



The Japanese towel, which has long had many uses in daily life in Japan, is the visual expression of the concept of this catalog: Innovative Ideas in Every Drop.

The character means 'water' and expresses the Integrated Water Recycling and Reuse Solutions that we provide by combining various water resources.



GWSTA

Global Water Recycling and Reuse Solution Technology Research Association (Japan)

<http://www.waterplaza.jp/en>

c/o Hitachi Plant Technologies, Ltd., Rise Arena Bldg. 4-5-2 Higashi-Ikebukuro, Toshima-ku, Tokyo Japan 170-8466

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About GWSTA

GWSTA is an association that contributes to the development of global water recycling and reuse solutions by conducting experimental research, both at home and abroad, in collaboration with association members and other partners. Through its research, GWSTA aims to further develop and accumulate expertise in the operation and management of the water business as well as explore practical implementations for its research results.

Established: February 24, 2010 (Approval received from Ministry of Economy, Trade and Industry (METI)/Registration completed on March 10, 2010)

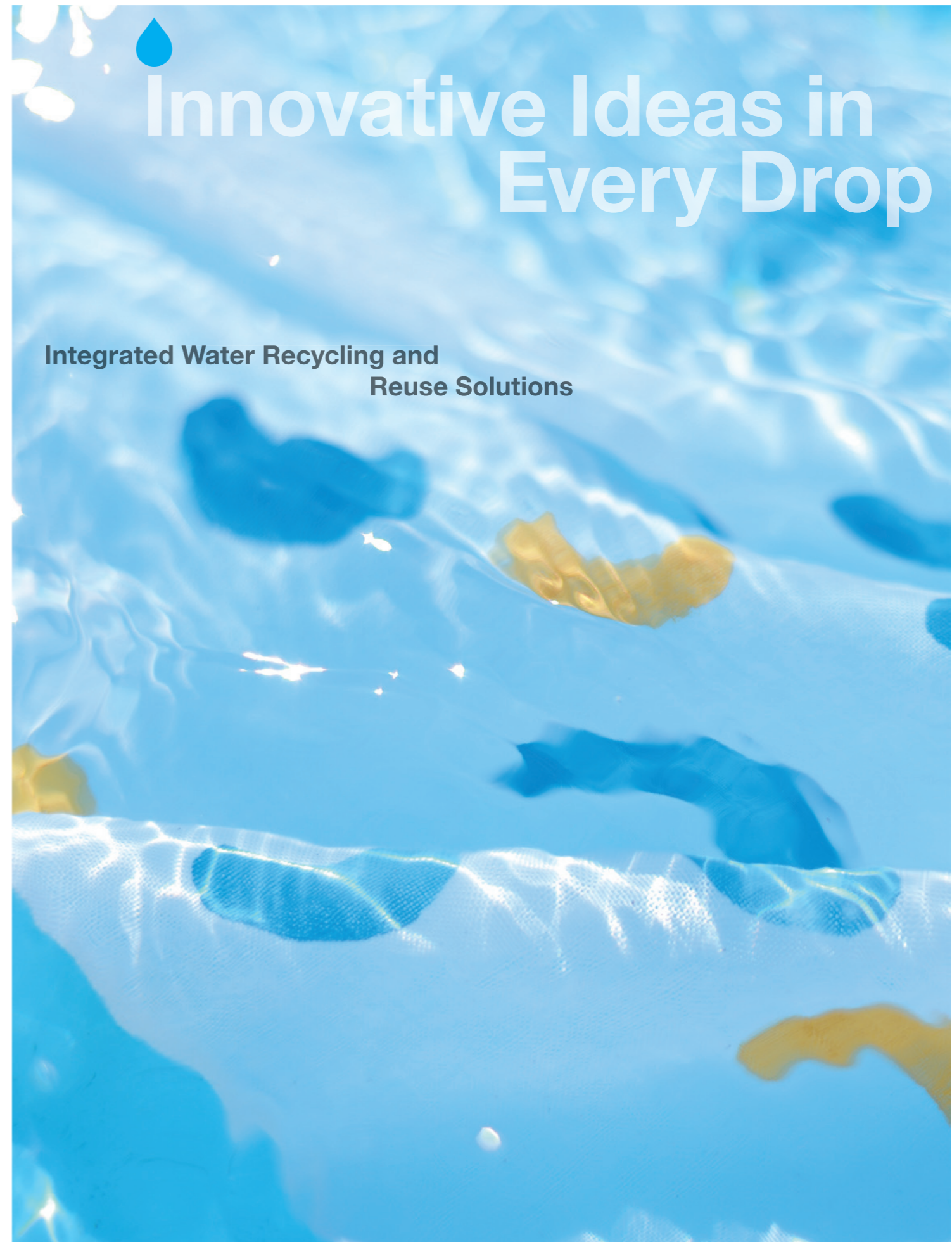
 **Hitachi Plant Technologies**

'TORAY'
Innovation by Chemistry

Suido Kiko
SUIDO KIKO KAISHA, LTD
TOKYO, JAPAN


Kitakyushu City


Shunan City



Innovative Ideas in Every Drop

Integrated Water Recycling and Reuse Solutions

 **GWSTA**

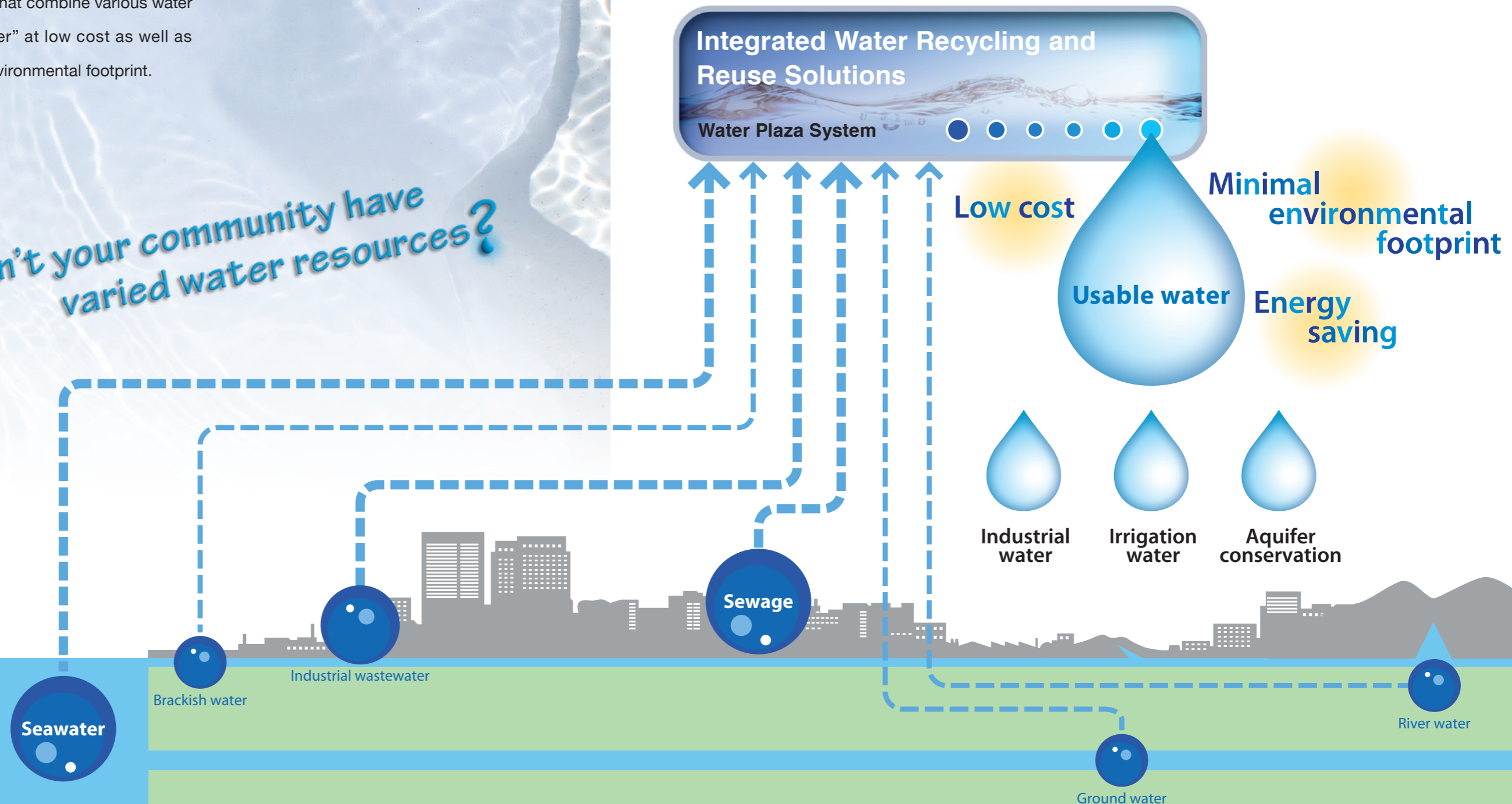
By effectively using various water resources, “usable water” can be supplied at **low cost** as well as with **energy saving** and **a minimal environmental footprint**.

We deliver sustainable integrated water recycling and reuse solutions appropriate for any specific conditions.

As water shortage become an increasing problem throughout the world, obtaining industrial water has become even more difficult. To address this difficulty, GWSTA offers integrated water recycling and reuse solutions that combine various water resources and supply “usable water” at low cost as well as with energy saving and a minimal environmental footprint.

Doesn't your community have varied water resources?

Our water reuse system operates in cooperation with a membrane equipment manufacturer and plant builders in Japan that possess superior water treatment technologies as well as local governments that are in close contact with overseas municipalities. Through demonstrations and operational activities, GWSTA aims for sustainable water treatment systems and operational services and provides proven solutions.



Sustainable solutions through advanced membrane technology

Case 1 Water Plaza Kitakyushu (Japan)

Seawater Desalination Combined with Treated Sewage Reuse

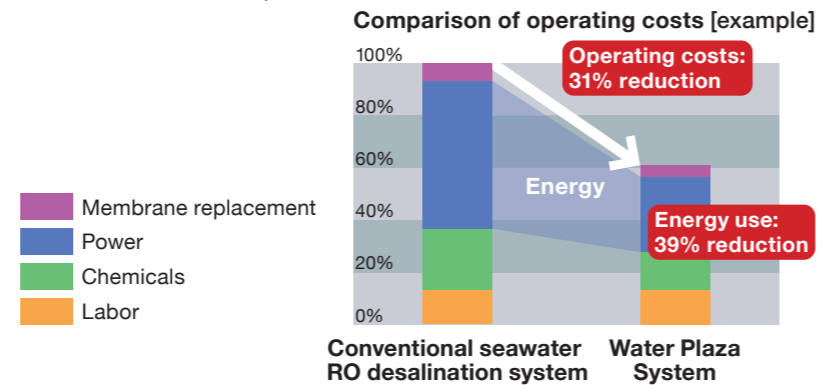
As a model environmental city, Kitakyushu has been targeting energy efficiency in sewage works and is engaged in international technical cooperation. Here, the Water Plaza System is demonstrated providing industrial water to a thermal power plant.



Start of operation: April 2011
Plant area: Approx. 3,600 m²
Capacity: 1,400 m³ / day
Application of product water: Boiler feed water

Energy saving and reduced operating costs of more than 30%

Energy savings and reduced operating costs compared with conventional seawater RO desalination systems.

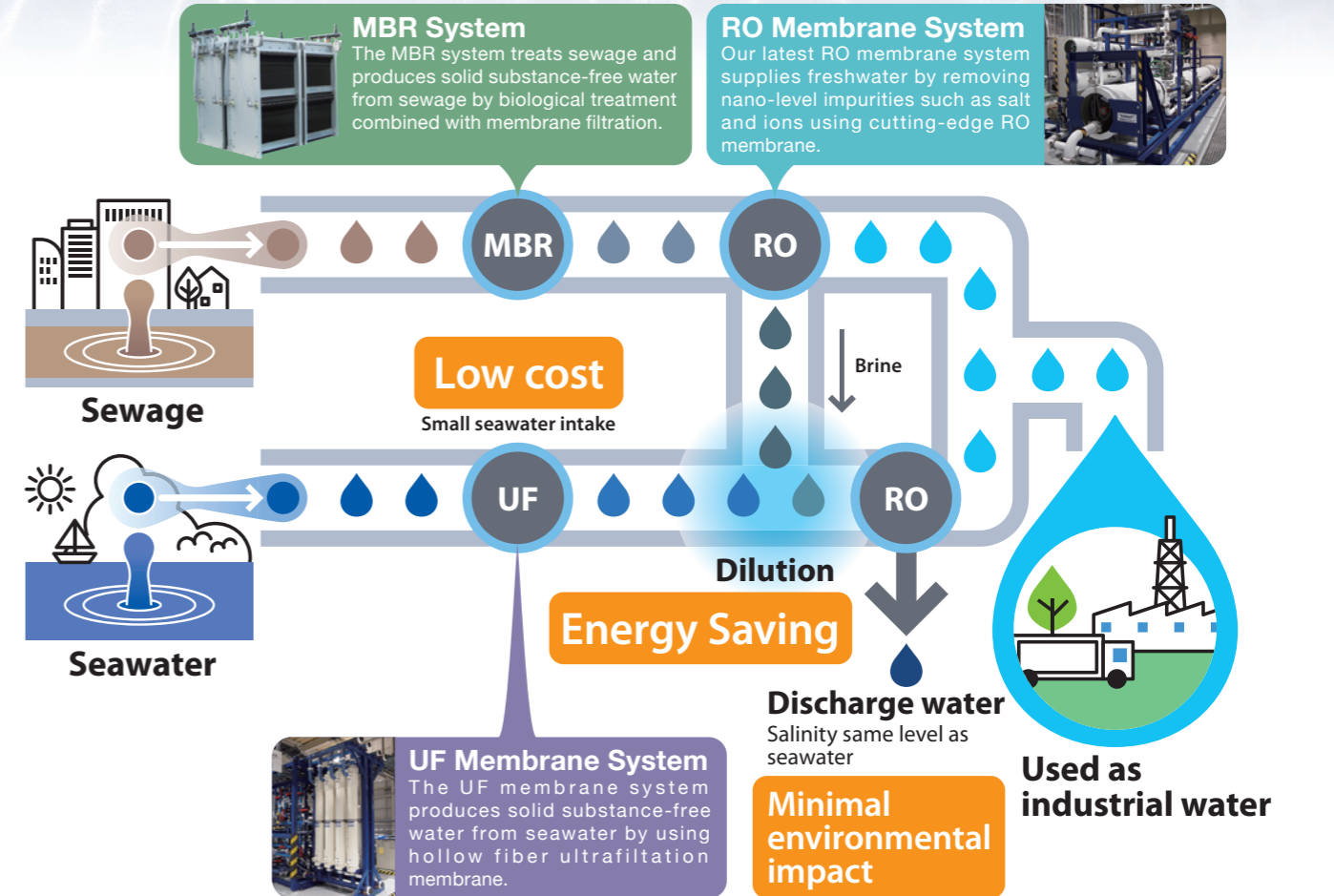


Industrial use at Kyushu Electric's Shin-Kokura Thermal Power Plant



Water produced by the Water Plaza is diverted for industrial use to the adjacent Shin-Kokura Thermal Power Plant operated by Kyushu Electric.

※MBR=Membrane Bioreactor / UF=Ultra Filtration / RO=Reverse Osmosis



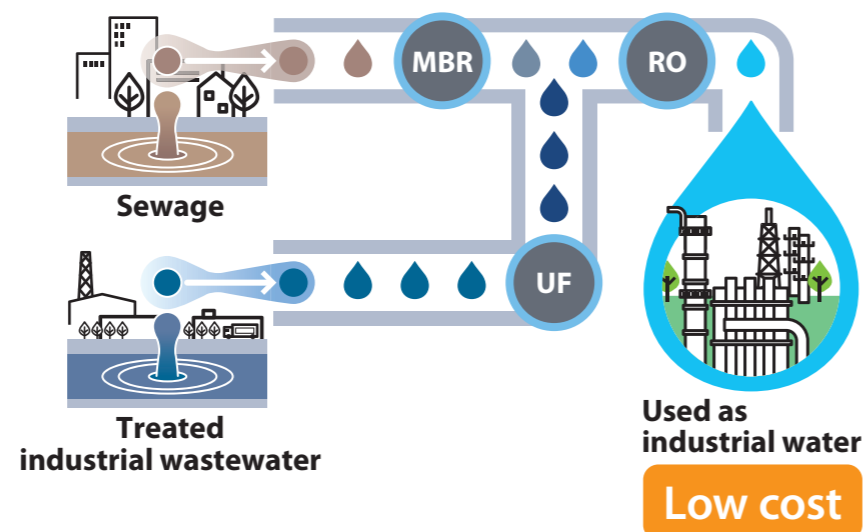
Case 2 Water Plaza Shunan (Japan)

Sewage and Industrial Wastewater Reuse

Demonstration of Water Plaza System reclaiming sewage and industrial wastewater in Shunan industrial zone.



Start of operation: May 2011
Plant area: Approx. 640 m²
Capacity: 400 m³ / day
Application of product water: Industrial water



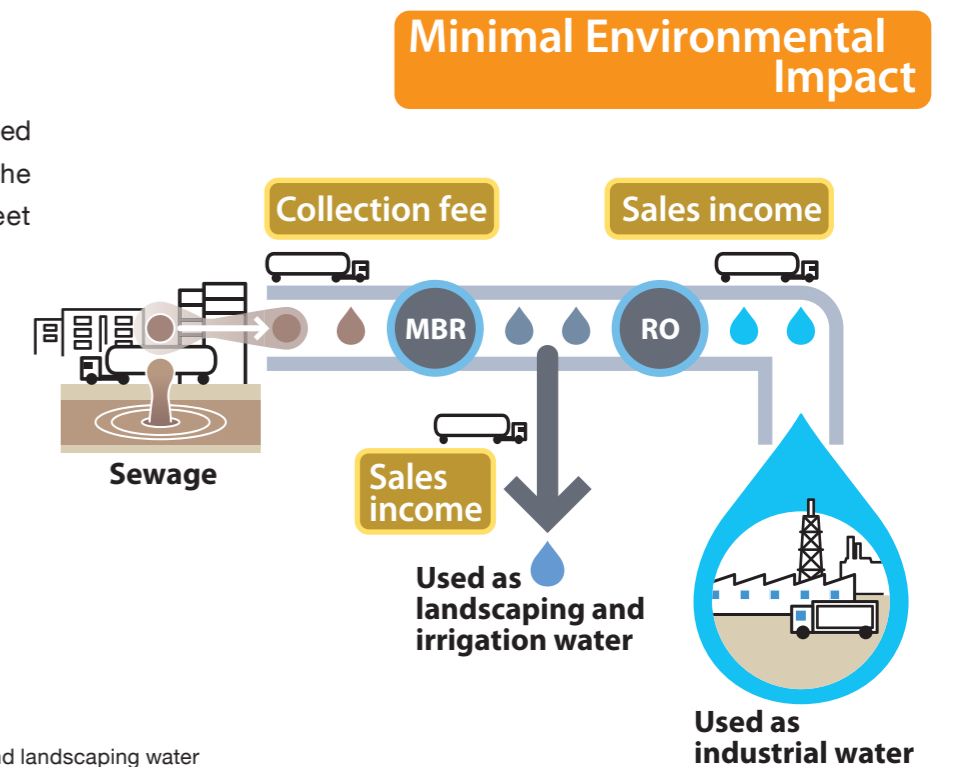
Case 3 Small-scale Decentralized Water Circulation Project (UAE)

Sewage Reuse

An example of sewage water being recycled into industrial and agricultural water in the Emirate of Ras al-Khaimah, UAE, to meet the demand of rapid industrialization.



Start of operation: April 2010
Plant area: Approx. 3,600 m²
Capacity: 2,000 m³ / day
Application of product water: Industrial, irrigation and landscaping water



Providing both the technology and the support to operate your business.

GWSTA is made up of plant builders with superior Japanese water treatment technologies and a membrane manufacturer that produces a variety of membranes. Working in cooperation with local governments that possess a wealth of experience in the operation of water and sewage systems, GWSTA offers a wide range of solutions that not only cover technology but also provide support for the business itself.



GWSTA

- Feasibility Study · Planning and Proposal
- Engineering, Procurement and Construction
- Operation and Maintenance
- Business Management
- Operator Training



Optimum Solutions through Integrated Capabilities

Comprehensive water treatment plant builder

Hitachi Plant Technologies, Ltd.

Possesses a broad product lineup – from water purification systems, sewage treatment systems and industrial wastewater treatment systems to wastewater recycling systems and water conveying pumps – as well as abundant experience both in Japan and overseas.



Water Purification Systems



Sewage Treatment Systems



Industrial Wastewater Treatment Systems

Leading chemical manufacturer operating through a global network

Toray Industries, Inc.

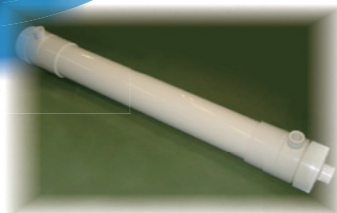
The world's only manufacturer that self-manufactures and sells all four types of filtration membranes – reverse osmosis (RO) membranes, nanofiltration membranes, ultrafiltration membranes, and microfiltration membranes.



MEMBRAY® Membrane Module for MBR



ROMEMBRA® RO Membrane Element



TORAYFIL® UF/MF Membrane Module

Integrated engineering and construction of water treatment systems
Suido Kiko Kaisha, Ltd.

Suido Kiko Kaisha aims to create a better relationship between people and water through the effective use and recycling of water resources to establish a sustainable recycling-based society.



Water Purification Plant



UF Membrane Facility



RO Membrane Facility

Innovative Ideas in Every Drop

City of Kitakyushu Operating Solutions



Future City City of Kitakyushu
©teitan, City of Kitakyushu

- Supply of operating know-how (rate setting and outreach to residents)
- Education of water experts (training and technical guidance)



Selected as OECD Green Growth Model City (June 2011)

Selected cities: Paris, Chicago, Stockholm, Kitakyushu (Only city in Asia)