

# **Ebara Corporation**

ESG Meeting 2022

December 2, 2022

### **Event Summary**

[Company Name] Ebara Corporation

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[Event Name] ESG Meeting 2022

[Date] December 2, 2022

[Time] 15:00 – 16:34

(Total: 94 minutes, Presentation: 46 minutes, Q&A: 48 minutes)

[Venue] Webcast

[Number of Speakers] 4

Masao Asami Director, President, Representative

**Executive Officer** 

Hiroshi Oeda Independent Director, Chairman of the

**Board of Directors** 

Shugo Hosoda Executive Officer, Division Executive of

Corporate Strategic Planning, Finance and

**Accounting Division** 

Akihiro Osaki Division Executive of Corporate Strategic

**Planning Division** 

### **Presentation**

Osaki: Thank you for waiting. Thank you very much for taking time out of your busy schedule today to attend the ESG Meeting 2022 of Ebara Corporation. It's now time to begin the meeting.



# **EBARA CORPORATION ESG Meeting 2022**

Looking ahead, going beyond expectations

Ahead Beyond

December 2, 2022

EBARA CORPORATION

Today's materials have been emailed to all of you. Please join the meeting while viewing it.







**Masao Asami**Director,
President and Representative
Executive Officer



**Hiroshi Oeda** Independent Director, Chairman of the Board of Directors



**Shugo Hosoda** Executive Officer Responsible for IR

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Let me now introduce our attendees. Masao Asami, Director, President, Representative Executive Officer.

Asami: I am Asami. Thank you.

Osaki: Hiroshi Oeda, Independent Director, Chairman of the Board of Directors.

Oeda: I am Oeda. Thank you.

**Osaki:** Shugo Hosoda, Executive Officer, Division Executive of Corporate Strategic Planning, Finance and Accounting Division, and IR.

Hosoda: I am Hosoda. Thank you.

Osaki: I, Osaki, of the Corporate Strategic Planning Division, will be the moderator. Thank you.



# Looking ahead, going beyond expectations Ahead Beyond

## **ESG Meeting 2022**

### 1. Environment

- Climate Change Initiatives
  - Information Disclosure Based on TCFD Recommendations
  - Ebara's Carbon Neutral

### 2. Social

- Human Capital Enhancement

Masao Asami

President and Representative Executive Officer

### 3. Governance

- Governance to Value

Hiroshi Oeda

Chairman of the Board of Directors

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Today, Mr. Asami will first explain our efforts to address climate change and strengthen human capital, and then Mr. Oeda will explain governance. We will then take your questions. The program is scheduled to end at 4:30 PM.

Now, Mr. Asami will begin the explanation.



## 1. Environment

- Climate Change Initiatives
  - Information Disclosure Based on TCFD Recommendations
  - Ebara's Carbon Neutral

### Masao Asami

President and Representative Executive Officer

Looking ahead, going beyond expectations

Ahead Beyond

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Asami: Thank you very much.

Now, I would like to talk about E, environment, of ESG.

This year, I would like to explain two themes in addressing climate change, information on this year's update on the TCFD, and then what Ebara is aiming for with carbon neutrality.

## E-Vision 2030 — 10-Year Vision



Enhance EBARA's corporate value through the improvement of social, environmental, and economic value



## Social/Environmental Value

- Solve social issues through our business:
- Reduce GHG emissions equivalent to around 100 million tons of CO2
- Deliver water to 600 million people
- Contribute to development of ICAC5\*...Challenge 14Å

### **Economic Value**

- ROIC over 10.0%
- Roughly 1 trillion yen in sales

## Indicator of Corporate Value

1 trillion yen in market capitalization

\*ICAC5: IoT, Cloud, AI, Car (Autonomous-driving) ,5G

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First, Ebara's long-term vision, E-Vision 2030, sets the reduction of greenhouse gas emissions equivalent to 100 million tons of carbon dioxide as an example of the outcome target of what the Ebara Group wants to be in 2030.

This is the target for Scope 3 reduction contribution: delivering water to 600 million people worldwide. This is also a goal that is related to climate change because it includes delivering water to drought-stricken areas.

Ebara calls it ICAC5, and IoT, cloud computing, artificial intelligence, or AI, automated driving, and 5G communications, all of these digital technologies will contribute to making society as a whole more efficient and creating smart cities with low carbon dioxide emissions. The advancement of miniaturization of semiconductors through these technologies is essential for the evolution of technologies to solve the problem of climate change.

# Information Disclosure Based on TCFD Recommendations



https://www.ebara.co.jp/en/sustainability/think/information/tcfd.html

2022-2023 2019 2020-2021 2024-2025 **Endorsement** Scenario Analysis Scenario Analysis Integration into Signature Consolidated **End-User Market** Mid-term Mng. Plan Assumption of the analysis **Improvement Point** ✓ Set 2030 as Long-term Set 2050 as Long-term Target □ Integrate into E-Plan2025(Upcoming Mid-✓ As a part of a E-Vision2030 Materiality "Enhance corporate governance" term Management Plan, FY2023-FY2025) ✓ Consolidated based Climate Change Scenario Analysis on end-user maeket-Scenario Analysis wise Disclosed in 2022 Oil & Gas Semiconductor Manufacturing ■ Building Service & Industrial ■ Infrastructure ■ Environmental Plant disclosed in 2023

The Ebara Group has signed on to support the TCFD's recommendations in 2019.

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We believe that disclosing information based on the TCFD recommendation is important to fulfill our responsibility to explain to our stakeholders our approach to climate-related risks and opportunities, as well as to ensure transparency in our activities.

We have made the first disclosure in 2021 in accordance with the TCFD framework. In H2 of 2021, we began analyzing scenarios for each of our end-user markets, with the aim of reflecting the feedback we have received from investors in our dialogues with them and better clarifying the risks and opportunities for each of our businesses.

In July of this year, we updated the information by conducting a scenario analysis of our business in the oil and gas market and our business for the semiconductor manufacturing market, targeting the year 2050. We plan to disclose information on the building industry, environment, and infrastructure in the coming year.

The results of the scenario analysis will be reflected in the next medium-term plan, and we intend to make steady progress.





- Increased policy and regulation is a major risk for both the oil and gas market and the semiconductor manufacturing market
- Physical risk from increased heavy rain and flooding could be a risk for both businesses
- Oil & Gas Market: Divestment in fossil resources could be a risk, but evolution to next-generation energy markets could be an opportunity
- Semiconductor Manufacturing: Significant opportunities in the evolution of a smart society that will enable greater
  efficiency in society as a whole

	Oil &	Gas Market	Major Risks and Opportunities		Opportu
	Category	Subcategory	major Risks and Opportunities	Risk	nities
Transition risk	Policy/ regulation	Carbon prices, national carbon emission targets and policies	<ul> <li>GHG emissions cost carbon</li> <li>GHG emissions are regulated at our main production sites</li> </ul>		
risk	Industry/ Market	Market changes (customers, governments, markets)	Demand trends for oil, gas, and ammonia affect sales and operating income	•	•
Physical risk	Acute	Increasingly severe abnormal weather	■ Due to heavy rains and typhoons, our main production sites and suppliers are affected, resulting in the suspension of production.	•	
Semic	onductor	Manufacturing Market	Major Risks and Opportunities	Risk	Opportur
	Category	Subcategory	Major Risks and Opportunities	KISK	ities
	Policy/ regulation	Carbon prices, national carbon emission targets and policies	GHG emissions cost carbon GHG emissions are regulated at our main production sites	•	
Transition risk	Industry/ Market	Market changes (customers, governments, markets)	The demand for reduction of PFC gas increases with the rise in demand for semiconductors.  Demand for semiconductors grows due to the spread of EV,FCV and the advancement of smart technologies and smart societies.		•
Physical risk	Acute	Increasingly severe abnormal weather	■ Due to heavy rains and typhoons, our main production sites and suppliers are affected, resulting in the		

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From here, I would like to explain the results of the scenario analysis of our business for the oil and gas market and the semiconductor manufacturing market, which we disclosed in July this year.

We anticipated that the oil and gas market and the semiconductor manufacturing market could both be at risk due to stricter policy and regulation.

While industry and market changes can be risks in the oil and gas market where divestment of fossil resources is a concern, we saw an opportunity for us to evolve into a market for next-generation energy.

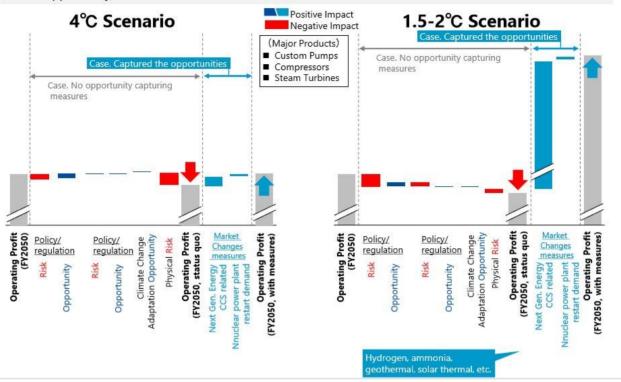
In the semiconductor manufacturing market, we believe that demand for semiconductors will grow and opportunities will expand in the evolution of a smart society, where the entire society will become more efficient.

Then, there is the physical risk of heavy rains and increased flooding. We assume that damage to our bases and damage to our suppliers will be common risks for both businesses.

# Financial Impact Oil & Gas Market



■ Divestment in fossil resources could be a risk, but evolution to next-generation energy markets could be an opportunity



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We have evaluated the financial impact of these significant risks and opportunities. This table shows the climate-related financial impact of the project for the oil and gas business.

Our oil and gas business is focused on downstream markets, such as petroleum refining and petrochemical manufacturing.

Under the 4°C scenario, we estimated that the physical risk of our major production sites being damaged by torrential rains or typhoons at the same time, resulting in a simultaneous shutdown of operations, would be up to approximately JPY4 billion to JPY6 billion in size.

However, we expect that the possibility of simultaneous damage is low. As a response to the disaster, we intend to continuously improve our BCM.

In terms of transition risk, we believe that demand for petrochemical-related products will continue to a certain extent despite the declining trend in demand for fossil resources due to market changes.

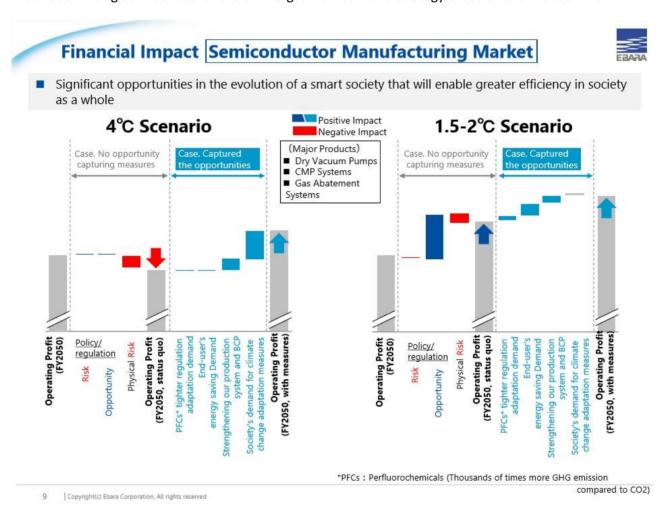
We also anticipate that, as an opportunity to adapt to climate change, there will be demand for maintenance due to customers being affected by disasters.

We also expect to see growth in products that meet the growing demand for next-generation energy sources, geothermal and solar thermal.

On the other hand, under the 2°C scenario, we expect the market itself to evolve toward next-generation energy. We expect that market changes, although not on the upstream side, will reduce the demand for fossil resources, resulting in a decrease in sales of approximately JPY5 billion to JPY10 billion.

To counter this decline in sales, we expect to increase sales by several tens of billions of yen by strengthening the competitiveness of products for the chemical market and by developing products for CCUS, CCS, hydrogen, which is expected to become the next-generation energy source, ammonia, geothermal, and solar thermal power generation.

We are advancing our business for the oil and gas market with a strategy based on the 2°C scenario.



Next, these charts show the climate-related financial impact for the semiconductor manufacturing market.

We provide semiconductor manufacturing equipment and devices to semiconductor manufacturers and others.

Under the 4°C scenario, we have estimated that the physical risk of our major production sites being damaged by torrential rains or typhoons at the same time and having to suspend operations all together would result in damages of up to approximately JPY5 billion to JPY7 billion.

However, as I mentioned earlier in the oil and gas section, we expect that the likelihood of simultaneous disasters is low. We will continue to improve BCM in this business as well.

In terms of capturing opportunities, we expect to see growth in demand for torrential rain and typhoon forecasting systems, as well as semiconductors for sensors used in disaster response equipment and facilities. We believe that demand for semiconductor production equipment will grow accordingly.

On the other hand, under the 2°C scenario, policies and laws and regulations for energy conservation and decarbonization will be strengthened to promote energy conservation and higher efficiency in all industries, and demand for semiconductor production equipment will grow along with the demand for semiconductors used in high-technology products.

In the semiconductor manufacturing process, we expect that emission regulations for PFC gases, with high global warming potential will be tightened, and we believe that demand for the exhaust gas treatment equipment in the precision machinery business, wherein we manufacture and supply such equipment, will grow.

In addition, as society as a whole, technologies using semiconductors are indispensable in the expansion of renewable energy, the evolution of smart cities, and the promotion of green transformation, so we expect that demand for semiconductor production equipment will grow along with the transition to a decarbonized society.

We estimate that the growth size will be at least JPY20 billion to JPY30 billion.

# **Carbon neutrality initiatives in 2050**





### Scope1+2 (own emissions)

- Expansion of switch to green power
- 2. Promotion of energy conservation and production innovations in ir 2
- 3. Conversion from fossil fuels to non-fossil alternatives (promotion o
- 4. Utilization of carbon pricing
  - · Introduction of internal carbon pricing (ICP)
  - · Utilization of certificates and credits

### Scope 3 (value chain)

- Emissions reduction: conversion to energy-saving and resourcesaving products, promotion of circular economy businesses by providing energy-saving and low-GHG services and support, collaborations between suppliers and customers, etc.
- Removal, recovery, etc.: supply of GHG decomposition products, expansion of CCS/CCUS, etc.
- Introduction of renewable energy: hydrogen, geothermal, solar thermal, etc.
- Carbon recycling and emission control: hydrogen, chemical recycling, etc.
- 5. Absorption: forest conservation credits, etc

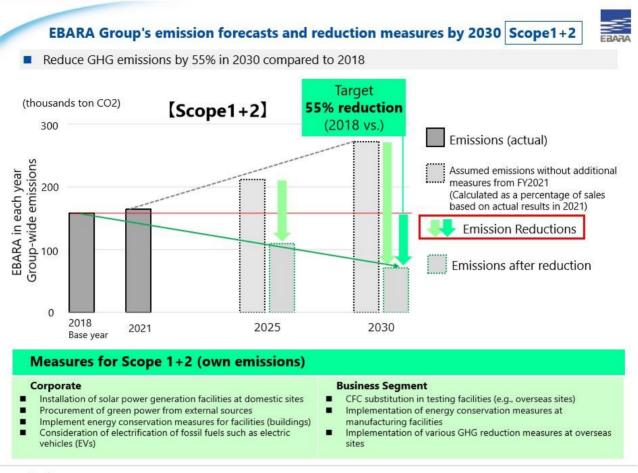
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 ${\color{blue} https://www.ebara.co.jp/en/sustainability/environment/information/carbon-neutrality.html} \\$ 

At last year's ESG Meeting, I explained that we will launch a company-wide project in January of this year to achieve carbon neutrality by 2050. In the project that we have started, we have set a target for 2030 to reduce greenhouse gas emissions by 55% in Scope 1 and 2, which are our own emissions, compared to FY2018, and a 100 million tons of carbon dioxide equivalent in Scope 3, which is related to the entire value chain.

In order to achieve this goal, we will promote the following measures in Scope 1, 2, and 3, respectively.

On December 1, we launched a page on carbon neutrality on our website, which is similar to this page, and stated that Ebara will work on this issue in the future.



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The graphs here show the actual emissions for Scope 1 and 2 in 2018 and 2021, and the light gray and gray areas show the assumed emissions calculated proportionally based on the sales amount, assuming a sales target of JPY1 trillion for 2030. The green arrows indicate the scale of the reductions required to reach our goal of a 55% reduction by 2030 compared to the FY2018 level.

If the situation remains the same, greenhouse gas emissions will increase as business and sales expand, but the Ebara Group is aiming for a 55% reduction by installing solar power generation facilities, procuring green electricity, and switching to alternative CFCs with low greenhouse effect coefficients for CFCs used in some of our businesses.

### EBARA Group's emission forecasts and reduction measures by 2030 Scope3 Reduce GHG emissions by 100 million tons in 2030 compared to the status quo (no action) [Scope3] Emissions (actual) Target (millions ton CO2) 100 million ton Assumed emissions without additional reduction 500 measures from FY2021 (Calculated as a percentage of sales based on actual results in 2021) 400 Scope3排出量 **Emission Reductions** 300 Assumed Emission Reductions Associated with the Spread of Renewable Energies (Calculated from estimates by the Agency for 200 Natural Resources and Energy\*) CO2 emission coefficient kg-CO2/kW Forecast for 2025 0.35 Forecast for 2030 0.25 100 Domestic average in 2018 0.51 Domestic average in 2021 0.45 Emissions after reduction 0 2030 2025 2018 2021 Measures for Scope 3 (Value Chain)

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Lightweighting of own products, etc.

Supplier Engagement

LCA Considerations

Category 1 (products and services purchased)

This page also shows the actual emissions for Scope 3 for 2018 and 2021, as well as the assumed emissions based on the sales target of JPY1 trillion for 2030 in light gray.

Category 11 (use of products sold)

GHG removal products

Customer engagement

Develop energy-saving products and expand sales of

Examination of new markets/technologies (e.g. hydrogen) Examination of existing markets/technologies (e.g., CCS)

If we do nothing, of course, the emission amount is expected to increase as our business and sales expand.

However, for Category 11, which accounts for the majority of our Scope 3, and Category 1, which is the next largest, we aim to reduce the 100 million tons indicated by the green arrows by 2030 by expanding energy-saving products, greenhouse gas removal products, and the hydrogen business and by working together with our customers and suppliers.

Category 11 is the carbon dioxide emitted when Ebara's equipment is operated, and Category 1 is the carbon dioxide generated before the parts, etc., that Ebara receives are supplied.



### Solar and Green Power Procurement Plan

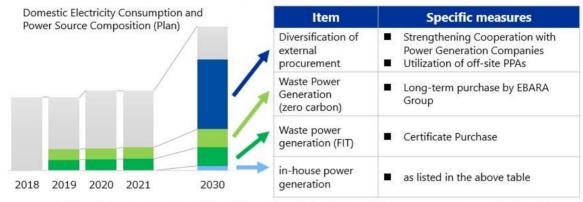
 Diverse green power generation that also utilizes the EBARA Environmental Plant's waste power generation

### 1. Installation of solar power generation equipment

Planning Period	Operational Methods		
2023 - 2025	<ul> <li>Focus on on-site consumption (installed in existing buildings on EBARA-owned land)</li> <li>Off-site PPA promotion</li> </ul>		
2026 - 2030	<ul> <li>Considering extended operation of power company grid utilization and storage battery installations</li> </ul>		



### 2. Expansion of switchover to green power



\*\*MPPA (Power Purchase Agreement): A power purchase agreement between a business that owns and manages a power generation facility and a consumer of electricity. On-site PPAs are those that are installed on the company's premises, and off-site PPAs are those that are not.

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As I briefly mentioned on the previous page, in order to effectively reduce Scope 1 and 2 greenhouse gas emissions, the Ebara Group first will install solar panels mainly on the roofs of buildings on Ebara's own premises during the period of the next medium-term plan, E-Plan 2025, which will start next year, and introduce solar-derived energy through a power purchase agreement, or PPA(Power Purchase Agreement), in which we will purchase power from an external solar power provider.

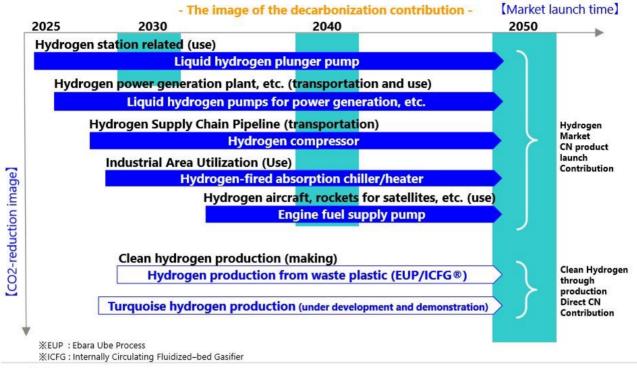
During the next E-Plan period, we intend to make more advanced use of the power grid, including extended operation of power company grid utilization and storage battery installations.

In addition to this, we would like to promote the shift to green power generated from waste power generation by the Ebara Environmental Plant, one of our group companies.



# EBARA Group's GHG reduction measures by 2050 (Example of hydrogen business)

- Plans to launch new products in both power and non-power (transportation, industrial, and consumer)
- Contribute to building a decarbonized society by expanding hydrogen-related businesses



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This chart shows the technological development toward a hydrogen society, which is indispensable for carbon neutrality.

The creation of a hydrogen supply chain requires contributions to making, transportation, and use of hydrogen.

In terms of making, we are working to produce clean hydrogen by gasifying waste plastic and producing hydrogen called turquoise hydrogen.

In the area of transportation and use, we have developed liquid hydrogen pumps for hydrogen power generation at hydrogen stations, compressors for hydrogen for pipelines and infrastructure, and hydrogen-fired absorption chillers for industrial applications.

Looking toward the future, we are also working on new industrial areas, such as fuel pumps for hydrogen aircraft and rockets.

We believe that these efforts can contribute broadly to decarbonizing the power sector, which emits greenhouse gases, as well as non-power sector industries, such as transportation, industry, and consumer goods.

Ebara hopes to promote carbon neutrality in 2050 with hydrogen technology.

## **Climate Change Initiatives**



### ■ EBARA Group's carbon neutrality

Aiming for net zero GHG emissions by 2050 by reducing GHG emissions in our own company and in our value chain

### GX (Green Transformation)

Co-creation with various organizations to drive activities toward a decarbonized society.



Ministry of Economy, Trade and Industry Publication **Endorsement of the GX League Concept** (Sept 2022)

GX: Green Transformation



Semiconductor Equipment and Materials International (SEMI)

Semiconductor Climate Consortium (SCC)

Founding member
(Oct. 2022)

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As part of our own initiatives on climate change, we aim to achieve net-zero emissions by 2050 by reducing greenhouse gas emissions in our own company and throughout our value chain.

I would also like to share with you some of the industry's climate change initiatives that we endorse.

First of all, we have endorsed the GX League of the Ministry of Economy, Trade and Industry, or METI, for GX, or green transformation. In addition, last month we participated as a founding member of the Semiconductor Climate Consortium, which is an industry organization for semiconductors, SEMI.

This concludes the explanation of updates on the TCFD-related climate change efforts with respect to E, which means environment, and an explanation of Ebara's efforts regarding carbon neutrality.



### 2. Social

# - Human Capital Enhancement

## Masao Asami

President and Representative Executive Officer

Looking ahead, going beyond expectations

Ahead Beyond

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Let me continue by explaining the S of ESG, society.

Ebara regards human resources as capital and, by maximizing their value, intends to further strengthen human capital management throughout the Group.

This year, we participated in the Human Capital Management Consortium and were featured as a case study in the Ito Report 2.0 for human resources, and our efforts in human capital were highly evaluated.

Today, I would like to explain the progress of these efforts and others.



## **Gaps between Visions and Current Situations**

E-Vision2030 By 2030, become a corporate **Diversity Project Data Strategy Project** group where Speeding up √ Strategic Table of employees think for Monthly closing **Technological Capabilities** Proiect-base themselves, actively try new Management KPI things with a sense of speed, Competition and produce tangible Role grading results regardless of Career management nationality or gender. **Diversity** Advancement for women **Fact-base management**  Diversified recruitment & training KPI monitoring GKP\*1(OneEbaraHR) Enhance management ✓ Work style reform, ENW \*2 accounting Market-in End-User market base organization Enhance S&S business Solution provider Challenges **Current Situations** Internal recruitment system Japan-centric Resisting to changes New business proposal Global Talent Dispatch Sense of speed Product-out EI5\*3 \*1 Global Key Position: Efforts to diversify managers with higher role grades throughout the group

This chart shows the ideal situation and the gap in human capital.

Lack of fact-base management

Under E-Vision 2030, our goal by 2030 is to become a company that thinks independently, takes on new challenges aggressively and with speed, and produces tangible results, regardless of nationality or gender.

\*2 Ebara New Workstyle: New ways of working with a view to after-corona
\*3 Ebara Innovation 5: Efforts to use approximately 5% of working time in new areas separate from existing operations

Current issues are Japan-centric, a lack of a sense of purpose, and a lack of speed. We also recognize resistance to change and weak motivation for achievement and growth as problems.

As measures to overcome these problems, we are working on the following keywords as our competitive meritocracy: diversity, self-reliance, challenge, globalization, speed-up, and engagement.

As measures to accelerate this process, we have established a data strategy team and a diversity project under the direct control of the President. I would like to explain these measures. I will also explain the Ebara Group Technology Elemental Table, which is the technical human resources map, as part of the integration of human capital and intellectual capital.



## **Launch of the Data Strategy Project**

Driving data-driven strategic decision-making throughout the company

#### 1 Data-Driven Management ■ Data-Driven management in line with management policy ■ Establish data infrastructure for decision making/strategy ■ Strategies / Hypotheses are determined using data formulation ■ Realization of Digital Twin Management 2 Data-Driven strategy/execution Sales **Technologies** sales strategy development/analysis HR strategy development/analysis Innovation in Technology ■ Profit Selected Identification ■ Virtual Laboratory ■ Recruitment ■ Training ■ Work style ■ System / Compensation / ■ Customer Experience ■ Equipment Life Cycle Management Promotion Onboarding ■ S&S ■ Dark Factory ■ Strategic Table of ■ Visualization of sales behavior ■ Manpower-Saving Technological Capabilities 3 Measure building data science data engineer metaverse Strategy-based analysis Strategy-based metaverse Construction of infrastructure based ■ New Al/algorithm development on strategy environment ■ Tentative setting based on strategy ■ Data infrastructure construction from a ■ Business development in various ■ Proposal of analysis results company-wide perspective domains ■ Collecting data that is easy to ■ New business applications strategize/analyze

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In order to build company-wide management from objective, data-based technologies, we launched a data strategy team in July of 2022 this year.

In the past, many decisions may have been made by relying on people, experience, intuition, and courage, but from now on, we would like to aim for management where the decision-making process is based on strategies and hypotheses derived from data. The results are analyzed, and actions are also based on data, based on conclusions obtained from the analysis.

Currently, with the aim of data-driven management, we are trying to develop measures in the areas of human resources, sales and marketing, and technology based on data. We are aiming for a team where each section has not only HR, sales, and other personnel, but also data scientists and data engineers, so that we can have self-tasking diversity, such as data science over HR, data engineers over sales, etc.

Although we often think in real space now, it can be assumed we will be doing business and working in virtual space in the future, so we are trying to be able to do in metaverse space what we can do in real space.

#### **Examples of Data Strategy Initiatives (HR Recruitment)** Data-Driven HR policies with OODA\* ■ We have a database that allows us to have a **Data Strategy** recruitment policy database that will enable us to Develop and build your own database **Data Science Database** ■ Automate/unmanned operations Data collection for **Data Engineer** construction **Human Resources** ■ Establishing a hypothesis for are working together the recruitment policy to drive initiatives Establishment of Establishment of algorithms and Al methodologies **OODA Loop** ■ People Analytics for Data- Analysis based on behavioral Driven HR Measures psychology ■ Task Diversity Promotion Proprietary Al Analysis of hypotheses for Recruitment ■ Interviewer Bias Removal recruitment policies ■ Laboratory Marketing Business automation by Al measures People "Netsu to Makoto ■ Technology Assurance by Business redesign (Passion and Dedication) Analytics **EBARA Elemental Table** ■ Human work efficiency / ■ Interview Training unmanned To recruit personnel with a challenging and competitive spirit ■ Based on HR Strategies HR planner Gap extraction based on AI analysis Develop a recruitment action plan results and hypotheses ■ Execute data-driven recruitment Extraction of interviewer bias Problem Data drivenstrategies Hypothesis reformulation for extraction Hiring planners provide feedback to remediation base action feedback to the strategy from Data Model performance improvement The entire team reconstructs the Policy recommendations for HR plan to realize the next Re-engineer professionals measures HR strategy redesign \*OODA: Observe, Orient, Decide, and Act

The table on this page shows an example of our efforts of HR recruitment in data-driven management.

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In terms of recruitment, the issue was imbalance in terms of human resources. We have also learned that even when interviewers think they are being impartial, there is a bias in the people being hired. In the future, without a diverse workforce, it will be difficult for us to respond easily to changes in the world, and this has led to a call for correcting bias.

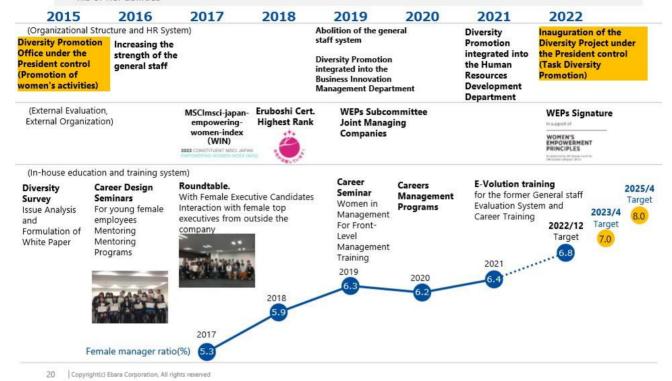
In order to solve these issues, we have developed our own method called people analytics, using AI to collect data with an eye toward solving the issues, further building the database, and solving the issues. Recognizing the difference between the results obtained and the current situation, we are verifying the data and the font side. We will continue to do this.

Based on the results of the analysis, the recruitment planner will consider the next recruitment action based on the data-driven approach. By repeating this cycle, we have succeeded in correcting the bias in human resources.

## **Diversity Project**



- To become a stronger company and continue to grow, we promote a diverse workforce regardless of gender, nationality, and other factors
- We create a working environment where each employee can make the most of his or her individuality and maximize
  his or her abilities



Ebara would like to become a stronger company and continue to grow, so we are also committed to promoting diversity with the aim of promoting a diverse workforce.

The following chart shows the history of the diversity promotion office, which was established in 2015 as an organization under the direct control of the President and has been implementing activities focusing on the promotion of women's activities.

In 2018, we were recognized for our efforts in women's activities and were awarded the highest rank of Eruboshi, which is recognized by the Ministry of Health, Labour and Welfare.

In 2019, we had abolished the general staff system, and in 2020, we have introduced a career management program. We have realized a system in which evaluation standards are unified regardless of gender, allowing employees to build and continue their desired careers.

In January 2022, we launched the Diversity Project, a new project under the direct control of the President.

We believe that inclusion of not only visible differences, such as gender and nationality, but also invisible differences, such as experience and abilities, is essential not only for the growth of the Company, but also for the growth of each employee. To achieve this, we are implementing various activities with a primary focus on task diversity.

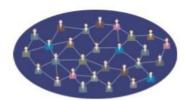


# Embodying a Corporate Culture of Competing and Challenging Four Themes for Diversity Management

To realize E-Vision 2030 as early as possible, we have positioned the promotion of task diversity and psychological safety as one of the key issues, and the management itself will learn

### HIERARCHICAL ORGANIZATIONS

### **FLAT ORGANIZATIONS**



### Task diversity

Invisible differences (Experience / Thinking / Majors / Work Experience)

- Diverse teams share a variety of perspectives and a broad range of skill experiences
- Positive impact of diverse teams on innovation

### **Unconscious bias**

Distortions and biases in the way we see and perceive things that we ourselves are unaware of

- Negative impact on the goal of fostering a diverse and inclusive work environment where everyone feels comfortable
- Stifles diversity in the workplace, creates a homogeneous resonance of ideas and thinking, and discourages innovation

### Ensure psychological safety

A state of being able to speak one's mind to anyone in the organization without worry.

- The acceptance of each member's individuality generates a variety of opinions and ideas from diverse values.
- Opposing opinions are welcome in a team with a high level of psychological safety
- When mistakes or problems occur, they can be reported and shared immediately, allowing for a quick response

### Server leadership

Supportive Leadership (Leaders first serve others, then lead them)

- Increased employee satisfaction and job satisfaction
- satisfaction and job satisfaction
   Increased employee creativity

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Ebara has a policy on psychological safety based on the results of a diversity survey of all employees.

With a view to the early realization of E-Vision 2030, we know that in order for everyone to speak freely and openly and for innovation to occur everywhere, we must urgently break away from the hierarchical structure of the current organization and create a flat organization.

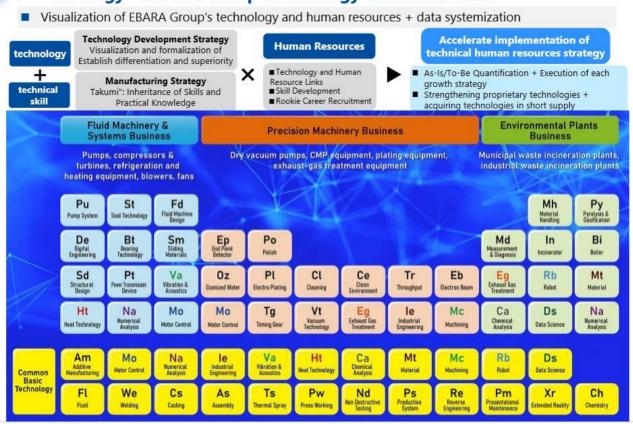
For example, we promote not to use words such as boss and subordinate, which are associated with hierarchical relationships.

The results of the survey showed that there are certain amount of people who consider a flat relationship between team, leader, and members to be ideal, regardless of their position.

For this reason, the management level has deepened its own understanding of the importance of task diversity and psychological safety, leading to an action plan for achieving a flat organization.

### Visualization of Core Technology and Practice of Technology Strategy - EBARA Group Technology Elemental Table





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https://ebara.co.jp/technical-personnel/index.html

Next, in September of this year, we disclosed on our website the Ebara Group Technology Elemental Table, which shows the unique technologies that support our products and the technologies across our businesses in symbols that resemble the table of elements. If you click on the elements of each technology in the elemental table on our website, you will be able to see a description of the technology and the specific product.

The aim of this initiative is to update our technology, manufacturing, and engineer information data . By visualizing this information, we will be able to strategically invest in technological areas and strengthen our technology and human resources. At the same time, we hope to further enhance synergies among our technologies and businesses, leading to the creation of new businesses, new product development, and collaboration with external partners.

The technical human resources map will serve as a common language that transcends countries and languages and will be used as a key tool to provide new businesses, new products, and new services by combining core technologies and to further promote the optimal allocation of human resources globally and product development across the Group companies.

## **Human Capital Management Initiatives**



# Participation in the Human Capital Management Consortium

(Aug. 2022)

Participation in a forum established with the Ministry of Economy, Trade and Industry (METI) and the Financial Services Agency (FSA) as observers to share advanced examples of human capital management practices, discuss inter-company cooperation, and examine effective information disclosure

# **Ito Report 2.0 for Human Resources Publication in Practical Case Studies**

(May 2022)

EBARA was featured as one of the 19 companies practicing human capital management, highlighting joint research with external research institutions, inviting experts in academic fields, and networking with retirees

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Finally, I would like to share with you some of our initiatives related to human capital.

First, in August of this year, we participated in the Human Capital Management Consortium, which was established with the Ministry of Economy, Trade and Industry and the Financial Services Agency as observers.

In May of this year, our efforts were featured as a case study in the Ito Report 2.0 for human resources. I hope you will take a look at it.

This is my explanation of the S of ESG, regarding society, and human capital management initiatives.

Next, Mr. Oeda, Chairman of the Board of Directors, will explain about governance.



### 3. Governance

- Governance to Value

## Hiroshi Oeda

Independent Director, Chairman of the Board of Directors

Looking ahead, going beyond expectations

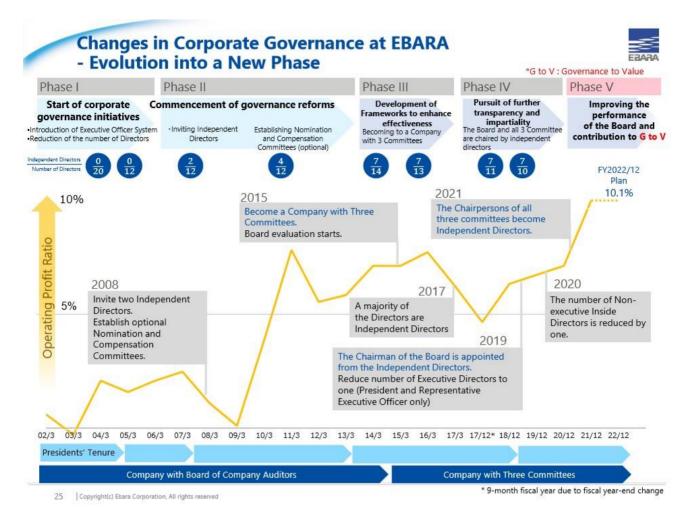
Ahead Beyond

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**Oeda:** I am Oeda. I have been serving as Independent Director of the Company since 2018. I had chaired the Nomination Committee for three years, and since March of this year, I have chaired the Board of Directors.

Thank you all very much for your attendance today.

I will now explain the governance of the Company.



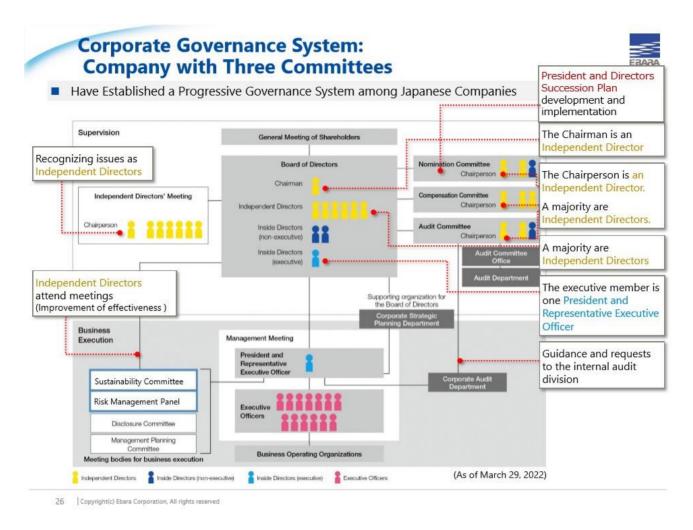
For us, the first half of the 2000s was a very difficult time, with portfolio optimization going awry, and then compliance-related scandals, followed by a continued slump in earnings. This was truly a governance failure, and I think it could be said that the Company was on the verge of a management crisis.

Under these circumstances, Mr. Yago, who became President in 2007, decided to rebuild the Company's management with governance reform as the driver and implemented a series of governance reform plans.

In 2008, two independent directors were appointed for the first time, and in 2015, the Company transitioned to a company with a nomination committee, bringing the number of independent directors to seven. Since then, we have reduced the number of executive directors in line with our policy of clearly separating execution and supervision, and currently, of the ten directors, the President is the only executive director.

The line graph on this page shows the operating profit ratio. Earnings have also improved in response to progress in governance reform. Since 2010, the operating profit ratio has remained above 5%, and last year, it exceeded 10%. And this year, it is expected to exceed 10% again, which means that earnings are improving.

The phases are written at the top, and we are now about to enter Phase V from Phase IV of our governance reform. We call it "Governance to Value" when the Board contributes to the enhancement of corporate value and produces tangible results. This is what we intend to achieve.



I would like to make three points on this page.

First of all, I would like to explain the first point, independent directors' meeting in the upper left-hand corner.

The Company's independent directors hold an independent directors' meeting a few days before the board meeting. The most important items on the board meeting's agenda are selected and explained by the executive side, after which each director asks questions from an objective point of view, and then discusses them freely until he or she is satisfied.

This meeting will help the independent directors to better understand the agenda. And we feel that the quality of discussions at the board of directors meeting on the day has improved, and the effectiveness of the meeting has steadily increased.

The second is the Sustainability Committee, on the lower left. This committee is also attended by independent directors. Based on the committee's discussions, the Board regularly discusses various sustainability-related issues.

And thirdly, I would like to explain about the Nomination Committee in the upper right corner of this page. We believe that the most important role of the Nomination Committee is the president's succession plan. We recognize that this is one of the items that characterize the governance of the Company.

In Japan, most companies still nominate their successor presidents by the current president, but in our company, the Nomination Committee formulates a succession plan for the president and develops a plan for

assessment, training, and selection of a successor president candidate. The Nomination Committee then spends a great deal of time in selecting the successor president.

The current president was appointed four years ago in the same manner as I have just described, and the next president is currently being selected in the same manner.

One important point here is that it is very important that the newly elected president be chosen in such a way that he or she does not have to give special consideration about his or her predecessor, or that he or she is allowed to reject past management.

We believe that it is important to have an independent committee or organization select a successor, rather than the current president selecting it.

## Initiatives to improve the effectiveness of the Board



### 1. Clearly Define Roles, Qualifications and Competencies required for **Directors, and improve Director Commitment**

- Clarified the roles and qualifications required for Directors by attribute (e.g., independent director) and position (e.g., chairman of the Board, Committee Chairpersons, etc.)
- September 2021, set forth and disclosed in the Ebara Basic Corporate Governance Policy Reference 1
- Effective use for evaluation, training, selection of Directors

### 2. Conduct the Board Evaluation annually and use it as a driver for reform

- Chairman conducts individual interviews with each director in the Board Evaluation.
- Also conducted effectiveness evaluations of the Nomination, Compensation, and Audit Committees.
- Systematically incorporate issues identified in the Board Evaluation into the agenda of the Board and implement the PDCA cycle.

### 3. Reform related to agenda and discussion at the Board Meetings

- An Independent Director chairs the Board and sets the agenda from the perspective of independence and impartiality.
- Holding Independent Directors' meetings to improve and deepen discussions at the Board meetings.
- Reinforcing discussions on medium- to long-term issues. Reference②



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I will continue with an explanation of our efforts to improve the effectiveness of the Board.

First of all, last year, we decided on the roles, qualifications, and competencies of our directors. We have disclosed this information in our basic corporate governance policy. For specific details, please refer to the reference attached on page 32 later.

In order for the Board to function effectively, it will become increasingly important for individual independent directors to demonstrate their qualifications and abilities. By clearly stating this, we intend to encourage each director to fulfill his or her role and to effectively use this information in the evaluation, training, and selection of directors and officers.

Next, the second item is also one of the most important governance characteristics of the Company.

We have been evaluating the effectiveness of the Board annually since 2015. This year I, as Chairperson, conducted individual interviews with each board member. In addition to the self-assessment conducted by each director during the effectiveness assessment interview, a mutual assessment, or the so-called peer review, is also conducted in parallel.

Based on the roles, qualities, and abilities of the directors I explained earlier, I interview each director about his or her contributions to the Company.

Another feature is that during this effectiveness evaluation, each director is interviewed regarding his or her evaluation of the chairperson. The final decision is made by the Board as to whether the chairperson can continue to serve for the following year. All of this is done without me.

Finally, third, the agenda for the board meetings.

From the standpoint of independence and impartiality, the independent directors set the agenda to ensure that necessary agenda items are not omitted. Another thing that is still important is to discuss medium- and long-term issues. We recognize that this is an important responsibility of the Board, and we are striving to spend more time discussing medium- and long-term issues at our board meetings.



### Reference ②

# Number and Breakdown of Items on the Board of Directors' Agenda

- After the transition to a company with a nominating committee in 2015, the ratio of items for resolution decreased and the ratio of items for reporting increased.
- In 2015, deliberative items were newly established for the purpose of discussion, and discussions on medium- and long-term issues increased.
- The number of items for deliberation increased with the appointment of an outside director as chairman in 2019.



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On page 28 is a graph showing the number and breakdown of items on the board meetings' agenda.

In 2015, we established deliberative items. Since then, the number of deliberative items to discuss mediumand long-term issues, etc., has increased, and opportunities for discussion have grown.



# Improving the performance of the Board - Contribution to G to V\*-

### 1. Supporting the EBARA Group's growth in resolving ESG issues

- From a medium- to long-term perspective, actively support new businesses such as hydrogen-related and chemical recycling, and restructure the business portfolio.
- Introduced a system to link ESG evaluation indicators to executive compensation from the fiscal year ending December 31, 2022. Reference 3

# 2. Periodic discussion of "Environmental (E)" and "Social (S)" initiatives at the Board

- Realization of carbon neutrality by 2050 and concretization of measures to deal with information disclosure based on TCFD recommendations.
- Address geopolitical risks and suppliers in the global supply chain.
- Encourage diversity on the executive side of D&I\*, especially in development of senior management.

# 3. Support for enforcement during emergencies and unprecedented events such as Covid-19

Prepare for uncertainties as the Board, and consider measures to deal with risk scenarios and other medium- to long-term impacts from a bird's eye view.

\*G to V: Governance to Value \*D&I : Diversity and Inclusion

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Finally, I would like to briefly discuss some important topics that our board should address.

The first one is to support new businesses that solve ESG issues, such as the hydrogen-related and chemical recycling businesses.



## Reference③

# Introduction of a system linking ESG evaluation indicators to executive compensation

### Targets of Linkage

10% portion of short-term performance-linked compensation (annual bonus), which accounts for approximately 30% of total compensation for executive officers

Evaluation Indicators and Weights in Short-Term Performance-Linked Compensation

	Evaluation Indicators	Weight	
	Consolidated return on invested capital (ROIC)		
Financial Result Indicators	Consolidated operating income	45%	
maioator3	S&S Revenue		
MBO	Set based on KPIs for each business in charge	45%	
F00 I-4:	"E (Environment) ": CDP	400/	
ESG Indicators	"S (Social) ": GES	10%	

<sup>\*</sup>CDP: An international NGO that works to require companies and other organizations to disclose information on climate change and other environmental initiatives. Its predecessor is the Carbon Disclosure Project, which was established in 2000.

Regarding the second item, we have introduced a system this year to link ESG evaluation indicators to executive compensation.

Specifically, we have introduced a weighting of 10% of short-term performance-linked compensation based on the Company's CDP evaluation for E and our global engagement survey for S.

<sup>\*</sup>GES: Global Engagement Survey. The survey will be conducted on EBARA Group employees around the world from 2019. The survey will examine the current status of engagement at the company and workplace in order to achieve our mid- to long-term aspirations.

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# Improving the performance of the Board - Contribution to G to V\*-

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\*G to V: Governance to Value \*D&I : Diversity and Inclusion

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Secondly, as I explained earlier, it is important for the Board to discuss initiatives on important E and S themes.

Finally, thirdly, it is important for the Board to consider measures to respond to unprecedented events, such as the COVID-19 pandemic or the Ukraine invasion issue, by taking a bird's-eye view of the medium- to long-term impact.

This concludes my explanation.





# Roles, qualifications and competencies required for directors (excerpted from EBARA Corporate Governance Basic Policy chapter 6))

		Roles		Qua	lifications and Co	ompetencies	Į.		
Directors	<ul> <li>Strive to make the best efforts at deliberations at the Board of Directors meetings and monitor business execution, so that the</li> </ul>			Board of	standing personality, high et tion, and a spirit of independ				
	Board of board to corpora appropri highly of indepen	(Chairperson of the Board of Directors)  (Directors)  (Chairperson of the Board of Directors)  (Directors)  (Directors)  (Directors)	<ul> <li>clear infor</li> <li>Lead the to supervision</li> <li>Properly of</li> </ul>	at the Hourd of Directors rece mation follow-up of matters resolved se effective implementation b communicate with the Board.	by the Board of Directors y Executive Officers of Directors' Secretarial and				
	Make w     based or     secount     inside a     Express     present     delibera		establish a Board of )  3) Demonstrate Board of Direct the Board of D take the initiativ 4) Demonstrate market and neo	(Independent Directors)	from the Executive compliance, etc. is and/or judgment.  Supervise and veri management, and light of the manage the Board of Direct	aluation and/or judgment in Officers with respect to the required, participate in su- fy key business measures the Executive Officers' pe- ement strategy and plan di- tors, and provide candid on based on problem-solving based on problem-solving	e Company ch evaluation , result of rformance in etermined by pinions and	and R&D  Has intimate is Has intimate is conduct of an respect for hu working enviro	inowledge of technical development unowledge of global environment unowledge with regard to adequate enterprise as a social entity such as man rights, diversity, health and poment, and supply chain management.
Chairman of the Board	Conduct meetings, and deliberations     Set the     Strive	ps, and distinguished by the state of the st	Held Ex- the qual- understa organizi      Establish		regarding the appropriateness of enfushing management to the current Executive Officers from an objective standpoint  Provide appropriate opinions and recommendations from the standpoint of shareholders and other stakeholders		nanagement active dations from	<ul> <li>Has intimate knowledge of areas which are enticipated to rapidly evolve in the future, such as digitization and Al technology</li> </ul>	
	Manage  Take a l  decision		Indepen Director such as	Non-	Express opinions from an objective perspective based his/her prior experience of business execution     Monitor the status of business execution as appropria		ion		ne qualifications and competencies
	Conduct to and promote sp     Facilitat strategic		Enhance meeting problem perspec     At Exec	Executive Inside Directors	important mattern  Serve a necessa	ry role to deepen the understanding business execution and the organiz	rstanding of	Company a ding of supporting t	nowledge of business execution of the nd is capable of supervising and usiness execution through proper tions
	Lead de with an adequat	Independent Directors	issue by its busin  Assume Andit C  Perficipl structure Officers advice a and othe	Chairman of the Company	change and make Directors in coon of Directors  In case an Indep of the Board of D function as a goo	dership in the process require recommendations to the dination with the Chairman endent Director serves as i lirectors, assist the Chairm of advisor as required equired in the Group's external coursed in the Group's external directors.	Board of of the Board the Chairman an and		

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https://www.ebara.co.jp/en/ir/governance/information/governance-policy.html















Japan



2022 CONSTITUENT MSCI JAPAN EMPOWERING WOMEN INDEX (WIN)







The Securities Analysts Association of Japan (SAAJ)

Companies with significant improvement in disclosure 2022













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## **Endorsement / Consortium**









In support of

### WOMEN'S EMPOWERMENT PRINCIPLES

Established by UN Women and the UN Global Compact Office

Human Capital Management Consortium



**UN Global Compact** 





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## **Integrated Report 2022**

2022





- EBARA Group at a Glance
- Value Creation Structure
  - EBARA Group's Founding Spirit and Purpose in Society SPECIAL FEATURE Technical Human
- · The History of the EBARA Group
- · Value Creation Story
- · Social Value Created by EBARA
- MEDIUM- TO LONG-TERM CORPORATE VALUE
- · Message from the President
- E-Vision 2030 (Long-Term Vision)and E-Plan 2022 (Medium-Term Management Plan)
- Five Material Issues (EBARA's Materiality) for E-Vision 2030 and Key Measures and KPIs for E-Plan 2022
- · Financial and Non-Financial Highlights
- · Financial Strategies as Explained by

the Finance Executive

- Business Strategies
- Three Businesses Supporting Social and Industrial Infrastructure
- · Fluid Machinery & Systems Business
- · Environmental Plants Business
- · Precision Machinery Business
- · New Businesses

- DIALOGUE Management and Diversity
- Resource Strategy
- Foundation for Value Creation
  - · Human Resources Strategy
  - R&D and Intellectual Property Strategy
  - · DX Strategy
  - · For the Environment Initiatives
  - · Climate Change Response Measures
  - · Social Initiatives
  - Conversation with the Chairman of the Board of Directors
  - Composition of the Board of Directors
  - · Board of Directors
  - · Brief Personal Histories of Directors
  - · Corporate Governance
- · Risk Management
- · Compliance
- · Executive Officers
- Corporate Data

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Looking ahead, going beyond expectations

Ahead Beyond

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[END]