

Project Experience: Viet Nam

Activated Sludge, Advanced Treatment (Denitrification), Sludge Dewatering



Advanced sewage treatment in Hanoi
CP-12
(2,300 m³/d & 3,700 m³/d, 2005)



Sewage treatment in HCM
(141,000 m³/day, completed in 2009)
Sewage treatment in Thang Long North
(42,000 m³/day, completed in 2008)



Water reuse for commercial building

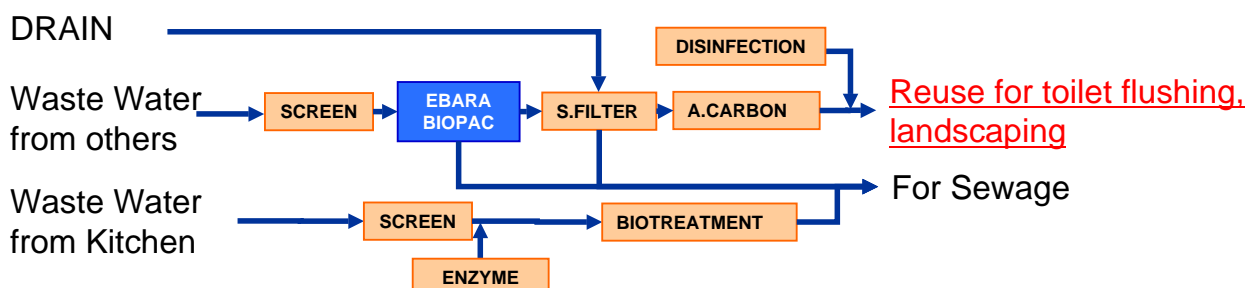
Roppongi Hills

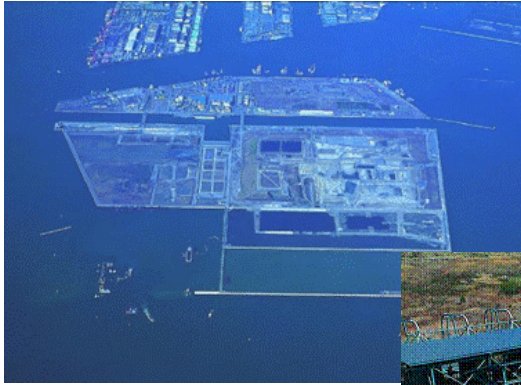
Treated Water ; 1,050m³/d



Yebisu Garden Place

Treated Water ; 1,051m³/d





Leachate Treatment
in Central Breakwater Landfill Site
(20,500 m³/d)



Fenton, Bio-Denitrification, Activated Carbon

Ebara Engineering Service Co., Ltd.



SWing Corporation

To

**provide best “Sustainable Water” solution
based on advanced key technologies**

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

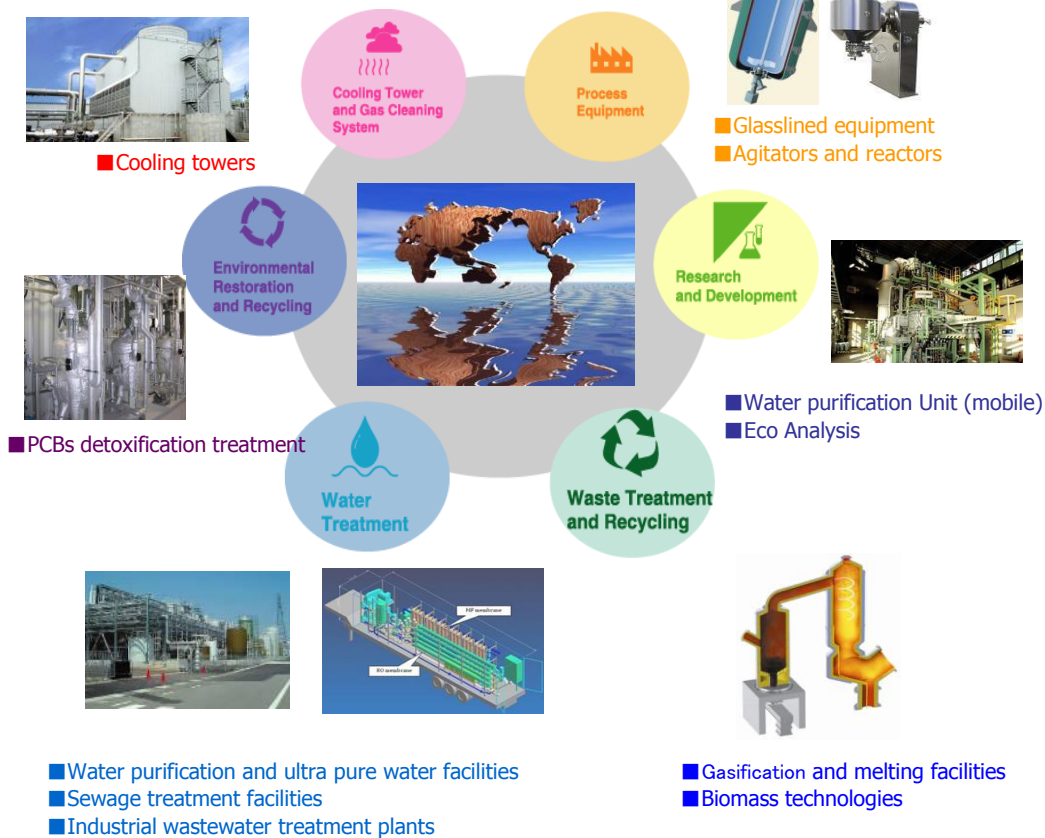
Our mission is to find the best way to live in harmony with the natural environment and contribute globally and locally.



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.



Water Treatment Systems

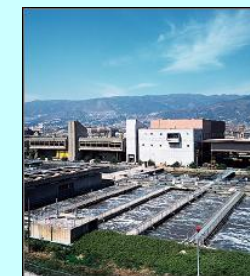
Water Purification Plant

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



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



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

KOBELCO ECO-SOLUTIONS CO.,LTD.

Water Treatment



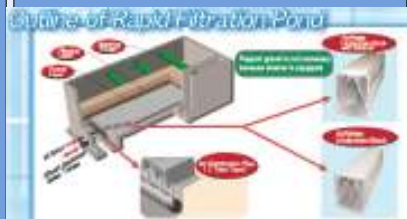
Basic concept of Water treatment is to replace natural churning, precipitation and filtering process with Mechanical Processes. We can propose optimal System plans With proper design, taking into consideration original water quality, geography, environment and population of the water supply area. We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

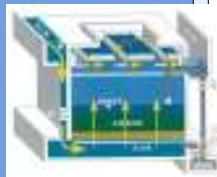


Of under drainage systems of rapid filtration pond, A/W Block collects water most equally. This system provides an excellent cleansing function only by water backwashing. Quality cleansing is performed by simultaneously supplying air.



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

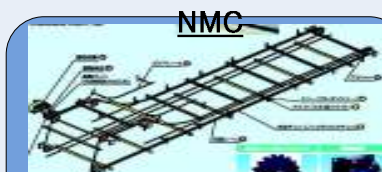
We can offer you the whole services of water treatment for long terms.

(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.



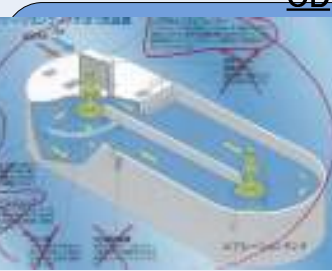
All the parts which are in contact with liquid are made of high-quality plastic materials. In many sewage disposal plants, long life and maintenance-free circumstance in a corrosive environment are related.

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.



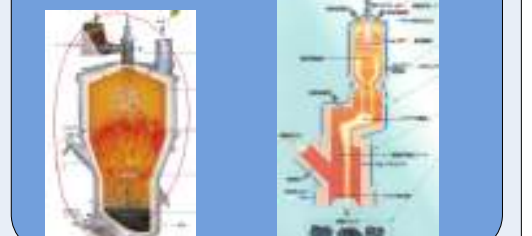
OD



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.



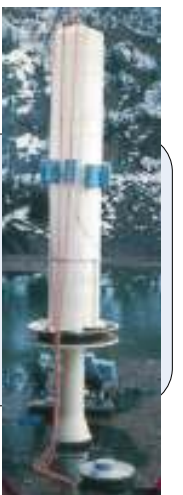
Leachate Treatment for Landfill

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 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

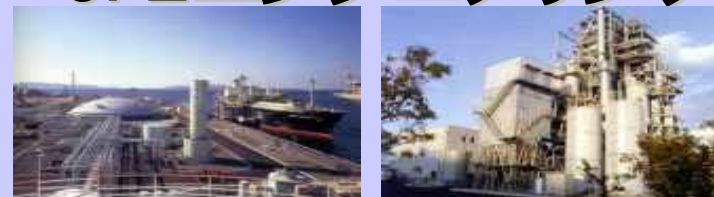
“**JFE**” は、日本を代表する未来志向の企業グループを表しています。

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



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

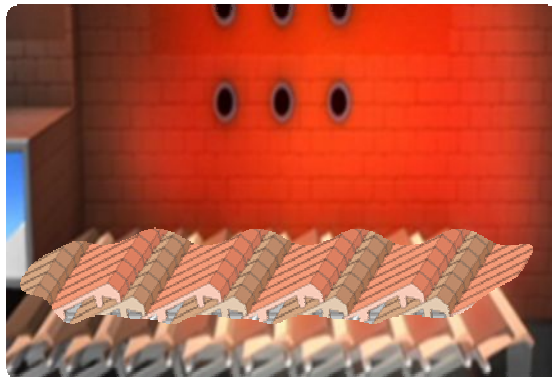


都市固形ごみ



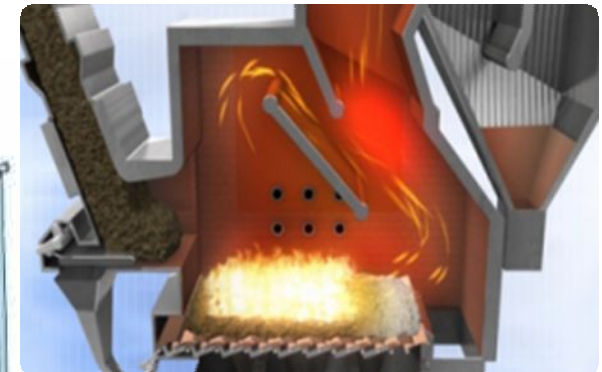
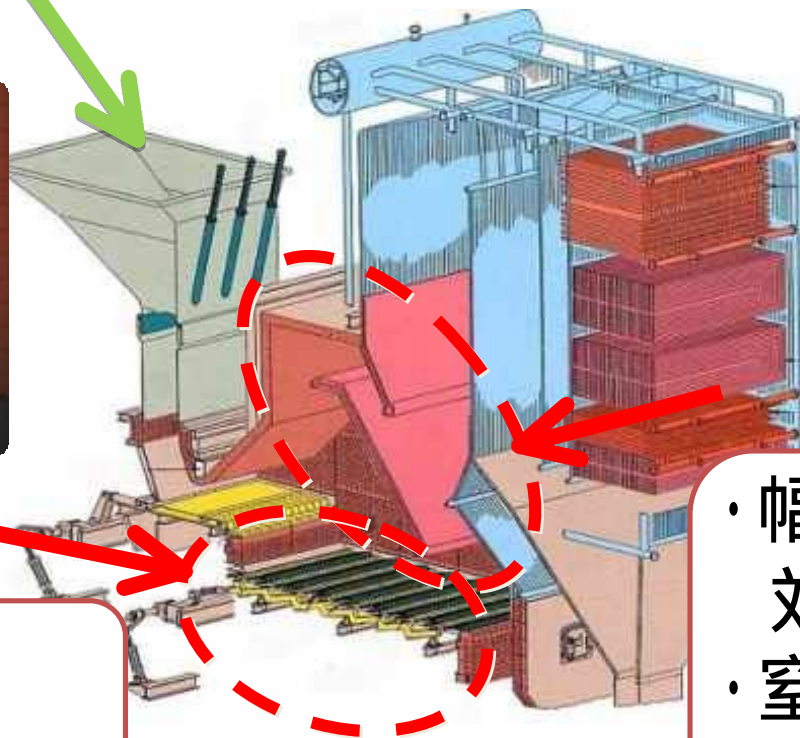
ハイブリッド ACC

高温空気吹込み技術を
応用した低空気比燃焼



ハイパー火格子

- ・理想的な設計
- ・安定高温焼却



二回流ガス流れ

- ・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



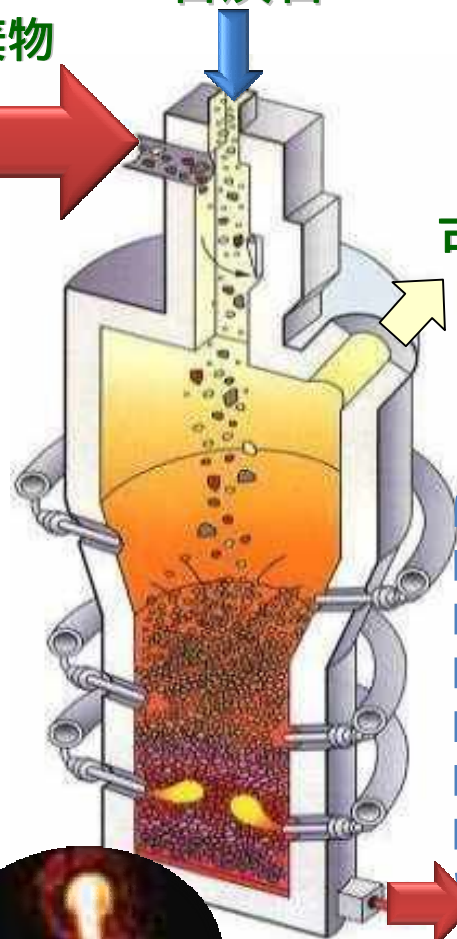
焼却灰



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)

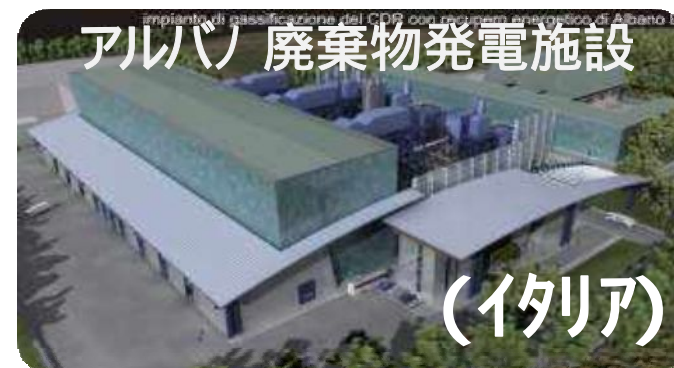
スラグ



メタル



スラグ/メタルの有効利用



アルバノ 廃棄物発電施設

(イタリア)

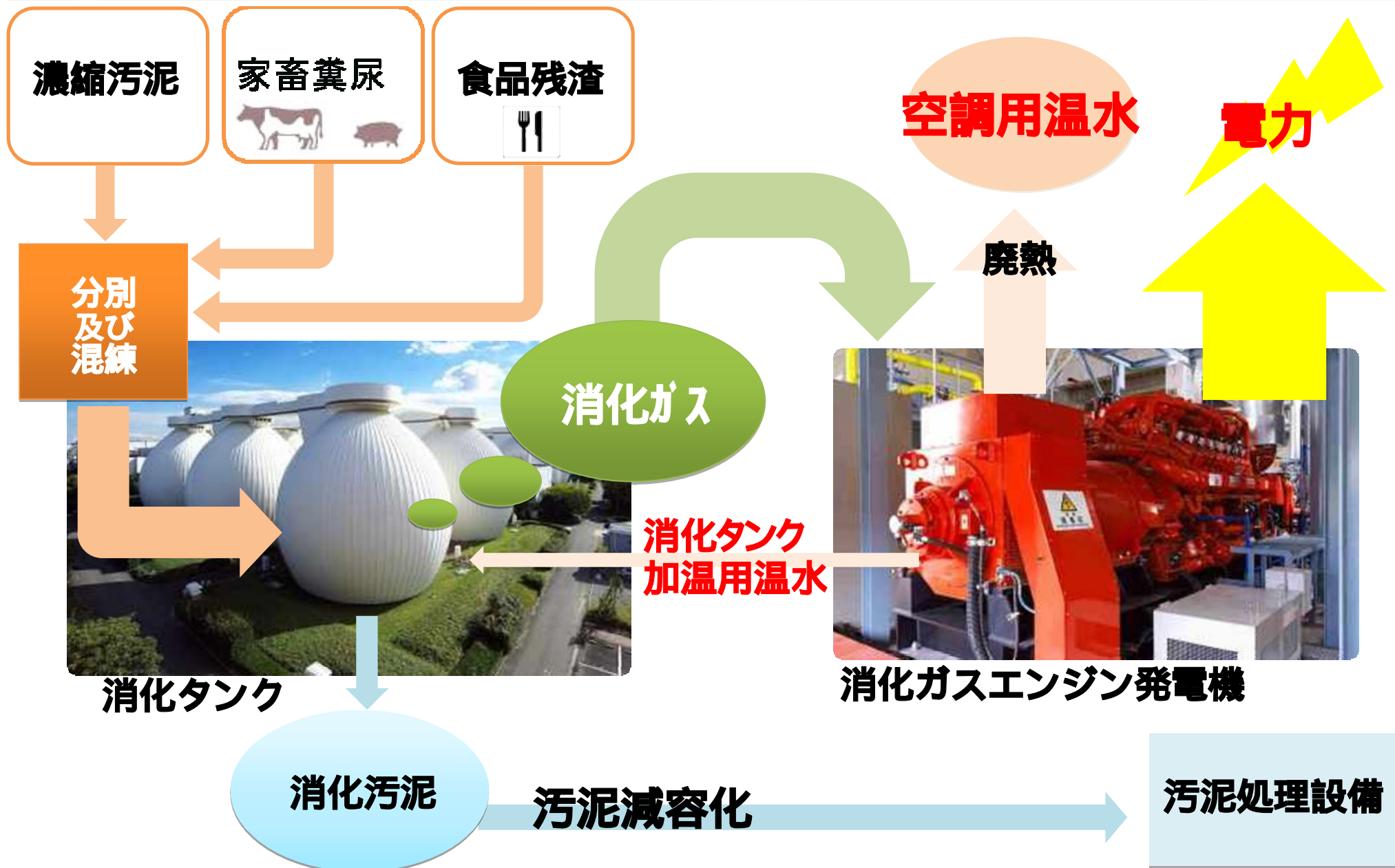
路盤材



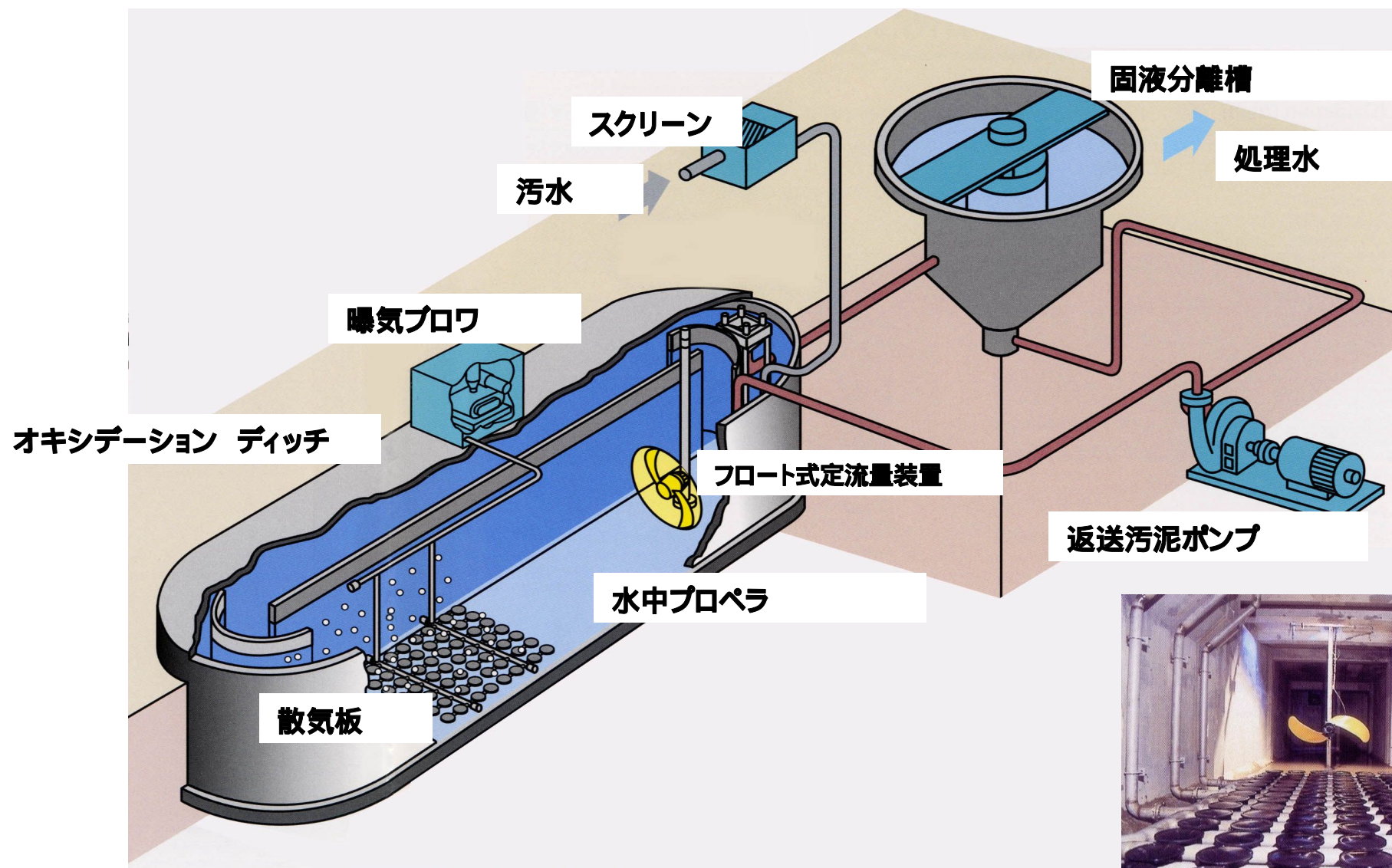
カウンターウェイト



消化ガス発電システム



JFE OD システム



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

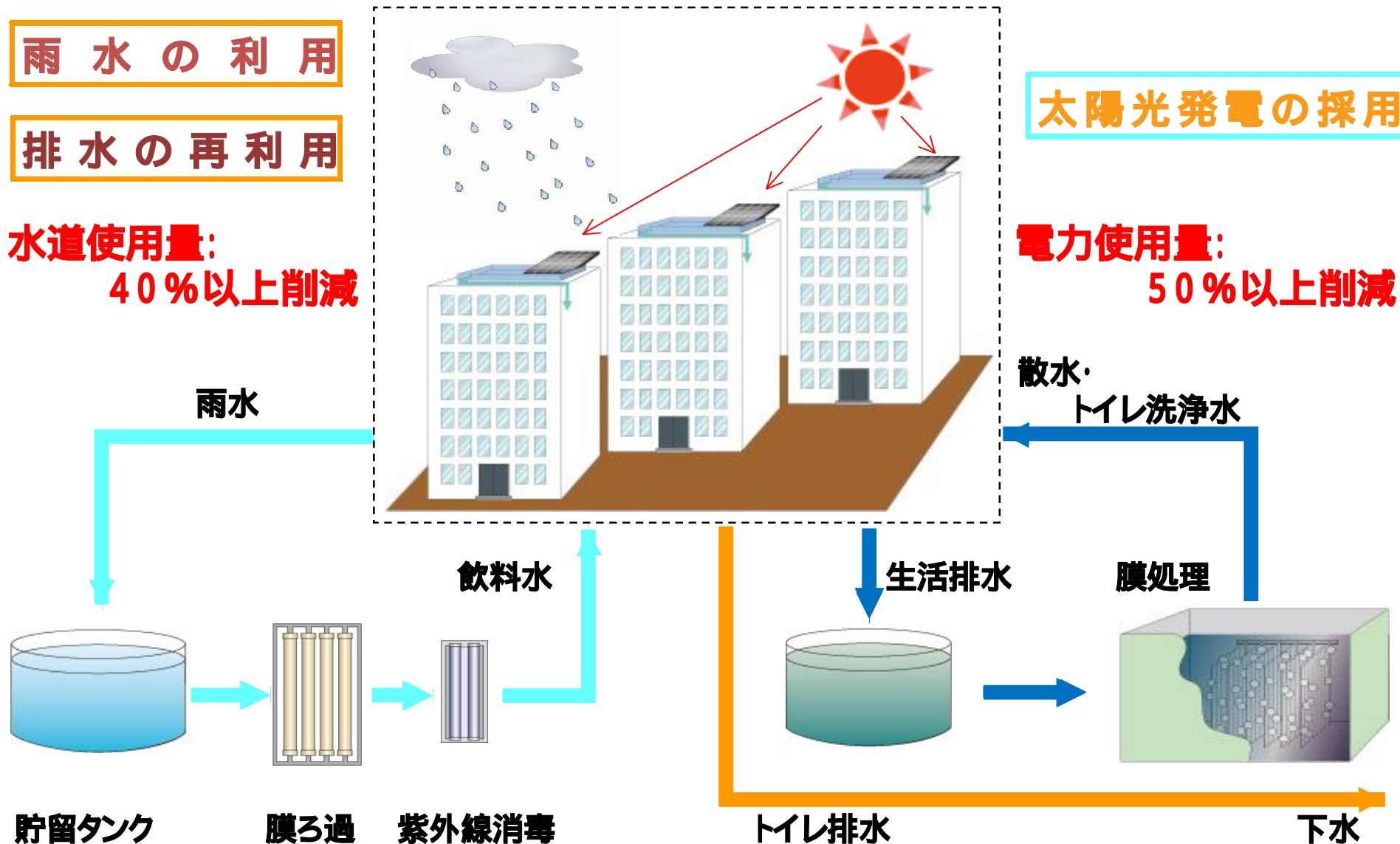
雨水の利用

排水の再利用

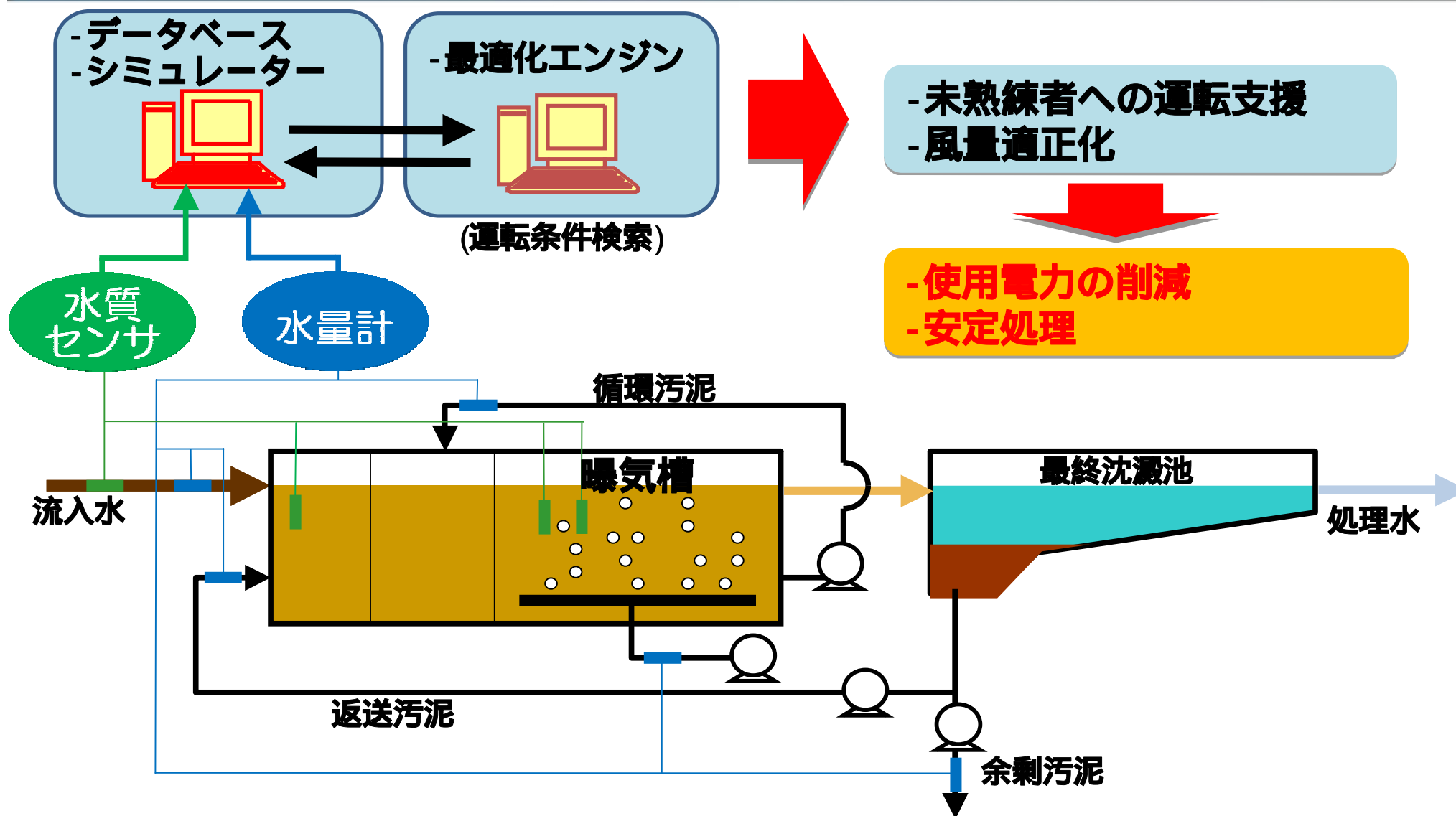
水道使用量:
40%以上削減

太陽光発電の採用

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





Everyone's Earth

Everyone's Life



JFE エンジニアリング(株)

J F E Engineering Corporation

Business Outline



What JFE Stands for? and JFE Group



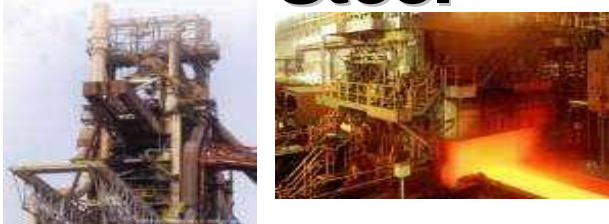
“**J**” for **J**apan

“**F**”for Steel (**Fe**, atomic symbol of iron)

“**E**” for **E**ngineering

It also means “**J**apan **F**uture **E**nterprise”

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

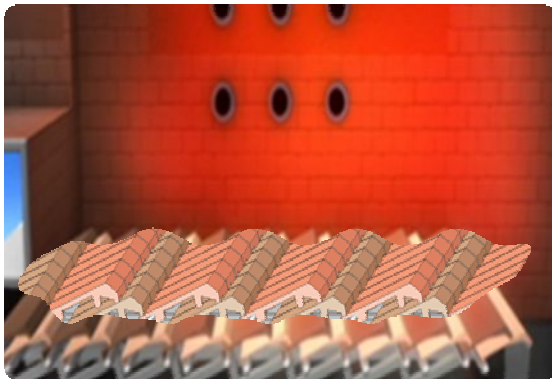


MSW



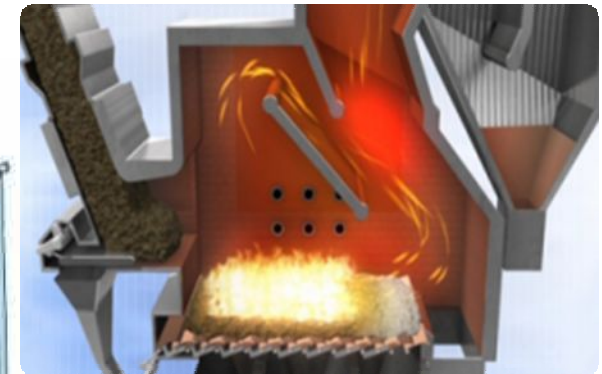
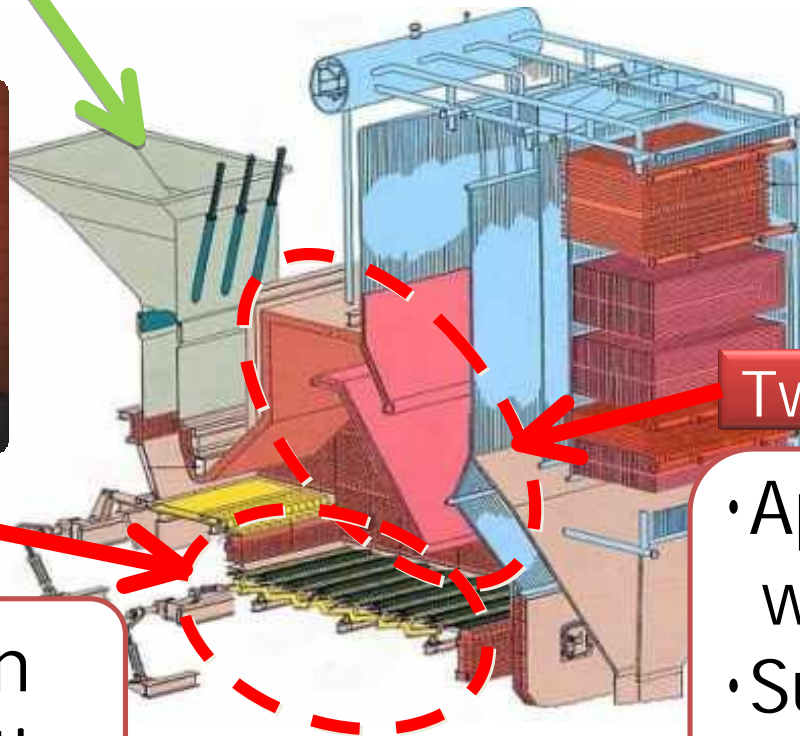
Hybrid ACC

Complete combustion
under low air ratio



Hyper Grate

- Compact Design
- Stable Combustion



Two way flue gas system

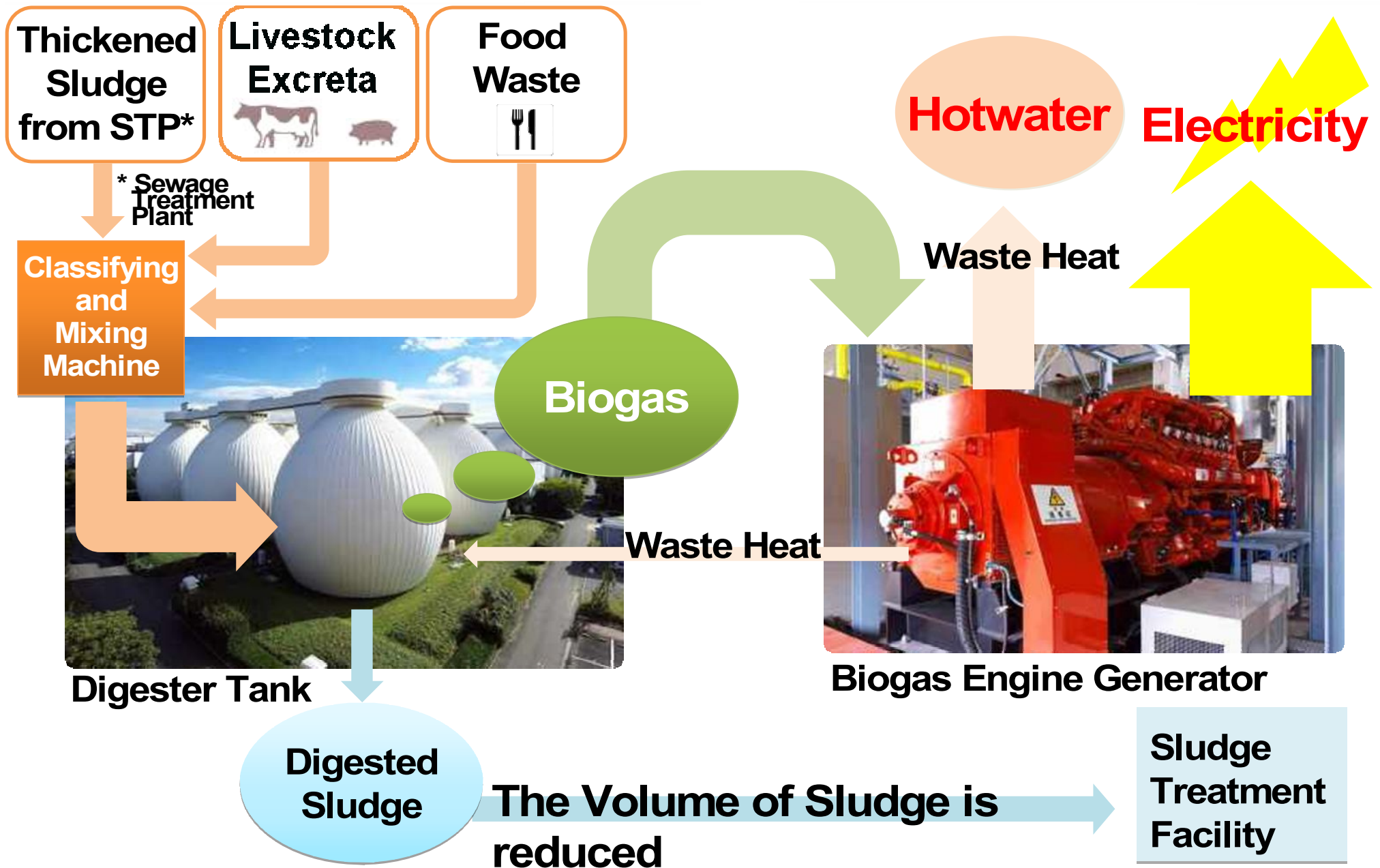
- Applicable for wide range of wastes
- Suppression of NO_x and Dioxins

High Temperature Gasifying and Direct Melting System

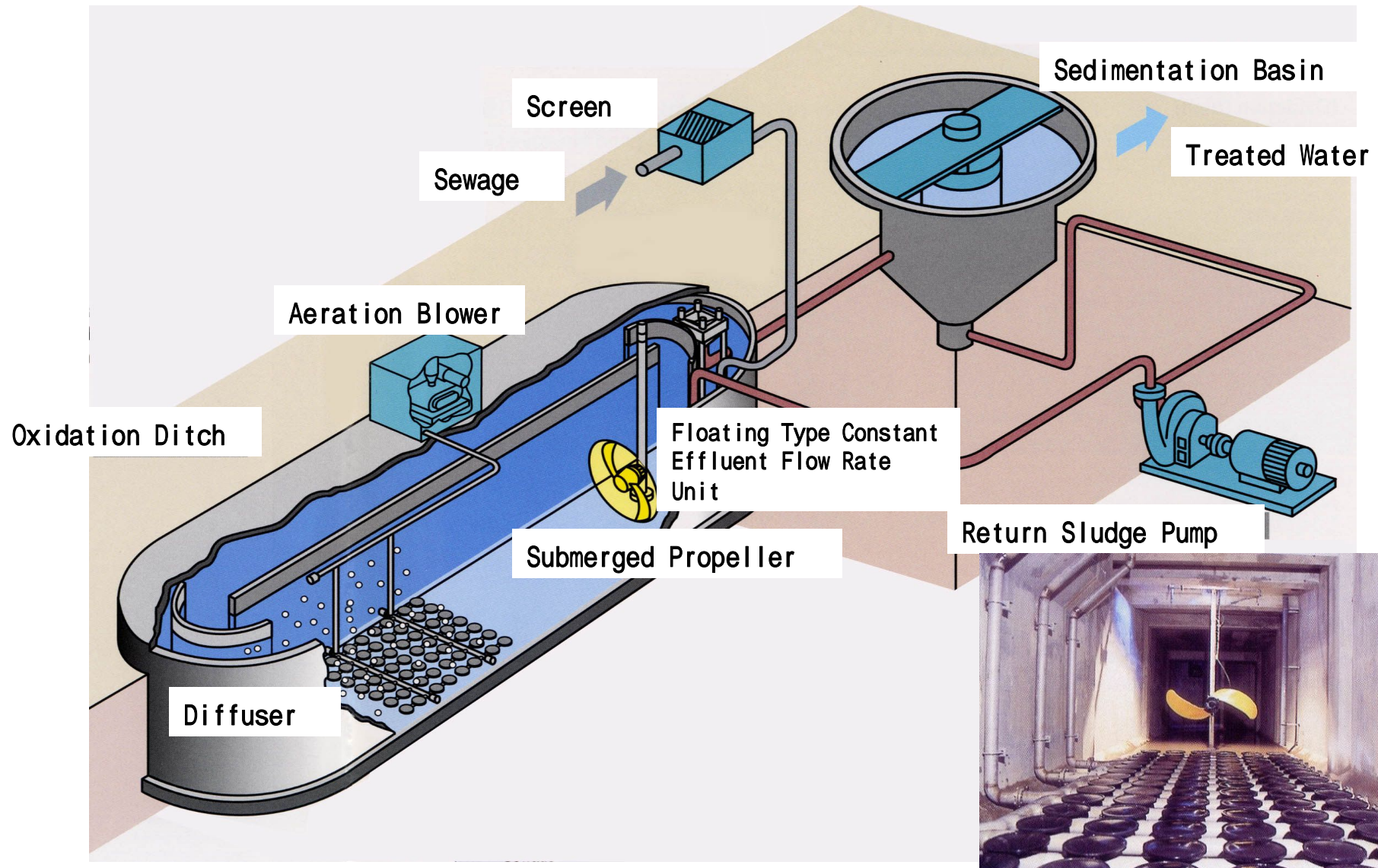
Melting wide range of wastes under high temperature



Biogas Engine Generation System



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

