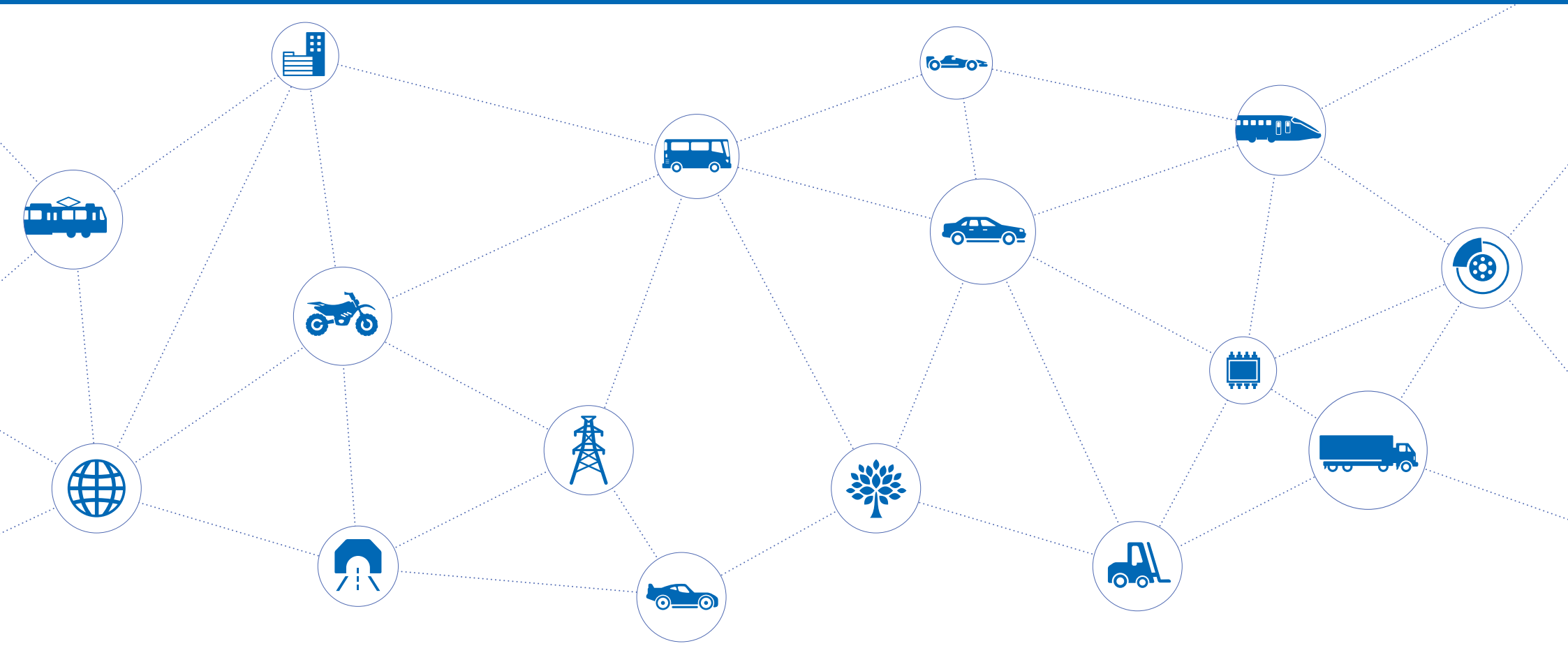
AKEBONO REPORT 2018 DATA BOOK



Akebono Brake Industry Co., Ltd.

CSR Promotion Status (Fiscal 2017)

■ Explanatory note: A: 5.0 points, B: from 4.9 to 3.5 points, C: from 3.4 to 2.1 points, D: 2.0 points and below
Points represent result of self-evaluation on a scale of 1.0 to 5.0 points that was implemented in reference to the "CSR Check Sheet (revised version as of April 2010)" formulated by JAPIA.

Category	Related SDGs	Initiatives	Responsible Organization	Numerical targets (if applicable)	Structure for Promotion, Action taken and Degree of Attainment	Self-evaluation
1. Safety and quality	3, 7, 8, 9, 12	**1-1.** Understanding customer needs, providing products that benefit society	Sales Division, Development Division, and Quality Assurance Division		・Establish and implement a system for checking on market needs and development goals at commencement of basic development ・Establish and implement a system for checking on customer needs at the start of application development ・Process inquiries and estimation requests in accordance with prescribed workflows and pass them on to the relevant sections through in-house computer networks ・Acquire customers' latest requirements and organize and implement systems to reflect them in relevant in-house departments	B
		1-2. Providing information on products in an appropriate manner	Sales Division, Quality Assurance Division, and Production sites		・Provide appropriate information on R&D phase technologies in accordance with prescribed workflows ・Provide information on product composition in a systematic manner in accordance with customer and legal requirements and such automotive industry standards as the International Material Data System ・Collect information on product failures and share such information in a systematic manner	
		1-3. Ensuring product safety	R&D Division, Quality Assurance Division, and Production sites		・Verify the safety of pre-productions pursuant to the prescribed operation procedures ・Establish and implement a system to check the impact on products due to usage conditions and environment, and to verify failure mode using FMEA (failure mode and effects analysis) and FTA (fault tree analysis) to determine its usefulness prior to supplying them to customers ・Examine and verify conformity to legal and safety requirements as well as market and customer needs in a systematic manner at the R&D phase ・Quality risk items requiring compliance with legal and safety requirements are identified and are closely controlled ・Develop and implement a global defect information network to achieve rapid dispersal of information to bases worldwide	
		1-4. Ensuring product quality	Quality Assurance Division	Conduct in-house management system audits (once per year for every site)	・Establish and apply quality management systems within an organizational structure designed to assist quality management activities ・Quality management activities are constantly pursued using the PDCA method, with policies and targets being formulated for each fiscal year ・Integrate product development processes and Advanced Part Quality Planning (APQP) at locations worldwide ・Created and implemented a system for manufacturing facility development and global production to ensure quality management ・Currently working to strengthen the quality management system to meet customers' needs and requirements	
2. Human rights and working environment	3, 4, 5, 8, 10, 16	**2-1.** Abolishment of discrimination (ensuring equal employment opportunity)	HR Department		・Wage structure and personnel evaluation system are set forth irrespective of gender ・Gender is eliminated from items verified at the examination for wage raise and promotion	B
		2-2. Respect for human rights (prevention of harassment)	HR Department, Compliance Committee	Activities aimed at raising associates' awareness of compliance (twice a year)	・Conduct "compliance proficiency tests" aimed at raising associates' awareness of compliance across the board (twice) ・Internal consultation service has been established and announced companywide ・Whistle blowers are protected under the prescribed in-house rules	
		2-3. Abolishment of child labor	HR Department		・The Company demands newly recruited associates to submit documents to identify their age under the rules of employment	
		2-4. Abolishment of enforced labor	HR Department		・Although the Company may check associates' passport for proof of identity, the submission of a passport is not required	
		2-5. Appropriate wages	HR Department	Confirmation of minimum wage set forth by local governments (once a year)	・The Company is comparing its wage levels and minimum wage set forth by each prefecture, ensuring that it is complying with the law (implemented utilizing a wage database system)	
		2-6. Working hours	HR Department	Managerial training themed on labor time management (once a year)	・In accordance with an agreement with the labor union, notification of overtime work exceeding prescribed baseline hours must be submitted and permission gained in advance ・Attendance management system is utilized to verify whether working situations are complying with the Labor Standard Law ・Conduct regular training on labor/working hours management	
		2-7. Communication and consultation with associates	HR Department		・Frequency of labor-management consultations as well as matters to consult with is set forth in labor agreement	
		2-8. Safety and health of the working environment	Central Safety and Environment Committee	Reduce occupational accidents (50% year on year) to zero per year	・Groupwide promotion items for facility safety countermeasures and sanitary control at workplaces are formulated and implemented by the Central Safety Environment Committee ・Formulate a Groupwide safety promotion plan annually, and conduct close mutual exchanges and sharing of information promoting the improved safety levels at all locations ・FRESH Center and Health Management Office formulate annual activity plans for health management and manage their implementation ・Implemented standardized safety manuals for global locations based on the manual used in Japan	
		2-9. Human resources nurturing	HR Department	Conducting Education Programs for associates tailored to their rank and job roles (once a year)	・Established Ai-Village global training center as a facility to nurture globally capable human resources ・Created a guidebook that summarizes the content of in-house educational programs and provided all associates with opportunities to participate in such programs ・Held global management training programs for managers from Akebono Group locations worldwide in response to globalization (twice a year) ・Education programs for associates tailored to their rank and job roles are implemented (Conducted rank-specific training: new recruit training conducted once in spring and once in autumn. Conducted one training for second year, third year, and seventh year training and newly appointed team leaders, one for newly appointed assistant managers, one for newly appointed senior staff, and one for new managers)	

* In our self-evaluation, we used the Japan Auto Parts Industries Association CSR check sheet (revised April 2010). It was conducted to verify PDCA is being internally promoted for each item.

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3. Environment	3, 6, 7, 9, 12, 13, 14, 15, 16, 17	**3-1.** Environmental management	Global Environment Committee, etc.	・Renewal of the ISO14001 certifications ・Environmental education	・Renewed the ISO14001 certifications at four locations including Iwatsuki Manufacturing and AAIJ (Indonesia) ・Began providing online educational programs as a part of enhancement of environmental education ・Continued tree-planting activities in consideration of vegetation	B
		3-2. Reduction of greenhouse gas emissions	Global Environment Committee and others (CO_2 Emission Reduction Project)	Improve CO_2 intensity 1% or greater every year until 2020 (in reference to JAPIA target value)	・In fiscal 2017, CO_2 emissions per unit of sales declined 9.8% (with an average reduction of 2.4% per year) compared to fiscal 2013 through the introduction of next-generation friction material production facilities and the application of heat-insulating coatings to the rooftops of plant buildings	
			Global Environment Committee, etc.	Improvement of transportation efficiency, increase in energy usage efficiency	・CO_2 emissions per transported weight and distance declined 0.4% year on year through the introduction of a system for the real-time management of truck operations and other measures	
		3-3. Resource saving, waste reduction, and reducing environmental impact	Global Environment Committee, etc.	・No direct landfill of waste and no incineration without energy recovery ・Promote the reduction and proper disposal of waste ・Continued environmental impact reduction activities	・No direct landfill of waste and no incineration without energy recovery accomplished in fiscal 2017 again through efforts such as recycling of foundry sand into cement raw material ・Reduced the emission of waste cutting fluid accompanying machining processes by using filtration and centrifuge equipment to recycle such fluid	
		3-4. Chemical substance management	Global Environment Committee, etc. Environment Department	Response to regulations on copper used in friction materials set forth by states of California and Washington, the United States (After January 1, 2021, materials for new automobile containing 5wt% of copper or more are going to be prohibited / After January 1, 2025, materials for new automobile containing 0.5wt% of copper or more are going to be prohibited)	・The Company initiated the mass-production of copper-free friction materials for front and rear brakes in 2014 while working to improve the performance of such materials ・Chemical substances designated by PRTR laws contained in newly developed friction materials are checked and tracked	
4. Compliance	5, 8, 10, 12, 16	**4-1.** Compliance with laws and regulations	Compliance Committee	・Compliance Committee meetings (six times per year) ・Compliance understanding tests (once a year) ・Workplace discussion (once a year)	・Compliance Committee meetings are held six times a year and relevant issues and initiatives are discussed ・Conducted "compliance proficiency test" to reinforce associates' knowledge of compliance (once) ・Held a workplace discussion as part of a month dedicated to strengthening compliance (once)	B
		4-2. Compliance with competition laws	Compliance Committee		・Established guidelines on prevention of cartels and bid rigging ・The Company raised awareness by sharing data on the latest cases of cartel violations through intranet ・Conducted training on cartels and the "Act Against Delay in Payment, etc., to Subcontractors" and promoted awareness raising activities	
		4-3. Corruption prevention	Compliance Committee		・Created bribery prevention guidelines and raised awareness of them in Japan and overseas	
		4-4. Control and protection of secret information	Compliance Committee	Audit and review of trade secret management on an annual basis	・Conducted regular audit and review of the status of trade secret management (once)	
		4-5. Control of export transactions	Compliance Committee	Holding training (once a year)	・Export transactions are managed and overseen by structures set forth in the in-house regulations and processed with prescribed operation flow provided by the regulations ・The Company submitted the "Export Control Regulations for National Security" to the Ministry of Economy, Trade and Industry, and is registered as an exporter ・Regular training session was held to raise associates' awareness of compliance (once a year)	
		4-6. Intellectual property protection	Legal & Intellectual Property Department		・Patent guarantee (non infringement of other companies' patents): patent guarantee for products is conducted in Japan at process review stages 2 and 4 using patent examination sheets (The same system is used in the U.S.A. and Europe) ・Development Patent Committee: Continued efforts to evaluate and register newly obtained published patents of other companies for each working group meeting during development (Check other companies' trends and stay aware of other companies' patents)	

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5. Information disclosure	10, 12, 16	**5-1.** Information disclosure to stakeholders	Corporate Communications Office	The issuance of the AKEBONO REPORT (once a year, both in Japanese and English)	・Information is appropriately disclosed to stakeholders, giving sufficient consideration to the content and the timing ・Matters such as financial conditions, performance and business activities are disclosed through such media as TD net and EDINET pursuant to the rules of information disclosure set forth by such media ・Update the Company's websites as needed to improve visibility and to ensure that the latest information is disclosed ・The Company issues "AKEBONO REPORT," which integrates the corporate brochure, CSR report and annual report for the convenience of stakeholders	B
6. Risk management	3, 10, 12, 16, 17	**6-1.** Companywide risk management structure	Risk Management Committee, Risk Evaluation Committee	Companywide identification and monitoring of critical risks	・Conducted annual reviews on Companywide critical issues and appoint responsible person and organization to each issue, having them monitor and evaluate progress on response plans with respect to nine selected themes ・Established risk management structures at each major overseas location and monitor and evaluate progress on risk response plans at each location ・The status of risk management activities and their risk management policies are reported annually to the Board of Directors after being discussed by the Risk Management Committee	B
		6-2. Enhance Business Continuity Management (BCM)	BCM Countermeasure Subcommittee (a special subcommittee operating under the Risk Evaluation Committee)	・A broad range of BCM development including prevention, mitigation to initial action, recovery procedures, and alternative production strategies (create a list of concrete actions and maintain the database) ・Education (implementation of large-scale earthquake drills, etc.)	・Formulated a midterm road map geared toward strengthening prompt and accurate responses to diversifying disaster risks and reinforced our structure in line with BU (business units). Reformed the entire BCM initiative focusing on tactical exercises and drills to establish PDCA (moving beyond P) (1) Election of a BCM Promotion Committee (review the former committee structure). In addition, we will establish a new BCM Promotion Office and promote BCM development planning and foster Groupwide human resources development (2) To improve BCP effectiveness, we changed the type of training from the conventional scenario flow type to a non-disclosure type and simulated emergency situations (120 participants ranking executive or lower) * We implemented non-disclosed scenario-type large-scale earthquake response drills in combination with problem-solving working group activities. In the working groups to foster people who can take action in emergency situations problem-solving type activities were developed through practical exercises. (3) Implemented activities across the entire supply chain in response to all types of natural disasters or accidents (fire, explosion, etc.), including overseas locations	
7. Social contribution	10, 16, 17	**7-1.** Contribution to local communities	General Affairs Department	・Meeting with local residents for the exchange of opinions (once a year or more) ・Summer festivals (once a year) ・Voluntary cleanup activities at the local areas (twice a year)	・Regularly held meetings with local residents for the exchange of opinions (four meetings were held in total at four locations in fiscal 2017, attended by 68 people in total) ・Welcomed elementary and junior high school students to plant tours while hosting "Open House Events" for families of associates wishing to see worksites (such events were held on 27 occasions on a Groupwide basis during fiscal 2017, with 1,086 attendees in total) ・Continued to hold summer festivals (held at five locations in fiscal 2017 with a total of 6,623 people participating) ・Local voluntary cleanup activities are regularly undertaken by associates (15 times in total at all locations with a total of 373 associates participating) ・Local greenery development activities are regularly undertaken (such activities were held three times in fiscal 2017 with 35 associates participating in total)	C
8. CSR promotion structure	3, 8, 12, 16, 17	**8-1.** Structure for developing CSR activities inside the Group	Corporate Branding Office		・CSR activities are led by the Corporate Brand Management team under the recognition of "CSR is indispensable for corporate brand management and an essential for continuing our business operations" ・Each relevant section and committee sets targets and evaluates achievements on a separate basis. The Company recognizes that those initiatives must be integrated and promoted on a Groupwide basis in the future	B
		8-2. Structure for developing CSR activities involving suppliers	Purchasing Division		・Worked to nurture more favorable partnerships with suppliers globally by strictly complying with relevant laws and regulations and the principles of fairness and equity in conducting business transactions ・Revised the Green Purchasing Guidelines in February 2012 to step up green procurement efforts ・Launched tracking surveys to watch for "conflict minerals" entering supply chains in 2013, and took steps to further strengthen parts and material procurement that gives due consideration to the global environment and human rights protection ・In January 2014 Akebono launched the "Supplier Whistleblower Hotline" on its corporate website and set up systems to pick up and improve on issues in its business dealings	

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Environmental Targets for Fiscal 2017 and Results Achieved

R&D

Initiatives	Promotion of products containing no substances of concern (SOCs)	Medium- to long-term Targets	Complete the conversion to lead-free sintered material by 2020 (for local and bullet trains)

Targets for Fiscal 2017	Results Achieved in Fiscal 2017	Plans for Fiscal 2018 and After
Lead-free sintered material production rate is greater than 55%	Lead-free sintered material production rate is 58% as of fiscal 2017	• Further promote a changeover to the lead-free sintered material for applicable categories of rolling stock • Develop lead-free sintered materials that suit for other categories of rolling stock

Production

Initiatives	Medium- to long-term Targets
Reduction of total CO_2 emissions at production plants in Japan	Reduction of CO_2 emissions intensity more than 1% on an annual average by 2020
Continue and improve ISO14001-related activities	Continue to enhance environmental activities
Promote no landfill waste disposal at production site	Maintain and continue no direct landfill waste disposal

Targets for Fiscal 2017	Results Achieved in Fiscal 2017	Plans for Fiscal 2018 and After
Reduction of CO_2 emissions intensity more than 1%	9.8% reduction in CO_2 emissions compared to fiscal 2013 (annual average reduction of 2.4%) achieved by introduction of next-generation friction materials manufacturing equipment and application of thermal barrier coatings to factory roofs	Collect information globally on CO_2 reducing measures and energy-saving technologies
Firmly root ISO14001 in operations and steadily renew certifications	Renewed the ISO14001 certifications at four sites, including Iwatsuki Manufacturing	Continue to firmly root ISO14001 in operations and steadily renew certifications
Continue no direct landfill waste disposal	Continue no direct landfill waste disposal	Continue no direct landfill waste disposal

Environmental Education

Initiatives	Environmental training center	Medium- to long-term Targets	Nurture human resources to disseminate environmental preservation methods to locations nationwide through training programs implemented at Environmental training center

Targets for Fiscal 2017	Results Achieved in Fiscal 2017	Plans for Fiscal 2018 and After
Get feedback from the trainees and reflect it in the program	• Held lectures on chemical substance management by external instructors • Started introducing the online education program implemented at ABCT (United States) to Japan	Get feedback from the trainees and reflect it in the program

Refer to page 5 to page 10 for performance data for each principal company.

Environmental Targets for Fiscal 2017 and Results Achieved

Logistics

Initiatives	Response to revised Energy Conservation Law (energy saving obligation of cargo owners)	Medium- to long-term Targets	Reduce unit energy consumption by 1% (five-year average)

Targets for Fiscal 2017	Results Achieved in Fiscal 2017	Plans for Fiscal 2018 and After
Improve transport efficiency and increase energy usage efficiency	• Reduced CO_2 emissions per transport weight and distance from logistics by 0.4% on a year-on-year basis • Implemented eco-friendly driving activities and seminars • Introduced the real-time management system of truck operations	Continue efforts to reduce unit energy consumption by 1% or more in five-year average

Purchasing

Initiatives	Promotion of green purchasing	Medium- to long-term Targets	Establish structure that ensures purchasing activities in line with the Green Purchasing Guidelines

Targets for Fiscal 2017	Results Achieved in Fiscal 2017	Plans for Fiscal 2018 and After
Revise supplier quality management (SQM) standard manuals	• Conducted research in tandem with suppliers into the alternate materials that use fewer environmental impact substances and require lower energy input with the aim of making concrete proposals for new material development • Carried out the following revisions to SQM standard manuals to ensure the greater understanding of suppliers with regard to the Company's approach to environmental impact substance reduction (Enhanced GADSL[*1] explanations and provided clearer descriptions of procedures for the handling of environmental impact substances)	• Encourage suppliers to upgrade their environmental management systems • Continue supply chain survey using IMDS[*2]

Production Engineering

Initiatives	Promotion of resource-saving design	Medium- to long-term Targets	Develop manufacturing facilities that are reusable, achieving a greater yield ratio, energy saving, and eco-friendly operations with the aim of realizing environmentally friendly manufacturing

Targets for Fiscal 2017	Results Achieved in Fiscal 2017	Plans for Fiscal 2018 and After
Further enhance energy-saving and resource-saving technologies	Power saving by introducing 5 electric molding machines (improved energy efficiency with servo hydraulic & electric actuators) at Yamagata Manufacturing together with the implementation of individual dust collectors and commencing mass production of next-generation friction materials equipment	Aim for zero CO_2 emissions by 2050 and further enhance energy-saving and resource-saving technologies

*1 Global Automotive Declarable Substance List
*2 International Material Data System used by automobile industry to report data on materials

Environmental Data by Location (main domestic Group members)

Akebono Brake Yamagata Manufacturing Co., Ltd. Production item: Disc brake pads and Clutch facings

Acquired the ISO14001 certification in March 2000

◆ **Air**
(Air Pollution Control Law and Prefectural ordinances)

Substances	Unit	Standard	FY2016		FY2017	
		Regulatory Limit	Maximum Emissions	Average Emissions	Maximum Emissions	Average Emissions
Dust and soot	g/m³N	0.1	0.032	0.026	0.016	0.015
NOx	ppm	950	760	755	920	775
SOx	m³N/h	7.91	—	0.7	—	0.7

◆ **Water**
(Water Pollution Control Law and Prefectural ordinances)

Substances	Unit	Average Daily Emissions during Operative Period	Average Daily Emissions	FY2016		FY2017	
				Maximum Emissions	Average Emissions	Maximum Emissions	Average Emissions
pH	—	5.8～8.6	—	7.3	7.0	7.2	7.1
BOD	mg/l	25	20	6.8	3.8	4.8	2.1
Suspended solids	mg/l	60	50	4.2	3.0	9.8	4.5
Oil (n-hexane extract)	mg/l	5	—	4.5	2.0	4.4	2.5
Colon bacilli	Number/cm³	—	3,000	—	1,700	—	0
Ammonia, ammonium compound, nitrite and nitrates	mg/l	100	—	10	5.5	18	4.3

◆ Emission Volume of PRTR Designated Chemical Substances

Unit: kg/Year

Name of Substance	Amount Handled		Amount Emitted				Amount Transported				Amount Removed through Proper Removal Methods		Amount Consumed (Attached to Products)	
			Atmosphere		Rivers		Landfill		Recycled					
	FY2016	FY2017	FY2016	FY2017	FY2016	FY2017	FY2016	FY2017	FY2016	FY2017	FY2016	FY2017	FY2016	FY2017
Antimony and its compounds	24,300	22,700	0	0	0	0	0	0	2,900	2,700	0	0	21,400	20,000
Xylene	7,900	8,300	500	100	0	0	0	0	0	0	7,400	8,200	0	0
Chromium and Trivalent chromium compounds	8,900	15,500	0	0	0	0	0	0	1,100	1,900	0	0	7,800	13,600
Hexamethylene tetramine	57,400	58,100	0	0	0	0	0	0	6,900	7,000	50,500	51,100	0	0
Triethylamine	1,400	1,400	0	1,400	0	0	0	0	0	0	1,400	0	0	0
Toluene	3,700	2,700	3,700	2,700	0	0	0	0	0	0	0	0	0	0
Phenol	13,500	13,600	0	0	0	0	0	0	1,600	1,600	11,900	12,000	0	0
Manganese and its compounds	8,600	7,800	0	0	0	0	0	0	1,000	900	0	0	7,600	6,900
Molybdenum and its compounds	4,200	4,700	0	0	0	0	0	0	500	600	0	0	3,700	4,100
Total	129,900	134,800	4,200	4,200	0	0	0	0	14,000	14,700	71,200	71,300	40,500	44,600

Environmental Data by Location (main domestic Group members)

Akebono Brake Fukushima Manufacturing Co., Ltd. Production item: Drum brake linings, Disc brake pads and clutch facings

Acquired the ISO14001 certification in March 2000

◆ **Air**
(Air Pollution Control Law and Prefectural ordinances)

Substances	Unit	Standard	FY2016		FY2017	
		Regulatory Limit	Maximum Emissions	Average Emissions	Maximum Emissions	Average Emissions
Dust and soot	g/m³N	—	0.008	0.008	0.078	0.036
NOx	ppm	—	50	39	51	44
SOx	m³N/h	0.87	0.005	0.0043	0.006	0.0043

◆ **Water**
(Water Pollution Control Law and Prefectural ordinances)

Substances	Unit	Average Daily Emissions during Operative Period	Average Daily Emissions	FY2016		FY2017	
				Maximum Emissions	Average Emissions	Maximum Emissions	Average Emissions
pH	—	5.8〜8.6	—	7.4	7.2	7.5	7.0
BOD	mg/l	40	—	2.4	1.6	2.2	1.5
Suspended solids	mg/l	70	—	19	11	20	11
Oil (n-hexane extract)	mg/l	10	—	less than 1.0	less than 1.0	less than 1.0	less than 1.0

◆ Emission Volume of PRTR Designated Chemical Substances

Unit: kg/Year

Name of Substance	Amount Handled		Amount Emitted				Amount Transported				Amount Removed through Proper Removal Methods		Amount Consumed (Attached to Products)	
			Atmosphere		Rivers		Landfill		Recycled					
	FY2016	FY2017	FY2016	FY2017	FY2016	FY2017	FY2016	FY2017	FY2016	FY2017	FY2016	FY2017	FY2016	FY2017
Antimony and its compounds	48,200	44,400	0	0	0	0	0	0	7,200	6,600	0	0	41,000	37,800
Chromium and Trivalent chromium compounds	19,000	16,900	0	0	0	0	0	0	2,900	2,500	0	0	16,100	14,400
Hexamethylene tetramine	51,500	45,500	0	0	0	0	0	0	4,000	3,200	47,500	42,300	0	0
Toluene	3,800	3,100	3,800	3,100	0	0	0	0	0	0	0	0	0	0
Phenol	14,600	12,700	0	0	0	0	0	0	1,100	900	13,500	11,800	0	0
Molybdenum and its compounds	3,100	3,300	0	0	0	0	0	0	400	500	0	0	2,700	2,800
Boron compounds	1,800	1,600	0	0	0	0	0	0	300	200	0	0	1,500	1,400
Other	9,100	8,900	0	0	0	0	0	0	1,200	1,100	0	0	7,900	7,800
Total	151,100	136,400	3,800	3,100	0	0	0	0	17,100	15,000	61,000	54,100	69,200	64,200

Figures presented above exclude substances for which the annual handling volume is less than 1 ton. However, nickel compounds and other substances designated as Class I specified compounds are included, if their annual handling volume amounts to 500 kg or more.

Environmental Data by Location (main domestic Group members)

Akebono Brake Iwatsuki Manufacturing Co., Ltd. Production items: Disc brakes, Drum brakes and Bullet train disc brakes

Acquired the ISO14001 certification in March 2002

◆Air
(Air Pollution Control Law and Prefectural ordinances)

Substances	Unit	Standard	FY2016		FY2017	
		Regulatory Limit	Maximum Emissions	Average Emissions	Maximum Emissions	Average Emissions
Dust and soot	g/m³N	0.3	Not applicable, since heavy oil-fed boilers have been abolished.		Not applicable, since heavy oil-fed boilers have been abolished.	
NOx	ppm	180				
SOx	m³N/h	0.95				

◆Water
(Water Pollution Control Law and Prefectural ordinances)

Substances	Unit	Average Daily Emissions during Operative Period	Average Daily Emissions	Maximum Emissions	Average Emissions	Maximum Emissions	Average Emissions
pH	—	5.8〜8.6	—	7.3	7.2	7.6	7.3
BOD	mg/l	25	20	24	15	22	12
COD	mg/l	—	—	28	15.2	25	14.6
Suspended solids	mg/l	60	50	12	5.8	10	3.0
Oil (n-hexane extract)	mg/l	5	—	Not detected	Not detected	Not detected	Not detected
Total nitrogen	mg/l	120	60	58	40	59	50
Total phosphorus	mg/l	16	—	1.5	0.4	0.4	0.2
Colon bacilli	Number/cm³	—	3,000	730	218	1,770	201
Total chromium	mg/l	2	—	Not detected	Not detected	Not detected	Not detected
Fluorine	mg/l	8	—	Not detected	Not detected	Not detected	Not detected
Zinc	mg/l	2	—	0.9	0.4	0.7	0.4

◆ Emission Volume of PRTR Designated Chemical Substances

Unit: kg/Year

Name of Substance	Amount Handled		Amount Emitted				Amount Transported				Amount Removed through Proper Removal Methods		Amount Consumed (Attached to Products	
			Atmosphere		Rivers		Landfill		Recycled					
	FY2016	FY2017	FY2016	FY2017	FY2016	FY2017	FY2016	FY2017	FY2016	FY2017	FY2016	FY2017	FY2016	FY2017
Nickel compounds	10,800	13,300	0	0	0	0	0	0	5,900	7,100	0	0	4,900	6,200
Total	10,800	13,300	0	0	0	0	0	0	5,900	7,100	0	0	4,900	6,200

Figures presented above exclude substances for which the annual handling volume is less than 1 ton. However, nickel compounds and other substances designated as Class I specified compounds are included, if their annual handling volume amounts to 500 kg or more.
In step with the enactment of the Sixth Total Emission Control Standards, regulatory limits for emissions at the Hanyu facilities (total nitrogen and total phosphorus) and Iwatsuki facilities (COD, total nitrogen and total phosphorus) were revised.
Accordingly, regulatory limits presented above are as of fiscal 2009.

Environmental Data by Location (main domestic Group members)

Akebono Brake Industry Co., Ltd. Headquarters (Hanyu-City, Saitama Prefecture)

Acquired the ISO14001 certification in March 2003

◆Air
(Air Pollution Control Law and Prefectural ordinances)

Substances	Unit	Standard: Regulatory Limit	FY2016: Maximum Emissions	FY2016: Average Emissions	FY2017: Maximum Emissions	FY2017: Average Emissions
Dust and soot	g/m³N	0.05	less than 0.001	less than 0.001	less than 0.001	less than 0.001
NOx	ppm	600	195	192	196	189
SOx	m³N/h	0.63	—	—	—	—

◆Water
(Water Pollution Control Law and Prefectural ordinances)

Substances	Unit	Standard: Average Daily Emissions during Operative Period	Standard: Average Daily Emissions	FY2016: Maximum Emissions	FY2016: Average Emissions	FY2017: Maximum Emissions	FY2017: Average Emissions
pH	—	5.8〜8.6	—	8.1	7.8	8.3	7.0
BOD	mg/l	25	20	0.5	0.5	1.7	0.5

Akebono Brake Industry Co., Ltd. Tatebayashi Foundry Production item: Casting parts for brakes

Acquired the ISO14001 certification in March 2010

◆Air
(Air Pollution Control Law and Prefectural ordinances)

Substances	Unit	Standard: Regulatory Limit	FY2016: Maximum Emissions	FY2016: Average Emissions	FY2017: Maximum Emissions	FY2017: Average Emissions
Dust and soot	g/m³N	0.2	—	less than 0.0009	—	less than 0.0009

Environmental Data by Location (main domestic Group members)

Akebono Brake Sanyo Manufacturing Co., Ltd. Kibi Daiichi Plant Production items: Drum brakes

Acquired the ISO14001 certification in May 2001

Akebono Brake Sanyo Manufacturing Co., Ltd. Kibi Daini Plant Production items: Wheel cylinders

Acquired the ISO14001 certification in March 2003

◆Air
(Air Pollution Control Law and Prefectural ordinances)

Substances	Unit	Standard	FY2016		FY2017	
		Regulatory Limit	Maximum Emissions	Average Emissions	Maximum Emissions	Average Emissions
Dust and soot	g/m³N	—	—		—	
NOx	ppm	—				
SOx	m³N/h	—				

◆Water
(Pollution Control Agreement in Soja city)

Substances	Unit	Maximum Daily Emissions during Operative Period	Average Daily Emissions	FY2016 Maximum Emissions	FY2016 Average Emissions	FY2017 Maximum Emissions	FY2017 Average Emissions
pH	—	—	6.0〜8.0	7.8	7.6	7.8	7.6
BOD	mg/l	15	6	1.4	0.5	1.5	0.2
COD	mg/l	15	8	7.9	3.5	4.2	3.2
Suspended solids	mg/l	30	10	3.0	0.8	3.0	1.5
Oil (n-hexane extract)	mg/l	2	1	0	0	0	0
Total nitrogen	mg/l	5	3	1.5	0.88	2.5	1.1
Total phosphorus	mg/l	2	2	0.16	0.07	0.2	0.1
Colon bacilli	Number/cm³	—	—	0	0	0	0

◆ Emission Volume of PRTR Designated Chemical Substances

Unit: kg/Year

Name of Substance	Amount Handled		Amount Emitted				Amount Transported				Amount Removed through Proper Removal Methods		Amount Consumed (Attached to Products)	
			Atmosphere		Rivers		Landfi ll		Recycled					
	FY2016	FY2017	FY2016	FY2017	FY2016	FY2017	FY2016	FY2017	FY2016	FY2017	FY2016	FY2017	FY2016	FY2017
Chlorobenzene	2,090	2,000	2,090	2,000	0	0	0	0	0	0	0	0	0	0
Toluene	1,860	1,900	1,860	1,900	0	0	0	0	0	0	0	0	0	0
Total	3,950	3,900	3,950	3,900	0	0	0	0	0	0	0	0	0	0