VISION AND MATERIALITY

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Long-Term Vision “DAICEL VISION 4.0”

Realizing a Sustainable Society While Achieving Sustainable Business Expansion

The Daicel Group has formulated its Long-Term Vision “DAICEL VISION 4.0” and its Mid-Term Management Strategy “Accelerate 2025” based on this vision, and is taking steps toward its realization.

On this page, we will introduce the four structural transformations that the Group hopes to achieve in order to “contribute to building a circular society,” as stated in our Long-Term Vision.

Goals of the Long-Term Vision

We believe that in order to achieve both a sustainable society and the growth of the Daicel Group in line with the Sustainable Management Policy, it is necessary to change the social structure that has taken mass production and mass consumption for granted.

Therefore, our Long-Term Vision is to contribute to the creation of a circular society through these challenges, while leveraging the strengths of our Group and working with partners that share our aspirations.

Social shift to realize a circular society as stated in our Long-Term Vision and Mid-Term Management Strategy

Existing Mass Consumption Society		Contribution to Building a Circular Society
Strategy that prioritizes only one's own interests	>>>	1 Formation of a New Business Group
Economic activities based on fossil resources	>>>	2 Realization of new Biomass Product Trees
Increased CO_2 emissions and massive energy consumption	>>>	3 Implementation of carbon offsets and energy offsets
Formation of a society that ignores the future caused by products made from these activities	>>>	4 Providing happiness in four domains: 1.Health 2.Safety/Security 3.Convenience/Comfort 4.Environment

1 Formation of a New Business Group

In order to change the social structure, it is essential to form a group (New Business Group) that can co-create new value for society and the environment. From a manufacturing perspective, we are just one of the processes that lead to our customers' end products. The supply chain is made up of a number of interconnected processes. By combining the strengths of the various companies, it is possible to create more efficient manufacturing than a single company could do by trial and error, and to create better products and more environment-friendly manufacturing methods. Our goal is for the supply chain to evolve into a unified value chain with the strength of co-creation to provide greater value to society. In addition to vertical partnerships connected by supply chains, diverse connections through horizontal business partnerships such as those among companies in the same industry are called cross-value chains, and the path to forming such a New Business Group is divided into three operations (OP below) that expand the scope of co-creation from Daicel alone to the Daicel Group to partners.

Page 34: Stories of Co-Creation with Our Customers

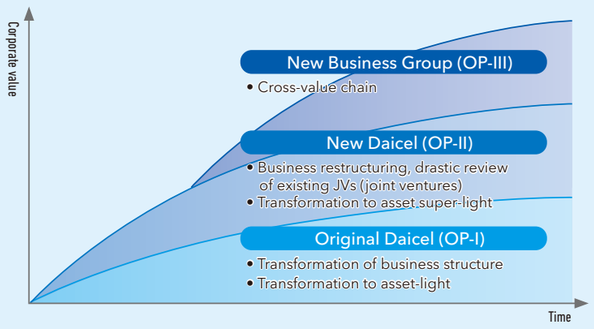
Growth & Acceleration Strategy

【Operations for goal achievement】

Operation-I (OP-I) Original Daicel
Areas including domains to focus on in addition to current businesses
- Transformation of business structure (Selection and concentration of the business ➡ Shifting to value providing type of organization)
- Transformation to asset-light
- Structural reforms to accelerate OP-II/III growth

Operation-II (OP-II) New Daicel
Peripheral areas of existing business to be expanded through M&A or collaboration
- Business restructuring, drastic review of existing JVs
- Transformation to asset super-light
- A company creating high added value that can aim at OP-III

Operation-III (OP-III) New Business Group
Cross-value chain that brings a vertical integration type of supply chain along with horizontal integration
- Building the No. 1 supply chain through diverse connections, without sticking to M&As



2 Realization of New Biomass Product Trees

Cellulose acetate, which has been our forte, is an environment-friendly biomass material, but its production process requires a large amount of energy. To address this issue, we have created a technique to extract cellulose from wood under environment-friendly conditions by utilizing “technology for melting wood” and to produce cellulose acetate from cellulose that does not react easily, using less energy, through joint research with universities. In addition to cellulose, it is now possible to extract reactive substances such as hemicellulose and lignin contained in wood, which have not been utilized in the past. We are taking on the challenge of creating a new product tree that is environment-friendly in both products and manufacturing processes, leveraging the Group's existing businesses and insights from throughout the years.

We are working on real world implementation of this technology as one means of changing from a society that massively consumes finite fossil fuels to one that recycles the forests that cover approximately 70% of Japan's land as renewable resources.

Page 18: Strengths of Daicel Group “Pioneer in Biomass Chemistry” **Biomass Value Chain Concept (Japanese only)** https://www.daicel.com/bvc/

3 Implementation of Carbon Offsets and Energy Offsets

The chemical industry, which operates heavy and bulky plants, is generally considered an “energy-intensive industry.” The Daicel Group believes that in addition to creating products that benefit people and society, the manufacturing process must also be friendly to people and the earth. We are working to achieve carbon and energy offsetting through energy conservation based on DAICEL Production Innovation, as well as through innovations in manufacturing processes and new technologies that enable the reuse and effective utilization of carbon emissions.

Pages 42-47: Daicel Group's Challenge to Achieve Carbon Neutrality, Information Disclosure in Line with TCFD Recommendations

4 Providing Happiness in Four Domains

In response to rising social trends and needs, the Daicel Group has defined four focus areas that it offers from the angle of leveraging the Group's strengths to help solve social issues. By maximizing the unique materials and technologies we have cultivated since our founding, and by successively combining our strengths with those of our partner companies, we will provide products and services that continue to bring happiness to people.

Page 18: Strengths of Daicel Group “Unique Technology Cultivated Since the Company's Founding”

Health

Medical supplies
- DDSs*/Medical device (Actranza®)
- Medical devices/packaging materials (engineering plastics)

Vital sensor
- Nanodiamonds

Functional food materials based on intestinal metabolites
- Equol
- Urolithin

Environment

Environmentally conscious solution business

Green chemicals
- Review of existing in-house chemical chains
- Spherical cellulose acetate particles BELLOCEA®
- Fine cellulose
- New cellulose derivatives

Safety/Security

Support for EV vehicles
- Mass production of Pyro-Fuse
- Sales expansion of inflators and Pyro-Fuse to China, Europe and the U.S.

Integration with sensing technology through business-to-business collaboration
- Participate into safety equipment in everyday life
- Equipment to prevent injury by detecting a fall

Convenience/Comfort

Development and deployment of new functions through improved processing technology
- Film technology
- Coating technology

Inorganic/organic composite electronic materials

Materials for electronic devices
- Organic semiconductors, silver nano ink
- Optical lens, etc.

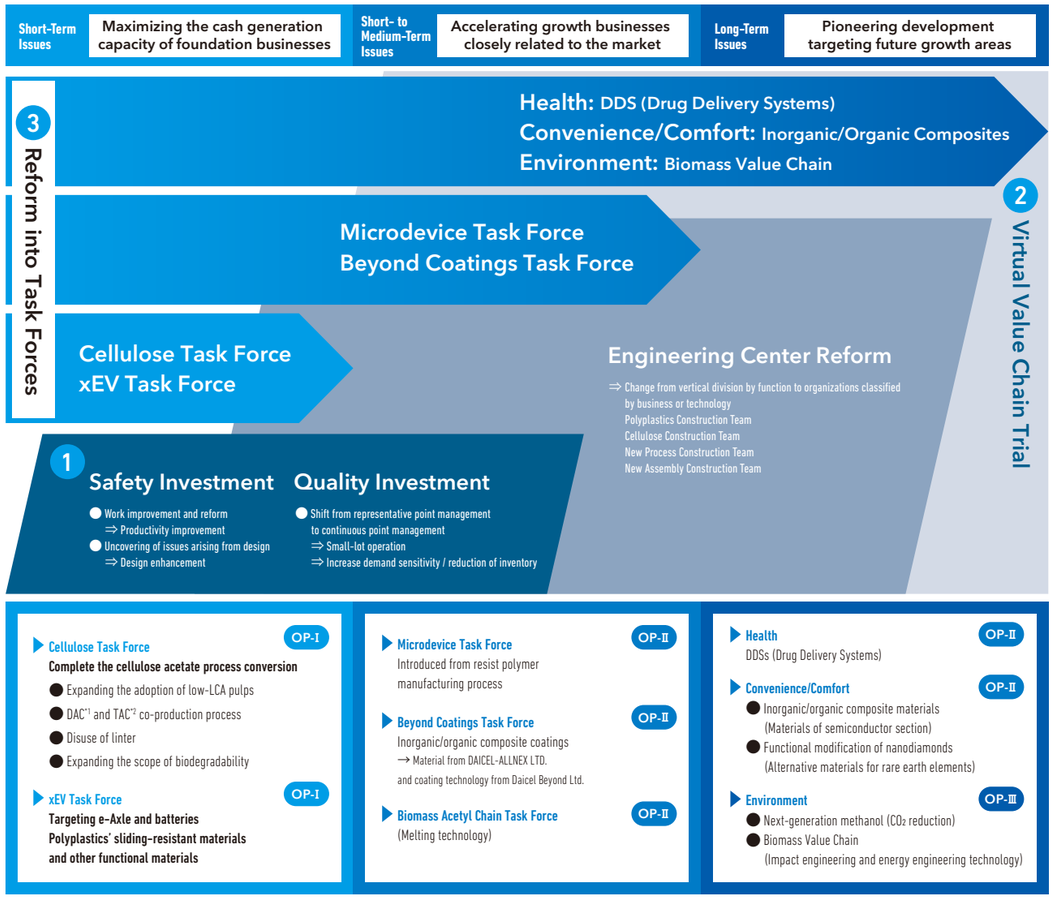
* DDSs: Drug delivery systems

Mid-Term Management Strategy

Key Points to Be Strengthened by the Mid-Term Management Strategy toward Our Vision

Our Group is working on the steady implementation of each measure outlined in our Mid-Term Management Strategy to improve the Daicel Group's profitability and business creation capabilities while expanding the scope of value co-creation. One example is Polyplastics Co., Ltd. (hereinafter "Polyplastics"), which became a wholly owned subsidiary in FY2021/3. Since then, its sales have steadily increased and it has successfully built up its manufacturing capabilities.

In further promoting its Mid-Term Management Strategy, the Group has identified the following three points for future reinforcement, while making swift investment decisions and changing its measures in response to the situation.



*1 DAC: diacetyl cellulose *2 TAC: triacetyl cellulose

1 Continue to Strengthen the Foundations of Manufacturing Such As Safety, Quality, and Compliance

We have conventionally held "safety, quality, and compliance" as priority foundations of corporate activity, but in FY2023/3, inappropriate actions related to third-party certification for the products of our Group company were discovered. In response to this, we are working on initiatives to prevent recurrence, such as organizational reforms to further strengthen safety, quality, and compliance as priority foundations. Since the majority of serious problems at factories are recurrences of past problems, in order to prevent implemented measures from being forgotten, we have issued a small booklet containing incidents and directives for their rectification over the past 50 years and instructed all employees to carry it with them at all times. Through organizational reform, the implementation and auditing functions for manufacturing were separated. We have established the Safety and Quality Assurance Headquarters to promote safety, quality, and compliance company-wide, encapsulating the Safety & Environment Control Department and Quality Assurance Department, which are engaged in steady efforts at each factory, and the Assessment Headquarters to verify whether risk assumptions and countermeasures are effectively put into practice and to verify that mechanisms and systems are being constantly reviewed. We will steadily incorporate improvement measures identified through a system of constantly verifying initiatives into permanent measures, such as capital investment.

2 Establish the VVCC, a Safe and Optimal Manufacturing Center Adjacent to the Integrated Production Center at the Aboshi Plant

The Daicel Group is working to transform Daicel's manufacturing from a stand-alone initiative into a new kind of manufacturing that improves added value across the supply chain. As a stepping stone, we will establish the Virtual Value Chain Control Center (VVCC), which will promote safe and optimal manufacturing, adjacent to the Integrated Production Center at the Aboshi Plant. The VVCC will propose new kinds of manufacturing that not only monitor safety and quality introduced in the previous paragraph but also enable optimal management of areas such as production planning, logistics, regular maintenance and repairs, and personnel placement. These proposals consist of content that we have considered in our Mid-Term Management Strategy up to now. The VVCC will first conduct operations that recognize our Aboshi Plant, Ohtake Plant, and production bases of other companies connected via our supply chain as a single virtual corporate entity in order to optimize the acetyl chain. Through the VVCC, we will expand the scope of value co-creation beyond the Group to our partner companies.

For the details of VVCC, please refer to page 38.

3 Promote the Creation of Task Forces to Accelerate the Establishment of New Businesses

In order to establish a strong base for profitability, each research theme will be divided into "short-term themes" that raise the top line and strive for the early profitization of new businesses and "medium- to long-term themes" that will become our new base for profitability through the development of innovative, common, foundational technologies by classifying them into new core technologies, transforming our current system into a new system where human resources are effectively invested.

For the short-term themes, we will focus on cellulose and xEV*1 and switch our traditional concurrent project structure to a full-time task force structure as a shift toward an early-stage, decision-oriented structure, aiming for the thorough improvement of profitability for foundation businesses and early profitization of new businesses. For cellulose, we will introduce technologies for the two-step crushing of raw pulp and dope filtration in the manufacturing process of cellulose acetate—our main product—and use raw materials that are cost-competitive and sustainable to enhance product competitiveness and optimize inventories. For xEV, we will work with Polyplastics to achieve tangible results with Polyplastics' products and Pyro-Fuse from the Safety Business, setting LiB*2 and e-Axle*3 as target applications.

For the medium- to long-term themes, we will establish task forces specializing in the establishment of bases for profitability, created by combining our existing proprietary technologies with innovative ones to be newly acquired, to develop future growth areas. These task forces will work on the melting technology that melts microfluidic device plants and wood, which are key components for building the Biomass Value Chain; CO_2 reduction, which is a technology necessary to realize carbon negativity; and the creation of next-generation methanol from CO obtained from CO_2 reduction. We aim to implement microfluidic devices with an initial focus on resist polymers between the end of FY2025/3 and FY2026/3. The establishment of this technology will enable revolutionary energy conservation and labor savings, as well as the alignment of both ecology and economy. We believe that these technologies are capable of contributing to the reduction of GHG emissions not only for our Group but also for other companies, and that they have the potential to become driving forces behind new industrial structures going forward.

In addition, the Engineering Center, which previously had a vertically divided structure, will be reorganized from a structure divided into specialized areas to self-sufficient construction teams responsible for the entire construction process of production facilities from the initial planning to the final facility establishment, having task forces organized by theme to speed up the establishment of production facilities. Each of the construction teams will be considered to be an in-house engineering company and mutually improve each other's technical capabilities. By having each team undertake construction work in which it is most proficient, we will ensure the commercialization of projects within set deadlines and strengthen our engineering technologies.

The Group is committed to the effective use of its limited human resources and the early-stage establishment of new businesses and products, and it will aim to improve its profitability and business creation capabilities.

*1 xEV: electric vehicle
*2 LiB: lithium-ion battery
*3 e-Axle: a traction unit for EVs that integrates a motor, inverter, and reduction drive to achieve a light weight, high performance, and space savings

Financial Strategy

We aim to maximize capital efficiency and sustainably increase corporate value by practicing balance sheet control and reviewing cash allocation flexibly.

Yoichi Nemoto

Managing Executive Officer
Deputy General Manager, Corporate Support Headquarters
Division Manager, FP&C Group, Corporate Support Headquarters

Support Active Investments in Growth by Improving Cash Generation Capabilities and Building a Sound Financial Base

We updated our current Mid-Term Management Strategy, "Accelerate 2025," in May 2023, but there is no change in principle to our policy of using the cash generated by maximizing the profits of the Materials Business, one of our foundation businesses, to invest in the growth of our Engineering Plastics Business and Safety Business, our growth businesses, as well as to invest in next-generation fields and R&D that will contribute to the expansion of the top line going forward.

In accordance with this policy, although in FY2024/3 our business was affected by a slump in electronic materials-related markets, EBITDA increased by a little over 20% compared to the previous fiscal year, owing to factors including the expansion of the supply capacity and price corrections for acetate tow in the Materials Business as well as the increase in sales volume in the Safety Business and the impact of exchange rates. We are using this as a source of funds to actively invest in overseas growth and R&D.

In FY2025/3, the acetic acid raw material (carbon monoxide) production plant will go into full operation and depreciation will increase significantly, but EBITDA will reach a record high of 107.5 billion yen, thanks to the effect of increased production overseas in the Engineering Plastics Business and the realization of business structure reforms in the Safety Business.

	FY2023/3 results	FY2024/3 results	FY2025/3 forecasts*
Net sales	538.0 billion yen	558.1 billion yen	610.0 billion yen
Operating income	47.5 billion yen	62.4 billion yen	65.0 billion yen
Ratio of operating income to net sales	8.8%	11.2%	10.7%
Net income attributable to owners of the parent	40.7 billion yen	55.8 billion yen	58.0 billion yen

	FY2023/3 results	FY2024/3 results	FY2025/3 forecasts*
ROE	14.3%	17.1%	15.6%
ROIC	5.3%	6.3%	6.4%
ROA	5.6%	7.0%	7.0%
EBITDA	79.1 billion yen	96.1 billion yen	107.5 billion yen

* As of May 9, 2024

While the ability to generate cash as represented by EBITDA is the source of the Group's sustainable growth, it is also important to build a strong financial structure to secure external financing when needed, and we are constantly checking our balance sheet to ensure it is in good shape.

While ensuring financial stability, we aim to build a lean and robust balance sheet with high asset efficiency and are promoting measures to generate cash from the balance sheet across the Group, such as by controlling liquidity on hand mainly for cash and deposits, reducing working capital using CCC as a benchmark, and systematically reducing cross-shareholdings.

Flexibly Review Cash Allocation Based on Simulation of Future Balance Sheet

In our Mid-Term Management Strategy "Accelerate 2025," we have set targets for the management indicators of ROE, ROIC, and ROA under the asset-light principle. All of these are expressed in terms of the relationship between assets and returns (profits), and while maximizing returns remains our first priority, the indicators also represent our intention to control the balance sheet from the perspective of capital efficiency.

While there are some factors such as exchange rate fluctuations that are beyond our control, business assets such as working capital including inventories and manufacturing facilities can be handled by business divisions, plants, and Group companies. The introduction of ROIC as a key management indicator also conveys our message of focusing on business assets at the field level in addition to items on profit and loss statements such as net sales and profit.

I realize that there is a steady change in the awareness of manageable business assets throughout the Company. Taking inventory as an example, the promotion of inventory reduction initiatives by the SCM Headquarters and production sites, the shortening of preparation periods by reviewing quality control methods, and the reduction of inventory lead time for pulp, a key raw material, by changing production methods are some of the items that have emerged as drivers for inventory improvement in the short- to medium-term. These measures will certainly lead to an improvement in ROIC and all other management indicators.

The corporate divisions are also strengthening balance sheet control from Group and global perspectives. As just one example, we are promoting capital efficiency improvement through balance sheet optimization for individual Group companies by encouraging them to actively return dividends to us, based on a comprehensive view of the financial position of each Group company in Japan and overseas and a review of their retained earnings and liquidity on hand.

We will aim to sustainably increase corporate value by constantly simulating the impact of these actions by the Group and changes in business strategies due to changes in the business environment on the balance sheet and management indicators, and by repeating the management cycle of confirming the latest results and flexibly reviewing cash allocations. We believe that regularly disclosing and explaining the results of cash allocation reviews to investors are important also from the viewpoint that they get a better understanding of the Group's financial strategies and policies.

As of the update of the Mid-Term Management Strategy in May 2023

Cash-in (Cumulative total for 3 years beginning FY2024/3)			Cash-out (Cumulative total for 3 years beginning FY2024/3)	
Operating CF	287.6 billion yen	Total amount available for distribution 420.0 billion yen (or more)	Growth investments	190.0 billion yen (or more)
Cash	End of FY2023/3 93.5 billion yen		Shareholder returns	85.0 billion yen (or less)
	Sale of cross-shareholdings 38.9 billion yen		Debt repayment	85.0 billion yen (or less)
Debt financing	0.0 billion yen (or more)		Cash	60.0 billion yen

As of May 2024

Cash-in (Cumulative total for 3 years beginning FY2024/3)			Cash-out (Cumulative total for 3 years beginning FY2024/3)	
Operating CF	300.0 billion yen	Total amount available for distribution 434.0 billion yen (or more)	Growth investments	190.0 billion yen (or more)
Cash	End of FY2023/3 93.5 billion yen		Shareholder returns	94.0 billion yen (or less)
	Sale of cross-shareholdings 40.5 billion yen		Debt repayment	90.0 billion yen (or less)
Debt financing	0.0 billion yen (or more)		Cash	60.0 billion yen

Commencement of Information Disclosure Comparing Key Management Indicators Related to Capital Profitability with Cost of Capital

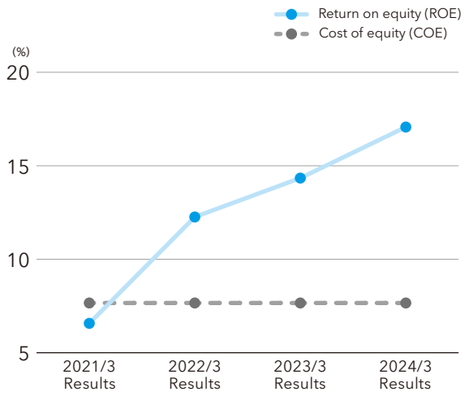
As mentioned above, ROE, ROIC, and ROA are considered to be key management indicators in the Group's Mid-Term Management Strategy. We disclosed our anticipated cost of capital for each indicator in our May 2024 Financial Result Presentation Materials.

To increase corporate value, it is important that each indicator of capital profitability exceeds the cost of capital. The Company's cost of equity (COE) is currently estimated to be in the mid-7% range, while the weighted average cost of capital (WACC) is in the mid-4% range. The corresponding capital profitability indicators—ROE, ROIC, and ROA—all exceed their cost of capital, ensuring margins.

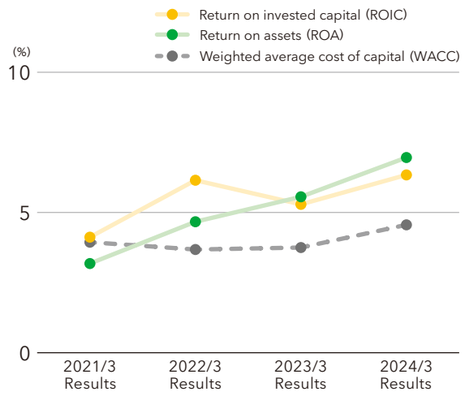
Such monitoring is conducted on a regular basis, and within the Company, reporting has begun even among the Board of Directors. The Board of Directors pointed out the importance of maintaining control based on the business portfolio and the stage of the business, as well as the importance of looking at them from multiple angles in conjunction with other indicators, particularly with regard to the relationship between ROIC and WACC. Taking this into account, we will set appropriate targets and manage progress for each business, aiming to further strengthen our foundation businesses and expand our next-generation and growth businesses.

The trends in each capital profitability indicator are shown in the graphs. For ROIC, we will break it down into its constituent elements, clarify the statuses of the profit ratio (the numerator) and the asset turnover ratio (the denominator) to form a so-called ROIC tree, and delve even further to break down the issues at the field level. Some initiatives, such as the inventory reduction initiatives mentioned above, are already being promoted at the field level, and we will work to further unleash the ingenuity and creativity of every employee to improve the profit and asset turnover ratios.

Trends of ROE and COE



Trends of ROIC, ROA, and WACC



Daicel will focus on improving management indicators related to capital profitability to sustainably increase corporate value.

Positive Impact on Various Stock Indices Can Be Expected Due to PR for Our Growth Strategies, Increases in EPS, and Measures to Deliver Attractive Shareholder Returns

As a company listed on the stock market, we are naturally aware of our own stock price. Our PBR is about 1.1 times as of the end of March 2024, which is not high. When PBR is broken down into ROE and PER, the low PER is noticeable, with a PER of about 7 times compared to an ROE of 17%.

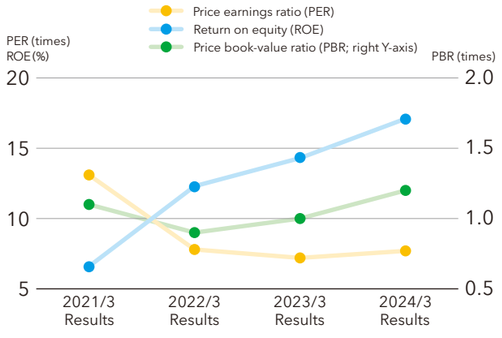
Although there is no direct measure we can take for PER, which is known as the equity premium, I believe that our actions to raise expectations in the capital market for the Company's future prospects and shareholder returns will lead to an increase in the PER. Such measures include improving the dissemination of IR information, communicating our Group's growth strategy in an easy-to-understand manner while effectively using future quantitative information to deepen understanding, flexibly reviewing our cash allocations, and setting a balanced return policy to ensure stable and progressive dividends and the flexible acquisition of treasury shares. We will actively create opportunities for two-way communication with our shareholders and investors, and through more in-depth dialogue, we hope to increase the PER and improve shareholder value.

We added a target of a "dividend on equity (DOE) ratio of 4% or more" to our existing shareholder return policy of a "total return ratio of 40% or more" in FY2025/3. Daicel had originally set an annual dividend target of 32 yen per share or more, but in recent years its dividends have exceeded this. We believe that the recent change in our policy to include DOE will clearly convey our approach to dividends, which is to pay stable and progressive dividends. For FY2025/3, we plan to pay an annual dividend of 55 yen per share and an increase of 5 yen from the previous fiscal year, in line with the newly introduced DOE target.

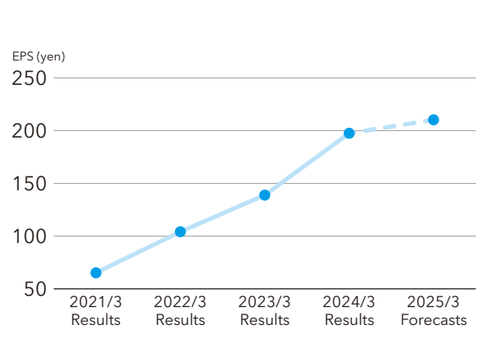
In view of the impact on the overall stock price, we believe it is equally important to sustainably increase earnings per share (EPS) and have set an EPS target as well. We will further increase profits by ensuring the implementation of business growth strategies and increase EPS through such measures as equity control by flexibly acquiring treasury shares.

Daicel is committed to accelerating the implementation of growth strategies, steadily promoting financial strategies to support them, and sustainably increasing corporate value.

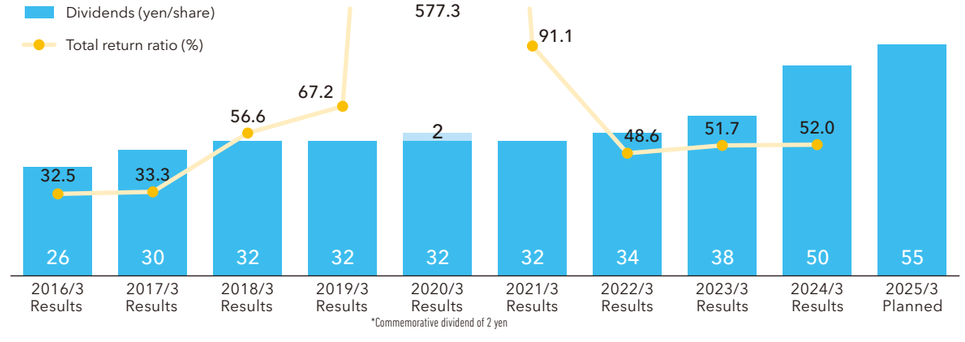
Trends in stock price indicators



Trends in Earnings per Share (EPS)



Trends in shareholder returns



Sustainability Management and Materiality

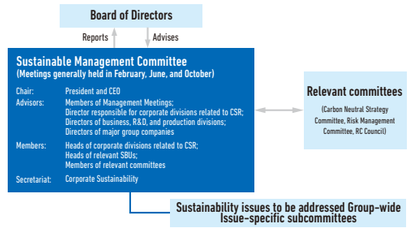
Based on our "Sustainable Management Policy," we will focus on "safety, quality, and compliance" as the priority foundations of our business. Through integrity, tireless efforts, and self-transformation, we will achieve both the realization of a sustainable society and the expansion of the Group's business. Page 05: Sustainable Management Policy

Sustainable Management System

The Daicel Group established the Sustainable Management Committee (typically meets three times a year), chaired by the President and CEO, to discuss and manage key sustainability issues (materiality) at the management level. In addition, in each issue-specific subcommittees established for each theme related to sustainability, such as LCA and supply chains, the responsible officer is involved as the person in charge, working to strengthen initiatives and further enhance information disclosure.

The regular progress evaluation of KPIs by the Sustainable Management Committee ensures implementation of the CAPD* cycle. In addition, the Board of Directors will receive regular reports from the Sustainable Management Committee concerning the status of the KPIs related to materiality in order to supervise the promotion of sustainability at the Daicel Group.

Diagram of the Sustainable Management System



In FY2024/3, the Sustainable Management Committee met three times, mainly discussing the response to climate change, the certification system for contribution to build a circular society, initiatives to reduce GHG emissions, and the calculation of the Carbon Footprint of Products (CFP), with the details reported to the Board of Directors.

Background and Approach to Materiality Identification

In FY2021/3, the Daicel Group has identified materiality as a key issue for achieving its Long-Term Vision and Mid-Term Management Strategy. Based on the three perspectives of products, manufacturing processes, and people in the Sustainable Management Policy, we identified how the Daicel Group can contribute to solving social issues represented by the SDGs by leveraging its strengths, while also addressing the priority foundations of safety, quality, and compliance, which are the prerequisites for such solutions.

Materiality Identification Process

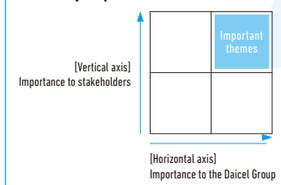
Step 1 Extract social issues

We referenced international guidelines, SDGs, the principles of the United Nations Global Compact and guidelines published by industry organizations to extract social issues that the Daicel Group should address.

Step 2 Prioritize

We assessed items extracted in Step 1 by giving consideration to the following aspects to identify key themes with high priority by plotting them on the materiality map according to "Importance to stakeholders" and "Importance to the Daicel Group." We then sorted them into the two categories of "Growth of the Daicel Group and value co-creation" and "Foundation for the Daicel Group's continuity and governance."

Materiality map



- Consistency with the Long-Term Vision and Mid-Term Management Strategy
- Consistency with related policies such as the Sustainable Management Policy, the Daicel Group Code of Conduct, Ethical Standards of Daicel Group
- Consolidation of opinions from relevant departments

Step 3 Confirm validity

The Corporate Sustainability and other relevant divisions discussed the validity of important themes identified through Steps 1 and 2. The results were reported and approved at the Management Meetings and subsequently endorsed by the Board of Directors.

Step 4 Formulate materiality and KPIs

By going through Steps 1 to 3, we identified 15 material issues. We designate a KPI for each, and also periodically evaluate progress to maintain a CAPD cycle. We will review our materiality in response to future changes in society and our business.

* Instead of a Plan, Do, Check, and Act (PDCA) cycle, the most widely known approach to continuous improvement, the Daicel Group has adopted a CAPD improvement cycle to avoid the risk of overlooking crucial facts and realities that often lie hidden in the initial planning stage.

Materiality List

1. Materiality aimed at achieving growth of the Daicel Group and value co-creation

In terms of products, manufacturing processes, and people under the Sustainable Management Policy, we have clearly identified areas where we will leverage our strengths to proactively create value in solving social issues represented by the SDGs.

	Classification	Materiality		Relevant SDGs
Materiality aimed at achieving growth of the Daicel Group and value co-creation	Sustainable Product	Contribute to beauty and health Page 50	•Providing solutions for the pharmaceutical and medical markets •Providing sustainable cosmetic raw materials and health food	
		Contribute to the smart society Page 52	•Providing solvents for semiconductor processing and polymers for resists	
		Provide safety and security for society Page 54	•Providing products that ensure safety and security of mobility	
		Provide environment-friendly materials and technology Pages 50, 56, 58	•Providing materials and technology that reduce environmental impact such as environment-friendly plastics	
	Sustainable Process	Contribute to the development of a circular society Page 42	•Building Biomass Value Chain •Reuse of waste and CO_2	
		Respond to climate change Page 42	•Reduction of GHG emissions through production innovation, energy innovation, and process innovation	
	Sustainable People	Promote diversity, equity and inclusion	•Work environment where everyone can work with vigor regardless of gender, age, nationality or disability	
		Support personal growth	•Personnel development for honing expertise •Framework to support employees who take on challenges •Building highly fair evaluation system	

2. Materiality related to the foundations of the Daicel Group's continuity and governance

We established respective considerations of prime importance for value creation, including safety, quality, and compliance, for E (environment), S (society), and G (governance).

	Classification	Materiality		Relevant SDGs
Materiality related to the foundations of the Daicel Group's continuity and governance	Environment	Reduce environmental impact	•Promotion of waste reduction and recycling	
	Social	Ensure process safety and disaster prevention, occupational health and safety	•Elimination of process incidents •Minimization of damages based on crisis assessments	
		Ensure chemical safety and enhance product quality	•Reinforced quality management to prevent recurrence of quality defects •Centralized management and sharing of chemical substance information	
		Respect human rights	•Establishment and implementation of human rights due diligence •Development of a framework for corrective and remedial action against human rights abuses, and employee education	
		Foster a corporate culture that meets employee needs	•Shorter working hours and improvement in the annual paid leave acquisition ratio •Support for flexible work styles •Employee health promotion	
		Promote sustainable procurement	•Improved level of CSR across the supply chain	
	Governance	Strengthen foundation for Group governance and compliance Pages 68, 74	•Reinforce corporate governance •Enforce thorough compliance •Strengthen risk management	

Materiality Monitoring

Along with established KPIs and targets, the progress of the identified materiality items is monitored through periodic evaluations by the Sustainable Management Committee and supervision by the Board of Directors.

List of KPIs and result https://www.daicel.com/en/sustainability/pdf/materiality_kpi_2024.pdf

Our sustainability website provides comprehensive disclosure of our sustainability efforts, including detailed information on materiality. https://www.daicel.com/en/sustainability/

Site Map * items in blue frame are also summarized in this report. The ★ mark indicates the materiality of our Group.

Sustainability Management Materiality

Responsible Care Activities Policy List

Environmental Report
- Environmental Management
- ★ Response to Climate Change
- Information Disclosure in Line with TCFD Recommendations
- ★ Reduction and Recycling of Industrial Waste
- Emission Management of Chemical Substances
- Water Resource Preservation
- Environmental Management and Prevention of Air Pollution
- Preserving Biodiversity

Social Report
- ★ Respect for Human Rights
- Customer Satisfaction and Safety Assurance
- ★ Enhancing Product Quality
- ★ Chemical and Product Safety
- ★ Process Safety and Disaster Prevention
- Distribution Safety
- Creating Attractive Workplaces
- ★ Occupational Health and Safety
- Policy and Guidelines on Human Resources
- Initiatives to Help Employees Maintain Mental and Physical Health
- ★ Support for Human Resource Development
- ★ Promoting Diversity, Equity and Inclusion
- ★ Foster a Corporate Culture That Meets Employee Needs
- ★ Sustainable Procurement
- Contribution to Local Communities and Society

Governance
- ★ Corporate Governance
- ★ Corporate Compliance
- ★ Risk Management
- Information Security / Information Management
- Tax Policy

List of Data Collection Boundaries
Scope of Reporting for Human Resources and Governance Data
Scope of Data Calculation for Environmental and Occupational Safety Performance

List of Declarations and Certifications
Environmental Management System Certification
Quality Management System Certification

ESG Data
GRI Standards Content Index
Participation in Initiatives and External Recognition

Feature 1

Stories of Co-Creation with Our Customers
TGD Project:
Increasing the Competitiveness of the Safety Business

In December 2023, we started the operation of a new inflator production line at Daicel's Harima Plant. This line is a product of the "TGD Project" (TG for Toyoda Gosei Co., Ltd. and D for Daicel), under which the two companies engaged in co-creation from the equipment design stage toward the realization of line concepts such as improving production efficiency, reducing capital expenditures, and saving labor during operation. An interview was conducted with representatives from Toyoda Gosei Co., Ltd., a co-creation partner, and representatives from the Company regarding this project, which implements the spirit of value co-creation as stated in the Basic Philosophy.

Hidekazu Araki
Airbag Production Engineering Department 1, SS Production Engineering Division
Toyoda Gosei Co., Ltd.

Hiroaki Sato
Project Manager
Inflator Development Department, Safety System Engineering Division 1, SS Business Headquarters
Toyoda Gosei Co., Ltd.

Keiji Fujiwara
Senior Manager
Process Development, Technical Development & Research Center
Safety SBU
Daicel Corporation

Kenji Ookuma
Process Development, Technical Development & Research Center
Safety SBU
Daicel Corporation

Toyoda Gosei Co., Ltd. (hereinafter "Toyoda Gosei")

A global supplier of automobile parts using high-polymer rubber and resin technologies. Since its foundation in 1949, Toyoda Gosei has provided a wide range of value to improve and enrich transportation and people's lives by manufacturing and selling products such as airbags and other safety systems; interiors and exteriors; fuel tanks, battery peripheral parts, and other functional components; and weatherstrips.

Daicel's Inflator Business

In 1988, Daicel launched its production of inflators, gas generation devices that inflate automobile airbags, and is contributing to the safety and security of people's lives. The business leverages the knowledge on pyrotechnics technology we accumulated since our foundation, and our strengths include technological capabilities enabling fully integrated production beginning with gas generants that dates back to the early days of commercialization and high reliability in terms of quality with a total of 1 billion units shipped.

Strategic Shift in Response to the Business Environment in the Background of the Project's Establishment

Mr. Sato (hereinafter titles omitted): Including top executives of both companies, Toyoda Gosei and Daicel have held a number of bilateral exchanges, following our capital alliance in 2017. Since joining Toyoda Gosei, I've basically been working on process technologies. Through these exchanges, it was decided that the process technology field would also be handled, so it served as a starting point for my relations with Daicel. Nevertheless, even if we label it as "co-creation," we searched for themes while repeatedly sharing information on what kinds of initiatives we could take.

Mr. Araki (hereinafter titles omitted): I'm engaged in the establishment and improvement of production equipment for in-house inflators at Toyoda Gosei and in charge of technical fields such as equipment design, control, processing, and inspection automation. My first impression on the project was that I never heard of conducting co-creation like this before.

Sato: Process technologies constitute the core of competitiveness for companies, and they are not things to actively disclose. While we set "gathering the process technologies of both companies to co-create a competitive production line" as the goal of the project, it was a brand-new experience to see both companies openly sharing all their equipment and technologies to co-create new things.

Fujiwara: Ookuma and I are process technology engineers in Daicel's Safety Business. I joined the project as its promoter after the co-creation of a production line was decided. To Daicel, Toyoda Gosei is an important customer in terms of inflators. Disclosing everything about our process technologies naturally means details such as our cost structure and production know-how also get disclosed. At first, there were concerns that disclosing this information would hinder our business in the future.

Ookuma: Despite that, we were able to go beyond our respective positions as supplier and customer to tackle co-creation, because of our common understanding that "making airbag modules (end products) more competitive requires collaboration that transcends differences in the positions of both companies," in addition to the determination of top executives at both Daicel and Toyoda Gosei.

Sato: Airbag modules, including inflators, will not be sold unless they are selected for use in manufacturing bids among automakers. While our competitors produce inflators in-house, Toyoda Gosei procures them from external sources due to a low in-house production rate of inflators. I feel that we are entering an era in which the respective efforts of module and inflator manufacturers alone cannot make prices low enough to win bits. To tackle such a situation, we worked on this project under the idea of "realizing competitive prices (target costs) through co-creation."

Fujiwara: This project served as an opportunity to push Daicel to change our thinking toward manufacturing. As a manufacturer specializing in inflators, we had to completely shift our approach. Rather than focus on perfecting equipment to fully meet our various customers' quality, performance, and price demands, we would instead decide a competitive price first and develop equipment that could be produced at that price.

Changing Our Differences into Strengths and Establishing New Methods

Sato: We started by looking over each other's manufacturing process to understand the differences in our design philosophies. Sharing what we noticed and cherry-picking good points from the differences between our companies—that is the concept for this line.

Araki: Daicel's equipment has high performance and, frankly speaking, looks magnificent. I think that this reflects both Daicel's needs as a manufacturer specializing in inflators to meet their various customers' demands and Daicel's high level of awareness in terms of quality. On the other hand, the inflator equipment at Toyoda Gosei has a simple design with low production costs, because its inflators are supplied only to our company and the type of product is thus clear. During facility visits and lectures on design philosophies, I was impressed by the abundant knowledge, experience, and production know-how accumulated by Daicel, which has handled inflators since the dawn of airbags.

Ookuma: After deepening our understanding of each other and at the stage in which new equipment was to be designed, Fujiwara and I were stationed at Toyoda Gosei's Miwa Technical Center on a long-term business trip to push the project along. We planned to first identify challenges to achieve target costs and items that would contribute to solving them and then establish the constituent technologies required; however, there were many issues to tackle as a team.

Sato: It was necessary to develop new methods to achieve our goals, and one of those methods was high-cycle production (increasing the production speed for one cycle of each process). A number of obstacles stood in the way of addressing these challenges, but Daicel's experience and past data meshed well with our experience in modifying and improving equipment, so we incorporated demo equipment into our processes, implemented new methods, and finally succeeded following countless trials and errors.

Araki: We are good at fiddling with and creating equipment, but we had trouble unraveling the logic of why things happened the way they did. I believe this technology was established by adding in Daicel's knowledge and fusing together the strengths of our companies.

Fujiwara: We adopted totally new methods and technologies to solve each issue and even embraced revolutionary, ambitious ideas that were previously unthinkable. Moreover, in order to derive solutions in a short period of time, we proceeded by dividing our challenges into two types: one where both companies pooled their resources and another where each company individually took on tasks in their areas of expertise, considered them, and reported the results at the next meeting. This method could never have been achieved through a traditional customer-supplier relationship. We were able to co-create with a newfound, clear understanding of each other's strengths, so I feel like this is the greatest result we could have asked for.

Ookuma: To tell the truth, I had concerns when I heard that I would be stationed at Toyoda Gosei, a customer's company. Nevertheless, they were usually straightforward and considerate in a positive sense to

TOYODA GOSEI × DAICEL

make things easier for us. Through spending both good and bad times in the same room together with people who have abundant knowledge and handle equipment in the same field, we gradually came to overcome the boundaries of our companies and have engineer-to-engineer dialogues. Even from my position as a supplier, I sometimes shared candid opinions like “Concerning the verification results for this part, isn’t the validity verification insufficient?” People at Toyoda Gosei were probably confused at first, but through a series of dialogues like that, I feel like we were able to share a “realization that we were manufacturing together.”

Sato: Neither lies nor deception work in the establishment of technologies. If we get advice saying that more verification is needed and agree with that opinion, we conduct further verifications. There is no other way to achieve our goals.

Fujiwara: If I had applied the brakes, saying, “I should not say this to our customer,” these results would probably never have materialized. Because we share challenges, we had to have serious and in-depth discussions to make progress.

Introduction of Actual Equipment at Daicel’s Harima Plant

Araki: Project team members aligned the values of both companies in the project, but we also needed Daicel’s manufacturing and facilities management departments to understand our design philosophy to operate actual equipment at Daicel’s Harima Plant.

Fujiwara: All the more because there were major changes from existing equipment, it was necessary to share reasons for the changes and their advantages in order to align our course of direction toward the implementation stage. Mr. Araki also had direct talks with members at Daicel’s production site.

Araki: It was my first time talking with employees on the production side of a supplier. Against the backdrop of the history of manufacturing thus far, I believe that courage is required to change things.

Fujiwara: In my opinion, there was a shift in the mindset within the Company, from making judgments on what we can and cannot do based on past experience to considering with our customers what changes we need to make to reach our goals.

Ookuma: In fact, a lot of unforeseen troubles occurred when we were verifying the prototypes. In some cases, discussions with relevant sections at Toyoda Gosei to address them resulted in improved productivity at Daicel due to changes in Toyoda Gosei’s modules. I feel that having access to a wider range of approaches to solve problems, namely, approaches spanning our two companies, is one of the major results of our co-creation.

Fujiwara: In the course of sharing our challenges, we realized that the points we had been focusing on were not that important from the perspective of our customers. Never in my life had I experienced a relationship that enables close coordination nor smooth discussions thanks to a thorough understanding of our equipment. This was a very big learning experience for Daicel, and we have successfully developed an attitude of exploring where the real needs of our customers lie through dialogues with them concerning other production lines. As a result, compared to existing equipment, we reduced capital expenditures by about 50%, saved labor equivalent to one worker, and shortened the production time per unit by two seconds. In addition to these results, we realized the optimization of quality inspections across the processes of both companies and implemented production equipment that maintains high quality and achieves target costs.

Fruits of Co-Creation and toward Enhanced Competitiveness Going Forward

Sato: Traditionally, performance demands for products flow downstream from upstream companies, in the order of automakers, airbag manufacturers, and inflator manufacturers. Nowadays, we receive more and more supplier-side proposals from Daicel. I believe that developing competitive performance together is a style necessary for future business growth. Also, I feel that this co-creation project has allowed us to go beyond a basic customer-supplier relationship to build foundations for a relationship that will enable constructive dialogues with Daicel on our closely related module and inflator strategies, with an eye on the future. In addition, the opportunity to achieve something with people from another company’s process technology department is invaluable in terms of developing personnel. I think that our company’s participating members got inspiration as engineers, leading to their growth. In addition to developing our individual skills, we were able to build a network of engineers handling the same products, a valuable resource for getting advice and uplifting each other.

Fujiwara: While we learned from each other by mutually disclosing information and seeing each other’s equipment, another major result was that our customer learned about our equipment. Our common understanding has made it remarkably easier to make requests and proposals and has reduced the man-hours spent doing inefficient verifications caused by differences in mutual assumptions. This is of course a company-to-company co-creation project, but, personally, looking back, if the people in charge at Toyoda Gosei had not been Mr. Sato and Mr. Araki, I really think that we would not have achieved the same results.

Sato: That goes for both of us. We made a good team and were able to build relations with a sense of respect as engineers.

Araki: Since Daicel’s business has a long history, it has accumulated a wealth of knowledge. When we consulted with them, they made incredibly thorough investigations before giving us explanations. As an engineer, I was inspired by the fact that I still have a long way to go, and I also wanted to be able to exchange opinions at a higher level. I think I found good advisors and fellow engineers to compete with.

Ceremony to mark the commencement of mass-production on a new line, involving executives and project members from both companies

New line implemented at Daicel’s Harima Plant

Future Ambitions

Sato: It is said the automobile industry is currently in a time of great change, experienced once every 100 years. With the proliferation of electric vehicles and self-driving technologies, laws and regulations as well as assessments have become more rigorous, and there is an ever-increasing need for safety. Under these circumstances, we expect a major shift in the inflators that users will demand, in line with the emergence of new airbags and safety devices they require. I would like to expand our business through co-creation at a higher level, such as co-development of inflators and other airbag modules, with Daicel as a partner, from early stages of development.

Araki: We worked on cylinder-type inflators this time, but we would like to also co-create disk-type products. In terms of technical development, AI use in inspections garners global attention. Nevertheless, it is still common to conduct final inspections with one’s eyes or through conventional image inspections. I would also like to establish the world’s first and the industry’s first appearance-based inspection technology through joint technical development in the inspection field.

Fujiwara: I had the chance to rediscover the essence of being a process technology engineer: clarifying process design goals, identifying challenges to achieve them, and developing technologies. I would like to change my way of working from creating products we are asked to make, to making proposals to our customers, even down to the design, on what kind of products would be easier to manufacture and more competitive.

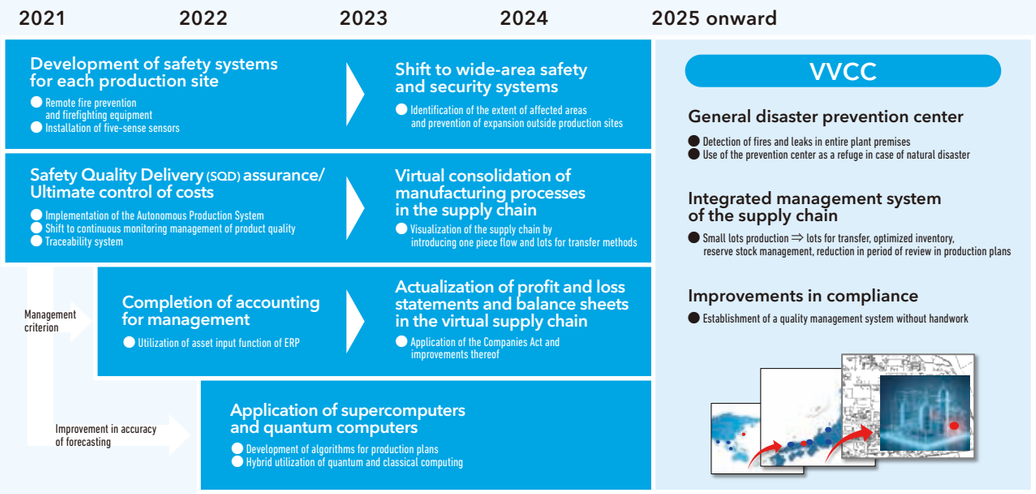
Ookuma: For the time being, we will continue to make steady improvements in collaboration with relevant departments, based on the stable operation of the line implemented this time. We also have a plan to expand this line to overseas production sites, so we would like to pursue manufacturing with deeper integration with our customers with this co-creative experience as a kind of common language.

Feature 2

Next-Generation Manufacturing and Human Resource Development in the Chemical Industry

Building a Value Chain with High Added Value under the World's First VVCC Concept

The Daicel Group sets forth contributions to the creation of a circular society in the Long-Term Vision and is pursuing a new kind of manufacturing. We are working on the implementation of an ultimate energy-saving plant through the combination of DAICEL Production Innovation and microfluidic devices as well as the utilization of Daicel's proprietary technology that turns CO_2 into a raw material using nanodiamond electrode. At the same time, we aim to create a virtual value chain: a new kind of manufacturing in which we deploy highly efficient manufacturing mechanisms that we have developed through DAICEL Production Innovation across the supply chain to reduce waste and loss as well as improve added value through collaborations with companies. The Company has completed a virtual plant that operates the Aboshi Plant in Hyogo Prefecture and the Ohtake Plant in Hiroshima Prefecture, which are geographically distant from each other, in an integrated manner, as if they were a single plant. As a next step, we announced a vision of newly establishing the Virtual Value Chain Control Center (VVCC), an integrated management base that regards the supply chain, consisting of multiple manufacturers, as one virtual corporate entity, at the Aboshi Plant. The VVCC is the world's first attempt at such a concept, and we believe that we can achieve it because Daicel is the world's first company to complete the integrated operation of a virtual plant, which serves as the foundation for the VVCC. This feature introduces an overview of the VVCC and initiatives to develop human resources to support next-generation manufacturing.



DAICEL Production Innovation and the Autonomous Production System: Foundations of the VVCC Concept

Established by the Company in 2000, DAICEL Production Innovation enabled us to realize stable production and high productivity while ensuring safety and quality.

In addition to the identification and thorough elimination of waste and loss through the overhaul of operations, operator load analysis, and cost structure analysis, we have clarified, standardized, and systemized the know-how of experienced operators, thereby enabling new operators to make decisions at the same level as their experienced counterparts. This covers not only routine operations, but also irregular operations, such as switches in production type, and suspensions of equipment due to maintenance, both of which tend to cause trouble and unexpected situations. Hence, it allows us to run plants with little waste or loss under any circumstances.

At chemical plants where multiple processes (manufacturing facilities) are connected through pipework in the same plant, pursuing optimization of individual processes could result in much waste or loss on a plant-wide basis. Therefore, the perspective of overall optimization is essential. The Company visualizes the status of each process in plants at the Integrated Production Center (IPC) in real time and conducts optimal operations on a plant-wide basis by formulating and implementing production plans from an overall perspective. In 2018, we expanded the optimization area to make the Aboshi and Ohtake Plants a virtual plant, aggregating information from both plants in a unified manner, formulating optimal production plans based on respective necessary production volumes, and running the plants while achieving overall optimization.

Under the Autonomous Production System, which was developed in 2020 and has advanced DAICEL Production Innovation, AI jointly developed with the University of Tokyo allows us to make the most of the know-how and skills of experienced operators, which were formerly utilized in a limited manner, thereby making it possible to significantly improve manufacturing competitiveness. The system processes complex and large calculations in a timely manner, which was difficult with computer processing capabilities back in 2000, and calculates optimal operating conditions that can further save energy, resources, and costs while pursuing high quality. It also has a system to detect and predict signs of abnormalities in processes and facilities that would lead to the deterioration of safety, quality, production volume, and costs, modifying operating conditions and identifying the cause to prevent abnormalities.

WEB **DAICEL Production Innovation** https://www.daicel.com/en/daicel-production-innovation/

General Disaster Prevention Center

Safety is one of the priority foundations of corporate activity. The Company has organized a working group to conduct analyses and simulations from the perspectives of process safety and disaster prevention with regard to self-reactive substances that involve the risk of runaway reactions such as pyrolysis reactions and polymerization reactions at all the sites. At the same time, we have installed gas detection centers and remote fire prevention systems in case of emergency at plants where risks are a concern. In addition, we have set up remote monitoring cameras at each plant to establish a system that allows for monitoring entire plant areas. The VVCC will constantly monitor data collected from cameras and sensors at each site and, in case of emergency, conduct real-time simulations of damage estimates and play a command-and-control role over each organization. It will also serve as a refuge for local residents in case of natural disaster. The VVCC thus serves as a general disaster prevention center. The Company is also working on the practical application of five-sense sensors with a startup spun off from the University of Tokyo and others. They substitute visual, auditory, and other senses required for inspecting manufacturing facilities with mechanical devices, namely, sensors for remote operation. This will not just ensure the safety of workers on the site, but also develop an environment where those in their advanced age or with disabilities can work safely.

Integrated Management System of the Supply Chain

Continuous Monitoring Management of Product Quality

The mainstream method of quality assurance in the chemical industry is representative point management by sampling. However, this method poses a problem: should a quality defect occur, it would be difficult to determine whether or not there is an irregularity in the relevant lot and to narrow down the affected scope, so it could become a major problem in the chemical industry where each lot is large. The Company utilizes in-line sensors*1 and soft sensors*2 to transition to continuous monitoring management of products in the process and quality assurance of all products, so that our customers can have a greater sense of safety and security over quality.

This continuous monitoring management is also a big breakthrough for streamlining the flow of goods in the chemical industry. Lot size causes a major obstacle to the realization of the just-in-time concept in the Toyota Production System (TPS)—manufacturing (transporting) what you need when and as much as you need it—in the areas of production planning and logistics in the chemical industry. Lot size in the chemical industry is constrained by tank capacity at a plant or of tanker trucks and tankers. As they assume mass production and transportation of large quantities at a time, their capacity is inevitably large and structurally tends to cause waste from overproduction. Continuous monitoring management by the Company makes a shift to the lot-for-transfer method possible, by which we utilize various sensors and assign numbers to lots based on the request of our customer orders, rather than the management in tank capacity at a plant or logistics units. This reduces the size of lot units and prevents waste from overproduction, thereby realizing a reduction of inventories as well as more agile production and logistics plans.

*1 In-line sensors: Sensors that can be installed in pipes or tanks for direct measurements *2 Soft sensors: Sensors that use measurable values to calculate and predict difficult-to-measure values in real time

Deployment of the Autonomous Production System to the Production Plan and Logistics Domains

The Company seeks to realize highly efficient manufacturing and build a robust supply chain free from waste or loss mainly from overproduction by deploying the Autonomous Production System across the supply chain. We position the VVCC as an integrated supply chain management center that goes beyond the boundaries of companies and puts the flow of goods across the supply chain under uniform management. By expanding the Autonomous Production System not only into production support, but also into planning support for production and logistics, we will take a comprehensive view of the entire supply chain, promptly reflect changes in demand in the downstream process, prevent shortage of goods or overproduction, and use AI to formulate optimal production and logistics plans that realize cost minimization.

Profit and Loss Statements and Balance Sheets in the Virtual Supply Chain

Needless to say, it is important for manufacturers to produce goods at competitive prices. We will build a system to utilize accounting for management. This system will make real-time calculations of manufacturing costs and allow us to monitor assets invested in each process, thereby visualizing and pursuing returns on invested assets, such as ROIC. We will also aim to develop the foundations of accounting for management that would realize a new business group (a virtual value chain), by virtually consolidating the balance sheets and profit and loss statements of companies connected in the supply chain and making profits and asset efficiency across the chain visible. We will also aim to build a mechanism to visualize not only financial information but also non-financial information, such as GHG emissions, so that we can monitor the entire supply chain.

Improvements in Compliance

By shifting from representative point management by sampling to continuous point management utilizing sensors in quality assurance work, operations related to data acquisition and storage, which have traditionally been done by people, will be automated. By doing so, we can eliminate various risks arising from human intervention, including human errors. In addition, by alleviating the burden on workers, it helps to dispel a sense of busyness in on-site work and encourages them to spend more time on tasks that only humans can do.

Feature 2

Development of Human Resources Who Create Next-Generation Manufacturing

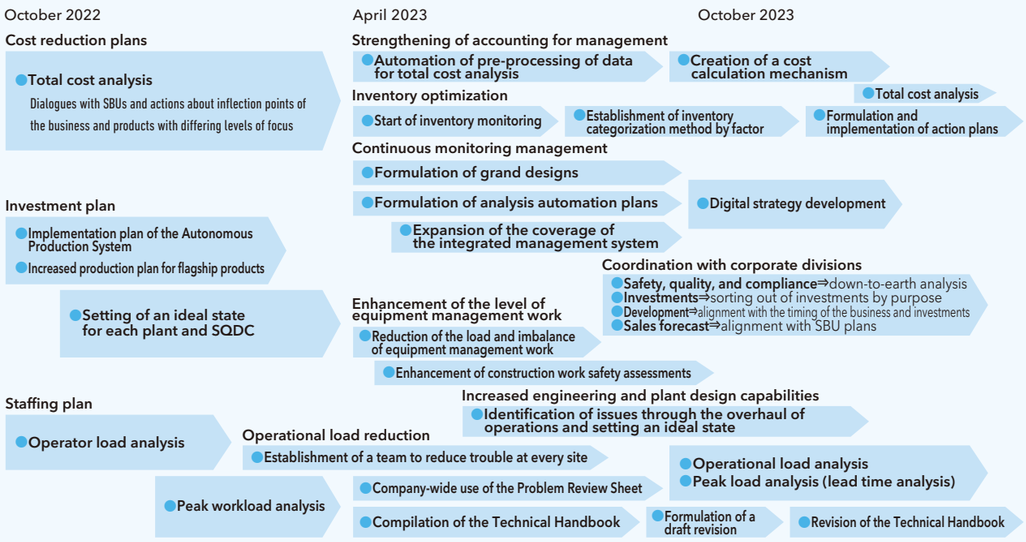
Over 20 years have passed since we established DAICEL Production Innovation, which dramatically increased productivity at chemical plants. We at Daicel are taking on the challenge of further developing manufacturing, by launching the "Autonomous Plant Project" mainly involving employees in their 30s and 40s. Technologies and mechanisms that serve as the core of the VVCC concept constitute some themes that have been under consideration and discussion in the project. Some of the items required to bring them into reality have already been put into practical use or are one step short of practical application in terms of deliberation, development, and investments. Fumihiro Miyoshi, Deputy General Manager, Production Management Headquarters and Head of Monozukuri Production Innovation Center, explains the overview of this project under which we are working on a wide range of themes toward the creation of next-generation manufacturing and the concept of human resource development through the project.

Fumihiro Miyoshi
Deputy General Manager, Production Management Headquarters
Head of Monozukuri Production Innovation Center

Q Could you tell us an overview of the "Autonomous Plant Project"?

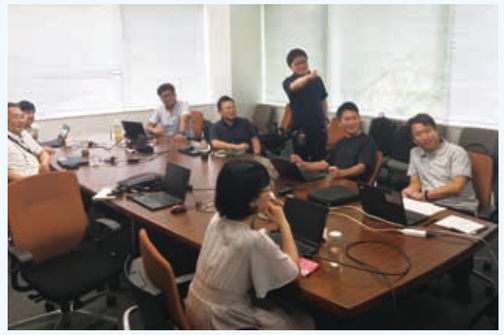
The mission of this project launched in October 2022 is "to identify matters that should be discussed as company-wide issues from observations at each plant and horizontally deploy solutions at the plant" and "to foster senior plant employees who can autonomously run plants." The project puts forward the vision of "autonomously growing with the comprehensive strength of the Daicel Group, rather than each Daicel plant growing on its own." We hold training camps at the Nishiharima Training Center every month, and along with approximately 30 project members, key figures of each plant voluntarily participate in the camps. The Senior Managing Executive Officer, General Manager of the Production Management Headquarters takes part in the camps, and the contents of discussions there will directly lead to company strategies and actions. This project originally kicked off with the purpose of enhancing collaboration among plants in implementing the Autonomous Production System developed in 2020 at each plant. Now it has gone beyond the Autonomous Production System, becoming a platform for discussing and acting regarding a wide variety of issues common to all plants (company-wide issues), including constituent elements of the VVCC concept.

Achievements of the Autonomous Plant Project



Q What do you value in human resource development through this project?

The objective of this project is that "all actions should lead to our own growth and the growth of the members." Simply doing what your supervisors or colleagues tell you to do as they say will not lead to growth. I believe that people grow by accumulating experience with regard to tackling challenges on their own will and with a focus on results. Project members do not bring the hierarchy of their own organization into the project. We also value acting on one's own initiative. Project members and training camp participants are guided by the principles of (1) voicing their opinions, (2) treating things as their own issues, and (3) acting on decisions made. As we put into action decisions made in this project without fail, we set up a forum for debates during the camp to hold thorough discussions before drawing conclusions. The training camp is not a place for social relations. Each participant joins the camp as the representative of each workplace and a candidate for a senior level employee of the plant in the future and works on the challenges of Daicel as a whole, rather than of each workplace. Each participant stimulates each other through their discussions and actions, further enhancing the level of activity. As members are tackling big challenges, they often hit a wall. Nevertheless, if members can confirm that the direction they are heading in is right, I advise them to divide up issues and start tackling what they can get on with right away. Taking action often results in new discoveries and breakthroughs in the solution of problems, and this in turn leads to results, a sense of achievement and confidence, and the motivation to take on more challenges.



Q What kind of human resources do you think will play a role in the creation of next-generation manufacturing?

I think that manufacturers are at a major turning point due to growing concerns over the sustainability of society and the increased use of AI. My opinion is that talent who can see this change as an opportunity and work positively toward it are required. I am also the leader of the Next Generation Production System Establishment Project, which resulted in the Autonomous Production System, and this system was a product of the idea of making full use of the 8.4 million pieces of know-how and skills of our seasoned operators identified in DAICEL Production Innovation combined with the power of AI. It goes without saying that the source of the competitiveness of manufacturers lies in the production site. Huge chemical plants are like complex, large living organisms with each production facility connected by pipes, and their state is constantly changing. The know-how of experienced operators has been accumulated through the process of controlling these chemical plants while ensuring safety and quality and pursuing low-cost operation. If we can use AI to reproduce all of this know-how, it may lead us to discover areas for improvement in operator methods, as well as ideas for potential improvement that we had not noticed before. And if these improvement actions lead to the accumulation of new pieces of know-how, then by having AI learn from them, AI will evolve even further, creating a cycle of growth between people and AI. During the development process of the Autonomous Production System, we experienced many failures, but we did not leave the failures as they were and continued to go through trial and error as a team until we achieved results. This has led us to the present stage of implementing the system at each plant. The Company has unique and significant strengths in the industry, such as DAICEL Production Innovation, and a culture that supports people who take on challenges without fear of failure. We also have a large number of talent who not only follow the path laid out by their predecessors, but also use it as a foundation to take on more advanced challenges and carve out a future. The VVCC concept that we have announced is one of the themes that we have been working on in our Autonomous Plant Project, and it is an approach that starts from the manufacturing we have developed through DAICEL Production Innovation, which is one of our strengths. By leveraging our strengths in manufacturing and collaborating across corporate boundaries, we will respond promptly to the market and go beyond manufacturing with reduced waste or loss to build a value chain that co-creates value. Going forward, we will continue to believe in our potential and pursue an ideal form of manufacturing that changes with the times, without being confined by conventional theories.

Feature 3 Daicel Group's Challenge to Achieve Carbon Neutrality

The chemical industry provides beneficial materials that also contribute to reduction of environmental impact; however, the manufacturing processes of these materials require a lot of energy. The Daicel Group has taken this challenge head-on and is working on creating highly effective solutions that will not only reduce the environmental impact of the manufacturing processes but will also help in achieving carbon neutrality.

In this page, we will introduce the Daicel Group's initiatives being implemented from three angles, reducing costs, improving productivity and enhancing competitiveness as a manufacturing company with a view toward achieving manufacturing that is economical as well as ecological, while at the same time reducing its environmental impact.

Medium- and Long-Term Reduction Targets for GHG Emissions

The Daicel Group has set a medium- and long-term reduction targets in line with the standard of SBT*1.5°C.

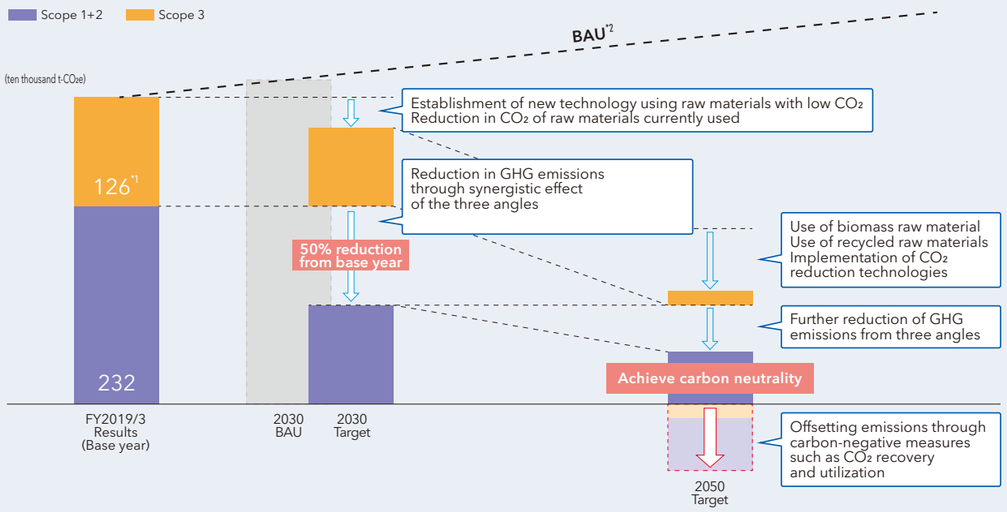
2050: Achieve carbon neutrality; Scope: 1, 2, 3 of the Daicel Group
2030: 50% reduction in GHG emissions (compared to FY2019/3); Scope: 1, 2 of the Daicel Group

* Science Based Targets: Goal setting consistent with science

Approach and Roadmap for Achieving Carbon Neutrality

Over the years, the Daicel Group has been working toward reducing the use of energy and cutting down GHG emissions from three angles (See the next page for details). To achieve the medium and long-term reduction targets, we have employed three angles to identify the items that will contribute to reduction of GHG emissions. We have calculated the specific reductions and have begun creating a roadmap. Although the individual items and reductions are undisclosed, we will start with the most feasible items and move on to the implementation, taking into account the return on investment. Some of the reduction items include technologies and materials that are still under development. We expect to achieve our medium- and long-term targets by putting them to use steadily.

Roadmap



*1 Since the calculations for Scope 3 were started from FY2020/3, we have tentatively shown the results for FY2020/3. We are working on gradually expanding the categories and boundaries in Scope 3 calculations.
*2 Business as Usual: GHG emissions without additional measures

Reduction of GHG Emissions from Three Angles

WEB https://www.daicel.com/en/sustainability/environment/climate-change.html#anc-5

Angle 1

Reduction in GHG emissions in the current production processes

We collect data on factory operations (including the status of energy use such as heat balance) through DAICEL Production Innovation to visualize the wastage and loss in the use of energy in the current facilities and production method and eliminate these thoroughly. We also implement and deploy the "Autonomous Production System," an evolution of DAICEL Production Innovation with artificial intelligence (AI) logic to further reduce GHG emissions.

- DAICEL Production Innovation WEB https://www.daicel.com/en/daicel-production-innovation/
- Autonomous Production System Page 38

Angle 2

Reduction in GHG emissions in innovative technology

In parallel with eliminating the wastage and loss of energy in the current production process as explained above, we implement innovative technology to significantly reduce energy use. This is achieved by changing the manufacturing method to reduce the distillation process, which consumes a large amount of energy, by reusing low-temperature exhaust heat, etc.

- Microfluidic Device Technology Page 44
- Modified Petlyuk Distillation Process
- Vapor Recompression Technology

POINT The use of detailed data on factory operations visualized through DAICEL Production Innovation makes it possible to identify points for improvement, study innovative technologies, and simulate the effects of their introduction with a high level of accuracy.

Repetition of Angles 1 and 2

With the equipment and method employing the new technology implemented in Angle 2, the wastage and loss in the use of energy of Angle 1 are identified and reduced. We then repeat Angle 1 and Angle 2 by applying the innovative technologies implemented as per Angle 2 to the newly identified points of improvement. We continue to improve the level of our efforts, while creating manufacturing processes that minimize the use of energy.

Angle 3

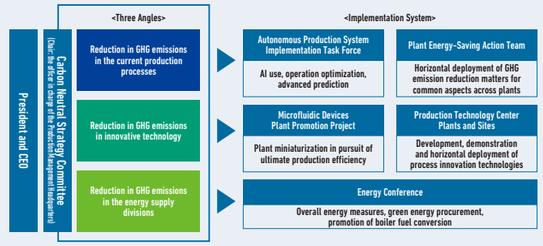
Reduction in GHG emissions in the energy supply divisions

It is a standard practice in chemical plants to design the capacity of energy supply facilities to be larger than that of energy-using facilities. Consequently, by minimizing energy use through Angle 1 and Angle 2, eliminating excess energy capacity in energy supply facilities, and downsizing them as much as possible, GHG emissions can be significantly decreased.

- Downsizing and optimal operation of boiler equipment depending on energy use
- Selecting energy source material in consideration of cost and GHG emissions
- Improving the tire derived fuel mixture ratio of boiler equipment

Our Promotion System for the Reduction of GHG Emissions

The Carbon Neutral Strategy Committee has been established under the direct control of the President and CEO to promote energy conservation and GHG emissions reduction in the Group. The Committee is chaired by the officer in charge of the Production Management Headquarters and members include representatives from production, energy supply, and other corporate divisions in Japan. It strives to construct a circular process that is in harmony with the global environment from the Three Angles. In addition, the introduction of internal carbon pricing has been considered in order to develop and execute appropriate investment plans which can achieve our medium- and long-term targets.



Technological Innovation toward Carbon Neutrality

We believe that technological breakthroughs are needed toward carbon neutrality and carbon-negative measures to achieve it. Here are two innovative technologies that the Group is developing with co-creation partners for implementation.

Energy Conservation through Microfluidic Device Technology

We are in the process of developing microfluidic device technology that enables ideal chemical reaction control and does not produce impurities (unreacted substances or byproducts), thereby eliminating the need for the separation and recovery process that takes large amounts of energy.

A microfluidic device enables chemical operations (such as mixing, reacting, and purifying) on a micro scale in channels of several hundred micrometers on a glass substrate the size of a business card. The narrowness of the ultrafine channels allows instantaneous mixing, has excellent heat removal capabilities, and minimizes variations in temperature and concentration distribution that could cause impurities to be generated. This enables substances to react evenly at the molecular level under homogenous temperature and concentration conditions. The separation and recovery process to remove impurities itself is unnecessary. This achieves a large amount of energy savings as well as a shortened manufacturing process and improved product quality. Additionally, by utilizing the standardization method of operational know-how through DAICEL Production Innovation, the manufacturing process of a chemical plant can be reduced to single operations, which cannot be broken down any further, and modularized. Combinations of approximately 30 different modules can be used for the production of a wide range of chemical products.

To realize this breakthrough process innovation, we aim to implement it in the resist polymer manufacturing plant at the Arai Plant between the end of FY2025/3 and FY2026/3. In parallel, R&D is underway for implementation in the manufacturing process of peracetic acid derivatives and other products at the Ohtake Plant. By establishing these microfluidic device technologies, we will be able to cover most of the unit operations required for chemical processes, and we will expand these technologies to manufacturing processes for a wide range of products in the future.

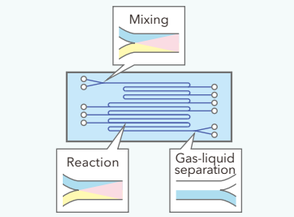
Features of Microfluidic Device Plant

1. Micro-miniaturization of production facility
Glass substrates the size of a business card are combined together to form a single unit. Combinations of glass substrate channel designs can be used for all kinds of chemical products and production volume can be increased by parallelizing one unit. Moreover, laboratory results can be reproduced for industrialization simply by increasing the number of glass substrates.

2. Energy saving
There is no unevenness in temperature and pressure in ultra-fine channels, allowing pinpoint and speedy generation of targeted reactions. Since wasteful reactions are unlikely to occur, the purity of the product is high and there is no need for post-processing to separate out the excess material. The technology to be adopted at the resist polymer manufacturing plant of Arai plant is expected to reduce both energy consumption and CO_2 emissions by more than 90%.

3. Liberalization of production facility
Since this technology allows building ultra-compact, energy-saving, low-cost facilities, it dramatically increases the flexibility of production sites. Locating production sites where raw materials are available facilitates local production for local consumption and greatly reduces transportation costs and energy.

Corporate Website "MICRO PLANT" https://www.daicel.com/en/microfluidics/



Microfluidic device

Image of microfluidic device plant experimental apparatus

VOICE

Katsunori Konishi
Manager
Commercialization Technology Development Group, Engineering Center

A microfluidic device plant is a technology that, by its very nature, will lead to low energy consumption and revolutionize the energy-intensive chemical industry.

I have been stationed in Taiwan and have worked on the development of the technology with engineers from IMT TAIWAN, a partner company in the project. Discussions were also held with members from National Tsing Hua University in Taiwan, another partner, and all parties involved spared no effort to solve various issues. The technology differed from existing plant technologies in many respects and required repeated trial and error, but steady progress was made in the design, development, production, and verification of the plant.

We plan to implement a microfluidic device plant in the resist polymer manufacturing process between the end of FY2025/3 and FY2026/3. I would like to first ensure that this plan is completed and then contribute to having this new plant be adopted not only within the Daicel Group but also throughout the world.

Achievement of Carbon Negativity through the Use of Nanodiamonds

To achieve carbon negativity, the Group is working on the implementation of technology in which nanodiamonds are used to reduce CO_2 to CO, turning it into a raw material.

Ultra Solar-reduction

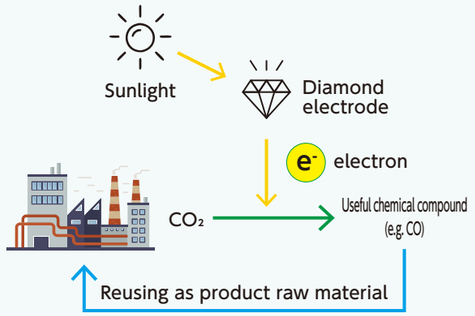
We have the technology to synthesize nanodiamonds with extremely high productivity by the detonation method. Working with Kanazawa University, we advanced applied development and succeeded in establishing a technology that decomposes CO_2 using only sunlight. The results of this research were acknowledged in December 2023 by Carbon, an international journal. We have named this technology Ultra Solar-reduction and are working on R&D for real world implementation.

CO_2 reduction technologies up to now have required large amounts of electricity to break down CO_2, and to produce that electricity, CO_2 was generated. However, with the Ultra Solar-reduction technology created through joint research between Daicel and Kanazawa University, CO_2 can be continuously decomposed into carbon monoxide and oxygen with high efficiency through solar irradiation. In addition, because diamonds are chemically stable, they do not deteriorate, and the reaction continues semi-permanently. We plan to reuse the carbon monoxide generated by this technology as a raw material for the Group's products. By implementing the Ultra Solar-reduction technology, we can establish a highly competitive cyclic structure.

Progress in Our Research toward Implementation

With the aim of implementing the technology at our Aboshi Plant in FY2031/3, we began laboratory verifications in April 2023 at the BGIC* established within Kanazawa University, and from this fiscal year, we have been working on technical development using equipment with a flow format more similar to that of actual equipment.

We are currently conducting joint research with Kanazawa University in three areas: improving the performance of diamond electrodes, which is key to increasing the reduction efficiency; optimizing the conditions for maximizing reduction reactions; and designing optimal equipment for implementation. Through this research, we have increased electrode performance to approximately 10 times that of conventional technologies. We are making steady progress in collaboration with Kanazawa University, having formulated a roadmap for implementation by 2030 and an action plan to achieve the target reduction efficiency by FY2026/3.



* BGIC: Biomass Green Innovation Center at Kanazawa University (kanazawa-u.ac.jp/en/)

Our corporate website "Nanodiamond Solutions" https://www.daicel.com/en/nanodiamond/

VOICE

Norio Tokuda
Professor (Specializing in Research)
Nanomaterials Research Institute
Kanazawa University

The Energy Saving Device Development Group of the Nanomaterials Research Institute at Kanazawa University conducts R&D activities from diamond wafers to device development in an integrated manner, aiming at the real world implementation of next-generation semiconductors using diamonds, the ultimate semiconductor material. From these activities, the idea for a new solid catalyst that takes advantage of diamond's unique property of "negative electron affinity" was born, and in FY2021/3, collaborative research with Daicel (interdisciplinary research combining chemistry and semiconductor engineering) started to embody this idea.

As a result, by combining Daicel's ultra-high concentration nitrogen-containing nanodiamonds and our ultra-high concentration boron-doped diamond technology, we succeeded in developing a diamond electrode capable of CO_2 reduction and CO generation (carbon recycling) using visible light (Ultra Solar-reduction) in FY2024/3. Going forward, we will further improve performance and aim for a future in which this technology contributes to carbon negativity.

VOICE

Hitoshi Asakawa
Professor
Faculty of Chemistry, Institute of Science and Engineering
Kanazawa University

At first, I participated in the project for the Ultra Solar-reduction technology using diamond electrodes with the intention of just helping out a little, but I was swept up in the energy and enthusiasm of the people at Daicel and the university members and now I am working very hard on it. People from a variety of positions and fields are involved in this project, and we have fostered relationships in which we can freely have discussions without hesitation, and I am excited about this form of industry-academia collaboration, which I had never experienced before.

We aim to contribute to a carbon-negative society through this new industry-academia collaboration at the BGIC established at the Kakuma Campus of Kanazawa University and the diamond electrodes that have been developed there.

Information Disclosure in Line with TCFD Recommendations

The Daicel Group endorsed the TCFD recommendations in November 2021. In accordance with the recommendations, the Group disclosed information on each item related to climate change for governance, strategy, risk management, and metrics and targets, and conducted a scenario analysis in major business areas in FY2024/3.

Governance

The response to climate change is discussed at the management level. At the Sustainable Management Committee held three times in FY2024/3, there were mainly discussions on the response to climate change, the certification system for the contribution to the development of a circular society, initiatives to reduce GHG emissions, and the calculation of our Carbon Footprint of Products (CFP), with the details reported to the Board of Directors.

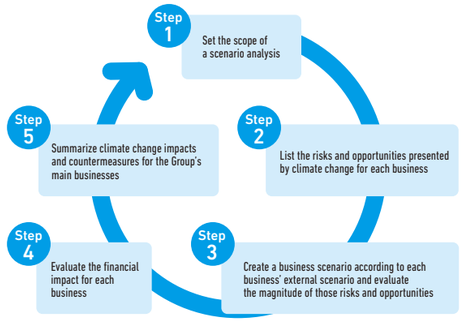
Page 32: Sustainable Management System

Strategy

In order to examine strategies and organizational resilience in light of climate-related risks and opportunities, the Daicel Group conducted a scenario analysis using the following procedure with reference to climate change scenarios from the International Energy Agency (IEA) and the Intergovernmental Panel on Climate Change (IPCC), and considered the impact as of 2030.

●Implementation procedures for scenario analyses

Scenario analyses follow the procedures listed on the right.



●Scenario analysis conditions and overview

1. Scenario analysis scope

The following businesses were evaluated as the Group's main business areas.

■Engineering Plastics Business (Polyplastics)

■Acetyl Business centered on cellulose acetate (Smart and Material SBUs)

■Safety Business (Safety SBU)

2. Time frame

We examined transition risks, physical risks, and transition opportunities in 2030.

3. Assumed scenarios

Based on information from the IPCC, IEA, and other sources, we examined the risks and opportunities of two scenarios: one in which decarbonization progresses (1.5°C/2°C scenario) and the other in which decarbonization does not progress (4°C scenario).

As the temperature increase at 2030 in both the 4°C scenario and the 1.5°C/2°C scenario is around 1.5°C and not significantly different from one another, the physical risk in 2030 is assumed to be similar in both the 1.5°C scenario (in part, below 2°C scenario) and the 4°C scenario. Therefore, no distinction is made for each of the two scenarios in terms of physical risk, and the same situation is predicted for 2030.

Scenario Overview

	1.5℃/2℃	4℃
Societal changes	● In order to limit the increase in average temperature to less than 1.5/2℃ by the end of this century, bold legislation and technological innovation will be promoted. ● Efforts are being made to realize a decarbonized society around the world, and environmental performance (low environmental impact) is a value provided to customers on a par with QCD. ● In the chemical industry, companies and businesses that cannot adapt to a decarbonized society will be weeded out, and procurement risks for raw materials and fuels will increase as consolidation progresses. ● Public scrutiny of non-compliance with environmental policies will increase (a condition for stopping transactions from customers). ● Increasing proportion of renewable energy will destabilize the power supply.	● There is a gap between regions where bold legislation is prompt, mainly in Europe, and where the emphasis is on economic growth and regions where the introduction of strict regulations is slow, especially in emerging countries. This gap results in a lack of progress in GHG reduction. ● Customers evaluating environmental performance (low environmental impact) are limited. ● In the fossil fuel and chemical industries, there is no active investment, and procurement risks for raw materials and fuels increases as consolidation of companies and businesses in such industries progresses due to the aging facilities. ● Public scrutiny of non-compliance with environmental policies will increase (a condition for stopping transaction from some customers). ● Increasing proportion of renewable energy will destabilize the power supply in some regions.
Technological innovation	● Technologies related to CCU* and resource recycling (circular economy) have been actively developed and put into practical use in 2030. ● Investment in energy-saving and CO_2-saving technologies is becoming more active, and the acquisition of these technologies is directly linked to cost competitiveness.	● Rising energy prices will increase investment in energy-saving technologies, and the availability of technology acquisition is directly linked to cost competitiveness.
Climate change	● The scale of disasters such as typhoons and floods will increase. ● Extreme weather, such as high temperatures, is progressing.	● The scale of disasters such as typhoons and floods will increase. ● Extreme weather, such as high temperatures, is progressing.

* Carbon dioxide Capture and Utilization

●Scenario Analysis Results -Risks and Opportunities-

The following table shows the risks and opportunities related to climate change in the analyzed businesses, their degree of impact, and proposed countermeasures.

Risks/ Opportunities	Category	Details	Overall		Engineering Plastics (Polyplastics)		Acetyl Chain		Safety		Response
			4℃	1.5/2℃	4℃	1.5/2℃	4℃	1.5/2℃	4℃	1.5/2℃	
Transition Risks	Policies and Regulations	Increased operating costs due to the introduction and strengthening of carbon pricing (taxes)	●●	●●●	●●	●●●	●	●●●	●	●●	Promote activities to achieve the GHG reduction target (50% reduction in total compared to FY2019/3)
		By introducing and strengthening carbon pricing (taxes), the increased costs to upstream business partners are passed on, resulting in higher procurement costs	●●	●●●	●●	●●●	●	●●	●	●●	Reduce the impact by promoting the reduction of GHG emission intensity in cooperation with suppliers Switch to low-GHG raw materials
		Strengthening of GHG emissions regulations based on carbon emission targets and policies of each country, including EU Carbon Border Adjustment Measure	●●	●	●●	●	–		●		Promote activities to achieve the GHG reduction target (50% reduction in total compared to FY2019/3) Switch to energy-saving, low-GHG raw materials, and change suppliers
	Market	Price fluctuations of petrochemical-derived raw materials to realize a low-carbon society	●●●		●●	●	●●●		●		Optimize inventory management Promote multiple purchases, simplification of raw materials through formulations, and standardization of quality through improvement of manufacturing technology
	Technology	Increase in equipment investment costs for energy saving and productivity improvement	●●		●●		●●		–		Resolve risks by accelerating the development of technology and know-how for formulation design and technical services
	Reputation	Identification of and response to risks and opportunities related to climate change, and increasing demand for disclosure of environmental management information	●		●		–		–		Reinforce systems and structures related to environmental measures Continue disclosing information related to the environment in accordance with the changing needs of society
Physical Risks	Chronic Acute	Intensification of disasters due to abnormal weather conditions (heavy rain, floods, and typhoons), resulting in suspension of operations and damage to raw materials and products Supply chain disruptions	●		●		●		●		Strengthen BCP for climate change
	Chronic	Worsening working conditions and the spread of infectious diseases due to the rise in average temperature	–		–		–		–		Continue making work environment improvements
Transition Opportunities	Market	Expansion of new markets for environment-friendly products Biodegradable plastics, EVs, renewable energy, recycling, and water resource conservation	●●●		●●		●●●		●●		Develop recycling business (recompounding business) Develop low-GHG products (utilization of CCU technology, and development of bio-based products) Functionalize cellulose acetate, develop new fine cellulose, and commercialize BIC*1 projects Develop market for EV current interrupters
	Resource Efficiency	Reduction of operating costs through energy saving and productivity improvements	●●●		●●●		●●●		●		Adopt DAICEL Production Innovation and the Autonomous Production System
Other Reduction Activities*2			●●	●●●	●●	●●●	●	●●●	●	●●	

(Impact) ●●●: Over 10 billion yen, ●●: Several billion yen, ●: Less than 1 billion yen, -: Almost no impact

*1 Biomass Innovation Center: The research division of our company aiming to convert biomass resources into raw materials.

*2 Other reduction activities: Investment for a 50% reduction in GHG emissions, reducing the impact of carbon pricing due to GHG emission reductions, transitioning to low-GHG raw materials, overall reduction activities in the supply chain, etc.

Risk Management

The Daicel Group regards climate change as a major risk in sustainable management, and we conduct risk assessment, formulate responses, and confirm implementation status as part of the Group's risk management system. The Sustainable Management Committee conducts detailed examinations for key issues.

WEB Risk Management https://www.daicel.com/en/sustainability/governance/risk-management.html?id=anc-2

Metrics and Targets

The Group has listed "Respond to climate change," "Provide environment-friendly materials and technology," and "Contribute to the development of a circular society" as three of its 15 key sustainability issues (materiality), and has set KPIs for each. For "Respond to climate change," we will further develop energy-saving measures to achieve GHG emission reduction targets and carbon neutrality by 2050. In addition, we are promoting the introduction of an in-house certification system, the "Certification System for the Contribution to Build a Circular Society," and we will build a structure to visualize the level of contributions.

Page 33: Materiality List WEB KPI https://www.daicel.com/en/sustainability/pdf/materiality_kpi_2024.pdf

The Group's Sustainable Management Policy includes the development of a circular processes that coexist with the global environment. We will continue to discuss products and services that contribute to a low-carbon economy, and consider setting better metrics and targets.

GHG Emissions Reductions and FY2024/3 Results

The Daicel Group's GHG emissions for FY2024/3 decreased by 3.4% year-on-year to 227 ten thousand t-CO_2e due to initiatives such as improving the tire-derived fuel ratio of boilers at the Ohtake Plant and increasing the self-consignment of electric power including at Group companies.

GHG Emissions (Scope 1, 2)