

# Results and Plans for RC Activities

○ : Achieved △ : Mostly achieved × : Further efforts required

	RC Medium-term Plan 2020 (2018-2020)	Results of Three Years of Activities (2018–2020)	Assessment	RC Medium-term Plan 2020 (2018-2020) (◆Grow UP 2023 KPI; Other: RC target)
Occupational Health and Safety	<p>Aim to eliminate occupational injuries at the worksites of MGC and its partner companies</p> <ul style="list-style-type: none"> <li>• Implement regular safety activities and ensure all personnel are informed of them</li> <li>• Share and utilize information about cases of occupational injuries</li> <li>• Maintain healthy workplace environments and make improvements when necessary</li> </ul>	<ul style="list-style-type: none"> <li>• As day-to-day safety activities, conducted hazard prediction activities, near-miss incident identification activities, the pointing-and-calling occupational safety method, the 5Ss, workplace patrols, safety patrols led by plant managers, and other activities.</li> <li>• Shared accident case studies from Group companies and other companies, analyzed examples of past accidents, implemented additional countermeasures when necessary, and took action to prevent reoccurrences.</li> <li>• Promoted company-wide introduction of PLM*1 and strengthened intra-plant work-related communications.</li> <li>• Enhanced and expanded MGC's internal educational facilities, conducted training courses taught by outside instructors, and actively participated in outside seminars and other outside educational programs.</li> <li>• Endeavored to strengthen communication with partner companies by holding accident-prevention and other conferences, providing occupational accident information from other business sites and other companies, mutually participating as observers in health and safety committee meetings, etc.</li> <li>• Reviewed site-entry training at partner companies and reinforced prevention of occupational injuries by partner companies.</li> <li>• Made MGC internal educational facilities available to partner companies and supported the safety measures of partner companies.</li> <li>• Steadily implemented work environment measures and maintained and improved worksite environments.</li> </ul>	△	<p>Aim to eliminate occupational injuries at the worksites of MGC and its partner companies. Visualize the factors that directly and indirectly affect occupational safety through various evaluation methods and build foundations for improvement.</p> <p>Quantitative occupational health and safety targets until 2023</p> <ul style="list-style-type: none"> <li>◆ Serious occupational injuries*2: 0</li> <li>Lost time injuries and non-lost time injuries at MGC: 0</li> <li>Cooperating company frequency rate: 0.3 or lower; Severity rate: 0.003 or lower</li> </ul>
Process Safety and Accident Prevention	<p>Aim to eliminate accidents in the workplace</p> <ul style="list-style-type: none"> <li>• Ensure proper management of equipment and facilities</li> <li>• Share and utilize information about cases of workplace accidents</li> <li>• Improve the ability of employees to ensure safety and manage workplaces through MGC's Bridge-II activities</li> </ul>	<ul style="list-style-type: none"> <li>• Introduced and evaluated state-of-the-art technology, such as advanced control systems, online abnormality forecasting systems, and plant information management systems, at some sites on a trial basis toward the promotion of safe and stable operations using the IoT and AI.</li> <li>• Endeavored to improve equipment management by revising equipment importance ranking, etc.</li> <li>• Shared accident case studies from Group companies and other companies.</li> <li>• Analyzed examples of past accidents, implemented additional countermeasures when necessary, confirmed operation in other divisions, and took action to prevent reoccurrences by using the Bridge*3 Leader Conference, etc.</li> <li>• Took measures to eliminate leak accidents, such as reinforcement of external corrosion countermeasures, equipment maintenance, P&amp;ID management, and regular and nonregular operational management.</li> <li>• Started process risk assessment using the HAZOP*4 method on all equipment.</li> </ul>	△	<p>Aim to eliminate accidents in the workplace. Visualize the factors that directly and indirectly affect process safety and accident prevention through various evaluation methods and build foundations for improvement.</p> <p>Quantitative process safety and accident prevention targets until 2023</p> <ul style="list-style-type: none"> <li>◆ Serious accidents*5: 0</li> <li>ICCA annual score: 0 (for both MGC and cooperating companies)</li> </ul>

<p>Environmental Conservation</p>	<p>Aim to protect the natural environment and contribute positively to communities through business activities</p> <ul style="list-style-type: none"> <li>• Fully comply with environmental regulatory requirements</li> <li>• Work to achieve environmental impact reduction targets</li> <li>• Contribute to improving MGC's credibility and reputation in society with respect to environmental conservation</li> </ul> <p>【2020 environmental impact reduction targets】</p> <p>1.Reduce the total energy intensity to no more than 89% of the fiscal 1990 level</p> <p>2.Reduce the GHG emissions intensity to no more than 66% of the fiscal 1990 level (or no more than 90% of the fiscal 2016 level) Reduce total GHG emissions (CO<sub>2</sub> equivalent) by at least 320,000 tons compared with the fiscal 1990 level (or by at least 100,000 tons compared with the fiscal 2016 level)</p> <p>3.Reduce waste matter disposed of in landfills to no more than 0.3% of the Group's total waste (by weight)</p> <p>4.Reduce releases of substances subject to the Pollutant Release and Transfer Register (PRTR) Act by 10% compared with the fiscal 2017 level</p>	<p>(1) Energy intensity in fiscal 2020 was 98% of the fiscal 2013 level.</p> <p>(2) The GHG emissions intensity in fiscal 2020 was 94% of the fiscal 2013 level. The absolute value of GHG emissions in fiscal 2020, was 780,000 t-CO<sub>2</sub> equivalent, a reduction of 330,000 t-CO<sub>2</sub> equivalent compared to fiscal 2013.</p> <p>(3) The waste zero emissions rate<sup>*6</sup> in fiscal 2020 was 0.51% for the non-consolidated MGC. The target in the Medium-term Plan 2020 of 0.3% or lower was not achieved.</p> <p>(4) Emissions of substances subject to the PRTR Act in fiscal 2020 were 277 tons, an increase of 21% compared to fiscal 2017. The target in the Medium-term Plan 2020 of cutting emissions by 10% compared to fiscal 2017 was not achieved. The main reason was an increase in production volume of some products.</p> <ul style="list-style-type: none"> <li>• Responded to CDP climate change questionnaires and CDP water security questionnaires and responded to various surveys including The Nikkei Smart Work Management Survey and Buna no Mori survey.</li> <li>• Disclosed data relating to environmental impacts including water usage, atmospheric protection, and water environment preservation data on websites.</li> <li>• Added and announced for four eco-friendly products manufactured by the MGC Group.</li> <li>• Participated in the "Bookcase for Biodiversity," a donation program implemented by the Japan Committee for UNDB (United Nations Decade of Biodiversity) and donated book sets for four facilities.</li> </ul>	<p>△</p>	<p>Aim to protect the natural environment and contribute to communities through business activities. From those results, improve MGC's reputation in society.</p> <p>Qualitative and quantitative environmental conservation targets until 2023*</p> <p>(1) ◆ Reduce greenhouse gas (GHG) emissions* by 28% compared to fiscal 2013 ◆ Reduce GHG emissions intensity* by 19.9% compared to fiscal 2013</p> <p>① Continuously reduce emissions by 4,000 t-CO<sub>2</sub>e/year ② Completely eliminate heavy oil used for in-house power generation and boilers, etc. (Mizushima Plant, Yokkaichi Plant) ③ Reduce the GHG emissions coefficient for purchased electric power (0.45; Mizushima Plant) ◆④ Introduce 10% renewable energy to purchased electric power (all business sites)</p> <p>(2) Zero emissions of waste ◆*Waste zero emissions rate*: 0.3% or less</p> <p>(3) Reduce releases of substances subject to the Pollutant Release and Transfer Register (PRTR) Act* by 10% compared to 2020</p> <p>(4) Water resource conservation *Water reuse rate: 95% or higher Identify water risk (domestic manufacturing sites)</p> <p>(5) Biodiversity conservation **"Bookcase for Biodiversity" donation program: Total of 10 instances *Establishment of "actual sites" of biodiversity: 1 installation</p>
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<p>Chemical and Product Safety</p>	<p>Work to consistently maintain safety across the entire lifecycle of chemical products</p> <ul style="list-style-type: none"> <li>Stay updated on chemical-related safety information and distribute such information when necessary</li> <li>Practice risk management of chemical products</li> <li>Comply with chemical substance management regulations in each country and international rules and regulations</li> </ul>	<ul style="list-style-type: none"> <li>Introduced an information search service making it easy to find the latest information on national legal restrictions.</li> <li>Conducted safety testing of new products; prepared and corrected SDS.</li> <li>Made preparations to comply with the REACH (Registration, Evaluation, Authorization, and Restriction of Chemicals) regulation of the European Union, the Act on Registration and Evaluation of Chemicals of Korea (“K-REACH”), and other laws and regulations.</li> <li>Collected information relating to chemical substance restrictions in other regions and responded to registration systems.</li> </ul>	<p>○</p>	<p>Clarify the properties and handling methods of chemicals and products to protect the safety and health of all handlers and the environment.</p> <p>Quantitative chemical and product safety targets until 2023**</p> <ol style="list-style-type: none"> <li>Conduct phased safety evaluations in product development (ongoing) **Review new product launches and market development: 100% (percentage of products)</li> <li>Promote risk assessment and risk management of handled products (ongoing) **Product safety training: 100% (percentage of members of the MGC Group Environment and Safety Council)</li> <li>Ensure that applications and registrations are carried out in accordance with the chemical substance management laws and regulations of each country **Chemical substance registrations under the systems for management of chemical substances in each country: 100% (percentage of products)</li> <li>Operation and deployment of automated SDS production system **Preparation and delivery of safety information (SDS): 100% (percentage of products)</li> </ol>
<p>Safe Transport and Storage of Chemicals</p>	<p>Aim to eliminate accidents and problems when transporting and storing chemicals</p> <ul style="list-style-type: none"> <li>Regularly analyze problems that occur when transporting and storing chemicals, and distribute results to all relevant workplaces</li> <li>Share information on the safe transport and storage of chemicals with the logistics departments of each group company</li> <li>Closely monitor shipments of chemicals to final destinations and make improvements when necessary</li> </ul>	<ul style="list-style-type: none"> <li>Collected and analyzed data on transport problems and distributed the results to relevant division and transportation companies each month.</li> <li>Exchanged information on accidents and the shipment of chemicals to final destinations with individual Group companies.</li> </ul>	<p>○</p>	<p>Aim to eliminate accidents and problems when transporting and storing chemicals.</p> <ol style="list-style-type: none"> <li>Regularly analyze problems that occur when transporting and storing chemicals and distribute results to all relevant workplaces</li> <li>Share information on the safe transport and storage of chemicals with the logistics departments of each group company</li> <li>Closely monitor shipments of chemicals to final destinations and make improvements when necessary</li> </ol>
<p>Stakeholder Relations</p>	<p>Implement initiatives for gaining the trust of stakeholders</p> <ul style="list-style-type: none"> <li>Proactively disclose information</li> <li>Expand opportunities for dialogue with members of local communities</li> </ul>	<ul style="list-style-type: none"> <li>Issued Corporate Report 2020.</li> <li>In addition to publishing environmental and safety reports and making efforts to disclose information at each business site, made efforts to engage in dialogue with stakeholders by holding meetings with self-governing bodies and conducting business site briefings and tours.</li> </ul>	<p>○</p>	<p>Aim to develop an improved reputation among stakeholders and build trust.</p>

Responsible Care Initiatives and Management	In order to promote environmental and safety activities through the entire MGC Group <ul style="list-style-type: none"> <li>• Reinforce communications within the Group</li> <li>• Promote environment management as a Group</li> </ul>	<ul style="list-style-type: none"> <li>• Held council meetings with Group companies to promote environmental and safety activities and environment management. Furthermore, conducted environmental and safety audits of Group companies and confirmed the state of environmental and safety activities.</li> </ul>	○	Aim to promote environmental and safety activities across the entire MGC Group. Reinforce communications within the Group and promote security, process safety and disaster prevention, and environmental management.
	Continuously improve RC management systems	<ul style="list-style-type: none"> <li>• Each division collaborated from plan formulation to implementation and internal auditing and operated PDCA management systems relating to RC.</li> <li>• Due to the COVID-19 pandemic, the RC audit was conducted as planned using a web conferencing system. Since this was the first RC audit conducted online in 2020, observers from other business sites were not permitted to participate.</li> </ul>		Make continuous improvements to responsible care management systems.

\*1 Abbreviation for Plant Log Meister, a communication tool for operations departments that can effectively accumulate messaging information in shift work and utilize the information in conjunction with various types of related information.

\*2 Disability eligible for, or possibly eligible for disability compensation involving lost work accidents, fatal accidents, and accidents resulting in permanent inability to work, and those involving four or more lost work days.

\*3 Bridge (activity): A bottom-up, work site-driven activity aimed at improving the ability of employees to ensure safety and manage work places

\*4 Abbreviation of Hazard and Operability Studies. A method of conducting risk assessment on processes.

\*5 Accidents and major workplace accidents which threaten third parties, including localized environmental pollution and accidents affecting local residents

\*6 Final disposal of waste/waste generated