KOBELCO Provides Integrated Solutions in Environmental related areas.

Kobelco Eco-Solutions Co., Ltd.(Kobelco), exerts strenuous efforts to be a corporation beneficial to customers and communities through the various services that greatly contribute to the creation of sustainable living environment.

Outline of the Company

Established: June 1954

Kobe Steel Group

Kobelco Eco- Solutions

We, Kobelco Eco-Solutions,
are a member of Kobe Steel Group

Dec. 1957 : Commenced sales of water treatment facility
Feb. 1983 : Delivered first incineration plant of municipal solid waste
Oct. 2003 : Merged as an integrated entity for environmental solutions

Our mission is to find the best way to live in harmony with the natural environment and contribute globally and locally.

Kobelco provides integrated solutions in environmental related areas such as water treatment, waste treatment and recycling, and satisfies a wide range of needs for communities aiming at a recycling-oriented society.

Domain of Business

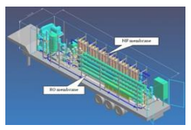
To contribute to world's environment, restoration KOBELCO provides a variety of plant & equipment.

■Cooling towers

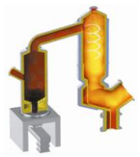
■Glasslined equipment
■Agitators and reactors

■PCBs detoxification treatment

■Water purification Unit (mobile)
■Eco Analysis



■Water purification and ultra pure water facilities
■Sewage treatment facilities
■Industrial wastewater treatment plants



■Gasification and melting facilities
■Biomass technologies

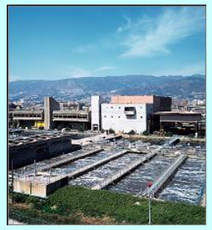
Water Treatment Systems

Water Purification Plant

Safe drinking water is available by our advanced treatment technology.

Sewage Treatment Plant

We support comfortable living with our advanced technology.
Our wide range of technology offer various solutions in response to the requirements.



Sewage Sludge Incineration Facility

We contribute to reduce and recycle sewage sludge with our incineration and melting technology.

Waste Treatment Systems

Fluidized bed gasification & melting furnaces, Stoker type incinerator, Plasma melting furnaces.

Stable and continuous operational ability is the most important factor in alleviation the life cycle cost of facilities.

Miyagi Prefecture Ishinomaki Clean Center

Yamaguchi Prefecture City Environment

Polychlorinated biphenyl(PCB)has been deposited for more than 30 years in an untreated condition. Effectible processing method has been developed and will established PCB detoxification system "SP Process" detoxify PCBs by chemical reaction of sodium and PCB.

Hokkaido PCB Waste Treatment Facility

Water Systems and Service

Industrial Water, Pure Water, Ultra pure Water, Waste Water Treatment.

We fulfill the industrial requirements for water treatment to protect global environment.

We manage various needs for water treatment, such as recovery, re-use, upgrade to ultra pure water, waste sludge reduction, through optimal proposals based on our products and wide range of engineering capabilities.

Process Equipment

Contributing by our high-quality products with our most advanced technology.

We manufacture glasslining equipment as the core of production various process equipment and facilities for chemical industry field. We contribute to wide range of industries, such as fine chemicals, pharmaceutical products, electrical materials and food industries, wherever high-quality production technology is required.

Harima Plant / Site area: 98,500m²

Cooling Tower

Cooling Towers

With a track record of 5,000 or more units in Japan and overseas.

Cooling Towers for District Heating and Cooling

Technical Development

Research & Development friendly to human beings and the environment.

Business Development by our state-of-the art technology is also our task to meet various needs of customers.

R&D Center

KOBELCO ECO-SOLUTIONS CO.,LTD.

KOBELCO
KOBE STEEL GROUP

Approach for Water Infrastructure ～ Harmony with Human and Nature ～

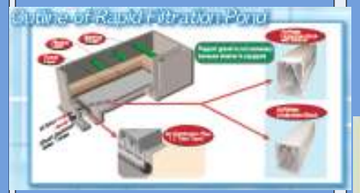
Water Treatment

Basic concept of Water treatment is to replace natural churning, precipitation and filtering process with Mechanical Processes. We can propose optimal System plans With proper design, taking into consideration original water quality, geography, environment and population of the water supply area. We can meet the requirements for advanced technology to produce safer and tastier water.

V-Wave

V-Wave with V-shaped inclined plates is a sedimentation promoting unit that provides superior performance in sedimentation/ separation to that of conventional ones.

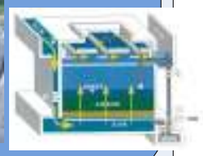
A/W Block



Of under drainage systems of rapid filtration pond, A/W Block collects water most equally. This system provides an excellent cleansing function only by water backwashing. Quality cleansing is performed by simultaneously supplying air.

U-BCF

Bio contact filtration effectively uses microorganisms with purification ability. This system removes mainly mold odor, ammonium nitrogen, manganese by such microorganisms in granular activated carbon media.



Waste Water Treatment

Our wide range of technology can propose various solutions such as efficient removal of COD, removal of nitrogen or phosphate to solve the problem of eutrophication, desalination of recirculated water, energy saving etc. We Have designed and supplied many sewage treatment Plants and advanced wastewater treatment plants to prefectures, cities, towns, villages and housing complex nationwide and have contributed to the improvement of community life as a reliable plant supplier.

Operation & Maintenance

We can offer you the whole services of water treatment for long terms.

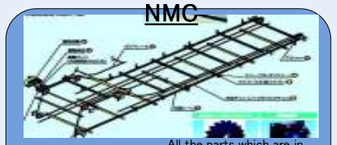
(Our Track)
Location: Kakogawa City
Capacity: 152,625 m3/day

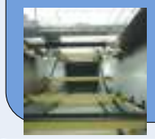
Screw Pump

Applications:
・Lifting pump for treatment plant
・Storm water drainage pump
・Relay pump for wastewater

Features:
・Low-speed rotation saves wear on parts, offering a semi-permanent life.
・This open pump provides very easy maintenance checks due to no obstruction by solids or sand.

NMC

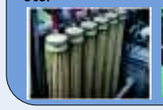




All the parts which are in contact with liquid are made of high-quality plastic materials. In many sewage disposal plants, long life and maintenance-free circumstance in a corrosive environment are related.

MBR

MBR is an activated sludge system that solid-liquid separation is performed by Membrane unit inside a Reactor. We propose/provide various advanced treatment facilities combined with MBR, ozone treatment, RO treatment and/or etc.



OD

Features:
・*Sigma Aerator*, an energy-saving aerator with high oxygen-supplying capacity
・Simple structure provides easy maintenance, with energy saving.

Incineration / Melting for Sludge Treatment

Incineration is very effective to reduce/detoxify sludge. We propose advanced ***Fluidized Bed Sludge Incineration System*** that provides excellent incinerating ability with good cost performance and easy maintenance, applying all our extensive experiences in plant engineering.

Leachate Treatment for Landfill

Our subsidiary company ERC Takajo Co., Ltd began operation of Landfill in December 2005.

Dam/reservoir Deep aerator (Aqua Merge)

This unit, which is designed to control water quality for dam/reservoir, supplies oxygen to the bottom layer without breaking the thermocline.

Methane fermentation technology

JFEエンジニアリング(株)

事業概要

JFE

JFE及びJFEグループとは？

“J” は日本
“F”は鉄鋼(鉄の元素呼号のFe)
“E” はエンジニアリング
“ JFE ”は、　日本を代表する未来志向の企業グループを表しています。

JFEスチール


売上高(百万円) : 3,355,365
従業員数 : 43,000

JFEエンジニアリング


売上高(百万円) : 319,598
従業員数 : 7,500

ユニバーサル造船

売上高(百万円) : 181,306
従業員数 : 2,800

JFE都市開発

売上高(百万円) : 24,161
従業員数 : 300

川崎マイクロエレクトロニクス

売上高(百万円) : 27,849
従業員数 : 500

JFEエンジニアリング(株)

JFEエンジニアリング

売上高(百万円) : 319,598
従業員数 : 7,500

- エネルギー本部
- 都市環境本部
- 産業機械本部
- 鋼構造本部
- 総合研究所

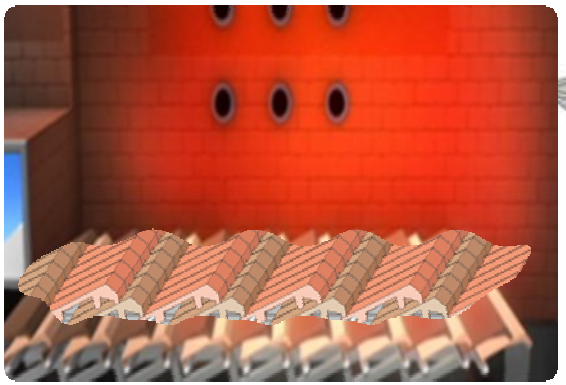
JFEの技術

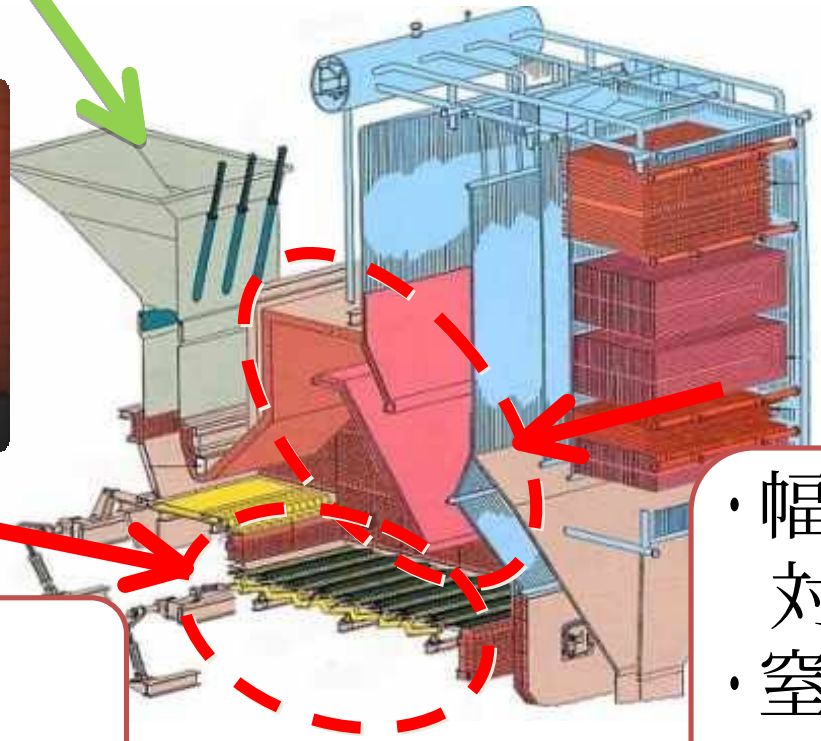
ハイパーストーカーシステム

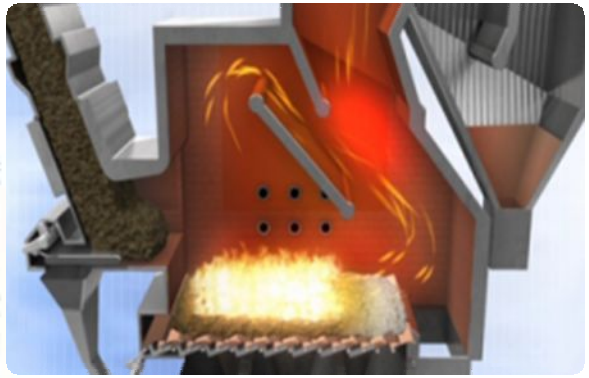
都市固形ごみ

ハイブリッド ACC

高温空気吹込み技術を応用した低空気比燃焼







二回流ガス流れ

ハイパー火格子

- 理想的な設計
- 安定高温焼却

- 幅広いごみ質への対応
- 窒素酸化物及びダイオキシン除去

高温ガス化直接溶融炉

多様なゴミをコンパクトなひとつの炉で一気にガス化・溶融


都市ゴミ

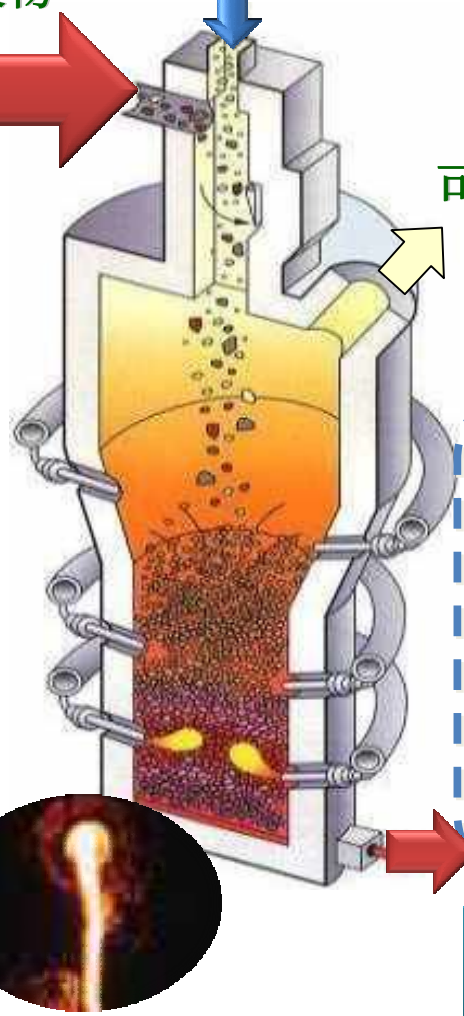

RDF


焼却灰


医療系廃棄物

廃棄物

コークス，
石灰石



可燃性ガス

可燃性ガスの有効利用（発電）

スラグ

メタル

路盤材

カウンターウェイト

スラグ/メタルの有効利用

消化ガス発電システム

濃縮汚泥

家畜糞尿

食品残渣

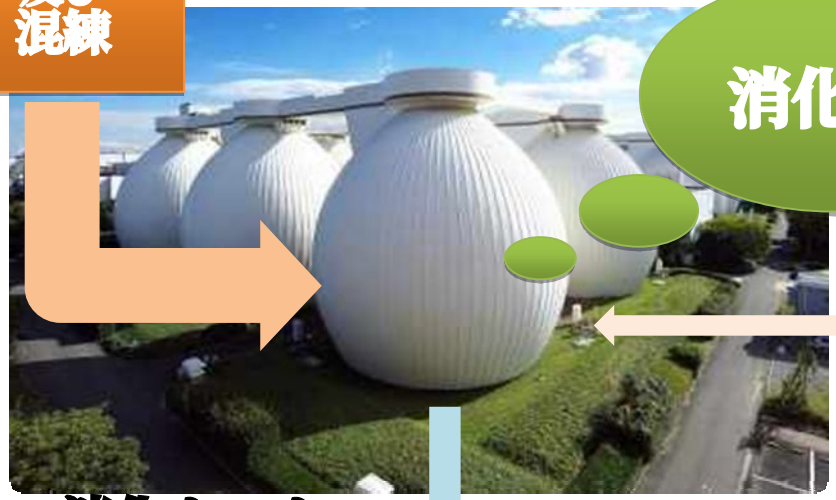
分別及び混練

消化ガス

空調用温水

電力

廃熱



消化タンク

消化タンク加温用温水

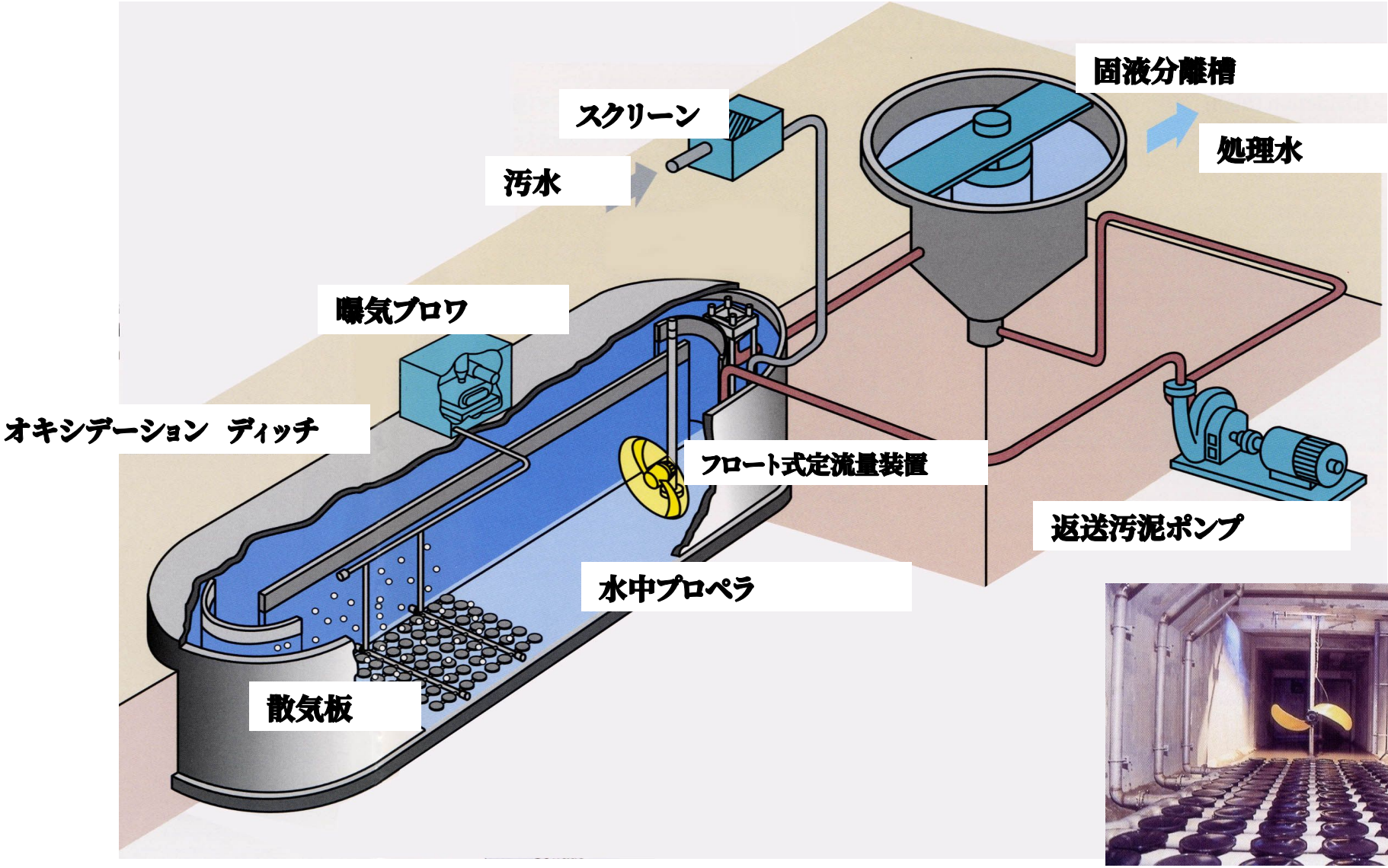
消化ガスエンジン発電機

消化汚泥

汚泥減容化

汚泥処理設備

JFE OD システム


固液分離槽
スクリーン
処理水
汚水
曝気ブロワ
オキシデーション　ディッチ
フロート式定流量装置
返送汚泥ポンプ
水中プロペラ
散気板

分散型水供給システム

◆ システムの特徴と省エネ･省水効果

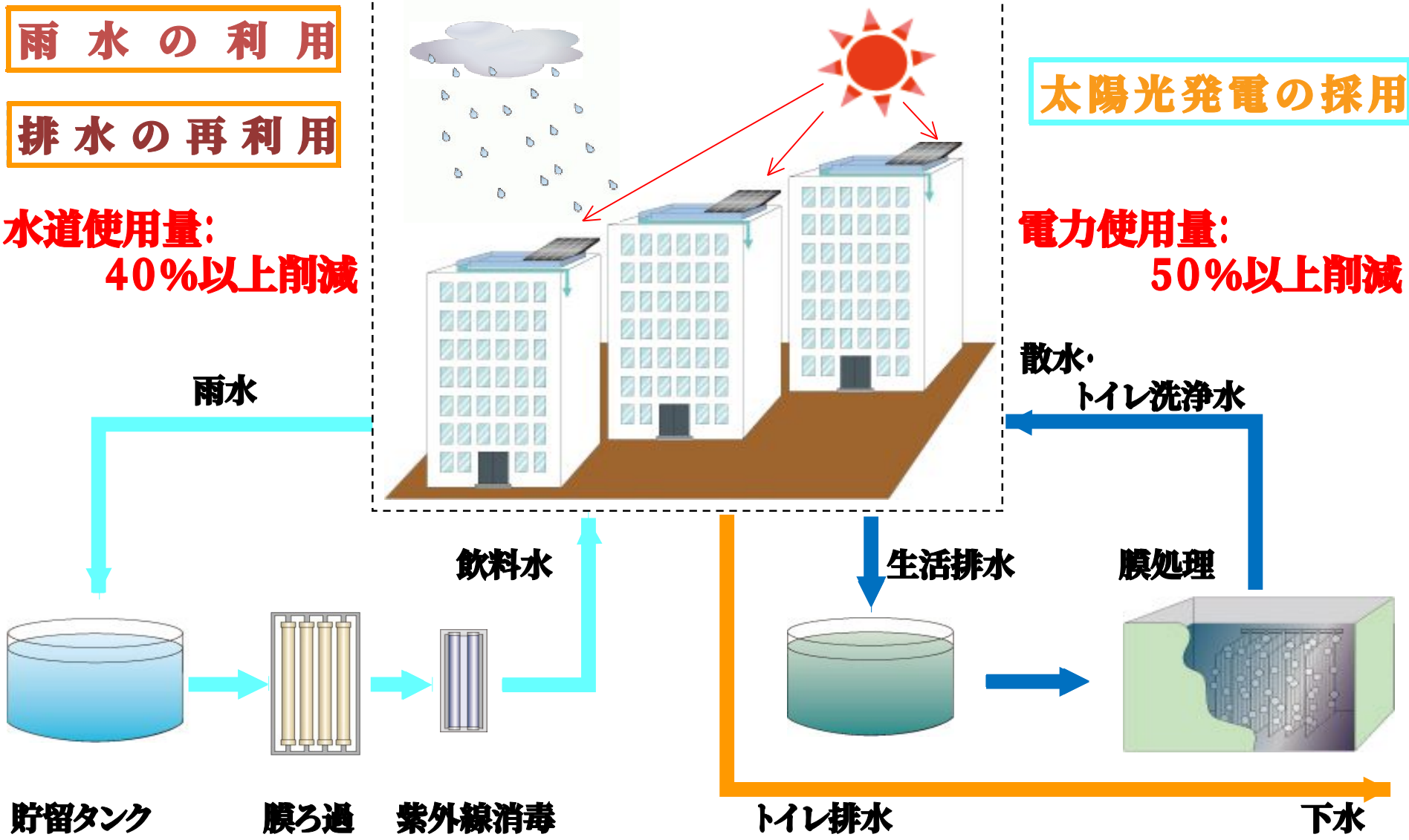
雨 水 の 利 用

排 水 の 再 利 用

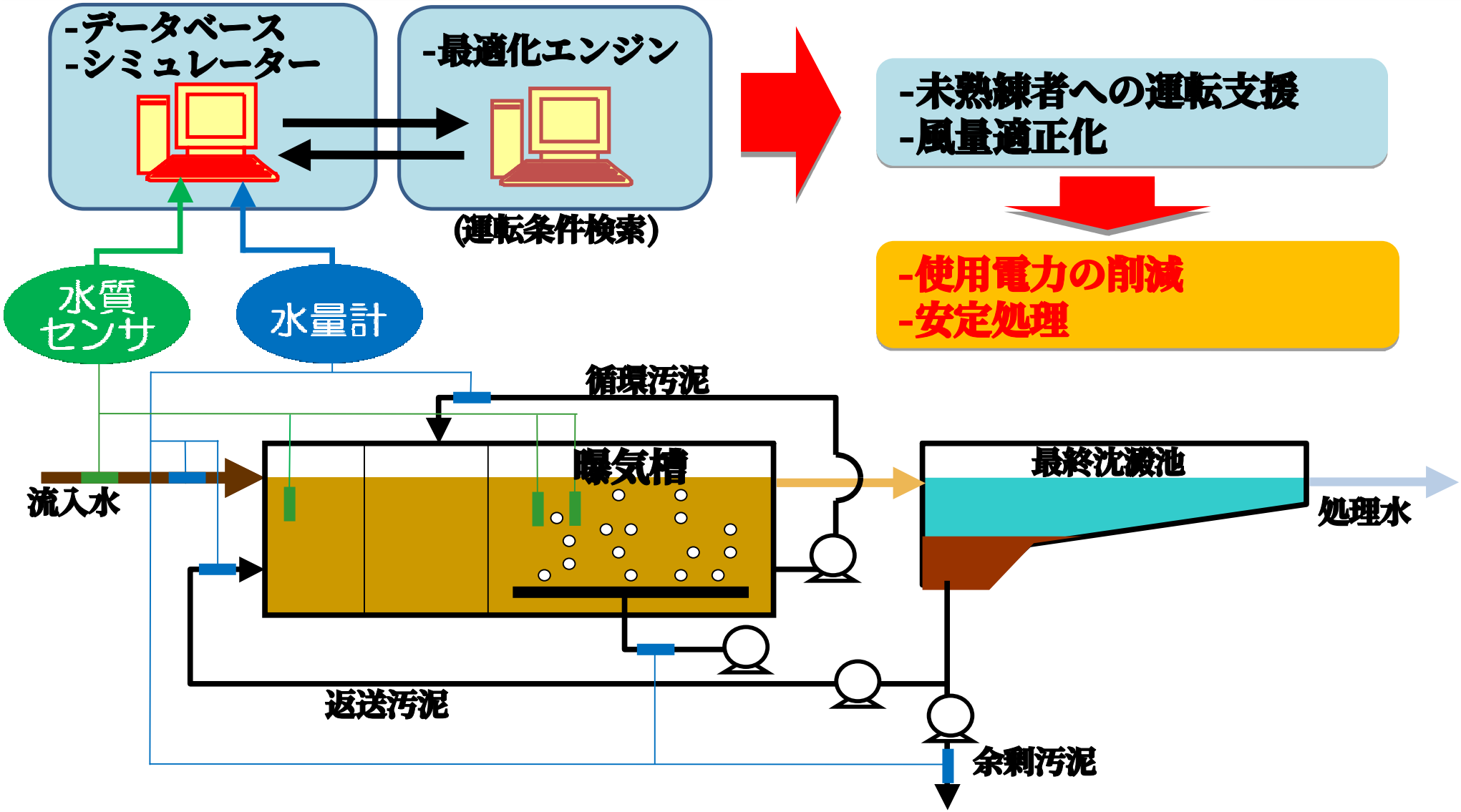
太陽光発電の採用

水道使用量:
40%以上削減

電力使用量:
50%以上削減

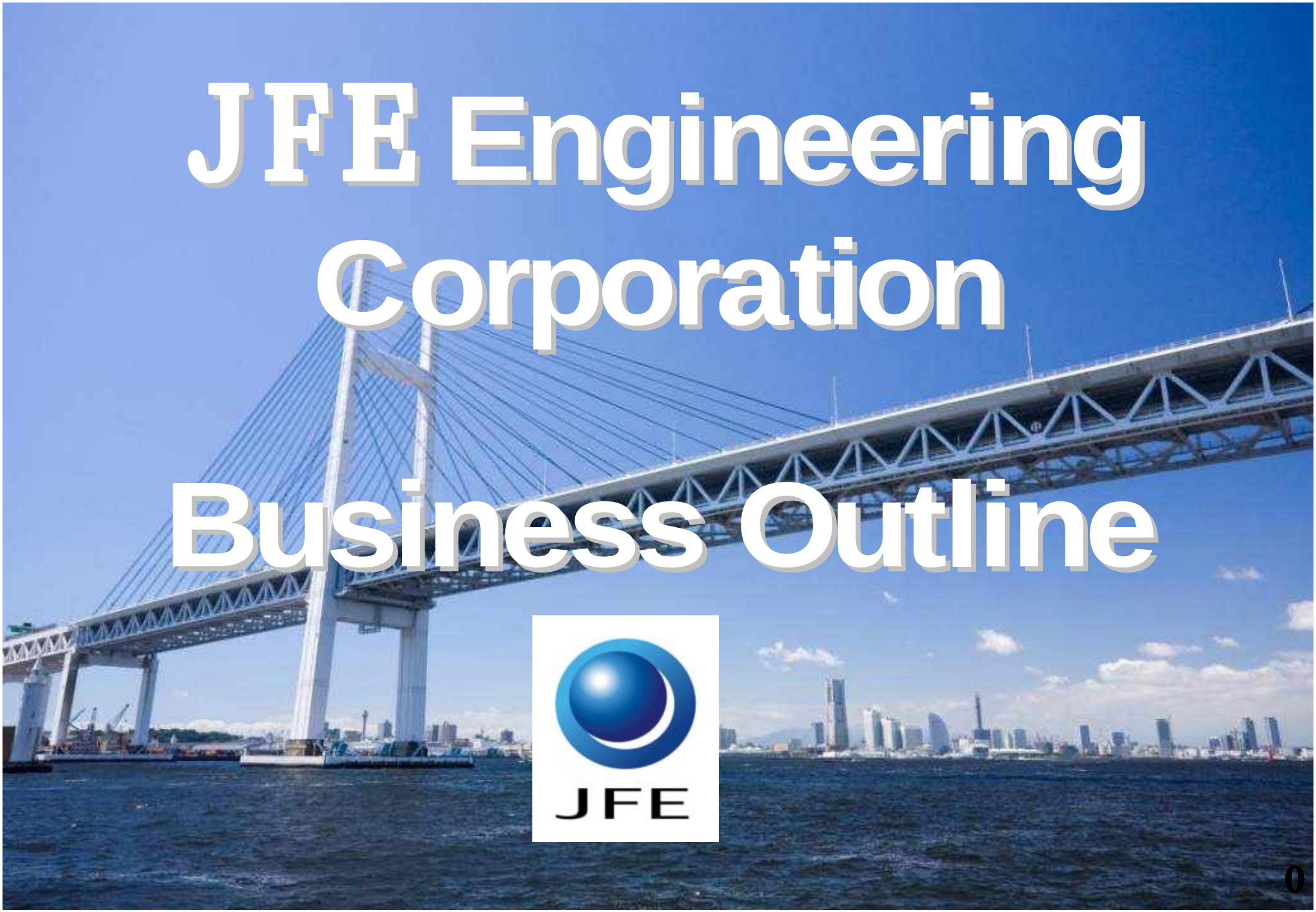


活性汚泥処理施設運転支援システム



JFE

JFE エンジニアリング㈱



JFE Engineering Corporation

Business Outline

JFE

What JFE Stands for? and JFE Group

"J" for Japan
"F"for Steel (Fe, atomic symbol of iron)
"E" for Engineering

It also means "Japan Future Enterprise"

JFE Steel


Net Sales(million $) : 25,300
Employees : 43,000

JFE Engineering


Net Sales(million $) : 3,300
Employees : 7,500

Universal Shipbuilding

Net Sales(million $) : 3,200
Employees : 2,800

JFE Urban Development

Net Sales(million $) : 300
Employees : 300

Kawasaki Microelectronics

Net Sales(million $) : 270
Employees : 500

JFE Engineering Organization

JFE Engineering

Net Sales(million $)	:	3,300
Employees	:	7,500

- Energy Industries Engineering Sector
- Environmental Solutions Sector
- Recycling Business Sector
- Steel Structure Engineering Sector
- Industrial Machinery Sector

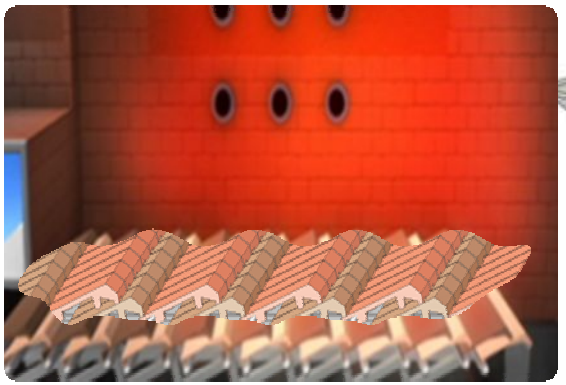

JFE's Technologies

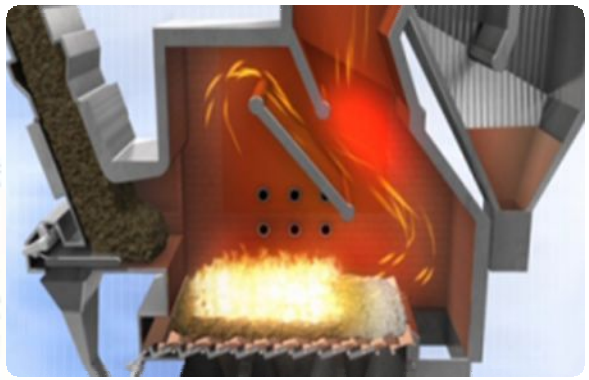
Hyper Stoker System

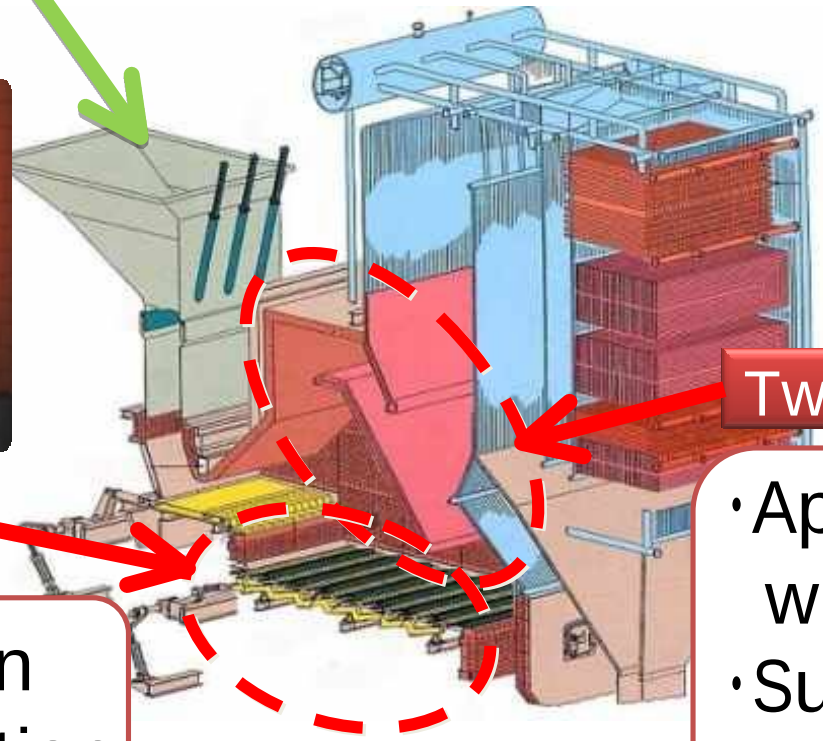
MSW

Hybrid ACC

Complete combustion under low air ratio







Two way flue gas system

・Applicable for wide range of wastes
・Suppression of NOx and Dioxins

Hyper Grate

・Compact Design
・Stable Combustion

High Temperature Gasifying and Direct Melting System

Melting wide range of wastes under high temperature

MSW

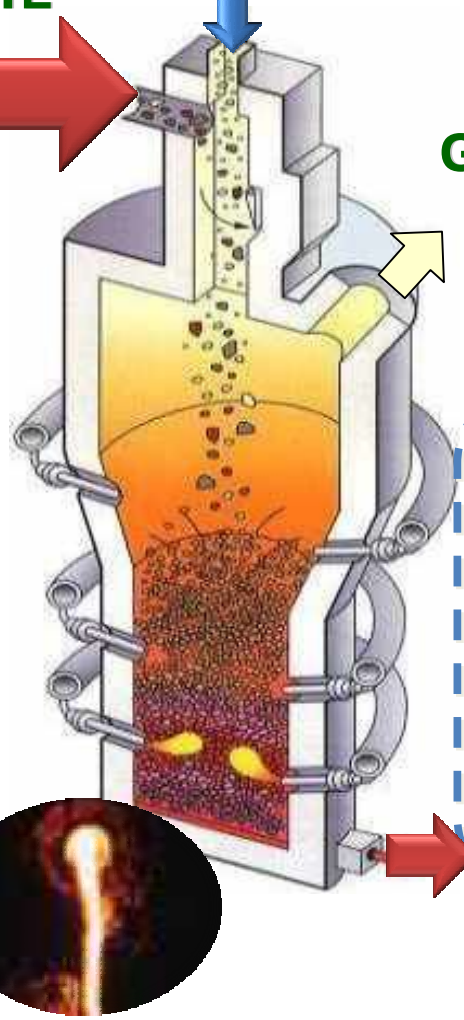
RDF

Ash

Medical Waste

COKE, LIMESTONE

WASTE



GAS for Boiler

Power generation

Slag

Metal

Back-filling material

Counter weight

Reusable slag and metal

Biogas Engine Generation System

Thickened Sludge from STP*

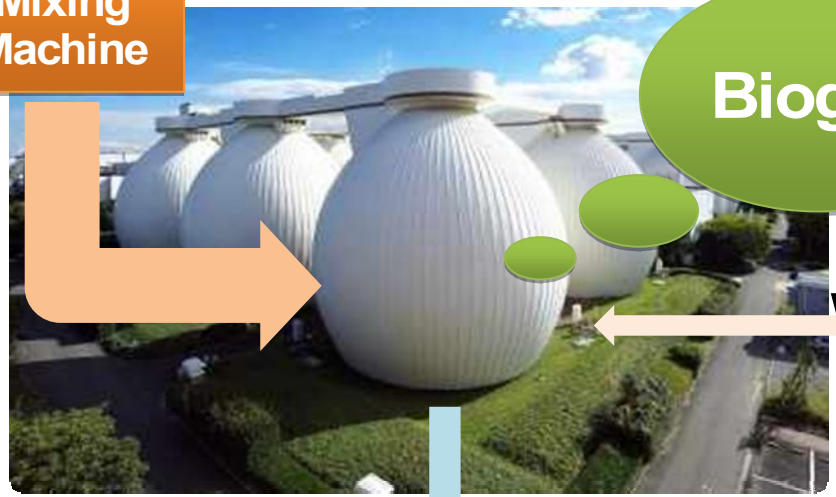
Livestock Excreta

Food Waste

* Sewage Treatment Plant

Classifying and Mixing Machine

Biogas



Digester Tank

Waste Heat

Biogas Engine Generator

Waste Heat

Hotwater

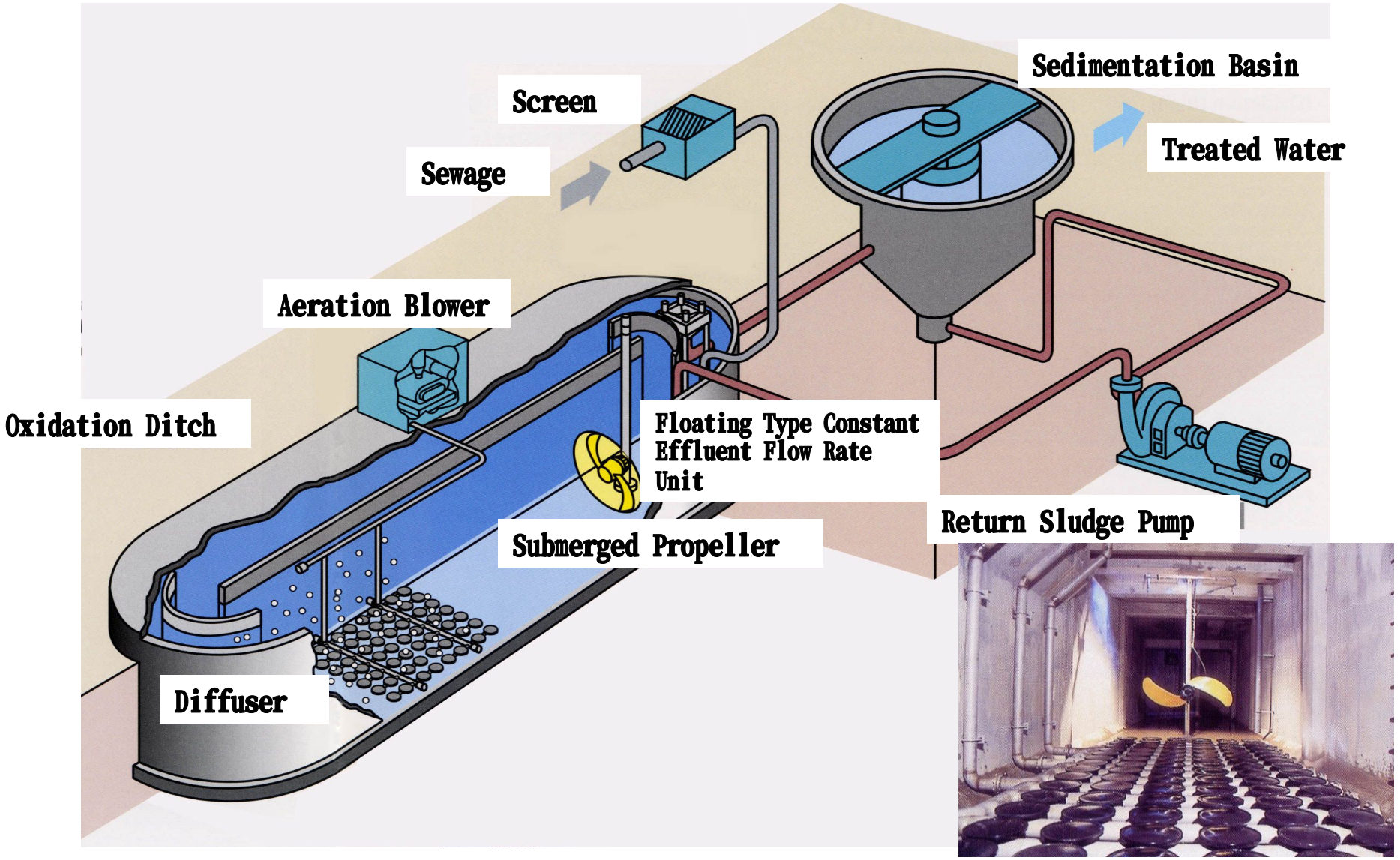
Electricity

Digested Sludge

The Volume of Sludge is reduced

Sludge Treatment Facility

JFE OD System Outline

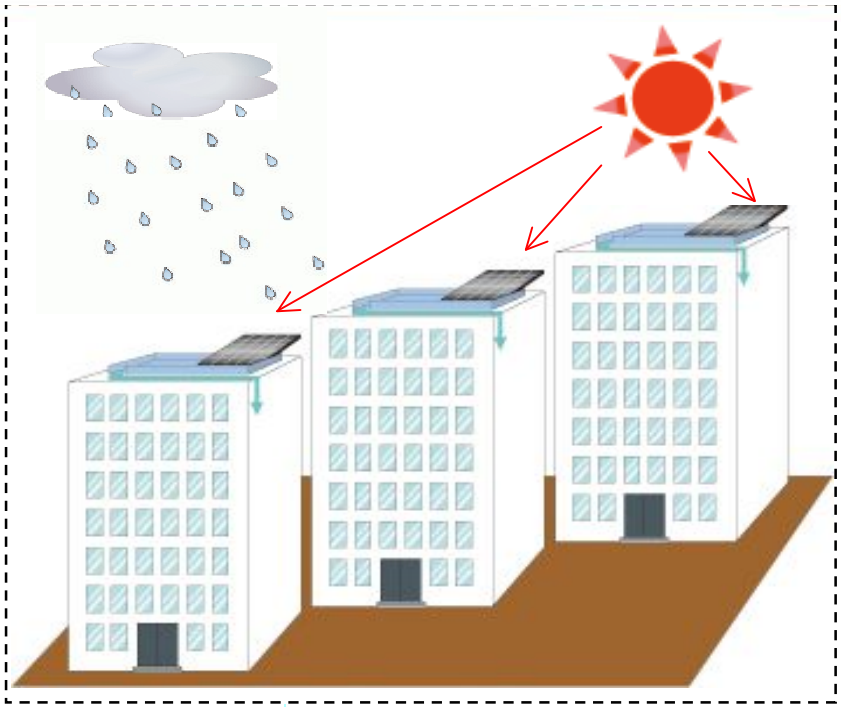


Feature and Effect of the system

Utilization of rainwater

Reuse of Drainage

Water consumption: 40% decrease or more



Adoption of solar power generation

Power consumption: 50% decrease or more

Rain Water

Sprinkling & Toilet flushing water

Drinking Water

Domestic waste water

Membrane treatment

UV disinfection

Storage tank

Membrane filter

Toilet flushing water

Sewage

Operational Support System for Sewage Treatment Plant with Activated Sludge Process

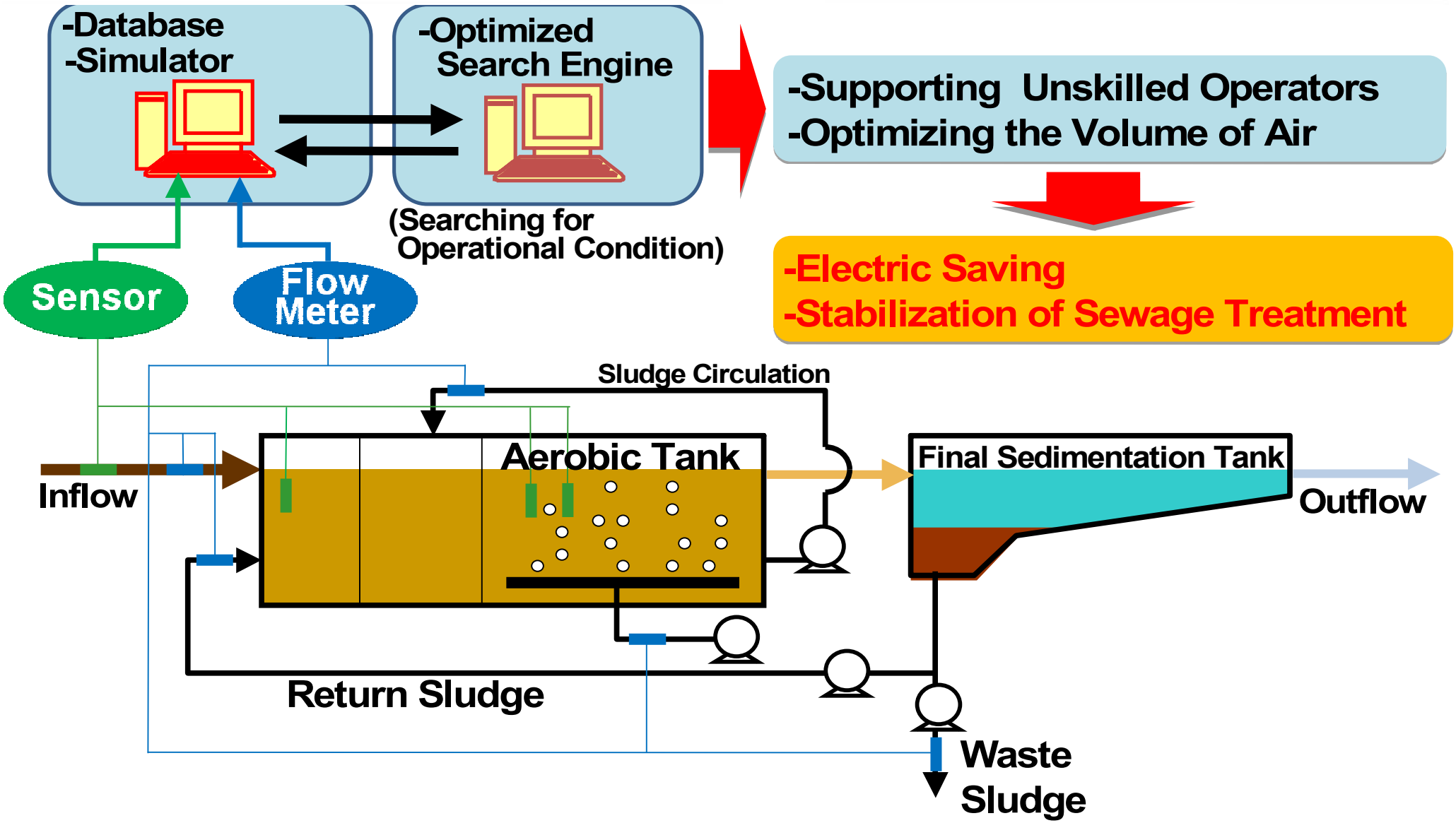


Figure 1: General Outline of the System

JFE Engineering Corporation

Water Infrastructure Business of Sumitomo Corporation

Feb. 14th, 2011




Sumitomo Corporation
Water Utilities
Investment Team

Business Organization (2011.1)

Sumitomo Corporation

Wind Power & Water Infrastructure Business Dept.

2010. 4~ : Establishment

- Tokyo HQ : 25 staffs~
- Overseas : NY, Beijing, etc.

Under increasing staffs

Business Model

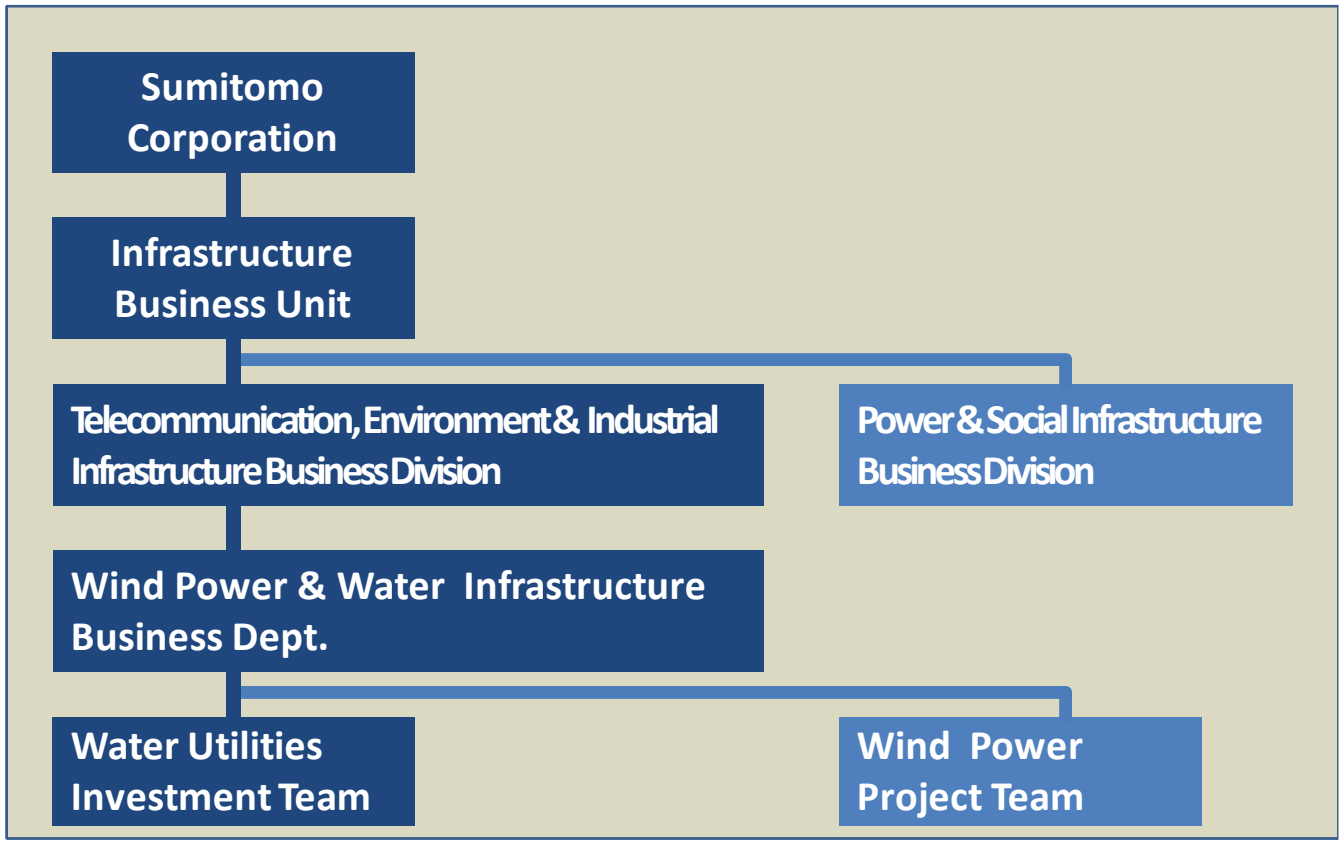
- Investment in overseas water infrastructure business
- Target : 20 million water supplied population
- To become an integrated Water business company
- M&A and Greenfield
- Sponsorship + O&M

Target Region

3 major markets

- East Asia, incl. China & India
- the Middle East
- Latin America

+ Emerging market



Global Network

Sumitomo Corporation Global Network

Overseas:
65 countries, 115 locations

Engaged in infrastructure business such as power, telecommunications, or other industrial facilities for Asian countries; Malaysia, Indonesia, Vietnam, Philippines, etc.


Malaysia Tanjung Bin Power Station

Utilizing the experience through investments in infrastructure business.

Pursuing synergy with existing infrastructure business.

Developing new infrastructure business through public-private partnership.

Offices in Vietnam
- **Sumitomo Corporation Vietnam LLC**
  - **Hanoi Head Office:**
  - **Ho Chi Minh City Branch:**
  - **Danang Office:**

Office in the Philippines
- **Sumitomo Corporation of the Philippines**

Offices in Malaysia
- **Sumitomo Corporation Asia Pte. Ltd. Kuala Lumpur Branch**
- **Sumur Cahaya Sdn Bhd**

Office in Cambodia
- **Phnom Penh Office**

Office in Sri Lanka
- **Colombo Office**

Offices in Indonesia
- **PT.Sumitomo Indonesia**
  - **Jakarta Head Office**
  - **Surabaya Office**
- **Sumitomo Corporation, Jakarta Project Coordination Office**

Overseas: 65 countries

Subsidiaries	40 / 82 locations
Branches	1 / 1 location
Offices	32 / 32 locations
Total	**115 locations**

Japan: As of Jul., 2010

Headquarters	1 / 1 location
Subsidiaries	3 / 10 locations
Regional Business Units	3 / 13 locations
Offices	2 / 2 locations
Total	**26 locations**

Portfolio in Water Infrastructure Business

Sumitomo Corporation

Business Strategy

Entry & expansion into water infrastructure business by the optimal partner & scheme in consideration of each country or region characteristic.

-Expanding business base

-Upgrading management function for business

- Differentiated by innovation

Entry to growing market & Obtaining the business base

CHINA : 2010 –
Alliance with *Beijing Capital Co., Ltd.*, the largest provider of water infrastructure in China.
- To expand TOT/BOT business through JV.
- To collaborate on other businesses such as waste & sludge treatment and other environment technologies.

Developing Public-Private Partnership

MALAYSIA : 2010 –
Organizing PPP scheme with *Tokyo Metropolitan Government*.

TURKEY : 1999 –
Water supply business with *Thames Water*.

Entry to water/sewerage business

MEXICO : 2000 –
BOT business for municipalities with *Suez-Degremont*.

BAHRAIN / UAE (Middle East) : 2005 –
IWPP business with *Suez*.
(Desalination)

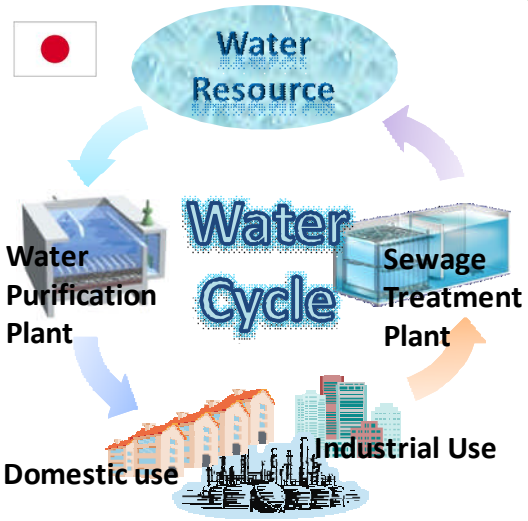
Expanding businesses deriving from IPP

INDIA : 2000 –
Alliance with *VA Tech Wabag Ltd.*, a leading multi national company in water treatment industry.

Foothold for growing market

Our Strategic Activities

Malaysia



Tokyo Metropolitan Proven Technology & Knowhow

Sumitomo Corporation

Master Plan

- Advanced Treatment
- Upgrading Technologies
- NRW Reduction Experience
- Rationalization Knowhow

Expertise In Malaysia

Experience In Water Businesses

Capabilities Of Finance Arrangement

Key Challenges

- Pollution
- Aging Water & Sewerage Assets
- High % of NRW
- Inefficient Operation

China

Sumitomo Corporation

- Extensive Partnership with Japanese Manufacturers/Technology Providers

Beijing Capital Co., Ltd.

- Accumulated Knowhow & Business Network in Water Infrastructure Related Businesses in China

Technical Platform

- Demonstration
- Model Project
- Localization
- Sales Promotion
- Local Production

Japanese Advanced Technologies Related to Water & Environment Infrastructure

Municipalities Commercial Entities In China

Successful Example of PPP (Manila Water Company)

▪PPP in Metro Manila, Philippines

Provision for water and wastewater services in Metro Manila is divided into the East and the West Zones, following the 1997 PPP bids for 25-year concession contracts. Mitsubishi Corporation participated in the bid for the East Zone through Manila Water Company, Inc., which provides water and wastewater services to more than 6.1 million people.

Today, it has become one of the world's most successful examples of PPP. In fact, its Concession Agreement has been extended for an additional 15 years on top of the 25 years that have been previously granted.

▪Manila Water's achievements

Before Manila Water's entry in the industry in 1997, eastern Metro Manila suffered from various challenges such as insufficient infrastructure and environmental deterioration, accelerated by rapid population increase. Twenty-four-hour water supply was only available to 26% of the East Zone population due to leakages mainly caused by old water lines, meter tampering and illegal connections. In fact, non-revenue water (NRW) was at a record high of 63% at that time.

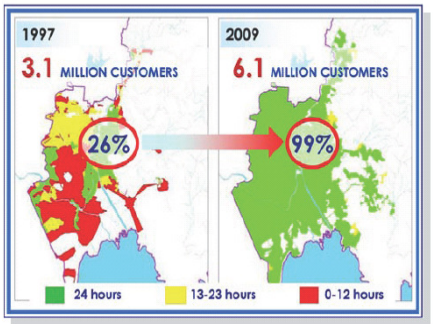
Under these circumstances, Manila Water prioritized improving water network efficiency to deliver recovered water to more customers. This was supplemented by organizational improvements, employee development and facility rehabilitation.

The remarkable results are as follows:

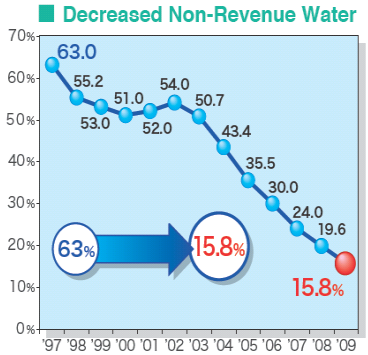
1) Increased billed volume (from 440,000 m^3/day in 1997 to 1.10 million m^3/day by the end of 2009)
2) Improved 24-hour potable water supply (from 1997's 26% to 2009's 99%)
3) Reduced NRW (from 1997's 63% to 2009's 15.8%)

In addition, Manila Water now supplies clean and potable water to more than 1.6 million residents in marginalized communities. Manila Water was also the first water and wastewater service provider to be listed in the Philippine Stock Exchange after a successful Initial Public Offering in 2005.

■ 24 hours water supply expanded



■ Decreased Non-Revenue Water



Manila Water

Name : MANILA WATER COMPANY, INC.

Establishment : January 6, 1997

Capital : 6.2 billion Pesos (USD135 million as of December 2009)

Total 2009 Sales : 9.5 billion Pesos
(USD205 million as of December 2009)

Employee : 1,583 (as of December 2009)

Mitsubishi Corporation