Message from Executive Officer Responsible for Technologies, R&D, and Intellectual Property

Guided by the basic intellectual capital management policy of BRDIP,*1 which promotes coordination between Businesses, Research and Development, and Intellectual Properties, and the basic strategy of ABA,*2 which encourages collaboration between Academia, Businesses, and Associations, the Ebara Group has proceeded to hone the competitive edge of its business by advancing R&D and intellectual property activities through its proprietary frameworks. I hope to help support the growth of the Ebara Group as a global conglomerate by evolving and building upon the BRDIP policy and the ABA strategy going forward.

Hiroshi Sebukawa
Executive Officer
Responsible for Technologies, R&D, and Intellectual Property

Ebara Innovation for “X”
through coordination between business and research divisions.

ENHANCEMENT OF MANAGEMENT CAPITAL
ENHANCEMENT OF MANAGEMENT CAPITAL

Progress in Priority Strategies

*4 EOL: A corporate research organization that enables exchanges among researchers and open sharing of research themes in-house
*2 ABA: An original EBARA Group acronym created from “academia,” “businesses,” and “associations”
*1 BRDIP: An original EBARA Group acronym created from “businesses,” “R&D,” and “intellectual properties”

Basic Approach

The Ebara Group has developed several proprietary frameworks under its ABA strategy. Ebara Open Innovation (EOI)*3 is a framework for strengthening fundamental technologies through partnership with universities. Ebara Open Laboratory (EOL)*4 is a framework for enhancing product technologies through coordination between business and research divisions. Ebara Innovation for “X” (EIX)*5 is a framework for advancing projects for creating new products and businesses. Lastly, Ebara Open for Supplier (EOS)*5 is a framework for bolstering prototyping functions. The unique open innovation activities advanced through these frameworks have consistently supported the reinforcement of the Group’s business. We will continue to evolve and build upon these frameworks in order to strengthen the technologies that contribute to our business while aggressively advancing forward-looking research and development.

Meanwhile, several unique frameworks are in place to incorporate intellectual property activities. With these frameworks, the Group has been promoting a shift toward quality over quantity in intellectual property and evolving its patent portfolio to be more strategically viable. We are also managing and utilizing the intellectual properties of Group companies on a global basis while engaging in technology branding activities. Going forward, the Ebara Group’s intellectual property divisions will remain receptive to social trends, pursuing close coordination with business divisions as they support operations through proactive intellectual property activities.

Initiatives for Bolstering Intellectual Capital

First EOI International Symposium
Industry-academia collaboration activities through the EOI framework are in their ninth year. This year saw the holding of the first EOI International Symposium. A total of eight professors, four from domestic universities and four from overseas universities, were invited to give structured lectures on the results of their research activities. More than 100 employees attended, making the event a site of vigorous discussion. At this event, many questions and opinions were voiced by younger engineers, and one of the guest lecturers stated that the number of questions from engineers was proof of the improvement made in Ebara’s technical capabilities.

Ebara Hi-tech University
The Ebara Group has launched Ebara Hi-tech University (EHU)*6, a program aimed at bolstering the technical capabilities of Group researchers and engineers and providing inspiration by giving them an opportunity to learn about the latest technological information and trends. 10 lectures were held by external researchers invited to act as guest lecturers and six training sessions were conducted in the fiscal year ended December 31, 2018. The training sessions were based on a curriculum designed to foster the intuition of junior employees to help them better understand technologies and various phenomena on an intuitive level. This focus on human resource development supports the development of fundamental technologies of the Ebara Group.

Technology Branding Strategies

Technology branding activities are being advanced as part of the Ebara Group’s efforts in the area of intellectual properties. As one facet of these activities, the technology brand “eDYNAMIQ” for Ebara’s standard pump technology was launched in 2018. Created through cooperation with business divisions, this brand is meant to help communicate to customers the passion that Ebara has poured into its standard pumps over the years. An acronym of the words Eco, Dynamic, and Integrated Quality, the brand name of “eDYNAMIQ” represents the characteristics of Ebara’s standard pump technology.


Progress in Priority Strategies (Fiscal year ended December 31, 2018)

Research Efficiency Indices

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Number of Research Projects</th>
<th>Number of Joint Research Projects</th>
<th>Target Achievement Percentage</th>
<th>Number of Patents Filed</th>
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<tr>
<td>2015/3</td>
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Number of Patents Held
The number of patents filed grows each year, and overseas patents have come to exceed patents in Japan as the Group seeks to acquire the intellectual properties in each business that are necessary to continue expanding globally.

<table>
<thead>
<tr>
<th>Fiscal Year</th>
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<tr>
<td>2015/3</td>
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<tr>
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<td>3,000</td>
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<tr>
<td>2017/3</td>
<td>4,000</td>
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</table>

Ratio of R&D Expenses to Net Sales
In the fiscal year ended December 31, 2018, the ratio of R&D expenses to net sales was 3.0%. A ratio of 2.7% is projected in the fiscal year ending December 31, 2019, as a result of new investments.

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EBARA Group Integrated Report 2019

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EBARA’s R&D Activities for Creating a New Era

Evolution of Virtual Factories to Shape the Future of Manufacturing with Suppliers

It has been 10 years since EBARA CORPORATION disbanded its prior research laboratories to launch a new R&D structure. Over this period, we have promoted the advancement of various initiatives aimed at strengthening EBARA’s innovative R&D structure, which is unlike anything seen among its peers. One such initiative is Ebara Open for Supplier (EOS). The following is a discussion with the Kawasaki Institute of Industrial Promotion, an indispensable co-creator on the EOS initiatives implemented thus far and the future of manufacturing.

Inception of EOS

—What exactly is EOS?

Tsujimura: EOS is a special R&D prototyping framework put in place by EBARA. In 2009, the Company disbanded its research laboratories. With its previous systems and frameworks abolished, EBARA began looking for a new R&D method. The Company was faced with a situation in which it needed to continue research and development, but it had no labs or researchers. The solution it found was the creation of a completely new R&D structure focused on open innovation with researchers from both inside and outside the Company conducting joint research through a virtual environment. Moving forward with the resulting EOI and EOL initiatives, our R&D activities over the decade have consistently bore fruit. However, one issue that arose was the establishment of the prototyping factory that was ideally suited to this new R&D system. EBARA’s existing factories were exclusive for products and consequently, incompatibilities were sure to appear whenever we tried to produce new prototype articles there. What we needed was a production framework that could adapt as necessary when we sought to create something completely new, a virtual prototyping factory to complement our virtual R&D system that did not need factory staff and equipment in the Company. The framework we created to achieve this was EOS. We realized that working with suppliers that could join us in developing various manufacturing processes and realizing those production technologies was the key to better R&D. This was when we heard about the Kawasaki Institute of Industrial Promotion and its work supporting 1,500 small and medium-sized enterprises (SMEs) in Kawasaki City, prompting us to visit the institution, enabling us to take a large step forward in EOS realization.

What is the Kawasaki model supporting EOS?

Miura: Kawasaki City is a central part of the Kehin industrial district, which is home to many major companies and SMEs. The Kawasaki Institute of Industrial Promotion has been supporting SMEs amid the globalization of society and the spread of information technologies for 30 years. Our basic approach is to focus on front-line operations, actively visiting SMEs to gain an understanding of the visions of their presidents and working together with them to further their development. We have gained recognition for this commitment, and this approach to supporting companies based on a shared vision has produced results, thereby coming to be known throughout Japan as the “Kawasaki Model.” Among our initiatives, we are attracting particular attention with regard to how we help create new products, based on our focus on front-line operations, infusing SMEs with the intellectual properties of major companies and promoting open use of patents with the potential to give rise to new products and technologies.

Tsujimura: EBARA has had relationships with several SME associations in the past. However, most of the associations simply introduced us to SMEs, and usually no transactions came of those meetings. That is why when I met with the Kawasaki Institute of Industrial Promotion, I was surprised at how swift and attentive its approach for SMEs was. The Institute’s commitment to matching the desires of SMEs with those of EBARA as an order placer and to tying these desires to actual orders could be said to represent the core of the Kawasaki Model. This commitment coincided with the hopes of our staff, and I felt confident that this model would help us realize the goals of the EOS framework.

Actual EOS Initiatives

—How have EOS initiatives been advancing?

Miura: One major characteristic of the Kawasaki Model is team dispatch initiatives. In these initiatives, teams formed by government employees, representatives from local financial institutions, and staff from the Institute visit SMEs to explain the various subsidy systems and measures available to them. I remember when Mr. Tsujimura, asked to accompany these teams. To us, the idea of having the head of the technology at a major company visit the frontlines with us on such a team was inconceivable. This unexpected development led us to refer to the team as the “Tsujimura Caravan” when you accompanied us. We asked our coordinators, who had amassed

R&D System Surpassing the Boundaries of EBARA

EBARA R&D system is comprised of the EOI (joint research), EOL (in-house research), and EIX (new business / field research) frameworks. Research is also being advanced through the EOS framework for reconfiguring prototyping functions and the EHU program for fostering the human resources that support technological development. EBARA strives to create new business by promoting coordination with business divisions and with external institutions and by fully capitalizing on this R&D system. For more information regarding each framework, please see the footnotes on P.31–32.
ENHANCEMENT OF MANAGEMENT CAPITAL

Policy 1: The companies we visit are customers that provide technologies to EBARA.
Policy 2: Customer satisfaction is a top priority.
Policy 3: Initiatives are to start small and to be grown gradually as they produce results.

ENHANCEMENT OF MANAGEMENT CAPITAL

Institute of Industrial Promotion.

The policies based on which we advance EOS initiatives are an incredibly ambitious undertaking and contribute to the continued growth of our energy efficiency. Today, we are in an era in which industry structures are transforming, and manufacturing operations are being transferred to locations with lower personnel costs like China and other emerging countries. We are approaching the limits of what can be accomplished with the conventional hierarchical manufacturing systems found at most major companies. Given this backdrop, I have great praise for how EBARA is designing a framework for maintaining an open and equal relationship with suppliers and for using these relationships to realize a virtual factory scheme. This initiative is truly groundbreaking and reflective of the society to come.

As the EOS framework has improved, I have witnessed changes to SMEs’ traditional hierarchical values and engrained customs and cultures. It could be said that it is customary for SMEs to resistively receive and fully endorse changes from major companies. EBARA’s EOS framework puts a new twist on that custom that can challenge traditional perspectives, leading to changes in the culture of the companies involved. I see great potential for EOS to change the very nature of SMEs in Japan.

---What successes have been achieved thus far?

Tsujimura: When we launched the EOI and EOL frameworks, we were faced with previously inconsistent research in order to focus on heightening our product development capabilities. The transition to virtual laboratories then changed our prior-year-based perspective on research to a day-by-day research perspective. The result was an astounding improvement in research efficiency. Today, R&D expenses are half those of 2009, while output is two to three times higher and research efficiency is four to six times higher.

Through the EOS framework, we aim to develop a virtual factory scheme for prototyping. This scheme will not be able to create immediate results akin to those of the EDL and EDL frameworks. However, compared to the massive amounts of time and money required to build factories, virtual factories can be set up quickly and at low cost. We are still in the process of creating this scheme, and ongoing effort is required. As such, the successes thus far are still few. Nevertheless, we are making steady progress in the development of virtual factories through our connections with the Institute and with our suppliers.

In 2018, we launched new initiatives aimed at starting up virtual factories. Specifically, we began building the Connected Lab within the Fujisawa District. This lab will be a site for joint efforts with external suppliers. Our decision to create such a facility was based on the recognition that, no matter how ‘virtual’ these factories may be, we will still need physical venues through which to connect with suppliers.

Miura: I think that the virtual factory scheme of EOS is a marriage of both virtual and physical relationships in that it is built upon both trust-based, face-to-face interpersonal connections and digital technologies. The passion and dedication of EBARA is going rise to a new type of relationship between large enterprises and SMEs. The successes of these initiatives may not yet be tangible, but the efforts of today will no doubt grow gradually into greater successes tomorrow. I anticipate that these efforts will one day create new technologies, new products, and possibly new industries.

Future of EOS

---What are EBARA’s goals going forward?

Tsujimura: EBARA is currently working on the process of building the Connected Lab to furnish the physical infrastructure for connecting with the people that we are linked to through the EOS framework. Going forward, we hope to make a place that enables involved parties to discuss and share ideas for the prototype being created through panels in virtual spaces and that makes easy the close coordination needed to realize the mutual heightening of knowledge and technologies. The R&D system I envision a century from now is one in which one can write a roadmap on a big paper and then everyone shared with all project members, who can then send their responses. This system will allow for a swift transition to development through coordination between the EDL, EOL, and EOS frameworks. As one step toward this vision, we are currently working to realize the use of avatars to coordinate with people both inside and outside of the Company through virtual spaces. If we can apply augmented reality technologies to the above technology, we will have the ability to create immediate results akin to those of the EOI and EDL frameworks. However, compared to the massive amounts of time and money required to build factories, virtual factories can be set up quickly and at low cost. We are still in the process of creating this scheme, and ongoing effort is required. As such, the successes thus far are still few. Nevertheless, we are making steady progress in the development of virtual factories through our connections with the Institute and with our suppliers.

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Human Capital—Management Resources Underpinning Competitive Edge—Human Resources and Diversity

Initiatives for Enhancing Human Capital

Human Resource System Reforms
Management-level employees were incorporated into the new system in the nine-month period ended December 31, 2017, and all union members were incorporated in the fiscal year ended December 31, 2018. The following initiatives were implemented to facilitate the transition.

**Succession management program**
- Enables optimal placement of individuals to management positions based on ability as opposed to seniority.
- Enables the formation of strategic placement plans for capable individuals to develop in different areas of the organization.
- Expands succession management program toward Groupwide/global positions to accelerate global mobility.

**Installation of new grading system**
- Replaces a traditional seniority-based HR system to a system that evaluates and motivates employees based on their contribution and performance, more comparable to systems globally.

**Unified employee classifications**
- Eliminates employee classifications which allows all employees to be evaluated and rewarded for highly valued work performance globally.

**Drastic change in promotional examination for management level positions**
- sewerly conducted to promote management-level positions for employees who were previously general/assistant staff to help them better understand the changes in their roles and to take the first step in tackling new challenges. We will enhance the line-up of these self-development training programs to support employee skill development going forward.

**Employee awareness survey**
- Conducted approximately 5,000 employees at domestic Group companies.
- Exceeded the average score for questions regarding work motivation for companies with more than 1,000 employees.

Promotion of Diversity and Work Style Innovation

A priority in EBARA’s diversity promotion initiatives has been to step up efforts for empowering female employees. These efforts have earned wide recognition, and in May 2018, the Company received the highest rating (Rank 9) in the “Eruboshi” certification mark program. In this program, the Minister of Health, Labour and Welfare grants this certification to the companies that present excellence in empowering female employees based on the Act on Promotion of Women’s Participation and Advancement in the Workplace.

In addition, the Operations Innovation Division was established in April 2018, after which EBARA began implementing Companywide work style innovations. In promoting diversity, the EBARA Group seeks to go beyond empowering female employees to cultivate workplace environments in which each and every employee is able to fully exercise their talents and realize their ideal work-life balance.

**Human Resource Development**

Under the new human resource system, the roles and responsibilities of section and department managers have changed drastically. In reflection of these new roles and responsibilities, training programs for new section and department managers at EBARA CORPORATION and domestic Group companies were introduced to facilitate awareness reforms and skill acquisition. Going forward, we will continue efforts to enhance the capabilities of managers.

In addition, Self-Development Workshops were held for employees who were previously general/assistant staff to help them better understand the changes in their roles and to take the first step in tackling new challenges. We will enhance the line-up of these self-development training programs to support employee skill development going forward.

**Human Resource System-Related Measures Results**

<table>
<thead>
<tr>
<th>Measure</th>
<th>2017 (Pre)</th>
<th>2018 (Post)</th>
<th>2019 (Target)</th>
</tr>
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<tbody>
<tr>
<td>Training expenditures per employee</td>
<td>¥31,167</td>
<td>21,147</td>
<td>¥25,398</td>
</tr>
<tr>
<td>Frequency rate of accidents resulting in lost work days</td>
<td>0.32</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>Ratio of female managers</td>
<td>5.8%</td>
<td>7.0%</td>
<td>10.0%</td>
</tr>
</tbody>
</table>

**Reference**

Personnel Affairs and Human Resource Development Policy

http://www.ebara.co.jp/en/about/hr/social/environment/index.html#wrk1200551

**Message from Executive Officer Responsible for Human Resources**

The EBARA Group seeks to cultivate a corporate culture that encourages all employees to tackle their work with a competitive spirit and embrace change with passion and dedication. To this end, we replaced our prior seniority-based grading system with a system that evaluates employees based on their demonstrated role and accomplishments in the workplace, regardless of age, gender, or nationality. To facilitate the ongoing development and growth of EBARA’s business on a global scale, we will continue to implement system reforms aimed at utilizing global human resources more effectively and promoting Group unity.

**Promotion of Diversity**

**Rate of female managers**

To accomplish our target for the ratio of female managers, we are enhancing and accelerating support for female employees to develop their careers. Various ongoing initiatives are being implemented in this regard, including presentations on the career paths of more experienced female employees, holding workshops, and dispatch to external training sessions.

**Human Resource Development**

Training expenditures per employee

Programs for improving management skills have been conducted for managers at domestic Group companies, as the introduction of the new human resource system drastically increased the roles and responsibilities of managers.

**Occupational Health and Safety**

Frequency rate of accidents resulting in lost work days

We have set our target for reducing the frequency rate of accidents resulting in lost work days to 0.25 or less, the average of manufacturers with more than 1,000 employees. Seeking to accomplish this goal, we will support Group companies in establishing and installing health and safety plans/ regulations in each company.

**Work Style Innovation**

Total annual work hours per employee

We facilitate a flexible workplace environment. In the fiscal year ended December 31, 2018, the Work Style Innovation Committee, chaired by the President and Representative Executive Officer, was established to monitor progress of work hour KPI and improvement of productivity in each division. In addition, we are participating in the government-led TELEWORK DAYS campaign as a special sponsor.
EBARA’S PEOPLE

Engaging in Competition and Embracing Challenge

We asked employees for their stories regarding their goals and how they are taking on challenges to better society and support the growth of the Company.

**QUESTION**

Could you please tell us about the project that you are currently engaged in?

**ANSWER**

My team is currently in the midst of implementing a Groupwide enterprise resource planning system. I believe that, as the EBARA Group grows as a global company, it is crucial to develop foundations and implement a work process optimization and standardization system that unites the Group and lives up to the expectations of markets and customers worldwide.

Currently, we have a 107-year history that has been supported by the introduction of operation systems and the pursuit of optimization on a by-business or by-division basis. However, we realize that this approach has limits with regard to our ability to utilize digital technologies in management. This is why in implementing this new system, we will need to consider iconoclastic reforms while maintaining our traditional strengths and following the “EBARA Way.” In order to effectively utilize this new system, we will need to change how every employee thinks, along with our very corporate culture. This is the end goal of my project, and I have no doubt that this massive undertaking will go down in EBARA Group history.

**QUESTION**

How do you intend to further build upon the EBARA Group’s strengths through this project? Also, what challenges do you hope to tackle in the future and what do you want to accomplish?

**ANSWER**

EBARA Group has a wide range of businesses and boasts sophisticated technologies, diverse products, and extensive bases, sales, and service networks. This system between business segments and countries is very complex, and it is currently difficult to identify and share important information between business segments and departments efficiently. If, however, we could find a way to standardize and share relevant information and data within the Group, it would become possible for all organizations within the Group to utilize the strengths of others in a greater range of instances and on a mutual basis. I want to see the EBARA Group become an organization in which all employees are united as one, and driven by passion and dedication to swiftly deliver highly reliable products and services to customers around the world. I am delighted to helping create the foundations and corporate culture that will be required to accomplish this vision.

It is crucial to develop foundations and implement a work process optimization and standardization system that unites the Group and lives up to the expectations of markets and customers worldwide.

**QUESTION**

What kinds of challenges do you hope to tackle in the future?

**ANSWER**

In the past, I had the opportunity to take part in an official development assistance project in the Republic of Gambia in the west of Africa, where we constructed a regional water supply system. In the future, I hope to utilize the business strategy formulation and project management experience I gained to tackle the challenge of reinforcing businesses at existing bases and establishing new bases in the global market. The memory of villagers’ tears of joy when we completed construction of the water supply system in Gambia will serve as my motivation going forward and as one source of the pride I feel working at EBARA.
Message from Executive Officer Responsible for Environmental Management

The EBARA Group recognizes that efforts to combat climate change are not only important responsibilities but also significant business opportunities. We are therefore moving ahead with the development of products that realize the maximum possible reduction in environmental impact through miniaturization and efficiency improvement. In addition, we are making a business of helping prevent disaster damage from extreme weather events and supporting swift recoveries from any damage that occurs. The Group is also engaged in a concerted effort to reduce energy consumption, minimize waste, and otherwise realize more eco-friendly production activities. We also endorsed the recommendations of the Task Force on Climate-related Financial Disclosures in May 2019, and we disclose information pertaining to our efforts to combat climate change as a signatory.

Enhanced Monitoring of Global Environmental Data

To facilitate the formulation of environmental targets for 2030, Global Reinforcement of Environmental Management has been set in 2018, which refers to the development of a framework to improve our understanding of the global environmental data and the impact of our operations. We are improving our global environmental monitoring system, expanding the scope of our data collection, beginning with the manufacturing facilities with the largest impact and are working to include all consolidated subsidiaries. The EBARA Group has set the target of maintaining a material recycling rate of 95.0% or more as one of its FY2020 Environmental Targets. We will work toward this target by ensuring that waste is properly separated, reducing packaging materials, and implementing other initiatives for increasing the material recycling rate and minimizing the landfill disposal rate.

Global Reinforcement of Environmental Management

The Company has been performing on-site environmental and safety surveys of overseas production bases since 2014. These surveys were focused on the bases under the control of the Fluid Machinery & Systems Business up until 2017. The scope of these surveys was then expanded in 2018 to include the sites of all companies under the jurisdiction of the Precision Machinery Business. Checklists have been established for these surveys to ensure that the precursors of environmental risks are addressed. The effectiveness of these checklists is reviewed with each on-site survey in a process of ongoing enhancement aimed at ensuring accurate risk assessment.

Environmental Measures through Products

The following are examples of standard pumps launched in 2018 that contribute to reduced environmental impact during use:

- F504 model: Compared with conventional shaft direct connection type pumps, this pump is more compact and space efficient, contributing to resource conservation.
- DL model: With a simple structure that is easy to inspect and repair, this pump achieves a longer lifespan and uses standardized parts to help conserve resources.
- Sewage pumps with premium efficiency (IE3) motors: These pumps conserve energy with premium-efficiency motors and are thus being promoted as strategic global products.

Improvement of Sales and Production Efficiency and Environmental Initiative Transparency

Estimate and inquiry centers have been established to expedite customer support, facilitate reductions in per unit of production energy consumption from automated pump assembly lines, and promote renewable energy use.

Progress toward Action Policy KPI Targets

We aim to formulate EBARA Group’s FY2030 Environmental Targets based on an accurate understanding of current environmental performance levels on a global and Group-wide basis. The following KPIs and targets have been set for domestic Group companies, and business sites are working to reduce their environmental footprint accordingly.

- Greenhouse Gas Emissions:
  - 38,800 t (Consolidated, in Japan*1)
  - We are pursuing ongoing reductions in CO2 emissions through the introduction of and upgrades to air-conditioning equipment and lighting with higher energy efficiency and other measures to increase operational energy efficiency.

- Material Recycling Rate
  - 96.3% (Consolidated, in Japan*1)
  - The EBARA Group has set the target of maintaining a material recycling rate of 95.0% or more as one of its FY2020 Environmental Targets. We will work toward this target by ensuring that waste is properly separated, reducing packaging materials, and implementing other initiatives for increasing the material recycling rate and minimizing the landfill disposal rate.

- Total Water Consumption
  - 524,000 m³ (Consolidated, in Japan*2)
  - Water consumption of 21,000 m³
  - We are pursuing reductions in water consumption by lowering the amount of water used in production activities and implementing other initiatives for reducing water consumption.

- Waste Production
  - 10,192 t (Consolidated, in Japan*2)
  - EBARA is pursuing reductions in waste volumes by lowering the amount of packaging materials it uses, among other initiatives. In addition, we are reviewing the waste processing subcontractors used by the Group as a Group-wide waste production reduction measure, with the aim of increasing recycling rates.

- Renewable Energy Usage Rate
  - 0.50% (Consolidated, in Japan*2)
  - Solar panels have been installed at the Fujisawa District and one domestic Group company. In addition, the Kumamoto Plant began procuring electricity from waste-to-energy generation at EBARA Environmental Plant Co., Ltd. in December 2017, thereby realizing a year-on-year reduction in CO2 emissions volumes of 10%. We will continue to investigate and examine possible methods of introducing renewable energy systems going forward.

*1 The Company uses the emissions coefficient of 0.357 kg/kWh set in 2000.
*2 Figure excludes one electricity supply company.
*3 Only total water consumption measured prior to the fiscal year ended March 31, 2014.
Collaborative Value Creation Partnerships

The EBARA Group CSR Policy defines our commitment to foster trust with our valued stakeholders by conducting our business with a strong sense of ethics. This policy delineates a dedication to co-creating value for society, industry, and life through collaborative value creation partnerships with various stakeholders. We have proceeded to build strong partnerships and foster greater trust with our stakeholders and this has become a part of the transformation of EBARA’s distinctive value creation process. In the future, we will continue to promote strategic engagement with stakeholders to ramp up our initiatives for using social and relationship capital to create new value.

Dialogue with Shareholders and Other Investors

The EBARA Group recognizes the development of long-term trusting relationships with shareholders and other investors as one of its most important management tasks. The EBARA Group appropriately discloses corporate information necessary for shareholders and other investors to make investment decisions and strives to further strengthen its trusting relationships with these stakeholders on a continuous basis through close dialogue with management through President Dialogue Meetings, educational lectures, and other programs.

First Annual ESG Presentation Meeting

Recently, the expectations toward companies and the roles they should play in the realization of a sustainable society have been rising, stimulating a growing trend toward ESG investment, an investment approach that entails evaluating how much ESG factors are integrated into a company’s decision-making. To respond to this increased interest among investors, EBARA held its first annual ESG presentation meeting for institutional investors and analysts in December 2018, which drew around 40 attendants. At this meeting, President and Representative Executive Officer Tochiro Maeda explained how the company evaluates and integrates ESG considerations into its decision-making.

Collaborative Value Creation Partnerships with Suppliers

The EBARA Group’s Procurement Policy encourages partner- ships with suppliers to pursue the mutual improvement of value through the creation of high-value products and services. In addition, we request that suppliers understand and adhere to the CSR Procurement Guidelines, and we are working toward achieving a recognition rate of 100% for the guidelines by 2019.

Major Sections of CSR Procurement Guidelines

1. Compliance
2. Information disclosure
3. Consideration to human rights, health, and safety
4. Environmental conservation
5. Ensuring fair, open, and fair competition
6. Improvement of technical capabilities
7. Dissociation from antisocial behaviors

Establishment of Procurement Committee

The Procurement Committee was established in 2018. Meeting twice a year, this committee is chaired by an Executive Officer appointed by the President and Representative Executive Officer and comprised of division executives of business divisions. The committee is responsible for establishing basic procurement policies, optimizing procurement activities and ensuring rigorous compliance. Moreover, execution organizations are formed below the Procurement Committee to execute the measures prescribed by the committee to guarantee the steady implementation of its basic policies. In 2018, such organizations were formed for the purposes of promoting surveys of conditions at supplier facilities, making improvements to EBARA’s procurement activities, and responding to regulatory requirements. The structure and activities of these execution organizations are planned for review in the fiscal year ending December 31, 2019.

Progress toward Action Policy KPI Targets

In the fiscal year ended December 31, 2018, the Procurement Committee issued CSR procurement surveys to suppliers to assess their adherence to the Company’s CSR Procurement Guidelines and the standards of the Responsible Business Alliance.* These surveys found that 84% of respondents were conducting satisfactory CSR activities. The results of these surveys will be utilized to facilitate ongoing improvements to CSR activities across the supply chain.

Collaborative Value Creation Partnerships with Local Communities

In line with its corporate philosophy, the EBARA Group conducts social contribution activities based on three basic policies: utilizing know-how gained through business activities, fostering human resources, and meeting social needs. Through these activities, we help resolve social issues together with many local communities.

Examples of Activities

Support for Development of Next Generation of Engineering Human Resources

Helping develop human resources for future sustainable society.

Centre-Based at Female Junior High and High School Students

Support for action to create an inclusive environment for girls in education.

ESGBA Holalayone Memorial Fund (Diaspora Technical Seminar)

Fostering human resources in developing countries.

Japan Science and Engineering Challenge (JSEC2018)

Promoting excellence in science and engineering education.

Examples of Activities