Environment

Production-related Inputs and Outputs | Raw Materials / Production Volume | Basic Approach to Climate

Change Mitigation | Greenhouse Gas (GHG) Emissions | Basic Approach to Resource Use |

Energy Management | Water Resources | Resource Recycling | PRTR Law Substances |

Pollution Prevention | Environmental Accounting | Biodiversity Conservation Project Expenditures |

Environment-related Accidents / Violations of Environmental Laws and Regulations | Status of External

Certification

Production-related Inputs and Outputs (Non-consolidated)

Input					
Raw materials	0.69Mt				
Energy (as crude oil equivalent)	570ML				
Water withdrawal	32Mm³				



Output						
Production volume	0.74Mt					
GHG emissions	0.80Mt-CO ₂ -e					
Water discharge	28Mm ³					
External waste discharge	11kt					
Recycling	16kt					

Raw Materials / Production Volume (Non-consolidated)

Indicator	Unit	FY2019	FY2020	FY2021	FY2022
Raw material input	kt	764	704	770	693
Production volume	kt	1,373	1,144	1,011	739

Basic Approach to Climate Change Mitigation

- 1. Formulate targets for reducing Scope 1 and 2*1 GHG emissions and steadily reduce them through planning, execution, monitoring and reassessment.
- 2. Assess, manage, monitor and proactively disclose Scope 3*2 GHG emissions and take action to reduce them in collaboration with suppliers.
- 3. Improve energy efficiency and raw materials' carbon cycle and promote energy transition toward realization of a zero-carbon society by 2050.
- 4. Contribute to solving energy and climate change challenges through business operations by deploying innovative process technologies and factoring whole-lifecycle GHG emissions into design and development processes.
- 5. Disclose information through climate change initiatives*3.
- *1 Scope 1 emissions are GHG emissions directly generated by MGC. Scope 2 emissions are indirect GHG emissions associated with the use of energy (mainly electric power) purchased from external suppliers.
- *2 Scope 3 emissions are indirect GHG emissions generated in supply chains through organizational activities such as raw material sourcing, manufacturing, distribution, sales and waste disposal.
- *3 MGC proactively participates in various collaborative activities to mitigate climate change (climate change initiatives)

Greenhouse Gas (GHG) Emissions

Scope1+2(Consolidated)

		FY2019	FY2020	FY2021	FY2022
Indicator		Non- consolidated	Consolidated	Consolidated	Consolidated
CO ₂ emissions from non-energy use	kt-CO ₂ -e	768	1,283	1,379	1,221
CO ₂ emissions from non-energy use	kt-CO ₂ -e	78	75	101	91
CH ₄	kt-CO ₂ -e	1	4	3	14
N ₂ O	kt-CO ₂ -e	1	1	0	1
HFCs	kt-CO ₂ -e	1	1	3	1
PFCs	kt-CO ₂ -e	0	0	0	0
SF ₆	kt-CO ₂ -e	0	0	0	0
NF ₃	kt-CO ₂ -e	0	0	0	0
Total*1	kt-CO ₂ -e	849	1,363	1,487	1,327
Scope1	kt-CO ₂ -e	603	653	770	744
Scope2 (market based)	kt-CO ₂ -e	247	709	717	584
GHG emissions intensity ratio per unit to sales	t-CO ₂ -e / million yen	2.4	2.3	2.1	1.7

^{*1} Due to rounding off figures, there are places where the sums for each item do not match the total.

Scope 3 (Consolidated)

		FY2019	FY2020	FY2021	FY2022
Category	Unit	Non- consolidated	Consolidated	Consolidated	Consolidated
Purchased goods and services	kt CO ₂ -e	5,010	6,110	7,780	6,136
Capital goods	kt CO ₂ -e	45	109	161	179
Activities related to fuels and energy not includable in Scopes 1 and 2	kt CO ₂ -e	101	235	266	275
Transportation and distribution (upstream)	kt CO ₂ -e	626	642	703	310
Waste generated in operations	kt CO ₂ -e	<4	6	5	8
Business travel	kt CO ₂ -e	<4	1	1	0
Employee commuting	kt CO ₂ -e	<1	1	1	1
Leased assets (upstream)	kt CO ₂ -e	<8>	7	7	6
Transportation and distribution (downstream)	kt CO ₂ -e	158	212	150	53
Processing of sold products	kt CO ₂ -e		-		
Use of sold products	kt CO ₂ -e	_	_	75	419
End-of-life treatment of sold products	kt CO ₂ -e	2,026	1,824	2,207	3,045
Leased assets (downstream)	kt CO ₂ -e	34	26	1	1
Franchises	kt CO ₂ -e	0	0	0	0
Investments	kt CO ₂ -e	_	_	_	_
Total	kt CO ₂ -e	8,018	9,172	11,358	10,434

^{*}Due to rounding off figures, there are places where the sums for each item do not match the total.

^{*}Data for prior fiscal years were revised to reflect changes in the Group's composition and revision of calculation standards.

^{*}For the above table's reporting boundaries, see page 21.

imes We have reviewed past data and revised figures.

^{*}Data for prior fiscal years were revised to reflect changes in the Group's composition and revision of calculation standards.

^{*} For the above table's reporting boundaries, see page 21.

 $[\]ensuremath{\ensuremath{\%}}$ We have reviewed past data and revised figures.

GHG emissions per unit of sales (Non-consolidated)

Indicator	Unit	FY2019	FY2020	FY2021	FY2022
GHG emissions(Non-consolidated)	kt CO ₂ -e	849	780	812	726
GHG emissions per unit of sales	kt CO ₂ -e / million yen	0.0024	0.0023	0.0019	0.0015

GHG Emissions in Transportation Sector (Non-consolidated)

Indicator	Unit	FY2019	FY2020	FY2021	FY2022
By rail	kt CO ₂ -e	0.58	0.57	0.60	0.62
By ship	kt CO ₂ -e	10.8	9.9	11.5	10.4
By truck	kt CO ₂ -e	16.2	16.2	16.9	15.1

Basic Approach to Resource Use

The MGC Group promotes efficient utilization of fuel and other resources (including product raw materials) and development of innovative process technologies at its domestic and overseas production sites and contributes to reduction in GHG emissions.

Energy Management

Energy Use (Ratio of grid power, renewable energy and self-generated energy) (Non-consolidated)

Indicator	Unit	FY2019	FY2020	FY2021	FY2022
Total energy use*	MWh	3,482,864	3,200,968	3,475,701	3,182,497
Ratio of grid power	_	9.8%	9.7%	9.4%	9.6%
Ratio of renewable energy	_	0.0%	0.0%	0.0%	0.0%
Total self-generated energy	MWh	272,094	243,556	260,992	243,480

^{*}Calculated based on SASB standards

Energy Use (Ratio of grid power, renewable energy and self-generated energy) (Consolidated)

Indicator	Unit	FY2019	FY2020	FY2021	FY2022
Total energy use*	MWh	_	_	_	5,065,871
Ratio of grid power	_	_	_	_	17.5%
Ratio of renewable energy	_	_	_	_	0.0%
Total self-generated energy	MWh	_	_	_	264,238

^{*}Calculated based on SASB standards

We have reviewed past data and revised figures.

^{*}For the above table's reporting boundaries, see page 21.

Energy Use (Ratio of renewable/non-renewable energy) (Non-consolidated)

Indicator	Unit	FY2019	FY2020	FY2021	FY2022
Nonrenewable fuels purchased and consumed (A) (nuclear power, coal, oil, natural gas, etc.)	MWh	2,831,478	2,607,820	2,820,676	2,597,636
Nonrenewable Electricity purchased (B)	MWh- purchased electricity	340,631	309,315	331,496	304,480
Steam, heat, cooling and other nonrenewable energy purchased (C)	MWh	377,594	345,762	392,187	342,853
Renewable energy purchased or generated. (D) (wind, energy solar, biomass, hydroelectric, geothermal etc.)	MWh	0	10	12	18,989
Non-renewable energy sold (E) (electricity, heating, cooling)	MWh	66,839	61,928	68,658	62,473
Total non-renewable energy consumed (A+B+C-E)	MWh	3,482,864	3,200,968	3,475,701	3,182,497

We have reviewed past data and revised figures.

Energy Use (Ratio of renewable/non-renewable energy) (Consolidated)

Indicator	Unit	FY2019	FY2020	FY2021	FY2022
Nonrenewable fuels purchased and consumed (A) (nuclear power, coal, oil, natural gas, etc.)	MWh	_	_	_	3,355,691
Nonrenewable Electricity purchased (B)	MWh- purchased electricity	_	_	_	887,768
Steam, heat, cooling and other nonrenewable energy purchased (C)	MWh	_	_	_	884,885
Renewable energy purchased or generated. (D) (wind, energy solar, biomass, hydroelectric, geothermal etc.)	MWh	_	-	_	60,823
Non-renewable energy sold (E) (electricity, heating, cooling)	MWh	_	_	_	62,473
Total non-renewable energy consumed (A+B+C-E)	MWh	_	_	_	5,065,871

^{*}For the above table's reporting boundaries, see page 21.

Energy Use (crude oil equivalent) (Non-consolidated)

Indicator	Unit	FY2019	FY2020	FY2021	FY2022
Production and research divisions, Corporate Sector	ML-crude oil equivalent	393	359	380	348
Logistics division	ML-crude oil equivalent	10	10	10	10
Energy intensity (Logistic division)	KL/million-ton kilo	19	20	20	21

We have reviewed past data and revised figures.

Energy Use (crude oil equivalent) (Consolidated)

Indicator	Unit	FY2019	FY2020	FY2021	FY2022
Production and research divisions, Corporate Sector	ML-crude oil equivalent	_	_	_	633

^{*}For the above table's reporting boundaries, see page 21.

Energy consumption per unit of sales (Non-consolidated)

Indicator	Unit	FY2019	FY2020	FY2021	FY2022
Energy use	ML-crude oil equivalent	393	359	380	348
Energy consumption per unit of sales	ML-crude oil equivalent / million yen	0.00112	0.00104	0.00089	0.00074

[※] We have reviewed past data and revised figures.

Water Resources (Non-consolidated)

Water Resource Risk Management

MGC uses large quantities of water, both as a raw material of chemical products and for various other purposes, including steam-heating and cooling in chemical manufacturing processes, product refining and cleaning containers. To sustainably use water resources essential to manufacturing chemicals, MGC manages a variety of risks. Specifically, MGC monitors its actual water consumption and uses water efficiently by measuring water withdrawal, water discharge, water usage and water recycling. In drawing from water sources, MGC restricts its intake to permitted quantities in accord with applicable laws or agreements with municipalities. Additionally, MGC discharges wastewater into rivers, the sea or other public water bodies in compliance with effluent standards after treating it to filter out identified pollutants. Data on these water-related environmental impacts are presented in detail below.

Additionally, MGC maintains a sanitary water-use environment at all its sites to provide its workforce with access to properly functioning, safely managed sanitary facilities (wash service).

From a business continuity standpoint, MGC has identified production downtime due to drought or flooding of production facilities as a water-related risk, formulated a business continuity plan (BCPs) that addresses this risk and implemented measures to mitigate it. None of the areas in which MGC's plants are located has experienced either adverse impacts on production activities due to water stress or conflicts with stakeholders regarding use of water resources.

Meanwhile, MGC sees opportunities in businesses that provide solutions for issues surrounding the coolant water of air conditioning equipment and cooling systems. Such solutions include water treatment agents that maintain healthy coolant water quality by killing disease-causing legionella bacteria and a comprehensive water treatment system service offered through affiliate Día Aqua Solutions Co., Inc.

Going forward, MGC will set qualitative and quantitative targets for efficient water usage to more effectively preserve water resources.

Approach to water recycling

In the chemical industry, a large proportion of water is used as cooling water, and the water is usually circulated through cooling towers to reduce its temperature.

If this cooling water were to be used in one pass instead of being circulated, it would be possible to reduce the amount of electricity used by the pump, but the amount of water intake and discharge would increase by 100 times.

For this reason, we have set a goal of improving the water reuse rate and are working to reduce water intake.

Use of Water Resources (Non-consolidated)

	Indicator	Unit	FY2019	FY2020	FY2021	FY2022
	Tap water (Third party water source)	1000m ³	1,490	1,521	1,613	1,543
Water withdrawal	Surface water (fresh water such as lakes, rivers, etc.)	1000m³	29,231	30,980	33,296	30,016
	Ground water	1000m³	368	392	387	395
	Total	1000m ³	31,089	32,893	35,296	31,954
	Sewage system	1000m³	2,047	2,035	2,233	2,038
	Ocean/sea	1000M ³	9,050	8,540	9,455	9,252
Water discharge	River/lake(freshwater)	1000m³	17,819	18,264	19,585	16,686
distriarge	Other	1000m³	0	0	0	0
	Total	1000m³	28,915	28,839	31,274	27,976
Water consumption*1		1000m³	2,174	4,054	4,022	3,978
Percentage of water recycled for use		1000m³	460,025	422,047	511,862	478,178
Ratio of water	er recycled for use	%	94	93	94	94

^{*1} Water withdrawal — Water discharge

Amount of water withdrawn per unit of sales (Non-consolidated)

Indicator	Unit	FY2019	FY2020	FY2021	FY2022
Water withdrawal	1000m³	31,089	32,893	35,296	31,954
Amount of water withdrawn per unit of sales	1000m³/ million yen	0.088	0.096	0.082	0.068

Water consumption per unit of sales (Non-consolidated)

Indicator	Unit	FY2019	FY2020	FY2021	FY2022
Water consumption	1000m³	2,174	4,054	4,022	3,978
Water consumption per unit of sales	1000m ³ / million yen/	0.0062	0.0118	0.0094	0.0085

Water recycling achievement status (Non-consolidated)

Indicator	Unit	FY2019	FY2020	FY2021	FY2022
Water recycling rate	%	94	93	94	94
Target: at least 95%	-	×	×	×	×

Resource Recycling (Non-consolidated)

Waste

Indicator	Unit	FY2019	FY2020	FY2021	FY2022
Volume of waste generation	Ton	83,820	79,115	84,046	79,130
Recycled volume (Including post-disposal recycling)	Ton	23,965	24,913	26,131	21,891
Final disposal volume	Ton	671	388	231	199
Recycling rate	%	29	32	31	28

 $[\]ensuremath{\,\times\,}$ We have reviewed past data and revised figures.

Zero waste emission rate

Indicator	Unit	FY2019	FY2020	FY2021	FY2022
Amount of final disposal/total amount of waste generated	%	0.80	0.49	0.27	0.25
Target: at most 0.3%	-	×	×	0	0

We have reviewed past data and revised figures.

PRTR Law Substances (Non-consolidated)

Number of notified substances subject to PRTR Law

Indicator	Unit	FY2019	FY2020	FY2021	FY2022
Number of substances	Substances	54	55	54	53

Emissions of PRTR Law Substances

	Indicator	Unit	FY2019	FY2020	FY2021	FY2022
	Atmosphere	Ton	270	266	239	328
Emissions of PRTR	Water bodies	Ton	10	11	11	10
Substances	Soil	Ton	0	0	0	0
Cabotaniooo	Total [*]	Ton	280	277	250	338

^{*}Due to rounding off figures, there are places where the sums for each item do not match the total.

High-emission Substances Notified under the PRTR Law

Government- designated number	Substance	Unit	FY2019	FY2020	FY2021	FY2022
296	1,2,4-Trimethylbenzene	Ton	150	152	111	206
186	Dichloromethane	Ton	74	77	68	56
80	Xylene	Ton	18	10	28	32
300	Toluene	Ton	12	12	13	18

We have reviewed past data and revised figures

Reduction of PRTR Chemical Discharges

In its Responsible Care Medium-term Plan 2023, MGC set a target of reducing its plants' discharges of chemicals regulated by Japan's PRTR Law by 10% relative to FY2020.

Pollution Prevention (Non-consolidated)

Air Emissions

Indicator	Unit	FY2019	FY2020	FY2021	FY2022
Volatile organic compounds (VOCs)	Ton	375	338	298	379
SO _X	Ton	54	64	30	36
NO _X	Ton	472	508	368	407
Dust	Ton	25	31	8	12

We have reviewed past data and revised figures.

Control of Water Discharge

Indicator	Unit	FY2019	FY2020	FY2021	FY2022
BOD	Ton	33	47	38	25
COD	Ton	125	121	137	136
Total oxygen demand (BOD+COD)	Ton	157	169	175	161
Total nitrogen emissions	Ton	247	193	309	239
Total phosphorus emissions	Ton	59	51	56	49

[※] We have reviewed past data and revised figures.

Environmental Accounting (Non-consolidated)

Environmental Accounting

5			FY2	019	FY2	2020	FY2	021	FY2	022	
		Breakdown	Unit	Amount invested	Expenses						
	n cost	Air pollution	Million yen	6	926	95	878	72	859	46	923
ost	Pollution orevention c	Water pollution	Million yen	106	1,669	178	1,561	144	1,667	62	1,976
site co	Onsite cost Pollipped prevent	Soil/noise pollution	Million yen	80	0	354	0	19	3	10	0
o		l environmental ction cost	Million yen	139	1,806	192	1,872	499	2,173	632	1,818
	Resou	urce recycling cost	Million yen	0	837	6	1,143	0	819	28	1,088
Up o	r down	stream cost	Million yen	0	35	0	40	4	112	9	0
Man	agemei	nt activity cost	Million yen	25	475	41	547	1	1,391	6	1,496
R&D	cost		Million yen	337	2,716	442	2,748	1,189	2,826	734	4,170
Soci	al contr	ibution cost	Million yen	0	8	0	7	0	5	0	4
Envi	ronmer	ntal damage cost	Million yen	0	74	0	71	0	75	0	48
Total	*		Million yen	692	8,546	1,308	8,866	1,929	9,929	1,527	11,522

^{*}Due to rounding off figures, there are places where the sums for each item do not match the total.

Economic Benefits Associated with Environmental Protection Measures

Indicator	Unit	FY2019	FY2020	FY2021	FY2022
Income	Million yen	45	48	8	61
Reduction of expenses	Million yen	398	111	74	242

Water Conservation Expenditure

Indicator	Unit	FY2019	FY2020	FY2021	FY2022
Water-related investment (CAPEX)	Million yen	106	178	144	62
Water-related expenses (OPEX)	Million yen	1,669	1,561	1,667	1,976

Biodiversity Conservation Project Expenditures (Non-consolidated)

Indicator	Unit	FY2019	FY2020	FY2021	FY2022
Biodiversity conservation project investment (CAPEX)	Million yen	0	0	0	0
Biodiversity conservation project expenses (OPEX)	Million yen	113	108	85	91

Environment-related Accidents / Violations of Environmental Laws and Regulations (Non-consolidated)

Indicator	Unit	FY2019	FY2020	FY2021	FY2022
Violations of environmental laws and regulations	Cases	0	1	2	0
Accidents/pollution with potential to cause environmental problems	Cases	1	1	1	0
Complaints regarding environmental problems	Cases	0	0	0	0
Total environmental fines/penalties	Thousand yen	0	0	0	0

We have reviewed past data and revised figures.

Reporting Scope

The scope of Scope1+2,3 ,Energy

Japan

Scope1+2 Scope3 Energy Company JSP CORPORATION • JAPAN FINECHEM COMPANY, INC. TOHO EARTHTECH, INC • Japan U-PiCA Company, Ltd. FUDOW COMPANY LTD. • MGC Terminal Company, Inc. MGC Advance Co., Ltd. MGC Woodchem Corporation • Polyols Asia Company, Inc. MGC ENERGY Company Limited KYOUDOU KASANKASUISO CORP. MGC Filsheet Co., Ltd. MGC Electrotechno Co., Ltd. • • Yonezawa Dia Electronics Co., MGC AGELESS Co., Ltd. • Global Polyacetal Co., Ltd. EIWA CHEMICAL IND. CO., LTD. Toyo Kagaku Co., Ltd. Mitsubishi Gas Chemical Trading, Inc. Ryowa Enterprise Co., Ltd.

Overseas

Company	Scope1+2 Scope3	Energy
SAMYOUNG PURE		
CHEMICALS CO., LTD.	•	•
Korea Polyacetal Co., Ltd	•	•
MGC PURE CHEMICALS	_	_
TAIWAN, INC.	•	•
TAIXING MGC LINGSU CO.,		
LTD.		
MITSUBISHI GAS CHEMICAL		
ENGINEERING-PLASTICS	•	•
(SHANGHAI) CO., LTD.		
MGC PURE CHEMICALS	_	_
SINGAPORE PTE. LTD.	•	•
MITSUBISHI GAS CHEMICAL	_	_
SINGAPORE PTE. LTD.	•	•
PT PEROKSIDA INDONESIA	_	_
PRATAMA	•	•
THAI POLYACETAL CO., LTD	•	•
AGELESS (THAILAND) CO.,	_	_
LTD.	•	•
MGC ELECTROTECHNO		
(THAILAND) CO., LTD	•	•
MGC ADVANCED POLYMERS,		
INC.	•	•
MGC PURE CHEMICALS		
AMERICA, INC	•	•
MITSUBISHI GAS CHEMICAL		
AMERICA, INC		

Status of External Certification

Status of External Certification (As End of March 2023)

Japan

Company	Business Sites	ISO 14001	OHSAS 18001	ISO 45001	ISO 9001
MITSUBISHI GAS CHEMICAL COMPANY, INC.	Niigata Plant	•			•
	Mizushima Plant	•			•
	Yokkaichi Plant	•			•
	Kashima Plant	•			•
	Yamakita Plant	•			•
	Hokkaido Plant	•			•
	Kanuma No.1 Plant	•			•
	Kanuma No.2 Plant	•			•
	Kanuma No.3 Plant				
	Mirafoam Plant	•			•
JSP CORPORATION	Kashima Plant	•			•
	Yokkaichi No.1 Plant	•			•
	Yokkaichi No.2 Plant	•			•
	Kansai Plant	•			•
	Kitakyushu Plant				
	Kyusyu Plant	•			•
	Sakaide Factory	•			•
JAPAN FINECHEM COMPANY, INC.	Niigata Factory	•			•
	Hiratsuka Division	•			•
	Factory				•
TOHO EARTHTECH, INC.	Construction Business Headquarters	•			•
	Hiratsuka Factory				
MGC Woodchem Corporation	Shimizu Factory				
	Mizushima Factory				
Laman II Diaa Oammana II I	Shonan Factory				•
Japan U-Pica Company Ltd.	Mine Factory	•			•

Company	Business Sites	ISO 14001	OHSAS 18001	ISO 45001	ISO 9001
	Fujinomiya Factory	•			•
Fudow Company Limited	Hiratsuka Factory	•			•
rudow Company Limited	Gamagori Factory				•
	Tokai Office				•
KYOUDOU KASANKASUISO CORP.	Factory				
	Tokorozawa Factory				•
MGC Filsheet Co., Ltd.	Osaka Factory				•
MGC Filsneet Co., Ltd.	Shirakawa Factory				•
MGC Electrotechno Co.,Ltd.	Factory	•			•
Yonezawa Dia Electronics Co., Inc.	Factory	•			•
MGC AGELESS Co.,Ltd.	Factory				•
EIWA CHEMICAL IND. CO.,	Kinuura Factory				•
LTD	Ujitawara Factory				•
	Headquarters Factory	•			•
TOYO KAGAKU, INC.	Mitake Factory	•			•
	Mizushima Factory	•			•

Asia

Company	Business Sites	ISO 14001	OHSAS 18001	ISO 45001	ISO 9001
■Korea					
Samyoung Pure Chemicals Co.,	Cheonan Plants	•		•	•
Ltd	Ulsan Plants	•		•	•
■Taiwan					
MGC Pure Chemicals Taiwan, Inc.	Plant	•		•	•
■China					
Taixing Lingsu Specialty Materials Co., Ltd.	Plant	•			•
MITSUBISHI GAS CHEMICAL ENGINEERING-PLASTICS (SHANGHAI) CO., LTD.	Plant	•			•
Suzhou MGC Suhua Peroxide Co., ltd.	Plant	•			•
■ Singapore					
MGC PURE CHEMICALS SINGAPORE PTE. LTD.	Plant	•		•	•
■Indonesia					
PT PEROKSIDA INDONESIA PRATAMA	Plant	•		•	•
■Thailand					
THAI POLYACETAL CO., LTD	Plant	•		•	•
AGELESS (THAILAND) CO., LTD.	Factory			•	•
MGC ELECTROTECHNO (THAILAND) CO., LTD	Factory	•			•

Americas

Company	Business Sites	ISO 14001	OHSAS 18001	ISO 45001	ISO 9001
MGC ADVANCED POLYMERS, INC.	Factory	•			•
MGC PURE CHEMICALS AMERICA, INC	Arizona Facility	•		•	•
	Texas Facility	•		•	•
	Oregon Facility	•		•	•

^{*} Total 39sites (68%) of 57 production sites acquired ISO 14001 certification.

* Total 0sites (0%) of 57 production sites acquired OHSAS 18001 certification.

* Total 10sites (17%) of 57 production sites acquired ISO 45001 certification.