

EBARA IR Day 2024

Wednesday, October 9, 2024 9:30 to 11:30

Ebara Energy Business and Initiatives for a Decarbonized Society



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Schedule

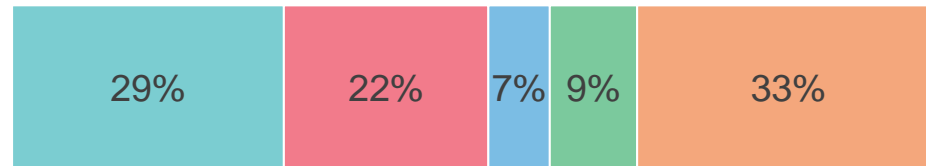
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|--------------|------------------------------------------------------------------------------------------------|
| 09:30 | Session Open |
| 09:45 | Session 1 Energy Company Business Overview and Initiatives for a Decarbonized Society
Q&A |
| 10:35 | Session 2 Hydrogen-Related Business Progress and Future Outlook
Q&A |
| 11:30 | Session Close |

Positioning of the Energy Segment

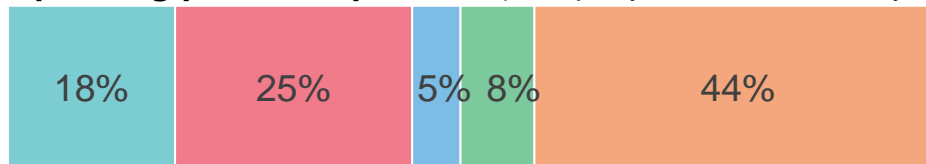
- In the current Medium-Term Management Plan, E-Plan 2025, we position the Energy Segment as a business that will be transformed into a growth business
- We will combine our collective technology and maximize synergy through the integration of compressors & turbines, cryogenic pumps, and custom pumps businesses
- Provide solutions to support target markets facing the energy transition to fuels such as ammonia and hydrogen

FY2023 Segment-specific revenue and operating profit

Revenue composition (Company total: 759.3 billion yen)



Operating profit composition (Company total: 86.0 billion yen)



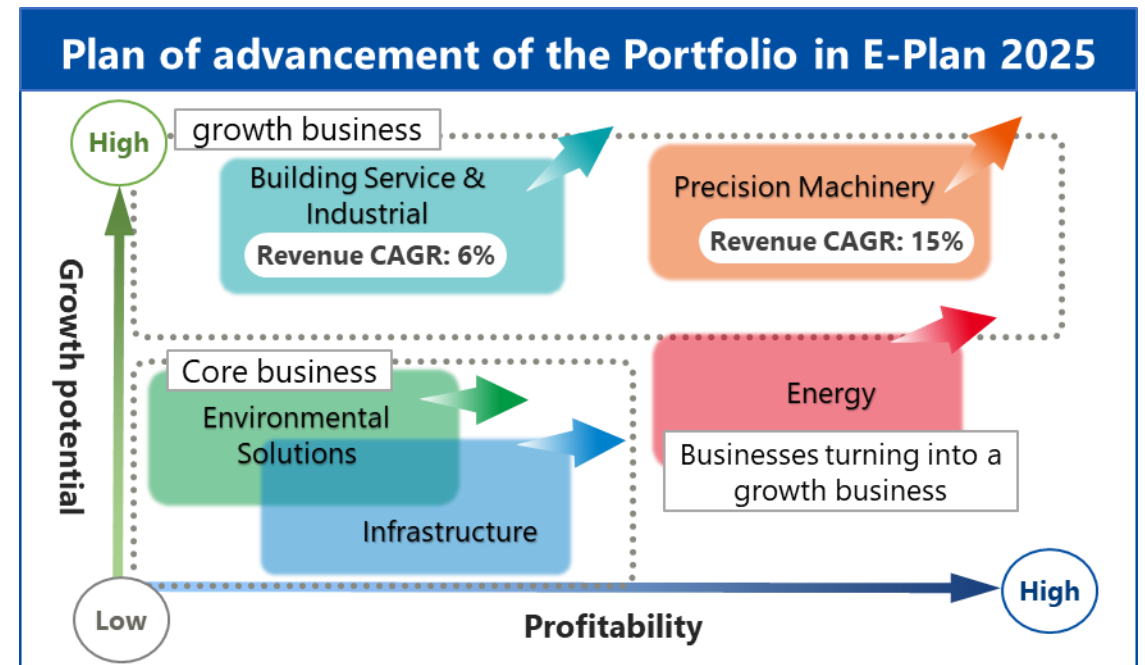
■ Building Service & Industrial ■ Energy ■ Infrastructure ■ Environmental Solutions ■ Precision Machinery

Energy Segment



- Revenue: 167.2 billion yen, ratio: 22%
 - Operating profit: 22.3 billion yen, ratio: 25%

Position in E-Plan 2025



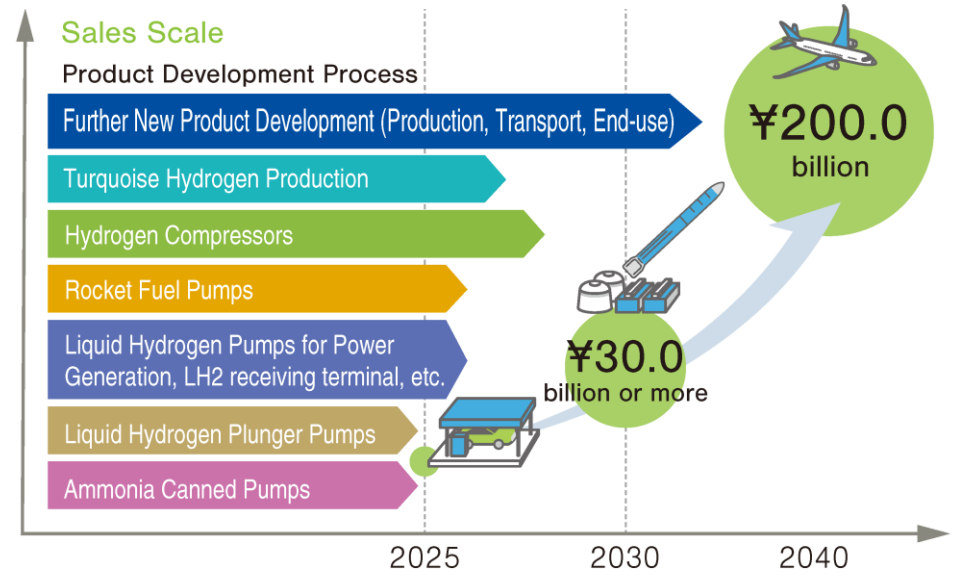
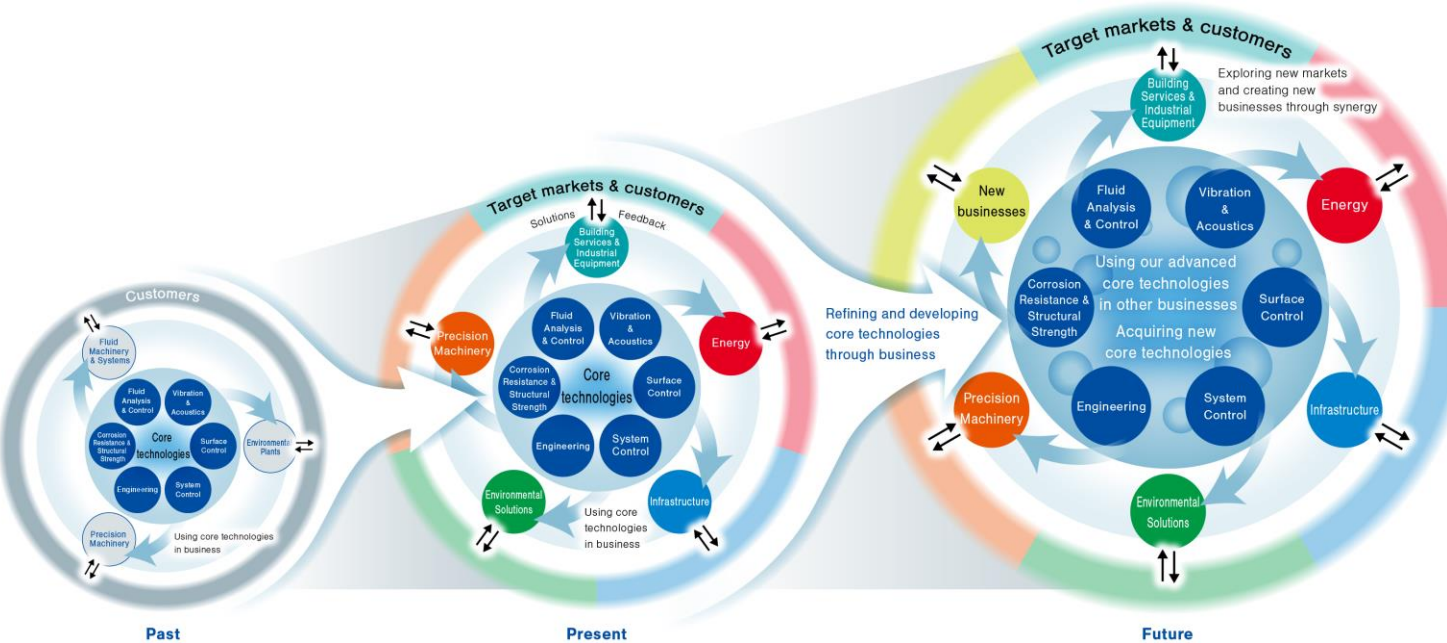
Positioning of Hydrogen-related Business



- Positioned as an internal Strategic Business Unit (Corporate SBU), aiming for commercialization
- Develop and launch liquid hydrogen pumps by leveraging the ultra-low temperature technology cultivated through cryogenic pumps for LNG and the technology related to materials and fluids we have accumulated through multiple businesses
- Contribute to the societal adoption of a hydrogen supply chain by supplying liquid hydrogen pumps. Aim for hydrogen-related business growth on the scale of 200.0 billion yen by 2040

Hydrogen-related business development image based on a positive cycle of innovation in Ebara's core technology and business synergy

Business scale growth image for the hydrogen-related business



Ebara Initiatives in the Energy Segment and Hydrogen-related Business



- Accelerated initiatives for realizing a carbon neutral society by 2050, contributing to the realization of a sustainable society as outlined in our long-term vision, E-Vision 2030

Initiative	Press release
> Developed the world's first Liquid Hydrogen Booster Pump	February 24, 2023
> Developed Canned Motor Pump for Liquid Ammonia	September 4, 2023
> Developed the World's First Hydrogen-powered Absorption Chiller/Heater	December 7, 2023
> Ebara Elliott Energy Wins Contract to Provide Compressor For Thailand's First Sustainable Aviation Fuel (SAF) Project	May 7, 2024
> Agreement with Tokuyama Corporation Concerning Pilot Test of Hydrogen-Powered Absorption Chiller-Heater	July 22, 2024
> Successful Operation of Canned Motor Pump for Liquid Ammonia	July 29, 2024
> EBARA Announces Construction of World's First Full-Scale Equipment Testing and Development Center Fully Equipped with Liquid Hydrogen Pump Testing Facilities	September 12, 2024
> Concluded Comprehensive Agreement with Innovative Space Carrier Inc. for the Development of Rocket Engines Utilizing Electric Pumps	September 27, 2024

- Developed Canned Motor Pump for Liquid Ammonia (September 4, 2023 release)
- Successful Operation of Canned Motor Pump for Liquid Ammonia (July 29, 2024 release)

■ Background

- Amid the global decarbonization trend, Japan is leading the way in the evaluation of ammonia as a fuel
- As the adoption of ammonia as a fuel increases, markets have need for the safer transport of ammonia

■ Overview

<p>Pump characteristics</p>	<ul style="list-style-type: none"> - Developed a pump that can be used in equipment that uses ammonia as fuel - By comprising a structure through which the motor part is immersed in liquid ammonia, use is possible without liquid ammonia leaks
<p>Demonstration test results</p>	<ul style="list-style-type: none"> - Successful demonstration test using actual liquid ammonia at customer site - Confirmed not only the reliability of the design structure but that this product contributes to safety and environmental impact reduction



Canned motor pump for liquid ammonia

- Ebara Elliott Energy Wins Contract to Provide Compressor For Thailand's First Sustainable Aviation Fuel (SAF) Project (May 7, 2024 release)

■ Overview of sustainable fuel development project underway in Bangkok

<p>Operation</p>	<ul style="list-style-type: none"> - BSGF Company Limited (Joint venture between Bangchak Corporation Public Company Limited, BBGI Public Company Limited, and Thanachok Oil Light Company Limited)
<p>Summary</p>	<ul style="list-style-type: none"> - The first sustainable aviation fuel (SAF) commercial production unit in Thailand - Through SAF production, it is possible to reduce aviation industry greenhouse gas emissions by approximately 80,000 tons per year

Developed the World's First Liquid Hydrogen Booster Pump (February 24, 2023 release)

■ Background

- By 2050, hydrogen will account for 10% or more of global energy trade value (2022 announcement by IRENA <International Renewable Energy Agency>)
- In August 2021, our company launched a hydrogen-related business project as a business unit overseen directly by the corporate office

■ Overview

- From 2019, as a NEDO-subsidized project, we developed the world's first liquid hydrogen booster pump for hydrogen power generation
- Results of actual liquid hydrogen test (-253°C) were favorable



Liquid hydrogen booster pump

EBARA Announces Construction of World's First Full-Scale Equipment Testing and Development Center Fully Equipped with Liquid Hydrogen Pump Testing Facilities (September 12, 2024 release)

■ Background

- Amid the global decarbonization trend, hydrogen is expected to play a key role in the fight against global warming as it does not emit CO₂ during combustion
- We have already launched the world's first liquid hydrogen booster pump
- For safe and stable use of liquid hydrogen pumps, performance testing using actual liquid hydrogen is required before shipping. This center enables us to rapidly establish a testing system

■ Overview

Location	Futtsu City, Chiba Prefecture (company-owned land)
Investment amount	Approximately 16.0 billion yen
Facility details	- Liquid hydrogen pump performance test facility, related elemental technology development facility, etc. (Closed-type indoor test facility that is not affected by weather)
Construction completion	June 2026 (planned) * Part of the test facility is scheduled to be operational in 2025

EBARA Announces Construction of World's First Full-Scale Equipment Testing and Development Center Fully Equipped with Liquid Hydrogen Pump Testing Facilities



Hydrogen Pump Testing Facilities

~EBARA will invest a total of approximately 16 billion yen to support Japan's social infrastructure with technology and realize a hydrogen society~

2024.09.12



Visual concept of the testing and development center

EBARA Corporation will establish a new equipment testing and development center for hydrogen infrastructure-related equipment in Futsu City, Chiba Prefecture, Japan, to contribute to the realization of a hydrogen society.

1. Background

Amid the global trend toward decarbonization, hydrogen, which does not emit CO₂ when burned, is expected to play a key role in addressing climate change. The EBARA Group is working to apply its technologies and businesses Groupwide to implement the "Production, Transport, and Use" of hydrogen throughout society. We have already launched the world's first liquid hydrogen booster pump and are marketing it around the world.

2. Overview

This center is designed to conduct equipment performance tests and develop elemental technologies using liquid hydrogen (actual liquid) to ensure that liquid hydrogen pumps, which are indispensable for the construction of hydrogen supply chains in Japan and other countries around the world, can be implemented in society. This center will be the world's first full-scale commercial product testing facility for liquid hydrogen pumps using actual liquid.

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