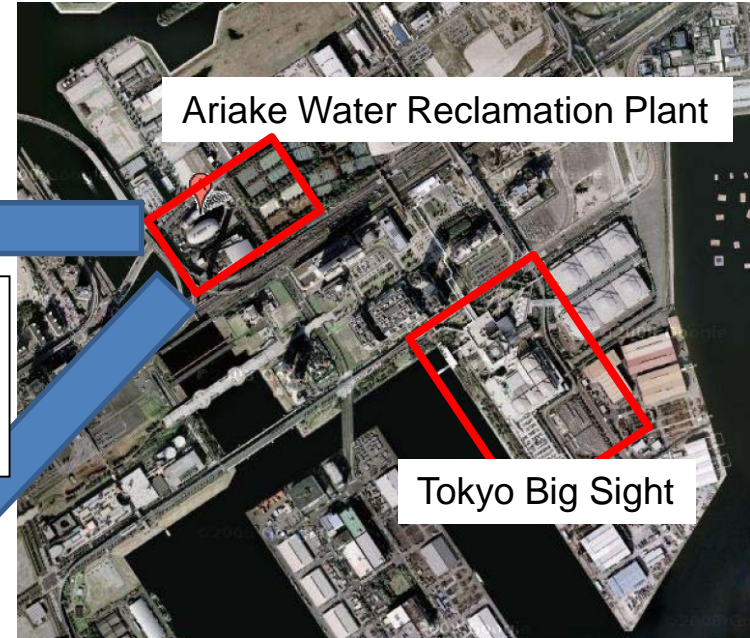


Water reclamation and reuse by advanced wastewater treatment



Improvement of landscape
water quality
ODAIBA Seaside Park

BOD < 1mg/L
COD 9mg/L
T-N 11.5 mg/L
T-P 0.3 mg/L

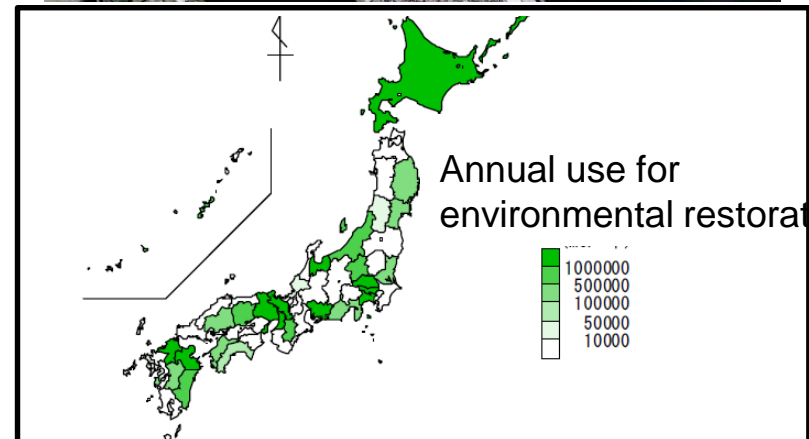


Ariake Water Reclamation Plant

Tokyo Big Sight



Train washing
Toilet flushing



Annual use for
environmental restoration

1000000
500000
100000
50000
10000

Energy recovery from sewage sludge



Egg-Shape Sludge Digester

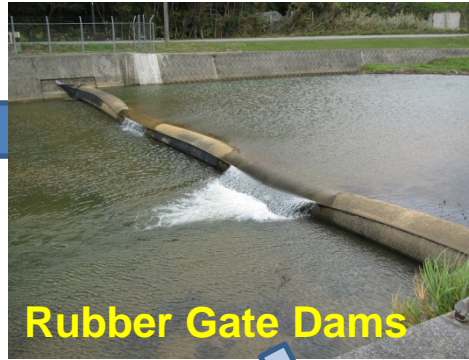
Fuel Production from Sludge



Water shortage in Okinawa Island

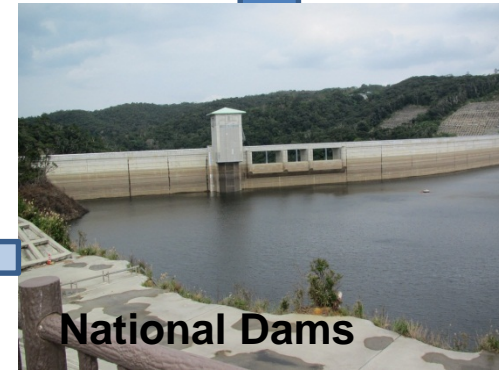


Desalination

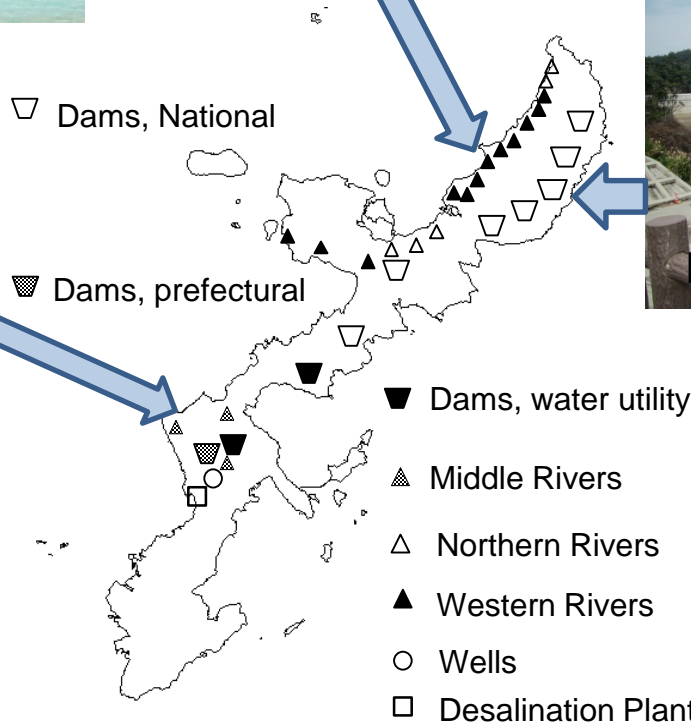


Rubber Gate Dams

New water resources



National Dams



Groundwater

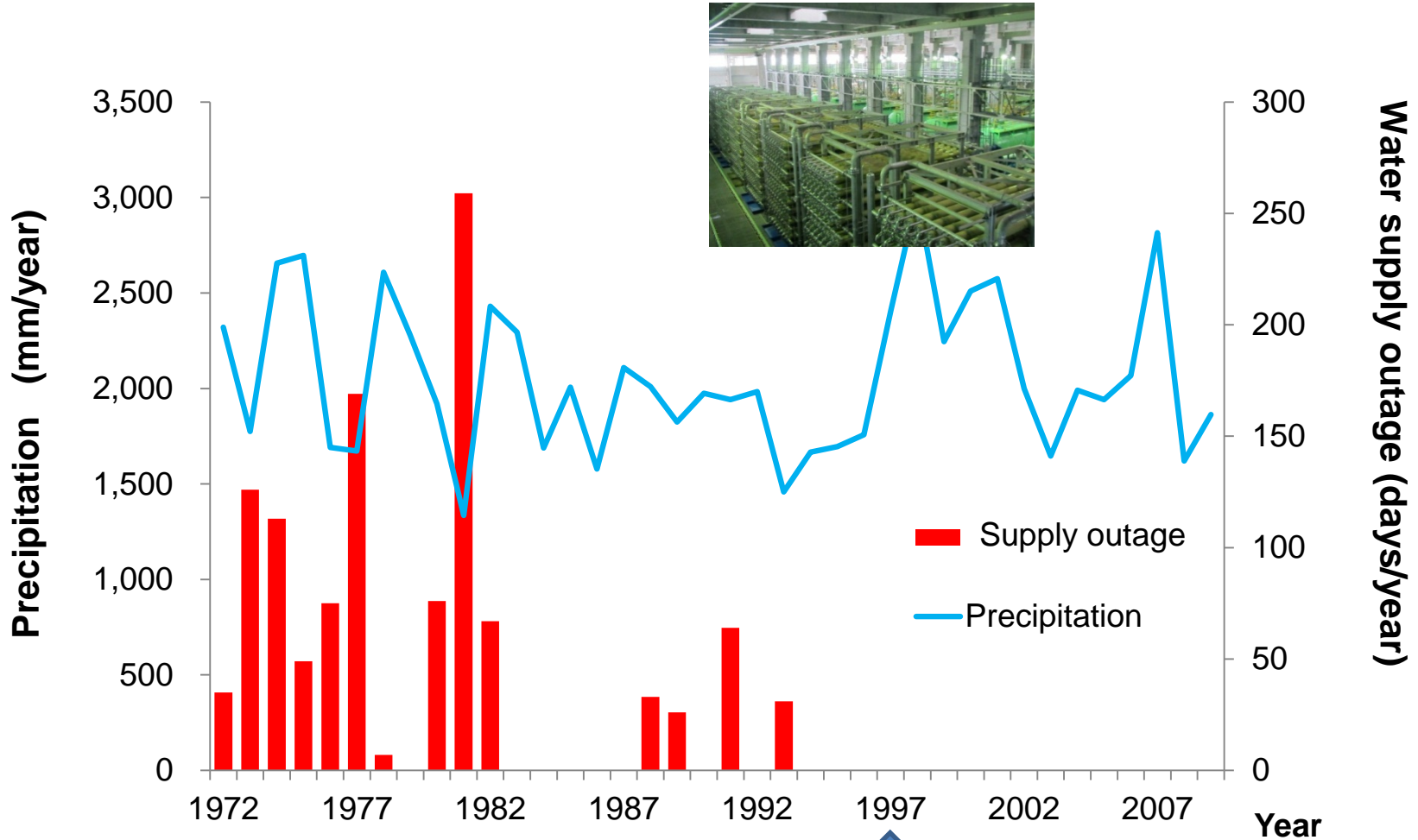
Traditional water source

**Okinawa Pref.
Population:
1.3 million
Tourist:
5 million/year**

Map of water resources in Okinawa (as of 2009)

0 10km

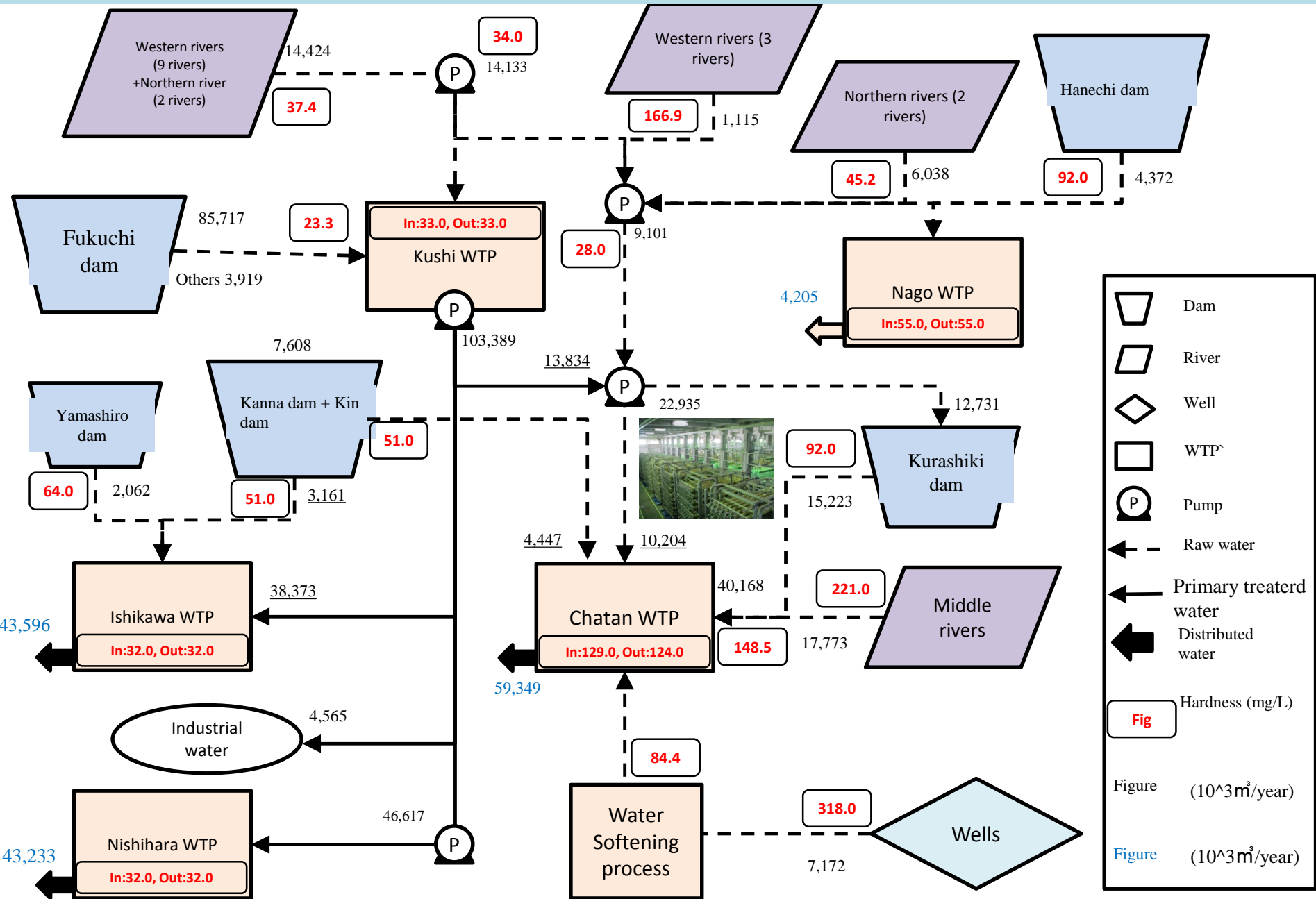
Water shortage in Okinawa Island



Desalination capacity: 40,000 m³/d
 Total supply volume in Okinawa: 420,000 m³/d

Desalination plant in full operation in 1997

Water Systems in Okinawa Island: Multiple sources



Water Supply System in Japan

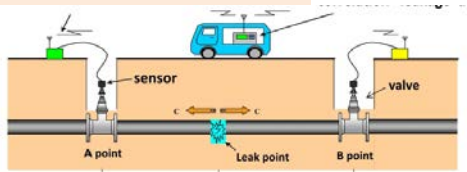
Integrated management of water systems

1. Increasing water use efficiency by water saving and demand reduction
2. Leakage control
3. Source water protection
4. Advanced water treatment
5. Water quality management in pipes and at points of use
6. Anti-seismic structure and countermeasures

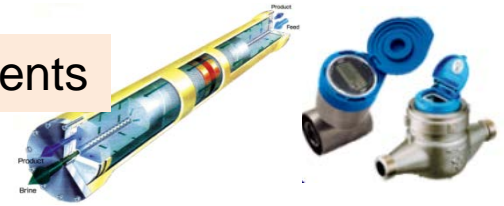


Japanese water technologies supporting sustainable cities of the future

NRW control



Equipments



Hands-on training



System Integration

Water reuse



High efficiency pumps



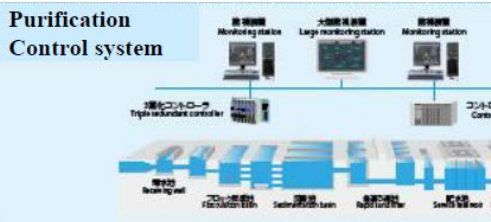
Desalination



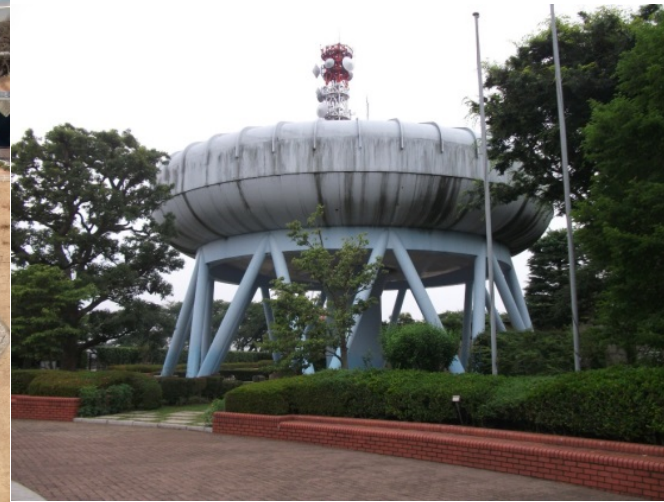
Sludge treatment and energy recovery



Advanced water treatment



We welcome you to come and see the advanced water technologies in Japan.



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