Mitsubishi Chemical Holdings Corporation

Fiscal 2016 Data Sheet

(Aggregation period: April 1 – March 31 of each fiscal year, and March 31 of each fiscal year)

Contents

Environmental Data

Scope of data aggregation:
The data for fiscal 2014 covers the three operating companies (MCC, MTPC, and LSII) as well as their domestic Group companies. The data for fiscal 2015 covers the three major operating companies, TNSC and their domestic Group companies, and the data for fiscal 2016 covers these four operating companies and their domestic and overseas Group companies. (Group companies are directly-owned consolidated subsidiaries). The data represents 79% of the Mitsubishi Chemical Holdings Corporation (MCHC) Group's revenue.

☑ Indicators with this icon have been assured by KPMG AZSA Sustainability Co., Ltd. for fiscal 2016.
For the Independent Assurance Report, please see page 5 in this data sheet.

		FY2014	FY2015	FY2016
Greenhouse gasses (GHG)[*1]				
☑ GHG emissions (thousand t-CO_2e)[*2]		50,604	55,294 [*3]	**68,639**
☑ Scope 1+2		8,764	12,054 [*3]	**14,269**
☑ Scope 1		7,764	7,771 [*3]	**7,223**
☑ Scope 2		1,000 [*4]	4,283 [*3] [*4]	**7,046**
☑ Scope 3[*5]		41,840	43,240	**54,370**
Category 1	Purchased goods and services	10,100	9,680	**17,550**
Category 2	Capital goods	320	270	**560**
Category 3	Fuel- and energy-related activities not included in Scope 1 or Scope 2	460	400	**1,030**
Category 4	Upstream transportation and distribution (including distribution services whose cost was borne by the Group)	760	730	**730**
Category 5	Waste generated in operations	140	130	**130**
Category 6	Business travel	60	50	**70**
Category 7	Employee commuting	30	30	**100**
Category 8	Upstream leased assets	—	—	—
Category 9	Downstream transportation and distribution	0	0	**0**
Category 10	Processing of sold products	—	—	—
Category 11	Use of sold products	20,630	21,460	**22,500**
Category 12	End-of-life treatment of sold products	8,690	8,860	**9,930**
Category 13	Downstream leased assets	—	—	—
Category 14	Franchises	—	—	—
Category 15	Investments	650	640	**1,770**

Energy Consumption[*1]				
☑ Energy consumption (GWh)[*6]		30,277	34,935 [*3]	**38,950**
Direct consumption (GWh)		28,602	28,854	**24,572**
Coal (GWh)		5,385	5,398	**3,567**
Oil (GWh)		3,099	2,845	**3,389**
Gas (GWh)		3,089	2,945	**5,130**
By-product gas and by-product oil (GWh)		17,030	17,666	**12,486**
Indirect consumption (GWh)		1,675	6,081	**14,378**
Electricity (GWh)		1,888 [*7]	6,582 [*7]	**10,454**
Steam (GWh)		-213 [*7]	-501 [*7]	**3,924**

*1 Energy consumption and CO_2 emissions used for generating electricity and steam sold externally had been excluded until fiscal 2015 results, but in conformity with the GHG protocol, they are not excluded starting in fiscal 2016.
*2 The emission factor of the Act on Promotion of Global Warming Countermeasures is used for the calculation of emissions in Japan. Regarding GHG emissions that are not subject to reporting under the Act, a specific calculation rule based on the balance of chemical reactions, etc. is set separately. Regarding emissions overseas, for Scope 1 emissions, the emission factor is based on the Act on Promotion of Global Warming Countermeasures or IPCC, and for Scope 2 emissions, the emission factor specific to each supplier or the emission factor for each country (2014 value) announced by IEA is used for calculation.
*3 The fiscal 2015 results include GHG emissions of 1.65 million tons and energy consumption of 1,942 GWh by affiliate companies that are closely associated in terms of energy management.
*4 CO_2 emissions from electricity and steam that MCHC Group sold to other companies is excluded from Scope 2 GHG emissions.
*5 Please refer to page 3 of this data sheet for the calculation method for Scope 3 GHG emissions.
*6 The unit heating value of energy is based on the Act on the Rational Use of Energy and IPCC and is indicated as a higher heating value. Regarding electricity, the value converted to the amount of primary energy is used until fiscal 2015 results, but the amount of electricity purchased is used starting in fiscal 2016 results. For comparison with past data, the energy in fiscal 2014 and 2015 is recalculated using the amount of electricity purchased without being converted to primary energy.
*7 Electricity and steam that the MCHC Group sold to other companies are excluded from the MCHC Group's calculations.

Environmental Data

Scope of data aggregation:
The data for fiscal 2014 covers the three operating companies (MCC, MTPC, and LSII) as well as their domestic Group companies. The data for fiscal 2015 covers the three major operating companies, TNSC and their domestic Group companies, and the data for fiscal 2016 covers these four operating companies and their domestic and overseas Group companies. (Group companies are directly-owned consolidated subsidiaries). The data represents 79% of the Mitsubishi Chemical Holdings Corporation (MCHC) Group's revenue.

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	FY2014	FY2015	**FY2016**
Environmental Impact			
☑ NOx emissions (thousand tons)	8.88	8.04	**8.96**
☑ SOx emissions (thousand tons)	3.06	3.08	**4.77**
☑ Particulate emissions (thousand tons)	0.2	0.2	**0.2**
☑ VOC emissions (thousand tons)*1	5.67	4.91	**6.08**
☑ COD emissions (thousand tons)*2	1.75	1.74	**2.00**
☑ Total nitrogen emissions in drained water (thousand tons)*2	5.68	5.53	**6.06**
☑ Total phosphorous emissions (thousand tons) *2	0.06	0.05	**0.09**

*1 VOC: Chemicals subject to data collection are specified as VOC by the Japanese pollutant release and transfer register (PRTR) system and in the PRTR chemical survey of the Japan Chemical Industry Association, as well as ethylene and propylene.
*2 Total COD emissions, total nitrogen emissions and total phosphorous emissions each show total volume of emissions discharged into rivers, lakes and oceans. Exclude emissions into sewage systems.

Water Usage/Discharge			
☑ Water consumption (million m^3) (excluding seawater)	174	171	**189**
☑ Water discharge (million m^3) (excluding seawater)	105	104	**116**
Water discharge into oceans (million m^3) (excluding seawater)	52	39	**41**
Water discharge into lakes and rivers (million m^3)	49	58	**58**
Water discharge into sewers (million m^3)	4	7	**17**

Waste			
☑ Waste generated (thousand tons)*3	380(29)	372(29)	**502(29)**
☑ Landfill disposal (thousand tons)*4	8(5.4)	8(5.1)	**19(4.2)**
☑ PRTR chemical substance emissions (thousand tons)	1.63	1.11	**2.36**

*3 Figures in parentheses denote volume of waste generated from the waste treatment business (not included).
*4 Figures in parentheses denote volume of landfill disposal from the waste treatment business (not included).

Environmental Accounting*5			
Environmental protection cost			
Investment amount (million yen)	6,785	5,396	**9,127**
Expense amount (million yen)	36,205	33,720	**33,842**
Economic benefit of environmental protection measures (million yen)	3,243	2,652	**2,842**

*5 Scope of data aggregation: The data for fiscal 2014 and fiscal 2015 covers MTPC (non-consolidated) and its domestic Group companies, and within MCC, the former Mitsubishi Plastics, Inc., (non-consolidated) and Mitsubishi Rayon Co. Ltd. (non-consolidated) and its domestic group companies. For fiscal 2016, data aggregation covers MCC (non-consolidated), MTPC (non-consolidated) and its domestic group companies, TNSC (non-consolidated) and its domestic group companies) and certain domestic group companies of LSII.

There were no significant environmental accidents or leaks and no hazardous wastes as defined by the Basel Convention were transported.

Environmental Data

Calculation Method for Scope 3 GHG Emissions

Referenced Guidelines

Our Scope 3 GHG emissions are calculated in accordance with the Corporate Value Chain (Scope 3) Accounting and Reporting Standard and its technical guidance issued by the GHG Protocol, the Guidance for Accounting & Reporting Corporate GHG Emissions in the Chemical Sector Value Chain issued by the World Business Council for Sustainable Development (WBCSD), and the Green Value Chain Platform initiated by the Japanese government.
Especially, for the emission factors for greenhouse gas (GHG) emissions, we use data available in the Green Value Chain Platform and information provided by MiLCA, a life cycle assessment software developed by the Japan Environmental Management Association for Industry.

Scope of data aggregation:

The data for fiscal 2014 covers the three operating companies (MCC, MTPC, and LSII) as well as their domestic Group companies. The data for fiscal 2015 covers the three major operating companies, TNSC and their domestic Group companies, and the data for fiscal 2016 covers these four operating companies and their domestic and overseas Group companies. (Group companies are directly-owned consolidated subsidiaries).The data represents 79% of the Mitsubishi Chemical Holdings Corporation (MCHC) Group's revenue.

Calculation Method by Category

Category 1 Purchased goods and services	Calculated by multiplying the amounts of raw materials and services in physical or monetary units purchased by the MCHC Group from outside the Group by the respective emission factor for each type of raw material or service.
Category 2 Capital goods	Calculated by multiplying the amounts invested in capital goods during the year by an emission factor per unit of investment amount.
Category 3 Fuel- and energy-related activities not included in Scope 1 or Scope 2	This category includes emissions associated with the extraction, production, and transportation of purchased fuels and those consumed in the production of electricity and steam that are purchased by the MCHC Group. Fuel: calculated by multiplying the amount purchased during the year by an emission factor for each fuel type. Electricity and steam: calculated by multiplying the amount purchased from outside the Group by the emission factor of purchased energy and transportation loss.
Category 4 Upstream transportation and distribution(including distribution services whose cost was borne by the Group)	This category includes GHG emissions generated during the international transportation of purchased coal, coal derived products, and methanol, which have significant transport weight. (Raw materials whose GHG emissions from transportation are included in Category 1 are not included in the scope of calculation for this category). Transportation and distribution of products for which the Group bears the cost are included in this category. Of GHG emissions generated in transporting products within Japan that have been sold (downstream side), the emissions are calculated by subtracting the Scope 1 emissions of the Group's logistics subsidiaries in Japan from total emissions resulting from the shipping of cargoes that were reported under the Act on Promotion of Global Warming Countermeasures. The emissions related to international transportation of exported goods are calculated by focusing on large transportation volume for petrochemical products and coal products. The emissions are calculated by multiplying transportation volume (ton-kilometer) by the emission factor for each mode of transportation, where the transportation volume is calculated by multiplying the freight volume by the transportation distance.
Category 5 Waste generated in operations	This category includes GHG emissions generated during the incineration, landfill disposal, and recycling of waste emitted from production sites. Waste that is incinerated or disposed of in landfill includes items such as sludge and plastic, and the GHGs that are released during incineration are calculated by multiplying the amount of waste by a corresponding emission factor.
Category 6 Business travel	Within Japan, the amount of business travel expenses for two Group companies for the year is calculated, and the ratio to net sales for these amounts is used as the representative figure for the MCHC Group (business travel expense ratio). The business travel expenses for the entire MCHC Group are estimated by multiplying the net sales for the MCHC Group by the business travel expense ratio. GHG emissions are calculated by multiplying this amount by an emission factor calculated based on each business trip's details in a certain Group company and the emission factors for each transportation mode.
Category 7 Employee commuting	In Japan, the number of employees at each worksite is multiplied by the ratios of transportation modes used for commuting in each prefecture (according to a national survey in 2010) to estimate the number of employees using each mode of transportation for the entire MCHC Group in Japan. Commute distances are calculated using the national statistics for Japan, and these are multiplied by the emission factor for each mode of transportation. Overseas, the emissions are estimated based on the assumptions of the WBCSD guidelines.
Category 8 Upstream leased assets	Since the amount of applicable lease assets is negligible, this category is not estimated.
Category 9 Downstream transportation and distribution	The emissions associated with the transportation of sold products fall within Category 4 as the Group basically bears the cost of transporting products.
Category 10 Processing of sold products	The MCHC Group's main product group is raw materials products, and since these products can be processed into many types of products it is difficult to rationally calculate the GHG emissions associated with the products' processing. Therefore, in accordance with the WBCSD calculation guidance for the chemical industry, we exclude this category from the scope of calculation.
Category 11 Use of sold products	The amount of GHG emissions generated from combustion of fuel products sold outside of the MCHC Group (cokes, coke oven gas, etc.) is calculated by multiplying the amount of each type of fuel sold by an emission factor. CO_2 emissions generated from the products TNSC sold, such as dry ice, and from operation time of the air separation units (ASU) it sells (calculated for the number of years of depreciation in accounting treatment), have been added to the calculations.
Category 12 End-of-life treatment of sold products	The final disposal location (Japan or overseas) is estimated for each type of the product sold that is used as raw materials, and the emissions are calculated by multiplying the disposal amount for each location by the emission factor for each final product and the disposal method for each location. The disposal method for final products overseas in fiscal 2016 is estimated to be 20% incineration and 80% landfill disposal.
Category 13 Downstream leased assets	Since the amount of applicable lease assets is negligible, this category is not estimated.
Category 14 Franchises	As the Group does not have any businesses in this format, there are no emissions in this category.
Category 15 Investments	The amount of GHG emissions related to investments are calculated for the 10 main investee companies in which MCHC held special investment shares (shareholding ratios of 20-50%) and for the 6 main affiliates of TNSC by multiplying the emissions of these companies by MCHC's shareholding ratio (number of shares held by MCHC/total number of issued shares) and for TNSC's affiliates by multiplying by TNSC's shareholding ratio. The investee companies' GHG emissions are based on figures published in accordance with the Act on Promotion of Global Warming Countermeasures. However, since the actual figures for fiscal 2016 have yet to be announced, the figures for fiscal 2014 were used as a substitute as they were the most recently published figures. As an exception, we collected the actual fiscal 2016 emissions data by hearing directly from Asahi Kasei Mitsubishi Chemical Ethylene Corporation, Kashima Kita Electric Power Corporation, and the main affiliates of TNSC, which accounted for a significant portion of total Category 15 emissions.

Social Data

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		FY2014	FY2015	FY2016
Basic Information				
☑ Number of employees		20,886	22,508	**21,736**
☑ Number of employees by gender	Male	17,742	19,194	**18,459**
☑	Female	3,144	3,314	**3,277**
Number of employees by age group	20s or younger	2,164	2,423	**2,380**
	30s	5,042	5,177	**5,089**
	40s	8,235	8,621	**8,131**
	50s or older	5,445	6,287	**6,136**
Average age		42.9	42.7	**43.2**
☑ Number of new employees		360	455	**526**
☑ Number of employee turnover		421	971	**695**
☑ Number of unionized employees		14,451	15,117	**14,585**
☑ Percentage of unionized employees		69.2	67.2	**67.1**
☑ Number of layoffs*1		0	2	**3**

Scope of data aggregation: In fiscal 2014, the figures show those employed by the two operating companies (MCC and MTPC). Starting in fiscal 2015, the figures show those employed by the three operating companies with the addition of TNSC, including those seconded to other companies but excluding those seconded from other companies.

*1 People leaving at the company's behest (dismissal)

Diversity				
☑ Percentage of females		15.1	14.7	**15.1**
☑ Percentage of female managers*2		7.4	7.1	**7.7**
☑ Percentage of employees with disabilities		2.1	2.2	**2.1**
☑ Number of employees rehired post-retirement		1,023	1,038	**1,040**

Scope of data aggregation: In fiscal 2014, the figures show those employed by the two operating companies (MCC and MTPC). Starting in fiscal 2015, the figures show those employed by the three operating companies with the addition of TNSC, including those seconded to other companies but excluding those seconded from other companies.

*2 Percentage of female employees out of all employees at assistant manager level and above.

Work-Life Balance				
☑ Number of employees taking childcare leave	Total	288	283	**278**
☑	Male	16	27	**31**
☑	Female	272	256	**247**
☑ Number of employees taking family care leave		12	9	**16**
☑ Acquisition rate of annual paid leave		66.9	66.8	**67.6**

Scope of data aggregation: In fiscal 2014, the figures show those employed by the two operating companies (MCC and MTPC). Starting in fiscal 2015, the figures show those employed by the three operating companies with the addition of TNSC, including those seconded to other companies but excluding those seconded from other companiess.

Occupational Safety			
☑ Lost-time injuries frequency rate (LTIFR) *3	0.32	0.48	**0.30**

Scope of data aggregation: Group companies that have domestic worksite operation units among the four operating companies (MCC, MTPC. LSII, TNSC).

*3 The LTIFR is the number of lost-time injuries and fatalities per million hours worked.

Other			
☑ Number of employees taking volunteer leave *4	48	39	**42**
Charitable contributions (million yen) *5	1,888	1,656	**1,865**
Political contributions (million yen) *5	27	26	**31**

*4 Scope of data aggregation: In fiscal 2014, the figures show those employed by the two operating companies (MCC and MTPC). Starting in fiscal 2015, the figures show those employed by the three operating companies with the addition of TNSC, including those seconded to other companies but excluding those seconded from other companies.

*5 Scope of data aggregation: Figures from domestic operations of the four operating companies (MCC, MTPC, LSII and TNSC).

Independent Assurance Report

Independent Assurance Report

To the President and CEO of Mitsubishi Chemical Holdings Corporation

We were engaged by Mitsubishi Chemical Holdings Corporation (the "Company") to undertake a limited assurance engagement of the environmental and social performance indicators marked with ☑ (the "Indicators") for the period from April 1, 2016 to March 31, 2017 included in its Fiscal 2016 Data Sheet (the "Data sheet") for the fiscal year ended March 31, 2017.

The Company's Responsibility

The Company is responsible for the preparation of the Indicators in accordance with its own reporting criteria (the "Company's reporting criteria"), as described in the Data sheet.

Our Responsibility

Our responsibility is to express a limited assurance conclusion on the Indicators based on the procedures we have performed. We conducted our engagement in accordance with the 'International Standard on Assurance Engagements (ISAE) 3000, Assurance Engagements other than Audits or Reviews of Historical Financial Information', the 'ISAE 3410, Assurance Engagements on Greenhouse Gas Statements' issued by the International Auditing and Assurance Standards Board, and the 'Practical Guidelines for the Assurance of Sustainability Information' of the Japanese Association of Assurance Organizations for Sustainability Information. The limited assurance engagement consisted of making inquiries, primarily of persons responsible for the preparation of information presented in the Data sheet, and applying analytical and other procedures, and the procedures performed vary in nature from, and are less in extent than for, a reasonable assurance engagement. The level of assurance provided is thus not as high as that provided by a reasonable assurance engagement. Our assurance procedures included:

- Interviewing the Company's responsible personnel to obtain an understanding of its policy for preparing the Data sheet and reviewing the Company's reporting criteria.
- Inquiring about the design of the systems and methods used to collect and process the Indicators.
- Performing analytical procedures on the Indicators.
- Examining, on a test basis, evidence supporting the generation, aggregation and reporting of the Indicators in conformity with the Company's reporting criteria, and recalculating the Indicators.
- Visiting the Yokkaichi Plant of Mitsubishi Chemical Corporation and Huizhou MMA Co., Ltd. selected on the basis of a risk analysis.
- Evaluating the overall presentation of the Indicators.

Conclusion

Based on the procedures performed, as described above, nothing has come to our attention that causes us to believe that the Indicators in the Data sheet are not prepared, in all material respects, in accordance with the Company's reporting criteria as described in the Data sheet.

Our Independence and Quality Control

We have complied with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. In accordance with International Standard on Quality Control 1, we maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

KPMG AZSA Sustainability Co., Ltd.

KPMG AZSA Sustainability Co., Ltd.
Tokyo, Japan
January 22, 2018