# **EBARA Way**

### **Creation of New Value** by Acting Based on the "EBARA Way"

to society through our business in addition to fulfilling our social responsibilities. In conjunction

### **EBARA Group Business Ethics Framework**

#### **EBARA Way** A transcendental value of the EBARA Group. the EBARA Way comprises the Group's founding spirit, typified by passion and dedication in the pursuit of innovation; a corporate philosophy stating the Group's social mission; and the EBARA Group CSR Policy, which sets out a basic stance for the realization of the corporate philosophy

**Founding Spirit** Passion and Dedication Both employees and the Company shall strive for growth with passion and dedication to bring forth originality and ingenuity, rather than simply fulfilling the task at hand. When working with passion and dedication, there is nothing that cannot be communicated to others.

**Corporate Philosophy** 

air, and the environment We seek to foster trust with our valued

stakeholders by conducting our business

We contribute to society through high-quality

technologies and services relating to water,

with a strong sense of ethics.

**CSR Policy** 

Management Policy (Business Plan)

**Code of Conduct** 

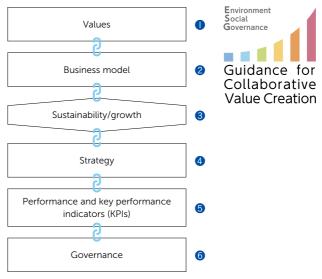
REFERENCE EBARA Group Business Ethics Framework

https://www.ebara.co.jp/en/about/corporate/about/ebara/index.html

### Information Regarding Integrated Report 2018

#### **Editorial Policy**

The EBARA Group has issued this integrated report to provide stakeholders with financial and non-financial information about its medium-to-long-term value creation activities. We have created the report with reference to the International Integrated Reporting Council's International Integrated Reporting Framework; the Guidance for Integrated Corporate Disclosure and Company-Investor Dialogues for Collaborative Value Creation: ESG Integration, Non-Financial Information Disclosure, and Intangible Assets into Investment (Guidance for Collaborative Value Creation) released by the Ministry of Economy, Trade and Industry; and the standards of the Global Reporting Initiative. The relationship between information in this report and the Guidance for Collaborative Value Creation is described in the table of contents. A table detailing the referenced Global Reporting Initiative standards is available on the Company's corporate website.



#### **Company References**

"EBARA" and "the Company" refer to EBARA CORPORATION while "the EBARA Group" and "the Group" refer to EBARA CORPORATION and its domestic and overseas subsidiaries and affiliates

#### **Target Readers**

All stakeholders of the EBARA Group

### **Reporting Period**

The nine-month period ended December 31, 2017 (April 1, 2017, to December 31, 2017)(The irregular nine-month period is the result of a change in the settlement date used by the Company. This report contains some information from after January 2018.)

### Scope of Reporting

EBARA CORPORATION and the 89 subsidiaries (of which 57 are consolidated subsidiaries) and eight affiliates that collectively comprise the EBARA Group (as of December 31, 2017); notice will be provided when the scope of data collection differs

### **Publication Date**

November 2018 (2017 edition: December 2017; 2019 edition: October 2019 (tentative))

### **Communication Tools**



To contact EBARA CORPORATION, please click "Contact" on the upper righthand corner of the Company's corporate website.

### Guidance for **Contents** Collaborative Value Creation INTRODUCTION **01** EBARA Way 02 Information Regarding Integrated Report 2018 / Contents 03 WHAT'S EBARA? 09 11-Year Financial Summary a 11 Performance Highlights 13 Message from the President 0234 17 Message from Executive in Charge of Finance 46 21 Progress of E-Plan 2019 Medium-Term Management Plan **EBARA Group's Value Creation Process** 23 Value Creation Model 25 Roadmap for Increasing Corporate Value 27 Materiality 2345 29 Overview of and Background for Key Performance Indicators **31** Relationship between Action Policies and the SDGs **Enhancement of Management Capital** 33 R&D and Intellectual Properties 345 39 Human Resources 43 Environmental Measures **Review of Operations 45** Fluid Machinery & Systems Business 2345 **49** Environmental Plants Business **53** Precision Machinery Business **Foundations for Growth** 57 Message from the Chairman of the Board of Directors 59 Board of Directors 86 65 Corporate Governance 73 Risk Management **74** Compliance **75** The EBARA Group and Its Stakeholders 77 EBARA Group History 78 Corporate Profile / Stock Information

### WHAT'S EBARA? **EBARA'S SPIRIT**

FOUNDING SPIRIT

### "Netsu to Makoto" (Passion and Dedication)

Both employees and the Company shall strive for growth with passion and dedication to bring forth originality and ingenuity, rather than simply fulfilling the task at hand. When working with passion and dedication, there is nothing that cannot be communicated to others.

CORPORATE PHILOSOPHY

We contribute to society through high-quality technologies and services relating to water, air, and the environment.

**CSR POLICY** 

We seek to foster trust with our valued stakeholders by conducting our business with a strong sense of ethics.

आपल सर्वोत्तम देण्याकरता स्वतःला नेहमीच आव्हान देण.

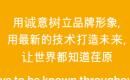
Always challenging ourselves to give our best.



勇気をもって挑み、 最後までやり抜く信念と姿勢があれば、 どんなハードルも乗り越えることができる

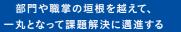
Moved by courage and a dedication to persevere, EBARA will overcome any obstacle





technology that shapes the future.





Taking on challenges as a team that coordinates across division and organization lines to deliver results.





기업의 이익을 창출하여 사회의 기반을 든든하게 받치고 모든 이들의 삶을 풍요롭게 하고자 노력합니다.

Helping build robust social infrastructure to enrich the lives of people around the world, committed to profit.



INTRODUCTION INTRODUCTION

# **WHAT'S EBARA? EBARA'S BUSINESS**

The EBARA Group is a conglomerate comprised of three core businesses: the Fluid Machinery & Systems Business, which supplies pumps, compressors, and other rotating machinery; the Environmental Plants Business, which handles urban waste incineration plants and other facilities; and the Precision Machinery Business, which produces equipment and devices related to semiconductor manufacturing. With these three businesses, we are helping resolve social issues through the provision of products and services to our customers.

Consolidated Net Sales

¥381.9 billion

(¥507.8 billion)

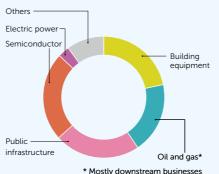
**Consolidated Operating Income** 

¥18.1 billion

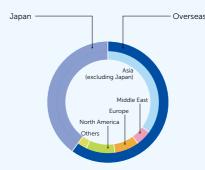
(¥36.6 billion)

Note: EBARA changed its settlement date to December 31, 2017, resulting in an irregular ninemonth reporting period ended December 31, 2017. Figures in parentheses ( ) are twelve-month reference data and include January to March of the fiscal year ended March 31, 2017.

### **Net Sales Ratio by Industry**



### **Net Sales Ratio by Region**



### Ratio of Service and Support (S&S) **Sales to Product Sales**



### Fluid Machinery & **Systems Business**

The Fluid Machinery & Systems Business supplies products and services that combine our world-class technological capabilities and extensive experience to address customer needs and support social and industrial infrastructure around the world.

### **Pumps Business**

The pumps business offers large-scale, high-pressure custom pumps for use in sewage facilities, rainwater drainage systems, petrochemical plants, and other facilities as well as standard pumps for use in high-rise buildings, condominiums, and industrial facilities, etc.

### **Compressors and Turbines Business**

The compressors and turbines business provides compressors and turbines for oil refineries and petrochemical plants.

### **Chillers Business**

The chillers business handles chillers, cooling towers, and related systems for use in the air-conditioning equipment of buildings and large-scale commercial facilities.

#### Other Businesses

Other businesses include the provision of fans for use in applications such as tunnel ventilation as well as electricity, telecommunications, and energy control equipment.

¥133.4 billion 1. Pumps 2. Compressors and Turbines ¥53.8 billion ¥29.2 billion 3. Chillers ¥9.3 billion 4 Others ¥225.7 billion Total

> Water We support water infrastructure

worldwide by providing a vast lineup of products, such as water supply pumps for buildings and condominiums, pumping stations that prevent flooding, and pumps for desalination plants.

### **Environmental Plants Business**

The Environmental Plants Business uses EBARA's incinerator and gasification plant technologies to handle the design, construction, maintenance, and operation of urban waste incineration plants and other waste treatment facilities. This business helps support sanitary cities and safe and secure lifestyles.

5. Environmental Plants ¥47.6 billion

### **Precision Machinery Business**

The Precision Machinery Business contributes to the realization of more convenient and comfortable societies by providing dry vacuum pumps that create the vacuums used when manufacturing semiconductors, flat panels, LEDs, and other devices indispensable to today's information society as well as chemical mechanical polishing (CMP) systems that can polish semiconductor wafers with nano-level precision.

Net Sales Ratio 28%

6. Components	¥51.7 billion
7. CMP Systems	¥49.8 billion
8. Others	¥5.8 billion
Total	¥107.3 billion

Others ¥1.2 billion



INTRODUCTION

# WHAT'S EBARA? VALUE CREATED BY EBARA

The EBARA Group contributes to the enrichment of people's lives and the development of industries in various regions around the world with its technologies, products, and services. We boast many strengths, including our world-leading environment technologies and manufacturing capabilities that address the needs of customers and society, our consulting and sales capacities founded on abundant experience, and the services and support through which we perform fine-tuned repair and maintenance. With these strengths, we live up to the expectations of customers and meet the needs of society with superior technologies and impeccable service quality born out of the passion, dedication, and creativity that have driven us since our founding.

### Fluid Machinery & Systems Business Pumps

### Wide-Ranging Support for Society and Infrastructure Ensuring Stable Water and Energy Supplies and Preventing Water Damage

EBARA supports society and infrastructure in a wide range of fields, including energy, river management, irrigation, and water supply/drainage. Specific examples of this support include facilitating optimal cycling of water in generator boilers to ensure stable power supplies and preventing damage from the water disasters that are growing ever more frequent as a result of global climate change.



One of the world's largest drainage pumps installed in a flood bypass on the outskirts of the Tokyo metropolitan area

### Fluid Machinery & Systems Business Chillers

# Creation of Comfortable Environments while Combatting Climate Change

The need for comfortable spaces in large-scale buildings, commercial facilities, and factories is growing in step with urban and industrial development.

By supplying high-efficiency chillers that use coolants with low global warming potential, EBARA contributes to the creation of comfortable spaces while protecting the global environment.



Chiller installed at the Kabukiza Theatre in Ginza, Tokyo

### **Environmental Plants Business**

# Contributions to a Sustainable Society by Promoting Effective Resource Usage

Through its design, construction, and operation of general waste treatment facilities for local governments, EBARA realizes the hygienic treatment of waste while utilizing waste and wood materials as biomass for use in generating energy. In this manner, EBARA's waste treatment facilities are able to function as community energy centers, allowing communities to generate the energy they use. In addition, we recycle various materials, using ash from incinerated waste to make stone materials for use in buildings and extracting precious metals and other melted metal materials. EBARA also helps to ensure that its waste treatment facilities can operate safely and reliably over the long term by providing operation, inspection, repair, and other maintenance services.



Hiratsuka-city "Kankyoujigyou Center" (Environment Management Center)



### Fluid Machinery & Systems Business Compressors and Turbines

### The Elliott Brand, Providing the Heart of Energy-Related Facilities Worldwide

Energy demand is rising in conjunction with global population growth and economic development. Under the Elliott brand, we supply products of proven quality along with services and support backed by outstanding technological prowess to the world. Elliott brand equipment acts as the heart of oil and gas production, LNG, shale gas, and other energy-related facilities worldwide.



Compressor of world-leading scale for propylene plants



CMP systen

### **Precision Machinery Business**

# Support for the Development of the Information Society with Cutting-Edge Technologies

EBARA supports the development of the information society by supplying the CMP systems and dry vacuum pumps required for semiconductor manufacturing processes. Through the proposal of high-quality solutions that preemptively address customer needs and the speedy development of the necessary technologies, we work together with our customers to realize a super-smart society in which information is readily and equally accessible to all.

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### 11-Year Financial Summary



EBARA CORPORATION and consolidated subsidiaries (fiscal year ended March 31, 2008–nine-month period ended December 31, 2017)
The occurrence of the irregular nine-month period ended December 31, 2017, is the result of a change in the settlement date used by the Company. Please find 12-month reference figures on the right, which include performance data from January to March of the fiscal year ended March 31, 2017.

		Millions of yen										Thousands of U.S. do		
	2008/3	2009/3	2010/3	2011/3	2012/3	2013/3	2014/3	2015/3	2016/3	2017/3	2017/12*2	12-Month Period Ended December 31, 2017 (Reference Figures)*3	2017/12*2	12-Month Period Ended December 31, 2017
Financial Results:	2006/3	2009/3	2010/3	2011/3	2012/3	2013/3	2014/3	2013/3	2010/3	2017/3	2017/12	(Kererence Figures)	201//12	(Reference Figures)*3
Orders	¥597,944	¥481,399	¥426,622	¥430,992	¥394,922	¥428,540	¥512,276	¥487,554	¥491,280	¥ 477,956	¥ 413,569	¥506,082	\$3,659,903	\$4,478,602
Net sales	567,191	501,149	485,889	401,676	412,077	426,302	448,658	482,700	486,235	476,105	381,993	507,809	3,380,469	4,493,888
Operating income	6,017	638	18,953	31,542	23,267	25,084	32,195	34,567	38,011	29,996	18,115	36,649	160,310	324,331
Ordinary income	2,757	(2,383)	16,774	28,750	21,087	25,663	31,311	36,258	36,472	28,465	16,529	35,482	146,274	313,998
Profit (loss) attributable to owners of parent	7,609	(13,113)	5,442	28,192	2,890	15,303	18,974	23,581	17,254	20,588	9,531	22,785	84,345	201,640
Depreciation and amortization	15,316	15,180	15,274	13,524	12,765	12,356	12,118	13,039	11,611	13,739	11,924	,	105,522	
Capital expenditures	22,381	23,560	19,484	8,189	12,316	12,302	18,153	15,847	15,730	22,675	12,387	_	109,618	_
R&D expenses	10,812	8,829	4,977	4,067	3,827	5,026	6,465	6,754	7,633	8,759	7,219	_	63,885	_
Financial Position:	10,012	3,023	.,,,,,	.,	0,02.	0,020	0,.00	3,7.0.	.,,,,,	3,, 33	1,0		55,555	
Total assets*4	¥607,007	¥562,456	¥522,540	¥507,898	¥488,964	¥504,576	¥530,211	¥570,392	¥579,860	¥ 588,458	¥ 612,920	_	\$5,424,071	_
Total net assets	155,263	124,264	132,665	154,938	154,656	191,786	215,047	247,553	250,445	277,509	284,789	_	2,520,256	_
Shareholders' equity*5	151,243	121,411	129,806	151,951	151,063	186,883	208,036	239,059	241,017	271,357	277,956	_	2,459,787	_
Interest-bearing debt	184,459	181,556	177,859	160,413	143,617	138,914	119,673	121,501	120,127	96,531	114,593	_	1,014,097	_
Retained earnings	24,256	7,316	12,568	40,760	41,752	53,886	70,629	91,816	102,446	117,884	121,321	_	1,073,637	_
Cash Flows:	2 1,200	7,010	12,500	10,700	11,702	33,000	, 0,023	31,010	102,110	117,001			2/07 0/007	
Cash flows from operating activities	¥ (6,317)	¥ 17,439	¥ 23,582	¥ 26,604	¥ 12,589	¥ 34,014	¥ 26,615	¥ 11,296	¥ 21,528	¥ 33,816	¥ 44,158	_	\$ 390,779	_
Cash flows from investing activities	31,771	(2,774)	(17,128)	10,997	(8,838)	(33,131)	3,539	(15,894)	(14,343)	(18,564)	(7,907)	_	(69,973)	_
Cash flows from financing activities	(21,807)	(3,233)	(5,437)	(14,096)	(19,998)	3,264	(25,337)	(7,045)	(9,655)	(15,102)	11,297	_	99,973	_
Free cash flow	25,454	14,664	6,454	37,601	3,751	883	30,154	(4,598)	7,185	15,252	36,251	_	320,806	_
Cash and cash equivalents at the end of	23, 13 1	1 1,00 1	0, 10 1	37,001	3,731	000	33,131	(1,030)	7,100	10,202	33,232		323,333	
the fiscal year	69,160	77,194	81,712	104,003	87,296	93,791	102,338	95,603	91,185	90,683	139,103	_	1,231,000	_
Share Data*6:	03/100	, ,	01,712	20 .,000	0.7200	30,732	102,000	30,000	32,200	30,000			_,,	
Number of issued shares (1,000 shares)	422,725	422,725	422,725	459,245	422,899	465,118	465,187	465,644	466,045	101,736	101,783	_		
Cash dividends (yen and U.S. dollars)	7.50	,	,,	5.00	5.00	5.00	7.50	12.00	12.00	36.00	45.00	_	0.398	_
Dividend payout ratio (%)*7	41.6	_	_	7.5	73.0	13.9	18.4	23.6	32.3	28.1	48.0	_	0.000	
Per Share Data (yen and U.S. dollars)*6:	12.0			7.5	7 0.0	10.5	10.1	20.0	32.3	20.1	10.0			
Profit (loss) attributable to owners														
of parent*8	¥ 18.01	¥ (31.04)	¥ 12.89	¥ 66.78	¥ 6.85	¥ 35.93	¥ 40.86	¥ 50.77	¥ 37.12	¥ 213.71	¥ 93.84	_	\$ 0.830	_
Total net assets*8	358.01	287.44	307.46	360.01	357.79	402.41	448.05	514.38	518.16	2,672.19	2,735.94	_	24.212	_
Financial Indicators:	330.01	207.11	307.10	300.01	337.73	102.11	110.00	311.30	010.10	2,072.13	2,700.51			
ROIC (%)*9	2.2	(4.1)	1.8	9.1	1.0	4.9	5.8	6.9	4.8	5.6	2.5	_		
ROE (%)*10	5.0	(9.6)	4.3	20.0	1.9	9.1	9.6	10.5	7.2	8.0	3.5	_		
Debt/equity ratio (times)	1.22	1.50	1.37	1.06	0.95	0.74	0.58	0.51	0.50	0.36	0.41	_		
Operating income to sales ratio (%)	1.1	0.1	3.9	7.9	5.6	5.9	7.2	7.2	7.8	6.3	4.7	_		
Equity ratio (%)	24.9	21.6	24.8	29.9	30.9	37.0	39.2	41.9	41.6	46.1	45.3	_		
Overseas sales ratio (%)	37.5	36.1	39.3	44.1	44.0	50.6	52.8	53.6	52.2	52.7	60.1	_		
Major Non-Financial Indicators:	57.5	50.1	33.3	11.4	1 1.0	55.5	32.0	33.3	52.2	JL.7	00.1			
Number of employees (persons)	16,074	16,102	13,800	14,007	14,695	15,170	15,168	16,030	16,270	16,317	16,219	_		
Overseas employee ratio (%)	31	32	13,800	14,007	14,695	15,170	15,106	10,030	16,270	10,317	51	_		
CO <sub>2</sub> emissions (thousands of tons)* <sup>11</sup>	49.1	46.6	43	43	40.7	38.6	37.4	39.0	38.3	39.3	29.9	41.2		
$CO_2$ emissions (thousands of tons)***  Material recycling rate (%)***1	49.1 95.3	46.6 95.0	41.3 95.8	41.5 96.7	40.7 98.6	38.6 98.6	37.4 92.6	39.0 98.7	38.3 97.2	39.3 98.8	98.0	98.1		
	95.3 3.4					98.6					1.6	1.6		
Landfill disposal rate (%)*11		3.5	3.6 642	2.6 5.76	1.2		7.0	1.1	2.3	0.9				
Water consumption (thousands of m³)*11	616	587	642	576	574	608	628	555	631	623	462	627		

<sup>\*1.</sup> The U.S. dollar amounts are included solely for convenience and have been translated as a matter of arithmetical computation only at the rate of ¥113.00=US\$1, the rate of exchange prevailing on December 29, 2017.

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<sup>\*2.</sup> At the General Meeting of Shareholders held on June 23, 2017, it was resolved to change the Company's settlement date from March 31 to December 31. As a result, the period under review is an irregular nine-month period aggregating performance from April 1 to December 31, 2017, for EBARA CORPORATION and consolidated subsidiaries that previously had a settlement date of March 31, and from January 1 to December 31, 2017, for consolidated subsidiaries that previously had a settlement date of December 31.

<sup>\*3.</sup> Figures for the 12-month period from January 1 to December 31, 2017, have been prepared to allow for performance to be compared across periods of the same length (figures are unaudited).

<sup>\*4.</sup> The provisional accounting treatment concerning business combinations implemented in the fiscal year ended March 31, 2016 was finalized in the fiscal year ended March 31, 2017, and the finalized details of the provisional accounting treatment have been reflected in total assets for the fiscal year ended March 31, 2016.

<sup>\*5.</sup> Shareholders' equity: Net assets excluding subscription rights to shares and non-controlling interests

<sup>\*6.</sup> EBARA CORPORATION conducted a consolidation of common shares at a rate of one share for every five shares with an effective date of October 1, 2016.

<sup>\*7.</sup> When the annual dividend of ¥36.00 for the fiscal year ended March 31, 2017 (including an interim dividend of ¥6.00) is converted after the consolidation of shares, it is equivalent to ¥60.00 per share, consisting of an interim dividend of ¥30.00 and a year-end dividend of ¥30.00. Accordingly, the dividend payout ratio is calculated based on an annual dividend of ¥60.00 per share.

<sup>\*8.</sup> Profit (loss) attributable to owners of parent per share is based on the average number of shares outstanding (excluding treasury stock) during the fiscal year. Total net assets per share is calculated using the number of shares outstanding (excluding treasury stock) as of the end of the fiscal years.

<sup>\*9.</sup> ROIC: Profit attributable to owners of parent / (Interest-bearing debt (Average between beginning and end of period) + Shareholders' equity (Average between beginning and end of

<sup>\*10.</sup> ROE: Profit attributable to owners of parent / Shareholders' equity (Average between beginning and end of period)

<sup>\*11.</sup> Figures are for EBARA CORPORATION and domestic consolidated subsidiaries, excluding one company that operates an electricity supply business.

50

40

Billions of yen

80

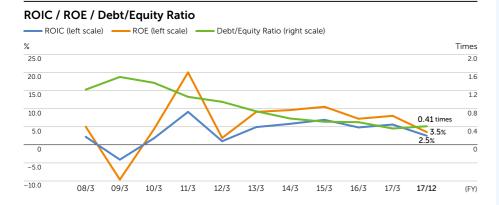
### INTRODUCTION

#### Performance Highlights

### **Performance Highlights**

EBARA CORPORATION and consolidated subsidiaries (fiscal year ended March 31, 2008-nine-month period ended

The occurrence of the irregular nine-month period ended December 31, 2017, is the result of a change in the settlement date used by the Company.



Operating Income / Operating Income to Sales Ratio

Capital Expenditures / Depreciation and Amortization

Capital Expenditures Depreciation and Amortization

**Dividends Per Share / Total Payout Ratio** 

Dividends Per Share (left scale) —— Total payout ratio (right scale)

Operating Income (left scale) — Operating Income to Sales Ratio (right scale)



The Company has positioned return on invested capital (ROIC) as its most important key management indicator and has set the target of achieving ROIC of 8% or more in the fiscal year ending December 31, 2019. This target will be pursued by achieving a debt/equity ratio of 0.40 times-0.60 times and return on equity (ROE) of



Operating income levels have been down in recent years due to the persistence of sluggish conditions in the oil and gas market. In the nine-month period ended December 31, 2017, operating income was significantly lower than it would have been in a full year. A recovery trend has emerged in the oil and gas market, and we therefore intend to continue working toward the target of 9.0% or more for the operating income to sales ratio set in E-Plan 2019 through the steady advancement of profitability improvement measures in all of our husinesses



7.2% 8.

(FY)

15/3 16/3 17/3 **17/12** 17/12

Capital expenditures were up in the fiscal year ended March 31, 2017, due to the investments in augmenting the facilities of the Kumamoto Plant. We intend to continue aggressively investing in growth throughout the period of E-Plan 2019.



100.0

EBARA has been issuing consistent dividends over the past several years supported by improvements in its financial position. During the period of E-Plan 2019, we will target a total payout ratio of 30% or more to account for both dividends and share buybacks.

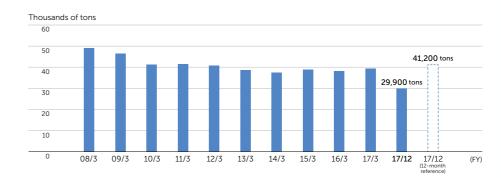
Note: EBARA CORPORATION conducted a consolida of common shares at a rate of one share for every five shares with an effective date of October 1, tive shares with an effective date of October 1, 2016. Figures for dividends per share have been adjusted based on the assumption that this consoli dation was conducted on April 1, 2007. Consoli dated profit attributable to owners of parent in the nine-month period ended December 31, 2017, resulted from a change in settlement date, was lower than it would have been in a full year. Accordingly, the consolidated total payout ratio rose for this period. Consolidated dividend payou ratio figures for the fiscal year ended March 31, 2017, and prior are figures for the consolidated



The number of employees at overseas Group companies is rising with the increases in the overseas sales ratio. Seeking to promote the optimal positioning of employees and efficient business operation on a global scale, the EBARA Group is promoting global-level personnel mobility, making it possible for employees to transfer from domestic companies to overseas companies, from overseas companies to domestic companies, and between overseas companies

#### Number of Employees / Overseas Employee Ratio Consolidated number of domestic employees (left scale) Consolidated number of overseas employees (left scale) Persons Overseas sales ratio (right scale) 20.000 100.0 8,343 15,000 60.1% 10.000 50.0 5.000 15/3 10/3 14/3

### CO<sub>2</sub> Emissions (Scope 1 and 2)\*





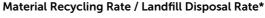
One of the EBARA Group's FY2020 Environmental Targets calls for ongoing reductions in  $CO_2$  emissions. In the twelve-month period ended December 31, 2017, CO<sub>2</sub> emissions increased by 4.7% compared to the prior fiscal year, due to the commencement of operation at the new building of the Kumamoto Plant. We will reduce CO2 emissions leading up to 2020 through the continued application of insulating paint coatings and upgrades to more energy-efficient lighting, boilers, and other equipment.

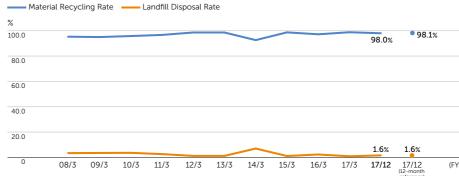
Note: The base year for emissions targets is the fiscal year ended March 31, 2001. The Company uses the emissions coefficient of 0.357 kg/kWh prescribed in the Order for Enforcement of the Act on Promotion of Global Warming Countermeasures in 2000.

The EBARA Group's FY2020 Environmental Targets stipulate that the Group is to maintain a material recycling rate of more than 95% and a landfill disposal rate of less than 3%. In the nine-month period ended December 31, 2017, these targets were achieved with a material recycling rate of 98.0% and a landfill disposal rate of 1.6%. Moving forward, we will work to ensure that waste is properly separated while reducing packaging materials and implementing other initiatives for increasing the material recycling rate and reducing the landfill disposal rate.

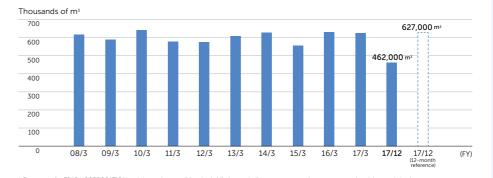
Note: In the fiscal year ended March 31, 2014, unrecyclable sludge was produced as a resul of construction .

The FY2020 Environmental Targets contain a target to reduce water usage by 30% from the level of the fiscal year ended March 31, 2001. In the twelve-month period ended December 31, 2017, a reduction of 15.1% was achieved in comparison to this level. Water consumption reduction initiatives include reusing pump test water, reducing and reusing the water emitted from manufacturing equipment that uses pure water, and reusing water for cooling electric furnaces.





### Water Consumption\*



<sup>\*</sup> Figures are for EBARA CORPORATION and domestic consolidated subsidiaries, excluding one company that operates an electricity supply business

48.0% 50.0 17/12 08/3 09/3 10/3 11/3 12/3 13/3 14/3 15/3 16/3 17/3

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