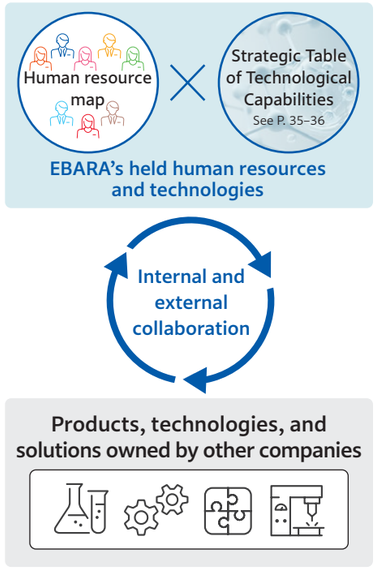
E-Plan 2025 Basic Policy 2 (New Value Creation)

Strategies and Initiative Policies

Internal and External Collaboration and Utilization of Joint Development

We will steadily conduct initiatives to create new businesses while visualizing the EBARA Group's technologies and human resources as well as forming business alliances with other companies.



Customer-driven marketing		Creating new value (Main initiatives)
Social challenges • Energy transitions • Increasing demand for commercial rockets • Recycle plastic waste as a resource	Hydrogen	• Liquid hydrogen transportation, turquoise hydrogen Construction of hydrogen supply chain • Rocket/aircraft engine fuel feeding pumps Support the growth of the commercial rocket market and hydrogen aircraft market for satellite applications • Chemical recycling Re-source waste plastics to petroleum and chemical feedstock
• Increased demand for marine resources • Seawater pollution • Biodiversity	Marine	• Land-based aquaculture
• Development of biotechnology	Bio	• Structural protein materials • Regenerative medicine • Cultured cell meat
• Water shortage problem • Global warming problem	Ecosystem and GX*	• Water supply for Africa

* GX: Green Transformation

Ecosystem and GX

Strategy Overview

Environment

Water shortages have become a global problem due to population growth and climate change. We will build a sustainable water supply business model that meets the needs of the countries our business serves.

GX

Greenhouse gas emissions are the biggest contributor to climate change. Green transformation (GX) is a form of change to reduce greenhouse gas emissions and connect these reductions to opportunities for economic growth. EBARA is developing technologies for GX and is also developing new businesses.

Progress

Ecosystem: WaterKiosk® Water Supply Business

In 2021, the EBARA Group entered into a sponsorship agreement to support the drinking water supply business in Kenya through WaterKiosk®, developed by Boreal Light, a German start-up. We are providing safe, clean drinking water to communities such as schools for children with disabilities by installing water purification units that use EBARA's pumps.

GX: Development of a Turquoise Hydrogen Production Process

We use hydrocarbon (methane) as a raw material through a cyclical process that continuously carries out dry methane reforming, hydrogen separation, and carbon capture, and we are developing a hydrogen and carbon production system utilizing reaction field separation (turquoise hydrogen production technology) that enables hydrogen production without generating carbon dioxide. Continuing on our work from 2021–2022, it has also been adopted for the NEDO project which started in 2023. Through this business, we aim to implement these processes within society while seeking out new collaborative partnerships.

Marine

Strategy Overview

We will solve social issues such as increasing demand for fish due to population growth, expansion of marine aquaculture and lack of suitable sites, overfishing and lack of resource management, and decline in natural fish catches due to climate change. We will do this by supporting sustainable methods, such as increasing the number of people raising fish through inland recirculating aquaculture systems (RAS). Specifically, we will become a one-stop shop for RAS necessities, thereby lowering the hurdles required to enter into the aquaculture business and contributing to its industrialization.

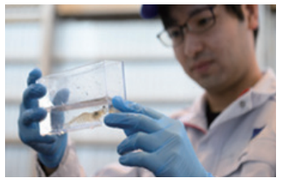
Social Issues

Increase in demand for fish due to population growth	Expansion of marine aquaculture and lack of suitable sites	Overfishing and lack of resource management; decline in natural fish catches due to climate change

Progress

1 Establishment of Internal Testing Facilities

We established testing facilities at the Sodegaura Plant and started a shrimp breeding experiment.



2 Entered into Partnerships while Considering the Entire Value Chain

EBARA entered into capital and business partnerships with Regional Fish (specializes in high-growth breeding) and Sakana Farm (specializes in farmed fish branding). We received the Japan Open Innovation Prize in 2022 through our collaboration with Regional Fish, NTT, and Dentsu.

3 EBARA's First Production and Sale of Fish

We conducted fish product planning and sales activities for general consumers, including with e-commerce and commercial facilities in Ginza, Tokyo.

Bio

Strategy Overview

We provide process solutions for decarbonization and water and energy resources that help reduce environmental impacts. By utilizing EBARA's technology, we will develop culture process equipment that meets customer needs, and contribute to the biomass industry.

Social Issues

Decarbonization: Realize a society that does not depend on petroleum products	Protein crisis: Reduce the environmental load of protein production	Consideration for food safety and animal welfare

Progress

1 In-house Biolab Cell Culture Testing

We will develop equipment and devices for culturing in EBARA's laboratory.

2 Cell Agriculture

We will work to improve the efficiency of cultured meat production systems, through joint development with our partners, and of cellular food-related equipment and consumables.

3 Fermentation and Culture Process Development

Using EBARA's strengths in heat and fluid technology, we will promote culture process solutions with each of our partners, and develop new equipment and expand into the biomass industry.

\荏原の/ 水素サプライチェーンへの貢献
EBARA's Contribution to Hydrogen Supply Chain

Hydrogen and Aerospace

Corporate Projects and CP Hydrogen-Related Business Strategy Overview

Strategy Overview

A total of 144 countries have declared that they will achieve carbon neutrality by 2050, and preliminary calculations indicate that 18% of those carbon neutral measures will use hydrogen. Approximately 60% of this is said to be derived from renewable energy, with about 40% from fossil fuels that do not emit carbon dioxide. With clean hydrogen production growing significantly, the countries around the world that export and import hydrogen are becoming clearer, and an increasing number of countries are both producing and consuming hydrogen within their own borders.*

To contribute to the world's rapidly growing hydrogen market, the EBARA Group is striving to implement clean hydrogen-related technologies in society throughout the fields of production, transport, and end-use. For production, hydrogen is made through the gasification of waste plastic, and turquoise hydrogen is made by separating hydrogen and carbon from methane. For transport, we are developing liquid hydrogen pumps and hydrogen compressors, which are critical for large-scale supply chains. For end-use, we are working on a wide range of hydrogen market fields such as power generation, industry, mobility, and construction, hydrogen supply equipment for refueling stations, hydrogen-fired absorption chillers and heaters, and fuel supply pumps for hydrogen-powered aircraft. We will also contribute to improving information communication by applying the expertise we have cultivated in cryogenic technology, particularly for applications involving liquid methane and liquid hydrogen etc., to supply fuel pumps for commercial rockets used in satellite launches. We are creating the society of the future and trailblazing new roles for EBARA to take on.

* According to the IEA report

	Helpful	Harmful
Internal origin	**Strengths** • World-class core technologies such as compressors and cryogenic pumps • Synergies with our five in-house companies • Sales network in Japan and around the world • Companywide momentum for fostering new businesses	**Weaknesses** • Lack of human resources who can take on the challenge of new businesses
External origin	**Opportunities** • Paris Agreement (global long-term goal of 2°C) • Hydrogen use promotion at the G7 Summit in Hiroshima • ¥15 trillion in public and private investment over 15 years as called for in revised Basic Hydrogen Strategy (Japan) • Projects to build large-scale supply chains and for utilization are steadily growing in countries around the world • Cheaper renewable energy	**Threats** • Global conflict that leads to slowed decarbonization momentum • Delayed development of hydrogen-related technology

Business Scale Growth

Progress

Hydrogen

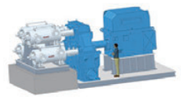
Successfully Developed World's First Liquid Hydrogen Booster Pump

We have successfully developed a pump which supplies liquid hydrogen at -253°C. This critical piece of equipment is used in hydrogen power generation as well as large-scale production and storage processes. We will support the creation of a hydrogen supply chain by utilizing our technologies and our 111 years of experience. Currently, we are working with our stakeholders, both in Japan and overseas, with the aim of marketing this pump from 2025 onward.


Liquid hydrogen booster pump

Hydrogen Compressors (Flex-Op™*)

By using the compressor technologies held by Elliot, we developed the Flex-Op™ hydrogen compressor arrangement. We are currently developing a large-capacity, high-purity hydrogen compressor suitable for liquefaction of hydrogen and pressurized transport of hydrogen gas. We will contribute to the compressed hydrogen gas market by making efforts towards rotor acceleration, miniaturization, and power conservation.


Flex-Op™

Participation in the Spring Int'l Hydrogen & Fuel Cell Expo

EBARA exhibited at the largest hydrogen-related expo in Japan. Participants included a wide variety of companies with all kinds of technologies and concepts related to hydrogen implementation, and we shared the EBARA Group's hydrogen-related technologies and commitments. We are aiming to generate synergies through co-creation with external stakeholders with similar ambitions and create a unique hydrogen business at EBARA throughout the hydrogen supply chain.

* Flex-Op™ is a trademark of Elliott Group Holdings in the United States.


Ebara Booth @ FC Expo, Spring 2023

Aerospace

Proposal Selected for JAXA Space Exploration Innovation Hub Center Project


Concept of a pump mounted on space equipment

In collaboration with JAXA and Mitsubishi Heavy Industries, Ltd., we are jointly researching and developing a high-speed rotation canned motor pump with the research theme "Electric centrifugal pump capable of pressurizing corrosive fluids without external leakage," one of the targets of JAXA's Space Exploration Innovation Hub Center.

Started Development of an Electric Pump for Rocket Engines

Engine-mounted pumps are said to be particularly difficult, even within the rocket technology field, but they play a critical role, like that of the heart, and send fuel and oxidants to the combustion chamber. We are conducting development, such as the electrification of engine pumps, with the end goal of full-scale commercialization to contribute to the improvement transport.


Electric engine pump concept

Water Flow Test for Rocket Engine Turbo Pump

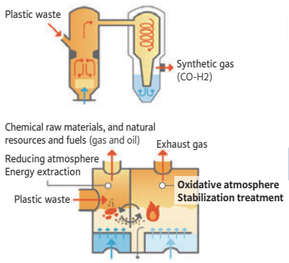
In an elemental test of pump performance, we conducted a water flow test of the turbo pump for the ZERO microsatellite launch vehicle engine. We are jointly conducting R&D on this with Muroran Institute of Technology and Interstellar Technologies, Inc. From this test, we were able to acquire the necessary data for pump efficiency and boost performance.


Water flow testing site

Production

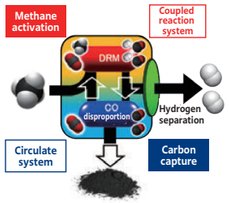
Hydrogen Production from Waste

EUP®*1 and ICFG®*2 for hydrogen production and gasification



Turquoise Hydrogen Production

Simultaneous production of CO_2-free hydrogen and solid carbon through methane pyrolysis

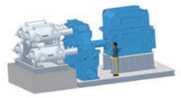


Transport

Hydrogen Gas Compression

Hydrogen compressor with a great track record


Flex-Op™ compact hydrogen compressor arrangement


Applications: Hydrogen gas transport pipelines, hydrogen liquefaction plants, etc.

Liquid Hydrogen Transport

World's first centrifugal liquid hydrogen fuel supply pump, essential for hydrogen-powered gas turbines


Applications: Hydrogen power generation, hydrogen liquefaction plants, liquid hydrogen receiving terminals

Ammonia Hydrogen Carriers

Environmentally friendly no-seal, no-leak ammonia pump (pot type, in-tank type)


Applications: Ammonia production plants, ammonia power generation

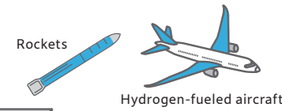
Use

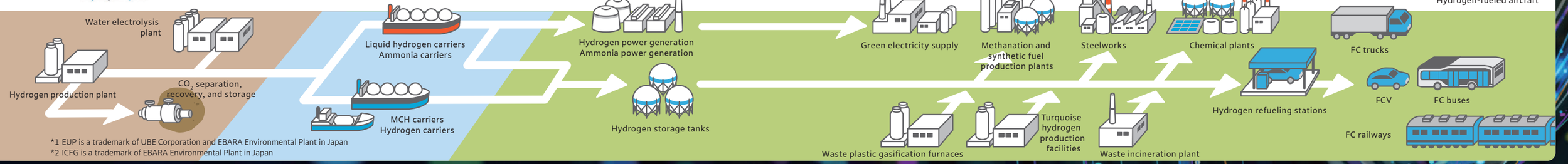
Pumps for Hydrogen Refueling Stations

Highly efficient liquid hydrogen plunger pumps expected for hydrogen refueling stations for large and commercial venues

Hydrogen Gas Driven Absorption Chiller / Heater

Next-generation chiller and heater using hydrogen as a heat source with zero CO_2 emissions during fuel combustion





*1 EUP is a trademark of UBE Corporation and EBARA Environmental Plant in Japan
*2 ICFG is a trademark of EBARA Environmental Plant in Japan

Building Service & Industrial Company

We will provide solutions that utilize our wide range of products and realize value creation from the customer's perspective

Shu Nagata
Executive Officer
President, Building Service & Industrial Company

In the fiscal year ended December 31, 2022, the Standard Pumps Business acquired a pump manufacturer in North America, expanded its overseas bases, and created new business by developing precision chillers for semiconductor manufacturing equipment. As a result, despite major external environmental changes, such as rising raw material costs and difficulties in procurement of parts, we achieved increases in sales and operating profit.

Based on the achievements and remaining challenges of E-Plan 2022, in January 2023, we reorganized the in-house company structure from product-based to target market-based segments and launched a new medium-term management plan, E-Plan 2025. To face the market more directly and create value from the customer's perspective, we believe it is crucial to understand the actual and potential issues from their standpoint and provide solutions to resolve them.

The Building Service & Industrial Company will promote the global expansion of acquired companies' products and enter into industrial markets where we expect growth and will provide new solutions that contribute to carbon neutrality. For example, instead of following the conventional model of selling single products, we will offer energy saving solutions through the combination of products such as pumps, chillers, and fans. We aim to build a high value-added business model that moves away from focusing overly on product sales.

SWOT Analysis

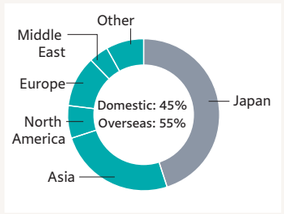
Strengths
- Fluid, numerical analysis, material, analytical, and other fundamental technologies
- Capability for developing highly efficient, high-quality, and highly reliable products
- Diverse global employee base and network
- Strong presence in Asia and South America
- Wide range of products

Weaknesses / Challenges
- Strengthen marketing capabilities to incorporate customer needs, transform business model away from focusing on product sales
- Strengthen organic collaboration between overseas bases
- Expand lineup of products matched to overseas and industrial market specifications and needs
- Integrate standard pumps, chillers, and fans businesses, which were separate entities before this year

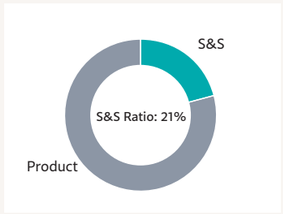
Opportunities
- Increase in water demand attributable to population and economic growth in emerging countries
- Increase in collective housing and buildings due to population concentration in cities
- Increase in demand for irrigation and drainage equipment due to climate change
- Increase in demand due to growth in advanced industries such as semiconductors
- New opportunities arising from industrial structure changes occurring in conjunction with decarbonization and progress in 5G, IoT, and other technologies

Threats
- Intensification of price competition stemming from domestic market contraction
- Increased competition due to maturity of technologies and improvement of technological capabilities of emerging manufacturers
- Supply chain disruptions due to geopolitical risks

Revenue by Region



S&S Revenue Ratio



Main Target Markets and Products

Main Target Markets
- Building equipment
- Industrial equipment

Main Products
- Standard pumps
- Fans
- Chillers
- Cooling towers

Main Achievements and Market Share
- Standard pumps: #1 domestic share
- Cooling towers: #1 domestic share

Note: EBARA survey

Note: The above graph displays actual figures for the first quarter of the fiscal year ending December 31, 2023.

Feed water pump unit

Chiller

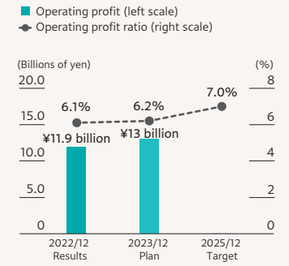
Business Strategies of E-Vision 2030 and E-Plan 2025

Business Vision (E-Vision 2030)

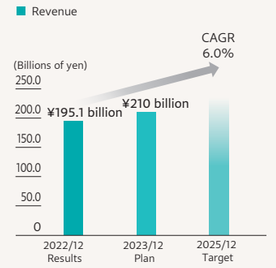
We will aim to be a solution service provider that solves water supply and thermal energy issues in the building and industrial equipment markets.

Numerical Targets of E-Plan 2025

Operating Profit Ratio: **7.0**% or higher



Revenue CAGR: **6.0**% or higher



Basic Policies of E-Plan 2025
- Aim for further business growth by providing new solutions combining pumps, chillers, and services from the customers' perspective in the building and industrial equipment markets
- Upgrade and streamline tasks and business management through DX

Basic Strategies of E-Plan 2025
- Strengthen solution business
- Capture (overseas) growth markets
- Rebuild global business infrastructure

Financial Targets of E-Plan 2025

2025/12 Target	2022/12 Results	Future Initiatives
Profitability Operating profit ratio: 7.0% or higher	6.1%	• Provide solutions that utilize new technologies such as low environmental impact technology and cloud monitoring • Global rollout of acquired products and expand scale of overseas sales by entering the industrial market • Improve profit margin by strengthening entry into high value-added and growth areas • Launch and expand sales of new products that meet regional needs • Strengthen response to supply chain risks by refining procurement and production systems
Growth Potential Revenue CAGR 2022–2025: 6.0% or higher	¥195.1 billion	

Non-Financial Goals, KPIs, and Targets of E-Plan 2025

The Building Service & Industrial Company has the opportunity to contribute to a broader and more sustainable society, so we have set KPIs for energy-conserving products and technologies that reduce environmental impact, as we work to provide stable water supply to diverse regions.

Related Materiality	2025 Outcome Goals	KPIs	2025/12 Targets	2022/12 Results	Measures and Future Initiatives
1	Reduce GHG emissions	Unit sales of energy-saving, highly efficient products	15% increase compared to 2022	—	Launch and expand sales of products that reduce GHG emissions
	Deliver water to 500 million people	Unit sales of solar pumps	50% increase compared to 2022	—	Expand product lineup and sales focused in South America and Africa
		Unit sales in emerging countries	40% increase compared to 2022	—	• Establish new bases in Africa, South America, etc. • Launch and expand sales of products that meet the differing needs of each region

Energy Company

We aim to become the best solution provider in the energy sector and to play a leading role in building a sustainable society

Takanobu Miyaki
Executive Officer
President, Energy Company

The main target markets of the Energy Company include oil and gas and electricity, as well as next generation energy sources such as hydrogen and ammonia, and we have integrated what was previously known as the Custom Pumps Business and the Compressors and Turbines Business to create a new organizational structure. Based on our market-in perspective to meet our customers' needs, we are aiming to become the best solution provider of the quickest, most efficient solutions.

2023 marks the first year of E-Plan 2025, the theme of which is creating value from the customers' perspective, and we are striving to transform new growth businesses to handle the changes of our customers and society. We will implement organizational business reforms and work to further improve profitability of our existing businesses, while also establishing new business models in the sustainability and service areas to lead the shift to renewable energy and contribute to decarbonization.

To realize these goals, we will utilize our special fluid (gas and liquid) pumping technology, as well as cryogenic technology, that we have cultivated in our pumps, compressors, and turbines businesses. We will also take advantage of our global business foundation with a network reinforced by business reorganization. We will actively pursue product and technology development for next-generation energy markets, such as hydrogen and CCUS, as well as decarbonization markets. We are determined to provide new value to customers and society in addition to new growth for the Company.

SWOT Analysis

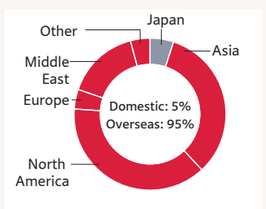
Strengths
- Abundant track record and cultivated trust for use in important equipment such as compressors for LNG and ethylene, turbines, custom pumps
- Close proximity to end users; engineering, procurement, and construction (EPC); and process licensors
- Comprehensive, high-quality service and support
- Excellent high-speed rotator machine technology, super high-temperature technology, and materials technology

Weaknesses / Challenges
- Reliant on volatile markets such as oil and gas
- Need to build a system and implement measures to ensure we take advantage of opportunities for the shift to renewable energy
- Business integration of custom pumps and compressors and turbines, which were separate before this year

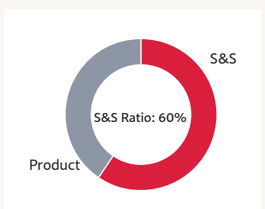
Opportunities
- Increased demand for LNG in the short- to medium-term
- Increased demand for fossil fuels in line with population growth in emerging countries
- Growth in renewable and new energy markets such as CCUS, hydrogen, geothermal, and ammonia
- New S&S demand due to lack of personnel, aging population, and aging equipment at customer facilities and plants

Threats
- Uncertainty in the oil and gas market due to geopolitical risks
- Possibility of the oil and gas market shrinking over the medium- to long-term
- Increased costs for procurement and manufacturing due to geopolitical risks
- Intensifying price competition due to maturation of technology and improved technological capabilities of competitors

Revenue by Region



S&S Revenue Ratio



Main Target Markets and Products

Main Target Markets
- Oil and gas
- New energy
- Electric power

Main Products
- Custom pumps
- Compressors and turbines

Main Performance and Industry Share
- Top global share in LNG pumps and expander manufacture
- Top global share in oil and gas plant (downstream) compressors

Note: EBARA survey

Note: The above graph displays actual figures for the first quarter of the fiscal year ending December 31, 2023.


Cryogenic pumps


Compressors

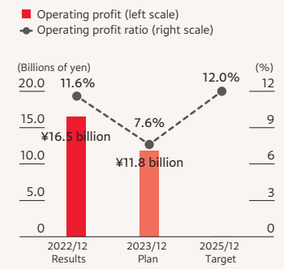
Business Strategies from E-Vision 2030 and E-Plan 2025

Business Vision (E-Vision 2030)

In the energy field, we are striving to become the best solution provider by offering excellent equipment and after-sales services. We will also simultaneously play an active and leading role in building a sustainable society.

Numerical Targets of E-Plan 2025

Operating Profit Ratio: 12.0% or higher



Basic Policies of E-Plan 2025
- Establish new business models in the areas of sustainability and services to lead the shift to renewable energy and contribute to decarbonization
- Make structural reforms to further improve profitability in existing business areas
- Integrate compressors, turbines, and custom pumps to deliver new value to customers and markets

Basic Strategies of E-Plan 2025
- Continue strategic order acceptance in order to improve profitability in existing markets
- Complete preparation to introduce new solutions to market by utilizing our sophisticated technology and experience
- Optimize the Energy Company from the beginning and rebuild the engineering system and production system from a Groupwide perspective
- Optimize service resources for custom pumps and compressors & turbines, and develop and advance market introduction of new service and support (S&S) business

Financial Targets of E-Plan 2025

2025/12 Target	2022/12 Results	Future Initiatives
Profitability Operating profit ratio: 12.0% or higher	11.6%	• Accelerate investment in human resources and R&D for new technologies and manufacturing technologies to complete preparations for market introduction of new solutions; simultaneously realize solutions that combine pumps and compressors (CCS/CCUS systems, etc.) and hydrogen compressor solutions • Work towards structural reforms of S&S global bases including closing unprofitable bases, expanding flagship bases, and opening new bases to optimize personnel allocation and bases • Aim to improve profitability by continuing the policy of selective order acceptance

Non-Financial Goals, KPIs, and Targets of E-Plan 2025

The energy business holds a wide range of opportunities for us to contribute to creating a sustainable society. We have set KPIs for many approaches, including activities aiming for the stable supply of energy in diverse regions and expansion into the new energy field. Here are some of the KPIs.

Related Materiality	2025 Outcome Goals	KPIs	2025/12 Targets	2022/12 Results	Measures and Future Initiatives
1	Reduce GHG emissions	Development and sales promotion of new pumps (ammonia pumps, injection pumps, etc.) for the decarbonization market	100% achievement of commercialization and sales targets	Continued product development	Introduce products that reduce GHG emissions to the market and expand sales
		Development of new compressors for the decarbonization market	100% achievement of commercialization	Completed concept design	Promote R&D including resources

Infrastructure Company

We will continue to contribute to the realization of a sustainable society in public markets both in Japan and overseas

Teruyuki Ota
Executive Officer
President, Infrastructure Company

The Infrastructure Company is aiming to contribute to society through the development of social infrastructure centered on large-scale pumps and fan equipment for Japan and overseas. Since EBARA's founding in 1912, we have delivered a large number of pumps and equipment for water supply and sewage facilities in the agricultural field, river drainage pumps for flood prevention, large fan equipment for road ventilation, and more.

Going forward, in Japan's infrastructure market, in which there are concerns about rapid simultaneous infrastructure deterioration, we will leverage our extensive construction experience to proactively develop technologies to meet the needs of our customers and expand our market share.

Overseas, we expect an average annual market growth rate of 4.9%. We will incorporate engineering technology that has been well received in Japan and proceed with business development in collaboration with our overseas bases. Over the next three years, we will carefully evaluate growth markets and find ways to expand our success while ensuring profitability.

Currently, climate change is causing extreme weather around the world and threatens people's safety, and immediate response is needed. With EBARA's mission of supporting social infrastructure in mind, the Infrastructure Company will serve as a public institution for society and continue to contribute to the realization of a sustainable society.

SWOT Analysis

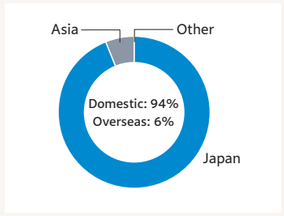
Strengths
- Extensive delivery track record (#1 share in Japanese public infrastructure pumps)
- One of Japan's leading service networks (EBARA bases and agency network)
- Experience in construction and delivery of huge projects in Japan and overseas
- Large pump factory and testing facilities with world-class production technology

Weaknesses / Challenges
- Securing qualified engineers for domestic businesses
- Foundation for acquiring overseas products and strengthening of resource needs
- Need to develop new refurbishment technology for aging facilities

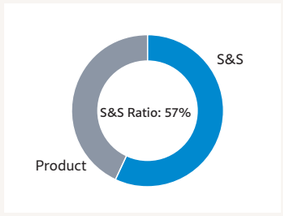
Opportunities
- Increased demand for reconstruction and maintenance of aging social infrastructure in Japan
- Increases in infrastructure investment in conjunction with rising water demand attributable to population growth and urbanization in East and Southeast Asia
- Acceleration of infrastructure investment in North America
- Increased demand for disaster prevention and mitigation equipment for water-related disasters due to extreme weather

Threats
- Changes in the competitive environment in the domestic market
- Intensifying price competition in overseas markets
- Supply chain disruption due to world affairs

Revenue by Region



S&S Revenue Ratio



Main Target Markets and Products

Main Target Markets
- Water infrastructure

Main Products
- Custom pumps
- Fans

Main Achievements and Market Share
- #1 domestic share in pumps for draining pumping stations
- EBARA pumps installed at more than 1,000 drainage pumping stations in Japan

Note: EBARA survey

Note: The above graph displays actual figures for the first quarter of the fiscal year ending December 31, 2023.


Drainage pump facility

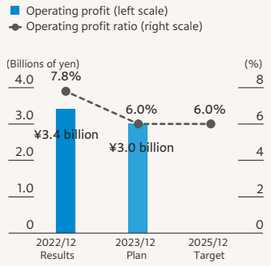
Business Strategies of E-Vision 2030 and E-Plan 2025

Business Vision (E-Vision 2030)

In the areas of water, air, and the environment, we are striving to make social and industrial infrastructure more efficient and resilient by innovating our products and services, and to realize a sustainable society where people around the world can live comfortable and abundant lifestyles.

Numerical Targets of E-Plan 2025

Operating Profit Ratio: **6.0**% or higher



Basic Policies of E-Plan 2025

Japan: Strengthen product development capabilities in collaboration with production plants to maintain a substantial market share of stable public demand and revenue

Overseas: Identify growth markets and create new value using pump equipment, peripheral technologies, and engineering technologies

Basic Strategies of E-Plan 2025

- Expand market share in the domestic pump market
- Deepen overseas pump market and secure profit
- Improve productivity in Japan and overseas

Financial Targets of E-Plan 2025

2025/12 Target	2022/12 Results	Future Initiatives
Profitability Operating profit ratio: 6.0% or higher	7.8%	**Domestic** • Domestic infrastructure is entering an era of major renewal, and demand for reconstruction and maintenance will continue to increase, so we will aggressively pursue business opportunities based on our abundant construction track record and technological development to maintain a high market share and secure stable revenue • Use digital transformation and IoT technologies to respond swiftly to the rapidly increasing number of aging infrastructure facilities
		Overseas • Focusing on East Asia and Southeast Asia, with China and Vietnam at the center, where our production bases are located, we will expand the engineering technology that we have refined in Japan to our overseas bases and strengthen our competitiveness • Strengthen collaboration between production bases and achieve product development, prices, and delivery times that meet market demands

Non-Financial Goals, KPIs, and Targets of E-Plan 2025

The Infrastructure Company aims to provide total solutions to resolve issues related to climate change, thereby realizing a sustainable society where people around the world can live in safety, security, and comfort.

Related Materiality	2025 Outcome Goals	KPIs	2025/12 Targets	2022/12 Results	Measures and Future Initiatives
1	Protect people's safe and secure lives from disasters through stable operation of pump equipment	Total drainage capacity of pumps delivered in the disaster prevention field (drainage volume per second)	145m³/s	—	• Expand share of pumps delivered in the domestic disaster prevention field • Deliver pumps in the overseas disaster prevention field using engineering technologies cultivated in Japan
	Reduce GHG emissions	Number of units sold of products with low environmental	50	—	Develop and market high-efficiency pumps to reduce environmental impact and contribute to customer profits

Environmental Solutions Company

We will change the concept of waste by providing resource circulation solutions to realize a sustainable society

Hideki Yamada
Executive Officer
President, Environmental Solutions Company

Under the long-term vision E-Vision 2030, the Environmental Solutions Company has been strengthening its activities to become a resource circulation solutions provider for a wider range of fields, with the construction and operation of waste treatment plants as its core business.

To realize carbon neutrality in 2050, resource circulation will be crucial in addition to a circular economy, which will require the introduction of cutting-edge technology and new systems. In addition, businesses now need to understand their dependence on and impact on biodiversity, and to fulfill their responsibilities to ensure its conservation and restoration. As the environment surrounding companies changes in these ways, we are strengthening our efforts to provide resource circulation solutions, which are becoming increasingly important.

To add even further value to our core businesses and provide customers with safe, secure and stable operations, we will accelerate the development of new technologies utilizing AI, ICT, and robot technologies as we strengthen and implement new initiatives to enable resource circulation such as chemical recycling of waste plastics. Our goal is to realize the trinity of resource recycling, carbon neutrality, and Nature Positive* to achieve a sustainable society.

* Nature Positive: Reducing negative impacts on the natural environment caused by corporate and economic activities, and restoring natural capital, including biodiversity.

SWOT Analysis

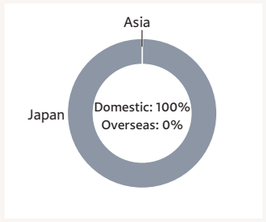
Strengths
- Integrated system for providing services ranging from engineering and construction to operation and maintenance (O&M)
- Track record of constructing more than 400 plants in Japan and overseas utilizing a wide range of incinerator technologies
- O&M expertise founded on industry-leading operation contracting track record
- Cutting-edge plant operation initiatives employing AI and ICT
- Gasification technologies related to chemical recycling

Weaknesses / Challenges
- Dependence on public infrastructure industry in Japan
- Geographic overconcentration of customers
- Labor-intensive facility operation businesses

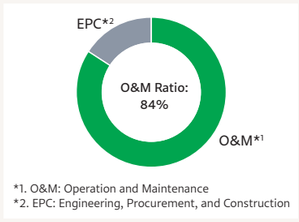
Opportunities
- Reconstruction and upgrade demand stemming from aging waste treatment plants
- Increased outsourcing of plant operation to the private sector
- Increased demand for renewable energy
- Need for waste plastic processing (enforcement of the Act on Promotion of Resource Circulation for Plastics)
- Trends to improve chemical recycling rate of waste plastic

Threats
- Consolidation of waste treatment plants in response to domestic population decline
- Workforce contraction
- Intensification of cost competition

Revenue by Region



O&M Revenue Ratio



*1. O&M: Operation and Maintenance
*2. EPC: Engineering, Procurement, and Construction

Main Target Markets and Products

Main Target Markets
- Solid waste treatment

Main Products
- Municipal waste incineration plants
- Industrial waste incineration plants

Main Achievements and Market Share
- Over 480 domestic and overseas waste treatment facilities delivered cumulatively
- Over 80 waste treatment plants under contracted management of operations cumulatively

Note: EBARA survey

Note: The above graph displays actual figures for the first quarter of the fiscal year ending December 31, 2023.

Municipal solid waste treatment plant

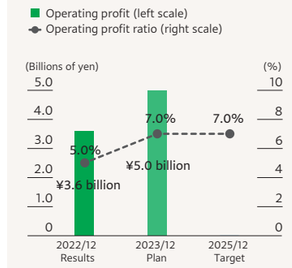
Business Strategies of E-Vision 2030 and E-Plan 2025

Business Vision (E-Vision 2030)

Expand business to become a resource circulation solutions provider with operations centered on waste treatment plant construction and operation that provides integrated EPC*2 services primarily to local government.

Numerical Targets of E-Plan 2025

Operating Profit Ratio: **7.0**% or higher



Basic Policies of E-Plan 2025
- Bolster the foundation of our core business
- Strengthen initiatives as a solution provider based on Life Cycle Assessment (LCA) by appropriately grasping changes in the market, such as decarbonization and resource recycling

Basic Strategies of E-Plan 2025
- Improve price competitiveness of new design, build, and operate (DBO) projects and prevent additional EPC costs
- Further strengthen the revenue base for O&M projects
- Strengthen initiatives as a decarbonization and resource circulation solutions provider with LCA as core axis
- Promote regional strategies

Financial Targets of E-Plan 2025

2025/12 Target	2022/12 Results	Future Initiatives
Profitability Operating profit ratio: 7.0% or higher	5.0%	**Improve short-term profitability of core businesses** • Stable orders of DBO/EPC (increase order winning rate) → Strengthen price and non-price evaluations of competitiveness • Reduce additional costs → Improve front loading and planning accuracy • Strengthen project management • Further strengthen the revenue base for O&M projects • Improve profitability of new electric power business

Non-Financial Goals, KPIs, and Targets of E-Plan 2025

One outcome of our business activities is that we help reduce CO_2 and improve social and environmental value. Here are some of the main related activities.

Related Materiality	2025 Outcome Goals	KPIs	2025/12 Targets	2022/12 Results	Measures and Future Initiatives
1	Reduce GHG emissions	Number of new waste treatment facilities that generate thermal electricity from waste processing	3 facilities during the 3 years of E-Plan 2025	5 facilities during 2020–2022	• Construct waste treatment facilities that generate thermal electricity from waste processing • Introduce high-efficiency power generation equipment to further reduce GHG emissions
	Develop technologies that reduce CO_2 emissions and enable carbon resource circulation	Development of practical applications of technology (ICFG®*) for reusing chemical raw materials derived from waste plastics (implementation in 2030)	Implementation of pilot testing	Modifications to ongoing laboratory tests	Constructed a pilot testing facility and conducted tests in order to improve the yield and quality of the technology for converting waste plastic into oil and to materialize a scheme with partner companies for the practical application of chemical recycling

* ICFG is a registered trademark of Ebara Environmental Plant in Japan

Precision Machinery Company

We will provide solutions with the world's highest level of technology and support in the manufacturing processes, which enable the miniaturization and enhanced sophistication of semiconductors, as well as in the sub-fab area. We will provide new value for the evolution of the industry

Tetsuji Togawa
Executive Officer
President, Precision Machinery Company

In fiscal 2022, market conditions were stagnant in the memory field in the second half of the year; capital investments in the whole market remained high; and orders, sales, and operating profit all reached record highs; exceeding the targets of E-Plan 2022. Against this business environment, at automated dry vacuum pump plants, we worked to increase the number of eligible models to improve operating rates and flexibility in response to the changes in market conditions. We further increased production by expanding the CMP production line and strengthening the personnel structure, and improved profitability by increasing production efficiency.

Although the market will enter an adjustment phase in the fiscal year ending December 31, 2023, we believe that it will return to expansion by 2025, and E-Plan 2025 aims to strengthen product and solution development capabilities, increase production capacity, strengthen the supply chain, and reconstruct global business infrastructure, so we will continue to strengthen our business structure in anticipation of the upcoming market growth. One example of this is the R&D building and new facility in Kumamoto that are under construction. Both are scheduled to start operation during the period of E-Plan 2025. In the service and support business, we will continue developing dry pump overhaul plants in Japan and overseas, and will also work to strengthen our global supply chain with a focus on Southeast Asia.

In addition to providing unique solutions for our customers' manufacturing processes and utility challenges, we will further develop energy- and resource-saving products, and contribute to the SDGs and decarbonization by reducing the environmental impact of our customers' business activities.

SWOT Analysis

Strengths

- Rotating machinery, fluid equipment, machine control systems, gas decomposition and abatement, and energy conservation technologies
- Sophisticated technological capabilities and manufacturing technologies that contribute to material conservation
- Bases positioned near customers worldwide
- Flexible, high-quality customer support capabilities
- Long-term employee retention contributing to technology accumulation and succession
- Diverse base of technically skilled employees around the world

Weaknesses / Challenges

- Lack of optimization of production systems (i.e., fully automated plants, etc.)
- Faltering share expansion in growth-promising Chinese market
- Slow launches to new business initiatives
- Restructuring of supply chain, including overseas

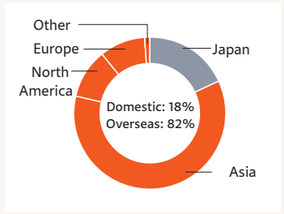
Opportunities

- Spread of IoT, AI, and automated driving technologies
- Diversification of workstyles through teleworking and other methods utilizing cloud and communications technologies
- Increased demand for semiconductors due to the spread of DX and the metaverse, as well as increased investment in GX
- International semiconductor strategy materialization
- Active investment in the semiconductor sector in China
- Continued demand for capital investment in Taiwan, South Korea, Europe, the U.S., and Japan

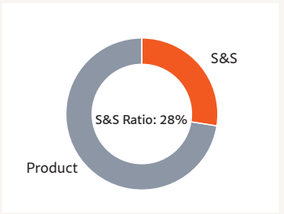
Threats

- Fluctuations in semiconductor demand and inconsistent pace of semiconductor capital investment following slowed pace of semiconductor miniaturization
- Raw material price hikes due to COVID-19 and the situation in Ukraine
- Semiconductor export controls in the U.S.
- Rising energy costs leading to price increases

Revenue by Region



S&S Revenue Ratio



Main Target Markets and Products

Main Target Markets
- Semiconductor manufacturing

Main Products
- Vacuum pumps
- CMP systems
- Gas abatement systems

Main Achievements and Market Share
- #2 global share in CMP systems
- #2 global share in dry vacuum pumps

Note: EBARA survey

Note: The above graph displays actual figures for the first quarter of the fiscal year ending December 31, 2023.

Dry vacuum pump CMP systems

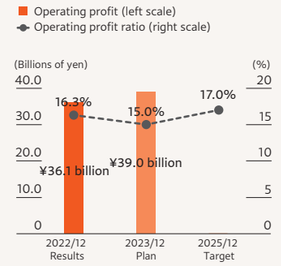
Business Strategies of E-Vision 2030 and E-Plan 2025

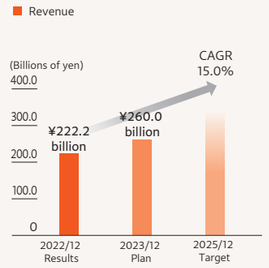
Business Vision (E-Vision 2030)

Contribute to the development of society through partnerships and distinctive technologies centered on the semiconductor field while helping create a more enriched world through endeavors in new fields.

Numerical Targets of E-Plan 2025

Operating Profit Ratio: 17.0% or higher
Revenue CAGR: 15.0% or higher





Basic Policies of E-Plan 2025

- Provide unique value not only by providing products and services, but also by offering solutions for customers' process and utility challenges
- Shift from a regional strategy to a global account strategy to expand market share through strategic planning and overall global optimization in line with customers' global expansion

Basic Strategies of E-Plan 2025

- Strengthen product and solution development capabilities
- Increase production capacity
- Reconstruct global business infrastructure to accommodate expansion of business scale

Financial Targets E-Plan 2025

2025/12 Target	2022/12 Results	Future Initiatives
Profitability Operating profit ratio: 17.0% or higher	16.3%	• Further increase operation rate of fully automated plants • Strengthen global supply chain • Strengthen customer support, shift from local-centric approach to global service & support (S&S) • Create further value through the utilization of AI, digital transformation, and data science
Growth Potential Revenue CAGR 2022–2025: 15.0% or higher	¥222.2 billion	• Provide products, new features, and solutions that meet the needs of our customers and the world, such as semiconductor evolution roadmaps and decarbonization response • Construct new equipment production facilities and dry vacuum pump overhaul plants to meet increasing demand • Construct R&D buildings for developing new equipment and elemental technologies to meet future customer needs

Non-Financial Goals, KPIs, and Targets of E-Plan 2025

We will realize E-Vision 2030 by providing solutions that support the evolution of semiconductor manufacturing and help reduce the environmental impact during both manufacturing and use. We have set more than ten categories of KPIs and are monitoring the progress of all of our initiatives.

Related Materiality	2025 Outcome Goals	KPIs	2025/12 Targets	2022/12 Results	Measures and Future Initiatives
1	Reduce GHG emissions	Reduction of GHG emissions from semiconductor manufacturing processes through gas abatement	20% reduction from 2022	—	Develop and expand sales of gas abatement systems
		Reduction of GHG emissions from dry vacuum pump manufacturing	10% reduction from 2022	—	Reduce environmental impact by lightening product weight of dry pumps
2	Reduce water usage and discharge	Pure water use by CMP equipment	30% reduction from 2022	—	Develop cleaning methods that consume less pure water
	Develop foundational technologies for semiconductor miniaturization	Develop foundational technology for 14Å semiconductor manufacturing	100%	45%	Make progress in development of foundational technology for 14Å semiconductor miniaturization in CMP systems