

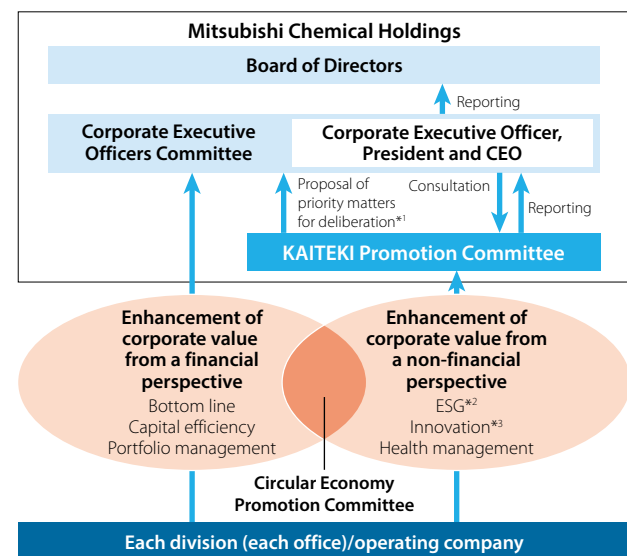
Sustainability

Strengthening of Sustainability Management

By practicing KAITEKI Management, the MCHC Group places sustainability at the center of its business strategy. One of the key management policies announced under *Step 1* of the new medium-term management plan APTIS 25 is strengthening of sustainability management (see P. 27). This means further strengthening of the business foundation to improve environmental and social sustainability and reform the business model.

The MCHC Group's structure for promoting KAITEKI

MCHC is taking measures to increase long-term corporate value and has established the KAITEKI Promotion Committee to coordinate the increase in corporate value from a non-financial perspective. Meanwhile, the Circular Economy Promotion Committee, established in 2019, is promoting Group-wide measures to advance the circular economy through a crossover between social value and economic value. Within the framework of this KAITEKI promotion structure, we will progress steadily with a range of initiatives to fulfill our medium- to long-term basic management strategy KAITEKI Vision 30 (KV30).



*1 Where necessary
*2 Governance issues are mainly addressed by committees such as the Nominating Committee.
*3 Determination of the direction of technologies, etc.

Discussions by the KAITEKI Promotion Committee in FY2020

July 2020	<ul style="list-style-type: none"> Progress of MOS activities Activities for KAITEKI Health and Productivity Management Circular economy promotion activities Study of new material issues/New MOS Indices Progress of MOT activities
February 2021	<ul style="list-style-type: none"> New MOS Indices New MOT Indices Activities for KAITEKI Health and Productivity Management Report on individual operating company activities

GHG reduction initiatives

The MCHC Group seeks to reduce emissions in line with the target level set by the government of each country or region. With our sights set on the KV30 target of a 26% reduction in Japanese domestic GHG emissions volume by fiscal 2030 compared to fiscal 2013, we are introducing various reduction measures including in-house electric power generation and fuel conversion of boiler facilities. We are now considering stepping up emissions reduction based on policy trends in response to the new emissions target announced by the Japanese government.

We are also accelerating technology development toward the goal of carbon neutrality, to which we aim to contribute through the practical application of artificial photosynthesis technology.

Current initiatives in Japan

GHG reduction in production activities <ul style="list-style-type: none"> Fuel conversion of in-house electric power generation, boiler facilities Process streamlining (DX, energy-saving, etc.) Use of renewable energy and carbon credits Improvement of CO₂ emissions coefficient of purchased electric power 	Acceleration of R&D for CO₂ recycling <ul style="list-style-type: none"> Development of artificial photosynthesis technology* <ul style="list-style-type: none"> 2030: Target date for large-scale verification tests 2040: Target date for social implementation * MCC's participation in NEDO's artificial photosynthesis project and ARPChem 	Contribution to GHG reduction throughout the value chain <ul style="list-style-type: none"> Implementation of chemical recycling Expanded introduction of biomass plastics
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Promote a circular economy

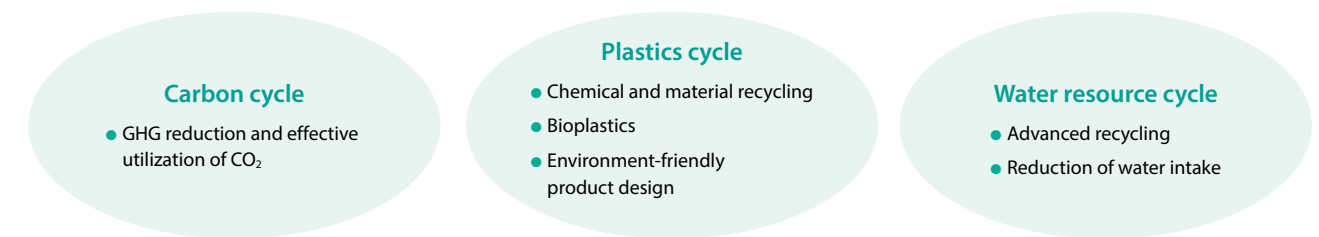
To drive the efficient utilization of resources, materials and energy and the creation of new value toward the goal of an optimal recycling-oriented society, the Circular Economy Promotion Committee is taking action for the cyclical use of carbon (CO₂), plastics and water resources and the evolution of LCA tools.

By participating in initiatives and supporting startup enterprises (see P. 55), we will accelerate the development and its social implementation of technology for innovation throughout the value chain and the reform of our business models.

Initiatives in which the MCHC Group participates

Joined in	Initiative
September 2018	Japan Initiative for Marine Environment (Founding member)
January 2019	Japan Clean Ocean Material Alliance (Chair of Technology WG)
January 2019	Alliance to End Plastic Waste (Founding member/Executive Committee member)
March 2019	Ellen MacArthur Foundation's Circular Economy 100 (The first Japanese chemical company to join the CE100)
August 2019	Carbon Recycling Fund Institute (Chairperson)
December 2019	Value Balancing Alliance (The first Japanese company to join)

Circular Economy Promotion Committee initiatives



Examples of circular economy initiatives

Activities	Description
Carbon cycle	Pilot project on utilization of microalgae selected as a NEDO commissioned project (research into technology for collection and concentration of microalgae using membrane separation technology)
	Launch of studies on offshore hydrogen manufacture using renewable energy, etc., and development of supply infrastructure (participation in a joint project)
	Development of a CO ₂ -free on-site hydrogen refilling system
	Development of artificial photosynthesis technology
Plastics cycle	Launch of a joint project with Kirin Holdings Company, Limited, aimed at PET bottle recycling through chemical recycling technology
	Partnership with Refinerve, Inc. to develop a waste plastic collection system ▶ P. 30
	Creation of a recycling business model for carbon fiber composite materials and engineering plastics through acquisition of a European recycling company ▶ P. 29
	Partnership with ENEOS Corporation to promote development of a chemical refinery ▶ P. 81
	Expansion of biomass and biodegradable plastic products ▶ P. 78

LCA tool evolution

We are progressing with the creation of systems and infrastructure for the use of LCA at an advanced level as a management tool in the chemical industry with a guideline target of fiscal 2025 for its introduction.

We will work to clearly identify the degree of social contribution of the MCHC Group and intensify KAITEKI Management by appropriately quantifying and disclosing the environmental and social impact of products and services and their contribution to environmental impact reduction as well as calculating and disclosing corporate value by converting these non-financial data to a financial equivalent.

Evolutionary process of LCA tools

