KOBELCO

Keep the Earth Sky-blue

CORPORATE PROFILE

KOBELCO ECO-SOLUTIONS CO., LTD.

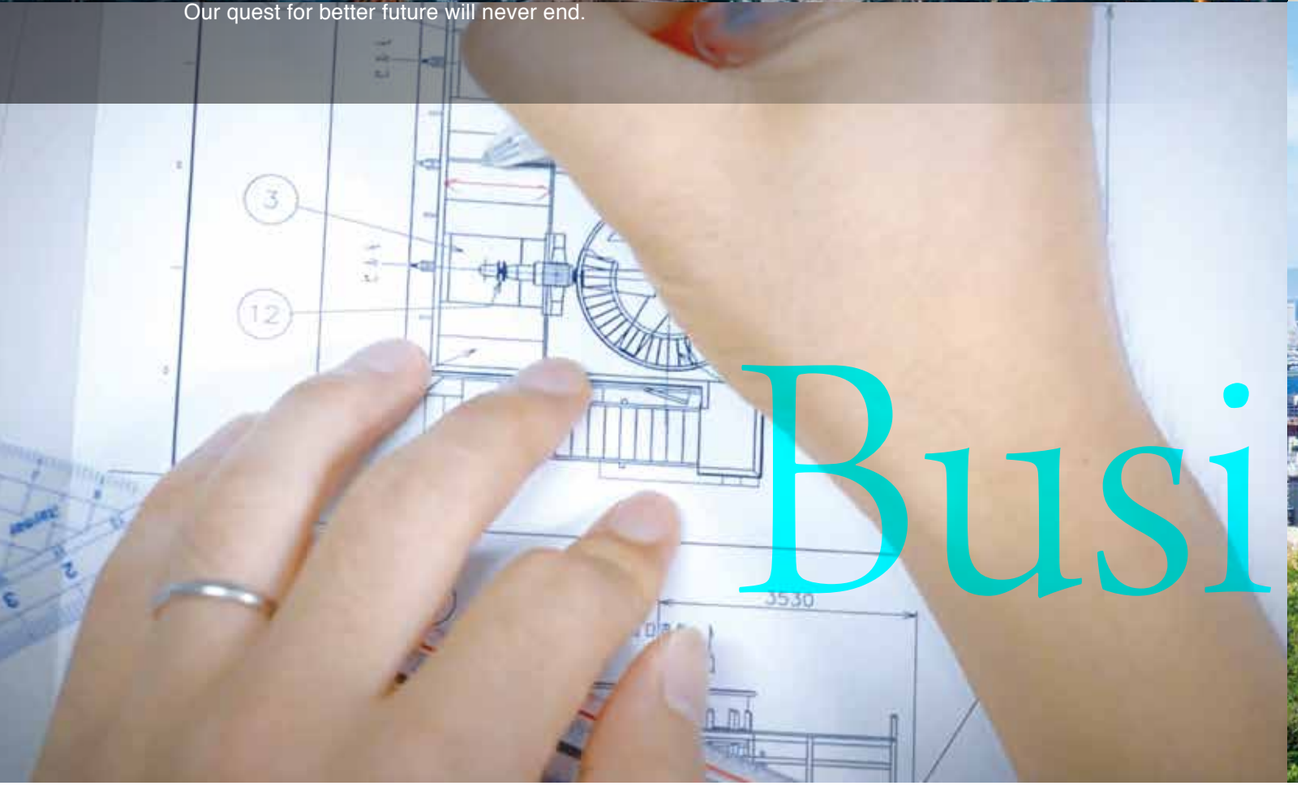
What kind of future do we want to create?

Global warming, extreme weather, water and air pollution,
a lack of water resources, a loss of biodiversity…
A variety of environmental issues are emerging.
How do we solve those challenges?
What can we leave for our future children?
In quest of solid solutions, we have been striving day by day,
and have developed our advanced technologies.
For a future society that lives in harmony with the earth.
For a healthy environment and a sustainable future.
Kobelco Eco-Solutions will contribute to crafting a sustainable society
by our products and environmental technologies.

Sustainability

Strive for sustainable future with advanced technologies.

Kobelco Eco-Solutions offers its technologies that support safety and security of the society.
With our innovative thinking and our solid technical basis combined, we can find out clues to solve the various environmental problems that our society is facing.
We have unique, one-of-a-kind technologies.
We are committed to continuing to strive toward further evolvements.
With our technologies and innovative thinking, we will provide solutions for our better future.
We will create values that exceed our customers' expectations.
Our quest for better future will never end.



Business to Life

BUSINESS OVERVIEW

Water Treatment Business

P.08–

EPC works (Engineering, Procurement, Construction)／
Equipment Production & Repair／
Operation and maintenance

We are a plant engineering company, and our activites include the construction and operation & maintenance for a wide range of water teatment facilities, from municipal use to industrial use. We are committed to creating a sustainable water environment.

Water treatment

・Treatment facilities for industrial water, city water and sewage
・Treatment facilities for ultrapure water, pure water, industrial water and wastewater

Biomass

・Recycling system for organic waste such as sewage sludge and food

Cooling Tower

・Industrial/air conditioning cooling towers

In October 2021, we received an order for reconstruction of the sludge treatment facility project in Hyogo prefecture, Japan.

Waste Treatment Business

P.12–

Design, manufacturing, procurement, construction, O&M services and sales
Core equipment repair work

We can provide a series of services and solutions to meet various needs throughout the plant life. Our Waste-to-Energy plants and Recycling plants contribute to creating an eco-friendly society. Through our PCB detoxification treatment, we strive to eliminate negative environmental legacies for future generations.

Waste treatment

・Grate Type Incineration
・Fluidized-Bed Gasification & Combustion
・Fluidized-Bed Gasification and Melting Furnace
・Drum can crushing systems
・Recycling centers

Detoxification of PCB and Dioxin

・PCB detoxification treatment facilities

In March 2023, the Saitama Seibu Clean Center was completed.

Pharmaceutical and Fine Chemical Equipment Business

P.14–

Engineering
Manufacturing
Sales and maintenance

Our Harima Plant produces glass-lined equipment, powder treatment equipment, thin film evaporator etc., which are core components in the manufacturing process for chemical industries. Our equipment is highly valued in various industrial fields, such as pharmaceutical, fine chemical, electronic related materials and petrochemical, where sensitive or delicate material-processing is required for product guality control.

Process Equipment

・Glass-lined equipment
・Polymerizer, reactor, filter/dryer, mixed type freeze dryer, thin film evaporator

New Product HYX-E95™ now on sale!

HYX-E95™ is the hybrid glass-lining which combines the electro conductive glass ECOGL II and low elution glass 9500. Its excellent antistatic performance as well as its electrostatic discharge resistance can enhance safety in the manufacturing process, and its excellent low metal ion elution performance can significantly reduce the metal ion contamination. These advantages will contribute to improving your product quality.

New Business

P.16–

We contribute to solving various kinds of environmental issues by identifying new market needs and proposing business models, utilizing the unique technologies and know-how we have cultivated.

High-purity Hydrogen Oxygen Generator（HHOG™）
Algae
Wood biomass power generation

HHOG™ delivered to hydrogen power generation demonstration model facility!

Through Yamato H2Energy Japan, we delivered HHOG™ to a hydrogen power generation demonstration model facility at Nihon Kensetsu Kogyo's Kanto General Center. The HHOG™ generates green hydrogen by using electricity from on-site solar energy generators. The hydrogen produced is supplied to hydrogen stations (for fuel cell forklifts and fuel cell vehicles) and fuel cells on the premises, and in the event of a disaster, the facilities can contribute to the local community by supplying electricity to nearby residents.

Water Treatment Segment

Contributing to the building of social infrastructure. Pursuing energy conservation and energy generation.

We steadily support the sound formation of social infrastructure through our water-related engineering.
We will continue to explore technologies to realize a carbon-neutral society.

Top market share in Japan

01 Sewage Treatment
02 Sludge Treatment
03 Biomass
04 Water Treatment
05 Industrial Water Treatment
06 Cooling Tower

01. Sewage Treatment

We provide systems and products that meet the challenges of the sewage sector, such as renovation and renewal of aging facilities and measures to combat global warming.

Inflow → Grit chamber → Primary sedimentation tank → Reaction tank → Final sedimentation tank → Filtration → Disinfection → Discharge

- Grit chamber: Large waste is removed
- Primary sedimentation tank: Sinkable matter is allowed to settle
- Reaction tank: Decompose contaminant
- Final sedimentation tank: Sludge is allowed to settle and then separated from the supernatant water
- Filtration: Passed through a layer of sand to remove small matter
- Disinfection: Filtered water is disinfected with chlorine or ultraviolet rays

Grit chamber

Washing to dehydration, all in a single equipment

Residue Cleaning Dehydrator

Features a simple structure that uses a single-axis screw to wash and dehydrate residue. Thanks to its simple and compact structure, it can be installed to the existing plant and it requires less power than the conventional dual shaft type.

Primary sedimentation tank / Final sedimentation tank

Low power, long life

Non-Metallic Sludge Collection System

By using high-performance plastic chains with excellent corrosion and wear resistance, it is possible to lower the power consumption and make it longer life than conventional metal scrapers.

Reaction tank

High oxygen transfer efficiency

PABIO TUBE™

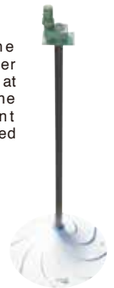
Specially designed durable silicone rubber reduces pressure loss and power consumption of blower while keeping high oxygen transfer efficiency.

Reaction tank

Pursuing efficiency of mixing

Hyperboloid Mixer PABIO Mix™

By rotating the hyperboloid mixer with a low speed at the bottom of the tank, sufficient mixing is achieved with low power.



02. Sludge Treatment

We will contribute to a carbon free society by minimizing the energy required for sludge treatment and converting the energy contained in sewage sludge into electricity and coal-alternative fuels.

Sludge → Concentration → Digestion → Dehydration → Incineration, fuel conversion (P.10)

Effective utilization of gas (P.10)

- Concentration: Dehydration to thicken the sludge
- Digestion: Fermentation to generate biogas
- Dehydration: Sludge is squeezed to remove as much moisture as possible
- Incineration, fuel conversion (P.10): Sludge is treated by an incinerator or is converted into solid fuel

Concentration

High performance and compact

Gravity Belt Thickener

Stable thickening performance is obtained for all kinds of sludge generated in the water treatment. The belt (filter cloth) is made of light and inexpensive resin which maintenance work is easier than metal belt.

Digestion

Short construction period, easy maintenance

Stainless Steel Digester

Construction period can be greatly shortened compared to conventional concrete digesters. Sensors can be installed to monitor the inside of the digester, enabling stable operation and improved maintainability.

Dehydration

Processes difficult-to-dewater sludge

Screw Press Dehydrator

By optimizing the thickening, flocculating, and pressurizing processes, it is possible to reduce the moisture content of difficult-to-dewater sludge such as digested sludge. This reduces GHG emissions and the disposal cost of dewatered sludge.

Incineration

Reduced enrgy consumption and GHG emissions

High-Efficiency Two-Stage Incinerator

By establishing a heat decomposition zone and complete combustion zone, and optimizing combustion conditions such as temperature, air ratio, and retention time, it is possible to reduce energy consumption as well as GHG emissions.

03. Biomass

In addition to sewage sludge, various organic wastes discharged from food and livestock are gasified and converted into fuel. This business is conducive to making effective use of them as energy sources that have been unutilized so far.

Effective use of biomass

Methane fermentation process

We promote methane fermentation business to treat the local biomass discharged from industries such as food and livestock. Biogas generated in the treatment process is effectively used as renewable energy.

Methane Fermentation Process Facility

Effective use of biogas

Biogas refining, Biogas power generation

Biogas generated through methane fermentation is refined into high-purity methane, which is effectively used as a raw material for hydrogen production and as a fuel for natural gas vehicles. We are also developing a power generation business that utilizes biogas.

Biogas Upgrading System

Methane fermentation residue recycling

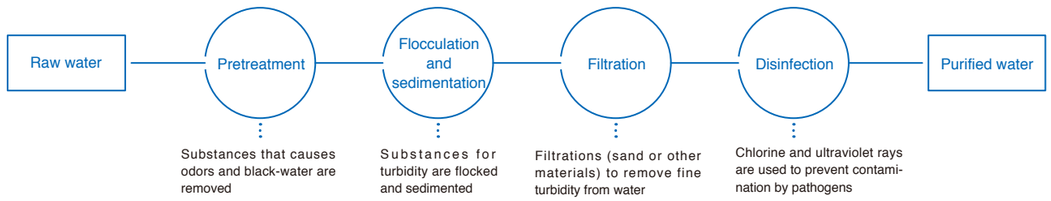
Conversion of fermentation residue to fuel

Fermentation residue is converted to biomass fuel by carbonization process. As an alternative to fossil fuels, this can be effectively used in power plants and factory boilers, contributing to a reduction of greenhouse gas (GHG) emissions.

Fuel Conversion Facility

04. Water Treatment

We provide systems and products that help water suppliers solve the challenges that they are facing, such as renovation and renewal of aging facilities, odor and flavor issues, and a shortage of engineers.



Pretreatment

Harnessing the cleansing action of nature

Biological Contact Filter/ BCF™

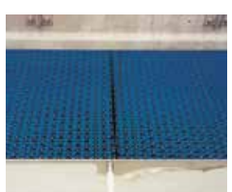
BCF can remove odor, ammonia nitrogen, surfactants, manganese, and other substances efficiently by utilizing reactions of microorganisms. This process features excellent energy efficiency compared to physicochemical processing.

Sedimentation tank

Excellent performance of sedimentation and separation

Wave-Form Tilted Pipe (V-Wave™)

The unique corrugated cross-sectional shape provides a high rectification effect and has excellent performance of sedimentation and separation. The V-shaped tube bottom helps smooth discharge of the sludge.



Filtration

Safe and secure filtration using siphons

Open Siphon Filter (OSF™)

A highly reliable gravity type filter with a unique siphon mechanism. Since no large size automatic valves is installed, it is easy to maintain.

Filtration

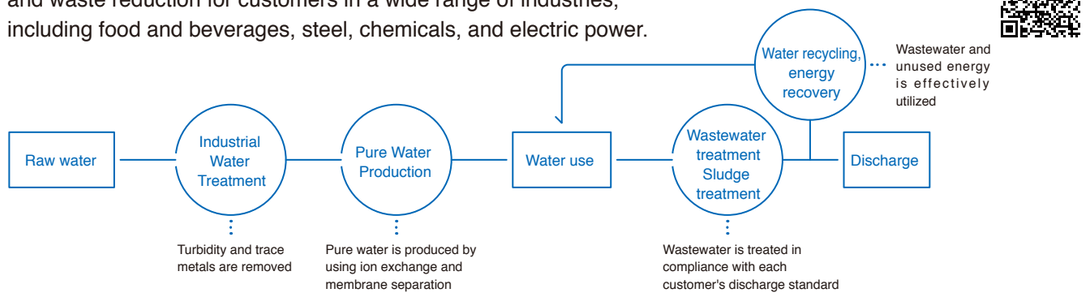
Powerless and full automatic operation

Automatic Siphon Filter (ASF™)

Full automatic operation is possible because ASF™ has no automatic valve and pump. This can significantly reduce operating expenses such as electricity and labor costs.

05. Industrial Water Treatment

We provide systems and products that contribute to energy conservation, energy creation, and waste reduction for customers in a wide range of industries, including food and beverages, steel, chemicals, and electric power.



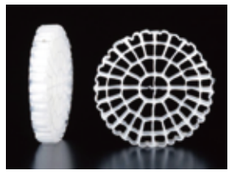
Industrial water treatment facility, pure water production facility

We provide industrial water treatment facility that remove turbidity, iron, and manganese from raw water at high speed, as well as pure water production facility that uses ion exchange, membrane separation, etc.

Pure water production facility

Wastewater treatment facility, sludge treatment facility

We have a wide range of treatment technologies for handling industrial wastewater from various industries, including the organic wastewater treatment facility PABIO MOVER™, which is capable of high-load treatments.



PABIO MOVER™ (i.e. carrier)

Water recycling facility, energy recovery facility

We propose organic wastewater treatment equipment (PANBIC™-EC) that can recover biogas and systems that effectively utilize unused wastewater and excess steam.

PANBIC™-EC

Chemicals

Based on our accumulated know-how and experience over the years, we offer an extensive lineup of chemicals , such as high-molecular coagulants, inorganic chemicals, cooling tower agents, and boiler water treatment agents, to satisfy our customers demand.

06. Cooling Tower

We are the top cooling tower manufacturer boasting more than 5,000 track records in Japan and overseas delivered across a wide range of industries, including steel, chemicals, and electric power.
We meet the needs of customers not only with regard to new construction, but also for upgrading to higher performance cooling towers or repairing aging cooling towers.

Industrial Cooling Tower

We propose the best cooling tower from our ample line up to meet each customer's requirement such as capacity, water quality, temperature, and installation area. We are also working to improve the efficiency of fillers and fans to reduce the environmental impact.

Cooling Tower for Community Heating and Cooling

Since cooling towers are often installed on rooftop floors in commercial areas, we offer cooling towers that meet a variety of constraints, such as with regard to anti-white smoke, noise, vibration, space saving, and maintenance.

After-sales services

We offer consultations on periodic inspections, repairs and renovations, on-site overhauls, capacity changes and renewals, and more, regardless of whether the equipment is made in-house or by other companies, and help with planning such as LCC assessments.

Waste Treatment Business

Turning waste into valuables for the earth.

Offering EPC and O&M solutions of Waste to Energy and recycling plant,
we contribute to forming a sustainable society, with reducing negative environmental impacts.

01
Waste Treatment

02
PCB Detoxification

01. Waste Treatment

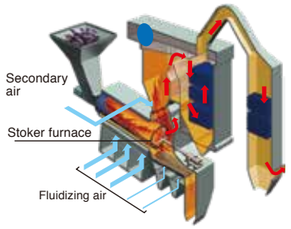
Developing environment-friendly waste treatment technology.
Our incinerators are advanced in functionality, with being able to reduce environmental impacts.

Incinerator

Responding to a wide range of waste

Grate Type Incineration

The rotary combustor facilitates efficient mixing and agitation of waste. This allows for treating with a wide variety of waste. Heat is efficiently recovered through boiler water pipes constituting the furnace walls. This helps realize highly efficient waste-to-energy system. It is a robust system with less moving parts.

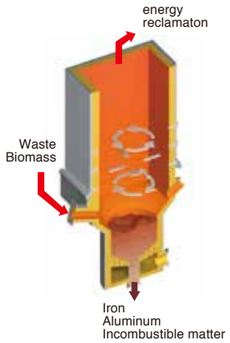


Incinerator

High efficiency power generation is possible

Fluidized-Bed Gasification & Combustion

Gasifying waste using fluidized sand. A vertical, compact furnace that burns waste efficiently. High-efficiency power generation with high-temperature, high-pressure boilers, and recovery of metals with high resource values from fluidized bed furnaces, such as high-quality iron and aluminum, is possible.



Melting

Creating Vitrified Material（VM） through high temperature melting

Fluidized-Bed Gasification and Melting Furnace

Melting is achieved using the energy possessed by waste, without using fossil fuels. By gasifying waste and reacting it with air, the ash is converted to Vitrified Material（VM） using high temperature melting. This also achieves a high resource recovery rate through the collection of highly recyclable iron, aluminum, VM, etc.

Pretreatment equipment

High safety and processing performance

Drum can crushing systems

Crush waste sealed in drums. After kneading with a mixer, it is pressure-fed to an incinerator using a piston pump. The waste can be processed safely without touching it, and automation of crushing, kneading, and pumping allows for efficient processing speed.

Recycling facility

Sorting waste for recycling

Recycling centers

Systems for crushing, sorting, and recycling bulky waste, non-combustible waste, PET bottles, bottles, cans, etc. In particular, our automatic bottle color sorter can automatically sort glass bottles into colorless, brown, and other colors, helping to reduce labor costs.

After-sales services

Leveraging our experience cultivated through the operation and maintenance of numerous facilities, we provide services that minimize life cycle costs and ensure the stable operation, steady performance, and long useful lives of facilities. From inspections to repairs, improvements, and renovations, we provide highly specialized services through our nationwide network in order to meet customer needs.

02. Detoxification of PCB and Dioxin

Polychlorinated biphenyl: a colorless transparent chemical, chemical substance in an oily liquid form. They were used in a variety of applications, such as insulating oil for electrical equipment, but their production is now prohibited due to their adverse effects on the human body. For a long time, there were no effective methods for processing PCBs, but we developed a technology for detoxifying them. We will also continue to work toward eliminating negative legacies for future generations through the design, construction, and maintenance of facilities.

Plant for Toyota PCB Waste Treatment Facility,
Japan Environmental Storage & Safety Corporation (JESCO)

Decomposing liquid PCBs

Liquid PCB Decomposition Technology SP Process

A chemical reaction between sodium and the PCB removes chlorine from the PCB. Liquid PCBs extracted from transformers and capacitors are decomposed and detoxified.

Removing PCBs from electrical equipment surfaces

PCB Wastes Decontamination Technology SED process

A technology for removing PCBs adhering to the surfaces of electrical equipment after removing the PCBs. PCBs are removed using solvent washes, vacuum heating and drying process.

Responding to a wide range of pollutants

Responding to a wide range of pollutants Plasma melting technology

A wide variety of contaminants with different shapes and properties, such as fluorescent lamp ballasts, other waste with complex shapes, sludge containing PCBs, etc., are decomposed and rendered harmless in high temperature plasma and molten baths.

Pharmaceutical and Fine Chemical Equipment Business

Our leading edge technology supports high-quality manufacturing.

Engineering and manufacturing of various equipment in broad range of industries, pharmaceutical, fine chemical, petrochemistry, foods etc..
As the top manufacturer of the glass-lining, offering the leading edge technology and products including reactor, agitator, filter/dryer, thin film evaporator etc..
Also providing extensive customer service like equipment maintenance.

Fine chemical field
Manufacturing facility for material for electronics field, resist material, emitting material etc.

Pharmaceutical field
Manufacturing facility for pharmaceutical intermediates and API, agrichemical etc.

Petrochemical field
Manufacturing facility for commodity and synthetic resins, plastic etc.

Food and Beveridge field
Manufacturing facility for sake, wine, soy source etc.

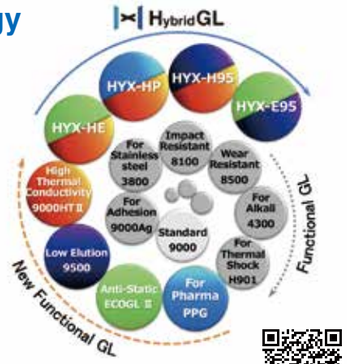
Glass lining technology

Glass lining is composite material with steel surface coated by special glass. Glass lining has its advantageous characteristics with the function of glass as well as the strength of steel. As the top manufacturer, we always offer the leading edge technology and products.

First in the world

Hybrid Glass Lining

"HybridGL" is the brand name of our hybrid glass lining. The hybrid glass lining has been developed in 2017 as the world's first one.



Reactor

Our reactor contributes to customer's manufacturing such as the high quality, high purity, safety and work saving in manufacturing in many industry fields.

Agitation technology

Our agitation technology is able to fulfil various customers' needs based on our R&Ds over the years and abundant manufacturing records. We can offer various type of agitators in response to various needs, including mixing, dispersion, heat transfer, etc., depending on the purpose of agitation and the requirements in manufacturing process.


TWINSTIR™

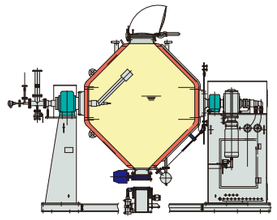

FULLZONE™

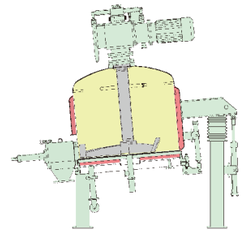

SWINGSTIR™

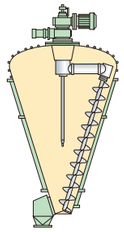

LOGBORN™

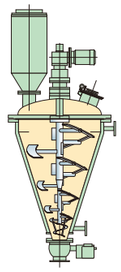
Filter/Dryer

Various types of filter/dryers are available, including conical dryer blender, nutsche filter dryer, vertical conical mixer dryer etc..


Conical dryer CDB™
(rotary dryer/mixed type freeze dryer)

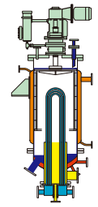

Nutsche filter dryer FD™
(multi-function filter dryer)

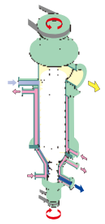

Vertical conical mixer SV™
(vertical type mixer dryer)


Vertical conical mixer PV™
(high efficiency vertical type mixer dryer/ mixed type freeze dryer)

Thin film evaporator

Thin film evaporator is used in all chemical industries, including pharmaceuticals, fine chemicals, petrochemicals, foods etc.. Concerning heat-sensitive material, material with a high boiling point, suitable for operations such as purification, concentration, decolorization, and degassing. Recycling and volume reduction process is also suitable application.


WIPRENE S™
(thin film evaporator)


EXEVA™
(thin film evaporator for high viscosity material)

New Business

Under the keywords of “decarbonization,”“sustainability,” and “healthy and comfortable lives,”
we develop new businesses based on our research achievements and extensive experience.
We continue to take on challenges toward realizing an eco-friendly future.
We are currently focusing on hydrogen, algae, and wood biomass power generation.
We will offer new technologies.

HHOG™

High-purity
Hydrogen Oxygen
Generator

Generate CO_2-free hydrogen using renewable energy

The High-purity Hydrogen Oxygen Generator(HHOG™) directly electrolyzes deionized water and generates high-purity hydrogen gas on-site without using any toxic chemicals. We have a supply track record of more than 200 HHOG™ units globally, as utility gerenation equipment used in various factories.

Algae

(Golden Euglena)

Developing proprietary functional compounds for healthy and comfortable lives

Our original strain has been patented in more than 10 countries around the world. Consumption of paramylon EOD-1 (Golden Euglena) is expected to affect the immune, nervous, and endocrine systems via the intestines and help maintain and improve homeostasis, which is the foundation of health.

Golden Euglena (EOD-1 strain)

Paramylon-rich Euglena EOD-1 supports healthy lives as a health food. Our track record of blending it in foods and supplements continues to expand.

Wood biomass power generation

Contributing to preserving the global environment through renewable energy

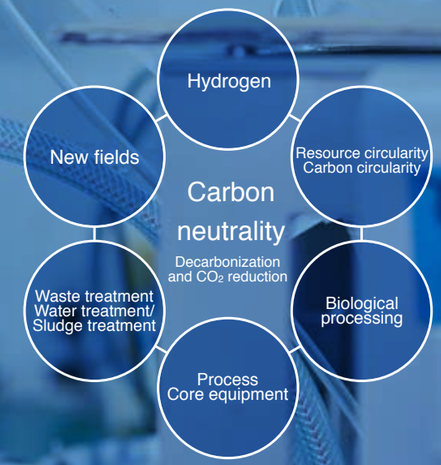
Wood biomass power generation is carbon neutral, contributing to CO_2 reductions and curbing global warming. By using thinned wood as fuel, we contribute to the development and maintenance of forests as a whole.

Iitate Mirai Power Plant

Currently under construction in the Warabidaira ward of Iitate Village, Soma, Fukushima Prefecture. Operations are expected to begin around spring 2024.

Technology Development

People live comfortably and the rich natural environment is protected.
Aiming for such future, we are developing unique new products and services using our cutting-edge technologies.
Furthermore, to meet more complex needs, we carry out joint research programs with customers, experiments in full-scale plants and pilot plants, etc.
We enjoy many fruitful results through these activities.



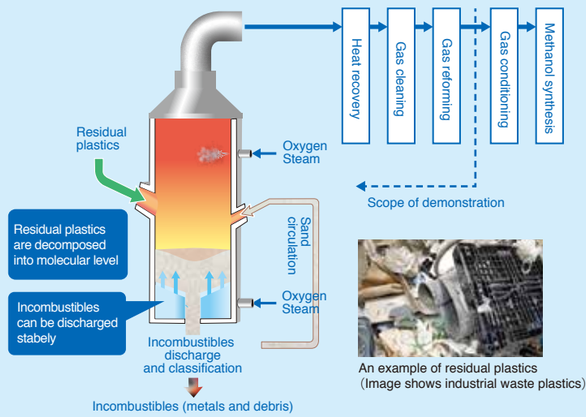
TOPICS 01

The Japanese first demonstration project for waste plastics gasification to methanol has now commenced.

- Selected for the Ministry of the Environment’ s “FY2022 Demonstration Project for a Plastic Resource Circulation System toward a Decarbonized Society” -

Residual waste plastics containing diverse impurities and materials are difficult to be recycled so that they have been generally incinerated with or without thermal recovery, or landfilled. To achieve sustainable circular and carbon neutral economy, chemical recycling of residual plastics is one of the solutions. Demonstration project for residual waste plastics gasification using fluidised bed gasifier, which is one of our core technologies, has been commenced in cooporation with front-end and back-end industries together with local authorities where the plant located. One of the objectives of this project are to demonstrate the generation of syngas suitable for methanol synthesis.

*[Representative] Kobelco Eco-Solutions [Partner company] DINS KANSAI Co., Ltd. [Cooperating companies] Daiei Kankyo Co., Ltd., Mitsubishi Gas Chemical Company, Inc., Mitsubishi Kakoki Kaisha, Ltd. [Cooperating local governments] Osaka Prefecture, Sakai City



An example of residual plastics
(Image shows industrial waste plastics)

TOPICS 02

Launched “ACT(Accerelated Carbonation Technology)” that makes APCr(Air Pollution Control residue) react with and immobilize CO_2 in exhaust gas.

The carbonation technology for APCr has been adopted in the Fukui City Waste Treatment Facility Development and O&M Project.

Technology for reducing CO_2 emissions through carbon capture and utilization / storage (CCUS) is attracting attention targetting carbon neutral by 2050. We are focused on the carbonation reaction, which involves the absorption and immobilization of CO_2 by APCr,and more specifically the property wherein heavy metals are adsorbed into the APCr and become insolubles. Through this, we have jointly developed with our partner(*) the ACT that allows APCr generated in municipal waste incineration facilities to react with and immobilize CO_2 generated in those same facilities. The ACT has been adopted in commercial project in favour of Full-scale demonstration tests which proved (1) to accerarate CO_2 utilisation (2) to reduce consumption of chemicals for heavy metal stabilisation. We are working on to deploy this technology to diverse waste feedstocks which can be carbonised.

The demonstration plant enables full scale trials using diverse samples provided from clients.
(*)O.C.O Technology Ltd.

PHILOSOPHY

Corporate Philosophy

Slogan

Keep the Earth Sky-blue

Vision

To support a future society that lives in harmony with the earth.

Mission

To create a healthy environment and life for future generations through our innovative thinking.

Value

Pursue, Challenge, Accomplish

Core Values of KOBELCO

1 We provide technologies, products and services that win the trust and confidence of our customers we serve and the society in which we live.
2 We value, and support the growth of, each employee on an individual basis, while creating a cooperative and harmonious environment.
3 Through continuous and innovative changes, we create new values for the society of which we are a member.

Six Pledges of KOBELCO

1 Uphold the Highest Sense of Ethics and Professionalism
2 Contribute to the Society by Providing Superior Products and Services Quality Charter
3 Establish a Comfortable but Challenging Work Environment
4 Live in Harmony with the Local Community
5 Contribute to a Sustainable Environment
6 Respect Each Stakeholder

Details of Core Values of KOBELCO & Six Pledges of KOBELCO >>>>>>

Quality Charter The KOBELCO Group will comply with all laws, public standards, and customer specifications, and make continuous efforts to improve quality, with the goal of providing Trusted Quality in our products and services.

Corporate Profile

Company Name	Kobelco Eco-Solutions Co., Ltd.
Head Office	4-78, 1-chome, Wakinohama-cho, Chuo-ku, Kobe 651-0072 Japan
Capital	¥6,020 million
Licenses and certificates	Minister's construction business license by the Ministry of Land, Infrastructure and Transport (Civil work business, building work business, electric work business, piping work business, machinery installation business, telecommunications business, water service engineering business, cleaning facility installation business, demolition business), first-class architect office registration, environmental measurement proof office registration ●ASME code "U stamp" ●ISO55001-certified (For the organization name and scope of registration, please refer to the certificate of registration and annex to certificate on the Our Company website.)
Affiliated Companies	Kobelco Eco-Maintenance Co., Ltd. / E.R.C. Takajo Co., Ltd. / Toyota Environment Services Co., Ltd. Fukui Green Power Co., Ltd. / MICAREA Co., Ltd.

Office information

GREETING

Message from President

We will contribute to creating a livable environment and a healthy life through our innovative thinking.

We, Kobelco Eco-Solutions Group ("KES"), are actively and extensively engaged in the environmental business as one of the group entities in the engineering business segment of the KOBELCO Group (the "Group"). Our business fields include those related to water and wastewater treatment, waste treatment, and the supply of cooling towers for industrial or public use. We are playing an important role in the Group's challenging mission to achieve carbon neutrality as well.

We also have a pharmaceutical and fine chemical machinery business, which has a long track record since KES's foundation back in 1946. We have been meeting a wide range of our customers' manufacturing needs through the supply of our glasslined equipment.

Under the three-year FY2021–2023 medium-term business plan, KES will devote its efforts to gaining a foothold on a path to new heights by implementing a balanced strategy that seeks the "strengthening of competitiveness for existing business" as well as "active investment in growth fields."

As for the former, "strengthening of competitiveness for existing business," we will pursue such activities as: (i) contributing to the reduction of CO_2 emissions by way of promoting power generation utilizing sewer sludge and waste materials, (ii) pursuing the research and development of unique technologies in the pharmaceutical and fine chemical machinery, and (iii) establishing a solid business foundation that extends to global markets.

As for the latter, "active investment in growth fields," we will pursue such activities as: (i) further involvement in the overseas infrastructure development of water supply facilities and waste power generation plants, (ii) the provision of core technologies that help communities and customers reduce CO_2 emissions and use renewable energy and hydrogen, and (iii) the development of new businesses.

Our corporate vision is "To Support a future society that lives in harmony with the earth." In order to realize this vision, we will contribute to achieving the SDGs through our businesses and to creating a healthy environment and lifestyles through our innovative thinking.

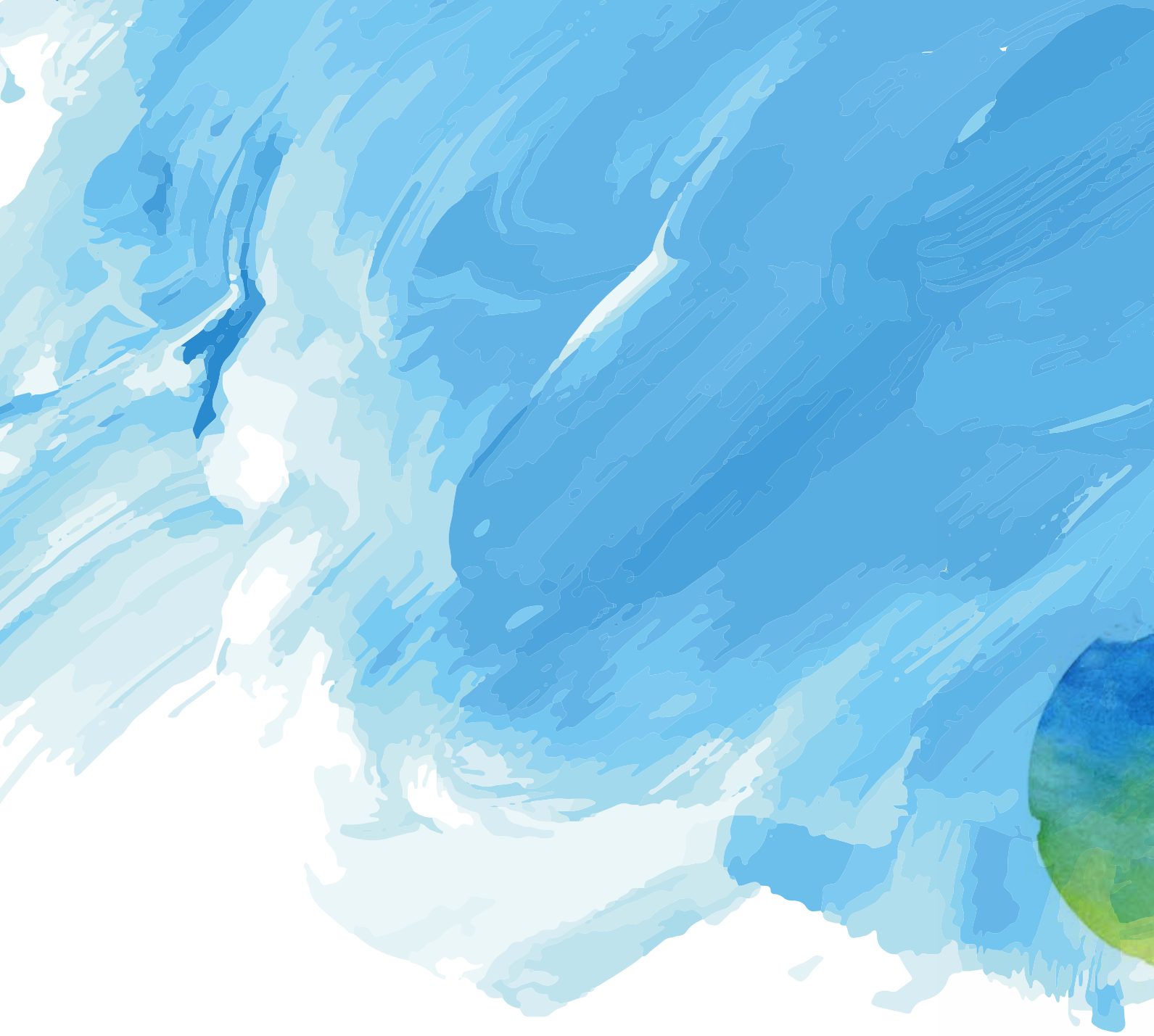
Apr. 2023

President,
Representative Director,
Mikio Sato

HISTORY

Company History

Nov. 1946	Our company started out as Glass-lined Product Department of Kobe Steel, Ltd. when a Glass-lined Plant was constructed on the premises of the Kobe Steel Yamanote Plant. Manufacturing of glass-lined product and sales for export were commenced from the following year.
Jun. 1954	Kobe Steel, Ltd. made a technical tie-up with a US company Pfaudler, and spun off the Glass-lined Product Department and incorporated it as an independent company named "Shinko Pfaudler Co.,Ltd." with 90 million yen capital jointly invested by Kobe Steel and Pfaudler.
Dec.1957	Shinko Pfaudler broke into water treatment equipment business.
Mar. 1962	Shinko Pfaudler broke into cooling tower business.
Nov. 1962	Shinko Pfaudler broke into sewage and organic waste water treatment equipment business.
Jul. 1976	Harima Factory was completed and commenced its operation.
Aug. 1978	(Kobe Steel) First sewage sludge incineration plant was delivered.
Mar. 1982	(Kobe Steel) First municipal waste incineration plant was delivered.
Oct. 1989	Shinko Pfaudler Co.,Ltd. was renamed to Shinko Pantec Co.,Ltd.
Apr. 1992	All manufacturing functions were put together into the Harima Factory, which then changed its name to Harima Manufacturing Plant. Technology Laboratory was set up in the Kobe Hightech Park. (Nishi Ward, Kobe City)
Aug. 1994	Shinko Pantec was listed in the Second Section on the Osaka Securities Exchange.(Current Tokyo Stock Exchange)
Jan. 1999	Shinko Pantec broke into PCB treatment business.
Apr. 1999	Environment Analysis Center was set up, and started analytical services for specified chemical substances and microchemical substances.
Feb. 2001	New headquarters was completed.
Oct. 2003	The environmental business unit of Kobe Steel, Ltd. was consolidated into Shinko Pantec Co., Ltd, which was renamed to Kobelco Eco-Solutions Co., Ltd.
Dec. 2005	Waste Management Final Disposal Site started its business.
Nov. 2006	Kobe city placed an order with us for the first domestic "bio-gasification facilities" for refining biogas from sewage sludge with a high methane concentration.
Apr. 2008	"Eco Station" at the Higashi-Nada Plant in Kobe City, a facility for supplying biogas started its operation.
Apr. 2009	Vietnam Office was opened. (Ho Chi Minh city)
Oct. 2010	Injection of biogas from sewage into utility gas pipelines started at the Higashi-Nada Plant in Kobe City. (first case in Japan)
Nov. 2010	Overseas affiliate, KOBELCO ECO-SOLUTIONS VIETNAM CO.,LTD. was established in Ho Chi Minh City, Vietnam.
Jul. 2013	Kobelco Eco-Solutions was listed on the second section of Tokyo Stock Exchange.
Jul. 2013	Vietnam overseas affiliate opened a Hanoi branch office.
Oct. 2013	Vietnam overseas affiliate set up a factory for manufacturing glass-lined process equipment.
Oct. 2014	Maintenance business was acquired from Kobelco Eco-Maintenance Co.,Ltd.
Oct. 2015	Opened an office in Cambodia. (Phnom Penh city)
Nov. 2015	"Notification of Commencement of Business" was filed in regard to production and sale of Euglena. (food ingredient)
Apr. 2016	Wood biomass power generation plant started its operation at Ono City, Fukui Prefecture.
Jan. 2017	Sales of Kobe Euglena started.
Jul. 2018	MICAREA Co., Ltd. was established. (at Kobelco Eco-Solutions Head Office)
Jun. 2019	The waste treatment facility business unit of IHI Enviro Corporation was merged into Kobelco Eco-Solutions Co., Ltd.
Sep. 2019	Opened an office in the UK. (London)
Oct. 2021	Kobelco Eco-Solutions Co., Ltd. was delisted from the second section of Tokyo Stock Exchange through the share exchange with Kobe Steel, Ltd.
Nov. 2021	Kobelco Eco-Solutions Co., Ltd. became a wholly owned subsidiary of Kobe Steel, Ltd.



Keep the Earth Sky-blue

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