

March 29, 2021

MITSUBISHI GAS CHEMICAL COMPANY, INC.

**MGC Sets Long-Term Greenhouse Gas Emission Reduction Targets**

Mitsubishi Gas Chemical Company, Inc. (MGC; Head Office: Chiyoda-ku, Tokyo; President: Masashi Fujii) has set the following long-term greenhouse gas (GHG) emission reduction targets<sup>1</sup> in the aim of achieving carbon neutrality by 2050.

2023 target: 28% reduction from FY13 baseline






2030 target: 36% reduction from FY13 baseline

2050 target: carbon neutrality

Last year, MGC set CSR priorities through a materiality assessment process, guided by its Group Vision of “Creating value to share with society” (<https://www.mgc.co.jp/eng/csr/materiality.html>). Several of the priorities address climate change. One is to solve energy challenges and mitigate climate change. Another is to proactively respond to environmental problems. MGC is committed to climate change mitigation as a key management priority.

MGC has formulated a GHG reduction roadmap toward its ultimate goal of carbon neutrality by 2050 (Figure 1). In FY13, the roadmap’s base year, MGC’s GHG emissions totaled 1,110kt of CO<sub>2</sub> equivalent. By FY19, MGC had reduced its GHG emissions by a cumulative 23% by reconfiguring its business portfolio and improving its energy efficiency. While continuing to work on these initiatives, MGC will forge ahead with concrete steps to reduce CO<sub>2</sub> emissions, including migration to transitional/renewable energy sources and deployment of carbon-free energy systems and CCUS<sup>2</sup> in pursuit of a minimum 36% reduction in GHG emissions by 2030 and carbon neutrality by 2050. In the process, MGC will capitalize on its unique strengths in energy, methanol and ammonia businesses, leverage its R&D capabilities and foster cross-organizational collaboration as outlined in Figure 1.

# MGC's Roadmap toward its Ultimate Goal of Carbon Neutrality by 2050

	Scope	2013~2019	2020~2023	2024~2030	2031~2050	
Main initiatives (CO <sup>2</sup> reduction)	1	<ul style="list-style-type: none"> <li>● Improve energy efficiency</li> <li>● Reconfigure business portfolio (258kt in total)</li> </ul>	<ul style="list-style-type: none"> <li>● Improve energy efficiency (16kt)</li> <li>● Stop using heavy oil (13kt)</li> </ul>	<ul style="list-style-type: none"> <li>● Improve energy efficiency (28kt)</li> </ul>	<ul style="list-style-type: none"> <li>● Improve energy efficiency (40kt)</li> </ul>	
	2	—	<ul style="list-style-type: none"> <li>● Reconfigure business portfolio</li> <li>● Deploy new energy systems/CCUS, switch feedstocks (R&amp;D/collaboration) (610kt in total)</li> </ul>	<ul style="list-style-type: none"> <li>● Source 10% of energy from renewables (14kt)</li> <li>● Use transitional energy (10kt)</li> </ul>	<ul style="list-style-type: none"> <li>● Source 50% of energy from renewables (55kt)</li> </ul>	<ul style="list-style-type: none"> <li>● Source 100% of energy from renewables (69kt)</li> </ul>
Businesses & technologies						

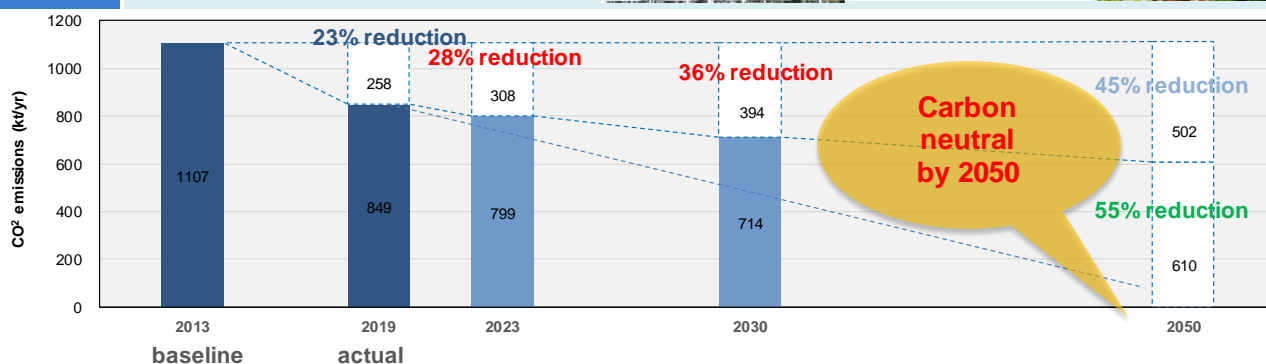
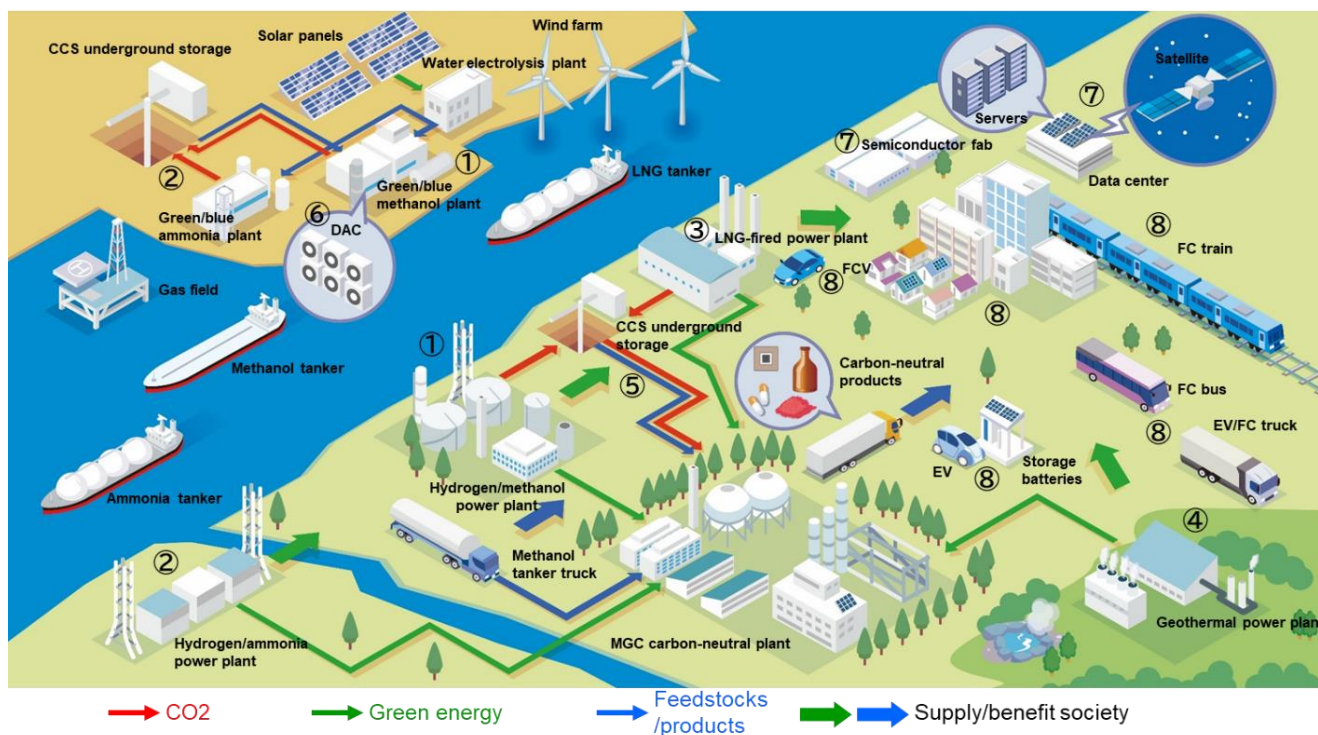


Figure1: MGC's Roadmap toward its Ultimate Goal of Carbon Neutrality by 2050

Additionally, MGC plans to supply society with carbon-neutral and other environmentally constructive products manufactured in carbon-neutral plants equipped with green energy systems in accord with its vision of a carbon-neutral world by 2050 (Figure 2). By doing so, MGC will create societally beneficial value in the form of climate change mitigation on a global scale.

## MGC's Vision of Carbon-Neutral World Circa 2050



### Carbon-neutral energy systems, CO<sub>2</sub> usage

- ① Methanol energy system
- ② Ammonia energy system
- ③ LNG-fired power plant + CCS
- ④ Geothermal power plant
- ⑤ Production of, e.g., polycarbonate feedstock from CO<sub>2</sub> (CCUS)
- ⑥ Specialty amines (DAC adsorbents)

### Products conducive to carbon neutrality

- ⑦ BT materials, electronic chemicals (energy control systems)
- ⑧ Solid-state batteries (EVs), fuel cells (FCVs), polycarbonates/polyacetals (lighter-weight auto bodies), optical materials (better autonomous-driving sensors)

Figure2: MGC's Vision of Carbon-Neutral World Circa 2050

1. The long-term emission reduction targets apply to MGC's Scope 1 and 2 emissions on a nonconsolidated basis. Scope 1 emissions are GHGs emitted directly by MGC. Scope 2 emissions are GHGs emitted indirectly through use of externally sourced energy (mainly electric power). MGC quantifies GHG emissions in compliance with the ISO 14064 international standard.
2. CCUS: CO<sub>2</sub> capture, utilization and storage; involves technologies to both capture/store CO<sub>2</sub> and use stored CO<sub>2</sub> as, e.g., a chemical feedstock.

END

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