Sustainability

Message from the CSO

Our goal is to continuously increase corporate value by pursuing business activities with a focus on sustainability

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Our mission

In the midst of numerous global-scale issues such as climate change and resource depletion, MCHC announced its medium- to long-term basic management strategy KAITEKI Vision 30 (KV30) in February 2020, identifying the Group vision for 2030 and a path to sustainable growth (see P. 25). The spread of COVID-19 has brought about enormous change in how we live and work, but the direction and policies in KV30 remain the same, with sustainability positioned at the center of sustainable growth by the MCHC Group. Our goal is to take a hard look at what society needs and provide a range of solutions to address these social issues. This is our mission at the MCHC Group.

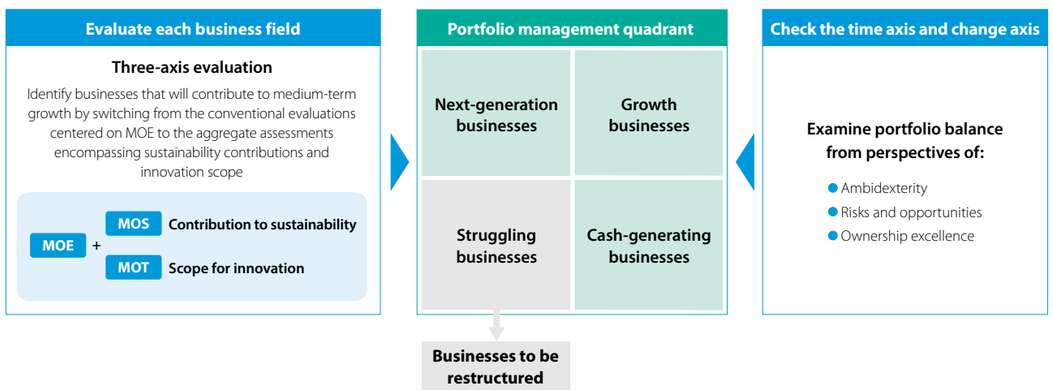
Recover business promptly and consider post-pandemic outlook

In February 2021, we unveiled *Step 1* of MCHC's medium-term management plan *APTSIS 25*, aimed at realizing KV30. Collaboration with our stakeholders is a key focus for MCHC, so we decided it was important to share our road map that describes how we will further strengthen our business foundation and achieve sustainable growth, even with the uncertain outlook caused by COVID-19.

When formulating the new medium-term management plan, we decided on a two-step approach as a rational way of reflecting the impact of COVID-19 now and in the future after the pandemic. *Step 1* runs through to 2022, when we expect uncertain economic conditions. During this *Step 1*, we will prioritize measures for business recovery, strengthened business foundation and footholds for growth (see P. 27–32). In *Step 2* from 2023, we will pursue measures to accelerate growth.

Portfolio transformation will be essential if we are to achieve this plan. We will pick up the pace on portfolio transformation, while reflecting on the changes of social needs and future business risks, using aggregate assessments that combine perspectives of sustainability such as reduced environmental impacts, with faster technological innovation, profitability and market growth potential.

Portfolio management through three-axis evaluation using MOS, MOT and MOE



Revising material issues

When formulating the new plan, we revised, categorized and ordered the material issues from the perspectives we consider important for the MCHC Group, including our business foundation, environmental and social impacts, and accelerated business portfolio transformation (see P. 37–38). We then set MOS Indices as KPIs to measure our progress in addressing these material issues (P. 39–42). The new MOS Indices also feature indicators that measure the contribution to sustainability through our businesses, including percentage of sales revenue from the growth businesses (businesses that contribute to solving social issues) and percentage of sales revenue from products that contribute to the circular economy or mitigate and adapt to climate change.

Rather than quantifying the results as in the past, the new MOS Indices have been improved to use the numbers to give a readily understandable picture of how we are progressing. With the growing focus on corporate ESG initiatives, information disclosure on sustainability is an important element for management. We aim to disclose information in an appropriate and accessible fashion, and thereby deepen our dialogue with all our stakeholders.

Working to reach our GHG goals in 2030

To address the urgent issue of climate change, national and regional governments have proposed targets through to 2030 and the main industrialized nations, Japan included, have set a target of achieving carbon neutrality by 2050.

Through our global business, the MCHC Group is making every effort to tackle climate change and is striving to lower GHG emissions in line with national and regional government targets. The Japanese government has proposed a 46% reduction in comparison to fiscal 2013 levels by fiscal 2030. To achieve this target, the government needs to develop innovative policies on energy and industry. We will build an action plan for the MCHC Group based on scenarios and specific measures put forward by the Japanese government. At this stage, we are stepping up our initiatives to reduce GHG emissions from manufacturing, including switching fuels on in-house generators, using renewable energy, and pursuing further process rationalization, while preparing to deploy in-house carbon pricing.

Approach to achieving carbon neutrality

To be carbon neutral by 2050, we need systems to objectively evaluate CO_2 across the entire value chain. We have therefore started to develop life cycle assessment (LCA) systems in a collaboration that goes beyond our industry. Carbon neutrality will require technology development relating to the carbon cycle, where CO_2 can be utilized as a resource, as well as stable energy supplies that are basically carbon-free. The MCHC Group will strengthen partnerships with industry, government and academia, while contributing to the realization of these innovations and striving to create new businesses that provide growth opportunities for the Group.

Toward a sustainable increase in corporate value

In order to steadily make our business activities more sustainable, every single MCHC Group employee needs to hone their own transformational capabilities. To promote the execution of the MCHC Group mission, we started providing workshops for general managers in 2018 and have since expanded this program in a stepwise fashion to younger employees leading the next generation. With these workshops as a starting point, we have widely promoted the KAITEKI concept and KV30 in the Group, fostering a culture to address social challenges through business activities. Three years have passed since we started these workshops, and I am confident that our employees are now taking ownership to create new value, with visible progress in work style reforms or projects at every workplace that aim to address social issues through our business.

The COVID-19 pandemic has accelerated change in social needs. The paradigm shift brought about by the pandemic can also be seen as a great opportunity to build new social systems. We aim to continuously improve corporate value by pursuing a business strategy focused on sustainability, with every single MCHC Group employee responding flexibly to change.

Material Issues Identified in *APTSIS 25* and New MOS Indices

MCHC has identified the material issues to be addressed by the MCHC Group as part of the new medium-term management plan, *APTSIS 25*, which is based on KAITEKI Vision 30 (KV30), the medium- to long-term basic management strategy. We have set targets for the material issues identified, with indicators (MOS Indices) also set to measure progress.

Going forward, we will monitor progress each year and proceed steadily with initiatives toward the fulfillment of KV30.

Identification process of material issues

Step 1
Selection of candidate material issues

Taking into account the medium- to long-term direction based on KV30, we studied the material issues identified in the previous assessment and added new issues in line with the MCHC Group's corporate mission, key policies, megatrends, the SDGs and other factors.

Step 2

Discussion on classification and structuring of material issues

The selected material issue candidates were screened against the policies and action plans of the new medium-term management plan, and the final selection of material issues was made after repeated internal discussions. The material issues were classified in accordance with their importance, in our view, for the fulfillment of KV30, including their contribution to the business portfolio strategy and the business foundation, as well as their environmental and social impact.

Assessment from the stakeholder viewpoint

The classified material issues were reviewed from a wide range of perspectives through hearings with external experts and discussion by the Outside Director Liaison Committee.

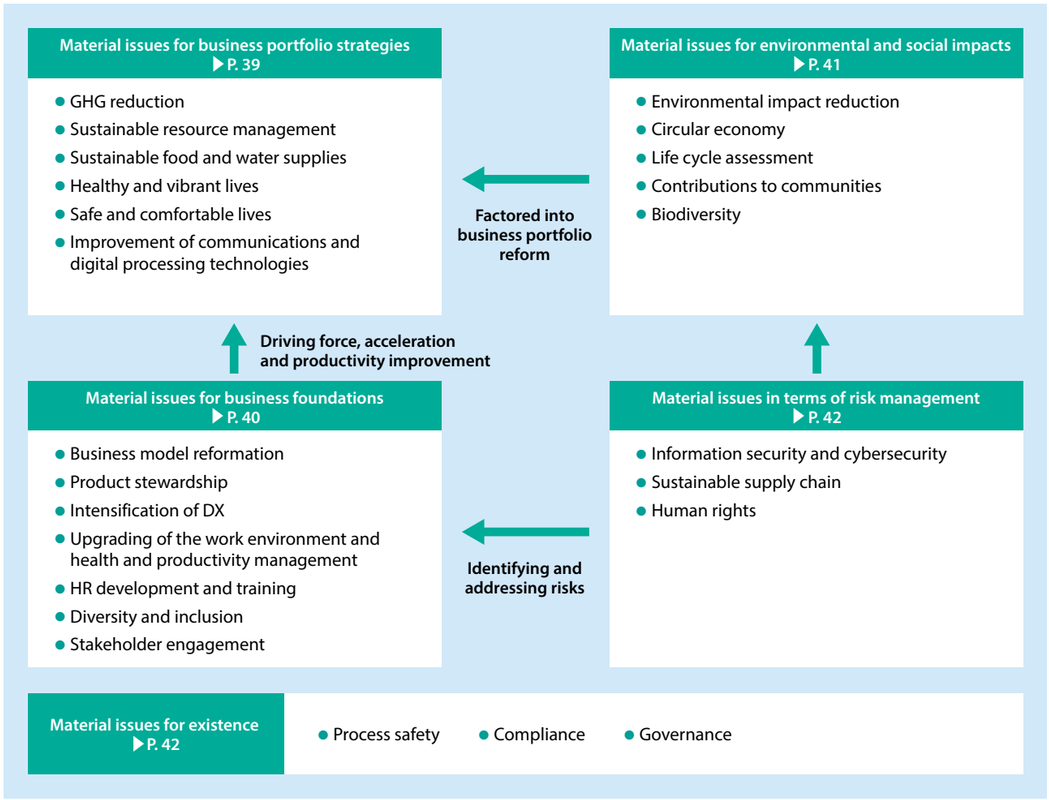
Step 3
Setting of targets and indices

To map a path toward the vision outlined in KV30, targets were set for activities related to the material issues along with indicators to measure their progress (MOS Indices).

Step 4
Decision and approval

The issues were resolved by MCHC's Corporate Executive Officers Committee and Board of Directors together with the new medium-term management plan.

Overview of material issues



Comments from an expert

This is a groundbreaking structure that allows the thought process leading to identification of the material issues to be traced logically.

The material issues identified in *APTSIS 25* are distinctive on a number of counts. For instance, the backcasting of KV30's long-term vision from the society of 2050 ensures consistency, and since it is based on existing analyses, past experience is included. The structure's unique approach that categorizes the various issues and indicates their mutual connections deserves special mention. Arranged above the material issues for existence are the material issues for business foundations and the material issues in terms of risk management. Opportunities and risks related to the growth strategy are then identified as required by ESG investors. At the top of the diagram are macrolevel social issues and the material issues for business portfolio strategies, which can be understood as representing the impact that MCHC attempts to generate by means of value creation through businesses in the middle of the diagram.

Choosing this systematic diagram rather than an ordinary matrix should have the benefit of allowing the thought process leading to the identification of the issues to be traced logically. Additionally, by avoiding any ranking of the individual issues, I think it establishes a mold-breaking new format able to adapt to dynamic change.

Keisuke Takegahara
Executive Fellow
Research Institute of Capital Formation
Development Bank of Japan Inc.

Material Issues Identified in *APTSIS 25* and New MOS Indices

We will proceed steadily with initiatives toward the fulfillment of KV30 by setting targets for the material issues and establishing MOS Indices to measure progress.

Material issues for business portfolio strategies

Material issues	Our actions
GHG reduction	To contribute to the improvement of energy efficiency by providing thermal management materials and other products that promote lighter mobility and the electrification of society.
Sustainable resource management	To contribute to realizing a recycling-oriented society by providing biodegradable and biologically derived plastics. To optimize the overall social system by promoting chemical and material recycling, and capture and utilization of CO_2.
Sustainable food and water supplies	To reduce food losses by providing solutions for long-term food storage and flavor enhancement. To promote R&D to further reduce the environmental impact of food and water supply.
Healthy and vibrant lives	To contribute to preventive medicine through provision of pharmaceuticals including vaccines and to optimize medical treatment for each individual patient through development of Muse cell-based regenerative medicine and precision medicine.
Safe and comfortable lives	To realize high-amenity living and mobility spaces by enabling human-robot symbiosis through lightweight composites, development of artificial joints and limbs, etc.
Improvement of communications and digital processing technologies	To deliver next-generation high-speed telecommunications solutions by developing semiconductor materials with higher processing capacity and other technologies for high-capacity, high-speed telecommunications and digital applications. To provide next-generation display solutions compatible with augmented/virtual reality and hologram technologies.

Switch to a business portfolio centered on growth businesses that contribute to resolving social issues

MOS Indices	FY2022 targets
Percentage of sales revenue from the growth businesses (businesses that contribute to solving social issues)	30%

Material issues for business foundations

Material issues	Our actions
Business model reformation	To realize business model reform by enhancing solution levels through integration of products and services and intensifying innovation toward optimization of the overall social system.
Product stewardship	To ensure that customers can use products and services without concern, pursue initiatives to ensure the quality and safety of products throughout their lifecycle and minimize adverse effects on the environment.
Intensification of DX	To achieve operational optimization and at the same time create new businesses and services that continuously offer new value to business enterprises, customers and society by utilizing digital technology in every situation, for instance to improve operating procedures from R&D to manufacturing and to respond to the needs of customers and society.
Upgrading of the work environment and health and productivity management	To create a safe and conducive work environment through the twin approaches of ICT-based work style reform and health support.
HR development and training	To promote continuous self-improvement and personal growth for human resources and provide relevant opportunities in order to adapt to unpredictable changes in the environment and accelerating technological innovation.
Diversity and inclusion	To enhance the diversity of human resources in terms of gender, values, nationality, career background, age and other characteristics and to embed this inclusivity and leverage it for the benefit of corporate activity.
Stakeholder engagement	To be a business enterprise trusted by stakeholders by showing respect for and communicating closely with them and working together to not only benefit corporate activity but also realize a better society.

Contribution to and acceleration of growth by strengthening and enhancing the business foundation

MOS Indices	FY2025 targets
Employee engagement	80%*1
Diversity among management	40%
Wellness awareness	85%*1
Lost time injury frequency rate	0.71 (Approx. 40% reduction from peak figure of FY2016–FY2019)
Level of customer satisfaction	80
Evaluation related to the ESG stock index	Maintain and improve score on DJSI, FTSE4Good, etc.

*1 Percentage of favorable responses to set items in the employee awareness survey

Assessment results of corporate value including ESG (As of June 30, 2021)

Dow Jones Sustainability Indices
Member of Dow Jones Sustainability Indices Powered by the S&P Global CSA

S&P Global Sustainability Award Bronze Class
Sustainability Award Bronze Class 2021 S&P Global

MSCI Japan ESG Select Leaders Index*
2021 CONSTITUENT MSCI JAPAN ESG SELECT LEADERS INDEX

MSCI Japan Empowering Women Index*
2021 CONSTITUENT MSCI JAPAN EMPOWERING WOMEN INDEX (WIN)

FTSE4Good Index Series
FTSE4Good

FTSE Blossom Japan Index
FTSE Blossom Japan

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Solutions to environmental and social issues

The Group's Material Issues
- GHG reduction
- Improvement of communications and digital processing technologies

Contributing to a low-energy society through GaN substrates

In May 2021, MCC and The Japan Steel Works, Ltd. completed construction of a pilot facility for mass production of gallium nitride (GaN) single-crystal substrates at the Muroran site of Japan Steel Works M&E, Inc.

GaN is a material that makes it possible for electronic devices to achieve high efficiency with low electric power consumption. The development of more compact and lightweight equipment and devices should also mean a significant reduction in electric power consumption, leading to lower CO_2 emissions and reduction of environmental impact. A wide range of applications for the material is envisaged, from power devices, high-frequency devices and other electronic equipment to blue and green laser diodes and other light-emitting devices.

The newly constructed large-scale facility will undertake pilot studies aimed at the mass production of 4-inch GaN substrates with a target of early fiscal 2022 for market launch. Based on the results of the pilot studies, we will put in place a stable supply system for GaN substrates and will also work on the development of 6-inch substrates compatible with power device applications, where demand is expected to increase. By supplying high-quality GaN substrates, we will contribute to realizing a low-energy society.

Material Issues Identified in *APTSIS 25* and New MOS Indices

Material issues for environmental and social impacts

Material issues	Our actions
Environmental impact reduction	To reduce the environmental impact of GHG emissions and water consumption as a step toward resolving climate change and water resource issues and creating a recycling-oriented society.
Circular economy	To achieve smart use of resources, materials, and energy and new value creation through innovation and business model reform for an optimal recycling-oriented society.
Life cycle assessment (LCA)	To carry out and disclose appropriate quantitative assessments of the environmental and social impact of products and services, and their contribution to GHG reductions throughout the value chain.
Contributions to communities	Broadly contribute to society through business activities while deepening understanding of various communities and continually responding to their requests and expectations.
Biodiversity	To identify the effect of business activity on biodiversity and minimize any negative impact. To contribute to conserving biodiversity by promoting environmental protection activities and providing relevant products and services.

Reduction of negative impact, environmental and social contribution, and appropriate evaluation of impact

MOS Indices	FY2025 targets	
Percentage of sales revenue from products*2 that contribute to the circular economy or mitigate and adapt to climate change	**FY2022** 12%	—
GHG emissions	15% reduction (Compared to FY2013, Japan)	
COD emissions	Maintain current level: Approx. 1,600 tons (FY2019, Japan)	
Progress of LCA activities	100%	
Amount of landfill waste*3	50% reduction (Compared to FY2019, Japan)	

*2 GHG reduction and carbon cycle sectors among growth businesses (businesses that contribute to solving social issues)
*3 Amount of landfill waste regularly generated in the Group's routine production and logistics activity

Solutions to environmental and social issues

The Group's Material Issues
- GHG reduction
- Environmental impact reduction

First in the industrial gas sector to use renewable energy certificates, contributing to 160,000 t-CO_2e in yearly emissions reduction

In October 2020, the Spanish and Portuguese group company of Nippon Gases, a European industrial gases business operating company, became the first in the industrial gas sector to use Green Power certificates to convert to 100% renewable energy for the electric power required in the manufacturing process for medical gases, industrial gases and food gases. This measure has resulted in a yearly emissions reduction of 160,000 t-CO_2e. The Company's implementation of the European Union's Green Deal establishes its position as a business taking an advanced stance on environmental impact reduction. At the same time, the implementation of this project will make a significant and ongoing contribution to carbon footprint* reduction in the Iberian region through both the Company's and its customers' emissions.

* Carbon footprint: A system for converting GHG emissions throughout the lifecycle of products and services, from procurement of raw materials to disposal and recycling, into a CO_2 equivalent, and clearly indicating this value on products and services.

Material issues for existence

Material issues	Our actions
Compliance	To comply with laws, international standards and internal regulations based on high ethical standards and to ensure that corporate activities are consistently fair and equitable and founded on integrity.
Process safety	To prevent security accidents and maintain stable operations based on the recognition that safety is the foundation of our continued corporate existence and that ensuring safety is a corporate social responsibility.
Governance	To achieve greater management agility for enhanced corporate governance by improving the transparency and fairness of operations, strengthening management supervision functions and speeding up decision-making.

Material issues in terms of risk management

Material issues	Our actions
Information security and cybersecurity	To recognize the importance of protecting information assets and our responsibility in corporate activities. To strive to manage information appropriately and raise security awareness in order to guard against leaking of confidential information relating to customers, business partners or our own organization.
Sustainable supply chain	To put in place a sustainable supply chain by deepening business partners' understanding of the MCHC Group's corporate mission and working with them to resolve environmental and social issues.
Human rights	To prevent the occurrence of human rights violations in corporate activity by putting in place a system that respects all individuals and their rights and acts to recognize, prevent and oppose negative impacts on human rights.

Appropriate risk management to avoid threats to continued corporate existence

MOS Indices		FY2025 targets
Number of serious compliance violations		0
Number of accidents	**Security accidents**	16 per year (33% reduction from peak figure of FY2016–FY2019)
	Environmental accidents	0
Participation rate in information security training		95%

Solutions to environmental and social issues

The Group's Material Issues
- Sustainable supply chain
- Human rights

Distribution of a guidebook for business partners on prevention of human rights violations in the supply chain

The MCHC Group has established a Global Policy on Respecting Human Rights, Employment and Labor, which is compliant with international standards such as the Universal Declaration of Human Rights, UN Global Compact and UN Guiding Principles on Business and Human Rights. Based on this policy, we work to ensure respect for the human rights of all people involved in the MCHC Group's business activity.

To prevent human rights violations in the supply chain and fulfill our supply-related responsibilities, we distribute to our business partners a guidebook entitled *Developing Cooperative Business Practices with Suppliers and Business Partners*, which summarizes our standards on matters such as human rights, employment and labor, the environment and safety. This is designed to deepen their understanding of the MCHC Group's activities as a contribution to creating a sustainable supply chain.

Follow the link below to view the Global Policy on Respecting Human Rights, Employment and Labor
https://www.mitsubishichem-hd.co.jp/english/sustainability/activities/pdf/globalpolicy.pdf

Follow the link below to view Developing Cooperative Business Practices with Suppliers and Business Partners
https://www.mitsubishichem-hd.co.jp/english/sustainability/activities/pdf/guidebook.pdf

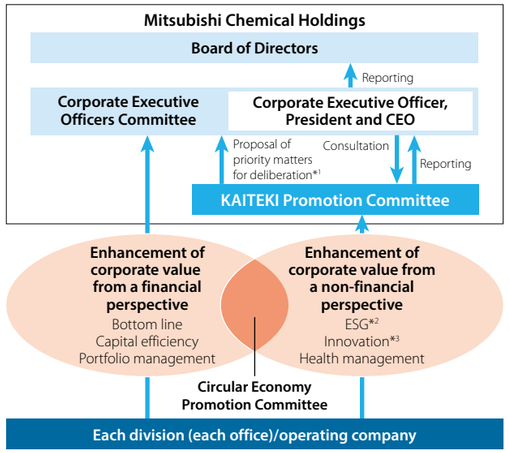
Strengthening of Sustainability Management

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 *APTSIS 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	● 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	● 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
- 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 CO_2 emissions coefficient of purchased electric power

Acceleration of R&D for CO_2 recycling
- Development of artificial photosynthesis technology*
  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
- Implementation of chemical recycling
- Expanded introduction of biomass plastics

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 (CO_2), 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

Carbon cycle
- GHG reduction and effective utilization of CO_2

Plastics cycle
- Chemical and material recycling
- Bioplastics
- Environment-friendly product design

Water resource cycle
- Advanced recycling
- Reduction of water intake

Examples of circular economy initiatives

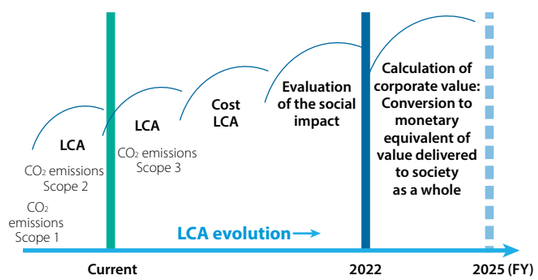
Activities	Description
Carbon cycle	Pilot project on utilization of microalgae selected as a NEDO commissioned project (research into technology for collection and concentration of microalgae using membrane separation technology)
	Launch of studies on offshore hydrogen manufacture using renewable energy, 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 Refinverse, 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



Report in Line with the TCFD Recommendations

In October 2018, MCHC announced its support for the final recommendations prepared by the Task Force on Climate-related Financial Disclosures (TCFD*).

Within the framework of enhanced climate change-related measures, the MCHC Group is working for improved solutions in GHG reduction and the carbon cycle, which are among the growth businesses identified in its medium- to long-term basic management strategy, KAITEKI Vision 30 (KV30), as well as progressing with measures toward achieving the strategy's target for GHG reduction. Progressive enhancement of information disclosure is another initiative which we are targeting to increase our corporate value.

* In June 2017, TCFD announced the final recommendations concerning disclosure of information to encourage companies to voluntarily disclose to investors the impacts of climate change-related risks and business opportunities on corporate finances.

The report based on the TCFD recommendations is also posted on our website.
https://www.mitsubishichem-hd.co.jp/english/ir/library/tcfd.html

KAITEKI Vision 30 is presented in detail on our website.
https://www.mitsubishichem-hd.co.jp/english/group/kv30/index.html

Governance

At MCHC, we have identified GHG reduction, environmental impact reduction and circular economy as the material issues (see P. 38) to be addressed in our medium-term management plan, *APTSIS 25*. In parallel, we have set management indicators and targets (see Metrics and targets) to measure progress with these initiatives to mitigate and adapt to climate change. Going forward, we will continue to monitor progress against the target values set for each operating company, acting in line with the KAITEKI Initiative Structure (see P. 43), centered on the KAITEKI Promotion Committee, a body under the advisory control of the MCHC president.

Strategy and risk management

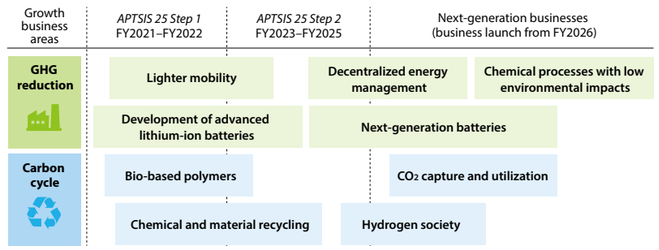
Category	Contents of report	Related pages
Business opportunities and risks from perceived social issues	In its formulation of KV30, the MCHC Group identifies the business opportunities and risks relating to social issues that it faces in the period up to 2030. It also quantitatively assesses the risk of leaving social issues unmanaged (see the table below). A climate change-related risk that we recognize as having a particularly large impact is decrease in product demand and profitability due to factors such as increased carbon tax burden and regulation of the use of plastic products. We aim to achieve a safe and secure society by minimizing damage and ensuring business continuity in the event of a large-scale natural disaster while providing solutions that contribute to disaster prevention and mitigation.	▶ MCHC Group Material Issues (P. 37–38) ▶ Corporate Governance: Risk Management (P. 70–71) • Measures against major risks

Reference: Evaluation of risk in the case of social issues, including climate change-related issues, being left unmanaged (identified in KV30)

: Climate change-related risk

		Risk 1 Loss of corporate and brand value	Risk 2 Loss or contraction of existing business	Risk 3 Loss of new growth opportunities
Social issues	GHG reduction and effective use	Institutional investors emphasize ESG Sluggish stock prices and higher interest rates due to insufficient ESG response	Risk actualization of existing businesses due to changes in customer demands, tighter regulations and policy changes	Loss of growth opportunities due to delays in portfolio reforms that solve social issues
	Sustainable resource management			
	Sustainable food supply		Increase in business costs due to actualization of risks related to social issues • Carbon tax burden • Rising food prices	
	Sustainable water supply and use		• Operating loss due to extreme weather • Increase in medical insurance	Loss of new growth opportunities due to delays in business model reforms and technological innovations to form platforms
	Realization of healthy and vibrant lives	Impairment of brand value if response to social issues is inadequate	• Shut-down of operation due to spread of infections	
	Realization of safe and comfortable lives		Reduction in operating profit by cutting medical costs	Loss of growth opportunities due to delayed globalization
	Improvement of communications and digital processing technologies		Decline in competitiveness due to delays in digitalization • DX-based business optimization • Development competition based on MI*	
	Human resources and work styles	Loss of outstanding young personnel who strongly demand corporate social responsibility	Loss of competitiveness due to delayed efforts for a change in HR structure to meet changes in social structure	
Reformation according to structural changes	Business portfolio that contributes to solving social issues			
	Transformation of business models (from goods to solutions)			
	Strengthening response to environmental and social impacts			
	Reforming systems related to people and work styles			
Risk impact (Billions of yen)	● Deterioration of balance sheet ● Decline in the value of stock ● Operating income loss	230 20	410 160	220

* Materials informatics: AI-based method to design new materials and explore alternative materials rapidly and efficiently.

Category	Contents of report	Related pages
Business opportunities and risks from perceived social issues	The MCHC Group recognizes business opportunities in solutions that contribute to resolving social issues, including the climate change-related items below, and has identified a group of relevant businesses as growth businesses, where it intends to progressively expand business scale and strengthen profitability. **MCHC Group growth businesses related to climate change** 	▶ Secure footholds in fields where growth is accelerating amid changing social needs (strategy in growth businesses) (P. 31)
Impact on business scale and risks from perceived social issues	● By fiscal 2030, we aim to expand GHG reduction-related areas and other growth businesses to account for over ¥4 trillion in sales revenue, and over 70% of the total. ● By fiscal 2022, the target period for *Step 1* of the medium-term management plan *APTSIS 25*, we aim to expand the GHG reduction and carbon cycle areas to account for 12% of total sales revenue. ● We estimate risk associated with social issues and structural change in 2030 at around ¥1 trillion.	▶ KV30: Sales revenue target for FY2030 (P. 26)
Portfolio management	● Based on the risk impact evaluation in KV30, we have carried out a review of the basic policy for portfolio reform to switch from the previous MOE-based evaluation to an overall evaluation based on factors including sustainability contribution (MOS) and innovation potential (MOT). Going forward, with a keen eye for businesses that contribute to medium-term growth, we will undertake continuous business portfolio reform using new evaluation criteria that take into account factors such as the scale of the environmental impact.	▶ Basic policy on portfolio reform (P. 30)
Risk management	● We will strive to avoid the occurrence of major risks and minimize losses when they occur under our risk management system (see P. 70). ● We are aware that climate change risk is expected to increase further in the medium to long term, and we have factored this prediction into KV30 and the medium-term management plan. We are also exploring additional risk management methods.	▶ Corporate Governance: Risk Management (P. 70–71) • Risk management system • Measures against major risks • Measures against future risks

Metrics and targets

Category	Contents of report	Related pages
Metrics and targets to assess risks and opportunities	Of the management indicators used to measure progress with material issues (MOS Indices), we have set medium-term targets in two selected items: the percentage reduction in GHG emissions and the percentage contribution of the GHG reduction and carbon cycle business areas to total sales revenue. We will carry out annual evaluation of the state of progress. Regarding the percentage reduction in GHG emissions, we will aim for reductions in line with the target levels of the respective national and regional governments. In Japan, we are taking forward concrete measures aimed at meeting the KV30 fiscal 2030 target of a 26% reduction in domestic emissions compared to fiscal 2013. Going forward, we are committed to exploring further emissions reduction in line with the approach adopted by the respective national and regional governments.	▶ New MOS Indices (P. 39–42)
Scope 1–3 GHG emissions	Please see GHG emissions in "Non-Financial Highlights" for the performance in fiscal 2020. We have received independent assurance for GHG emissions, and are working to disclose highly reliable information.	▶ Non-Financial Highlights (P. 91) ▶ Environmental Data/Independent Assurance Report (P. 103–104)
Director remuneration	The performance-based evaluation of the remuneration of corporate executive officers and executive officers is determined based on the degree of achievement of the targets for each fiscal year. The evaluation is determined by using indices* including those associated with the improvement of sustainability in addition to economic and capital efficiencies, such as indices associated with climate change through the promotion of energy-saving activities. For details, please refer to the Securities Report. * From fiscal 2021, we will shift to new MOS Indices. For a detailed explanation, please refer to New MOS Indices on P. 39–42.	▶ Corporate Governance: Director remuneration (P. 66–68)