

DIC Corporation

ESG Presentation for Analysts and Investors

Dec 15, 2021

Kaoru Ino

Representative Director, President and CEO

Kiyotaka Kawashima

Managing Executive Officer, General Manager, Technical Management Unit

Taihei Mukose

Executive Officer, Head of Purchasing and Logistics Unit, Head of ESG Unit

Color & Comfort



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1. Reduction of CO₂ emissions
2. DIC Sustainability Index
3. Responding to a circular economy
4. Safety-related initiatives
5. Talent management
6. Sustainable procurement

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1. Inks and adhesives for environment-friendly food packaging
2. Functional materials that help reduce CO₂ emissions and support comfortable lifestyles
3. Electronics and information materials that underpin high-capacity, high-speed information transmission

I . A Message from the President

Kaoru Ino

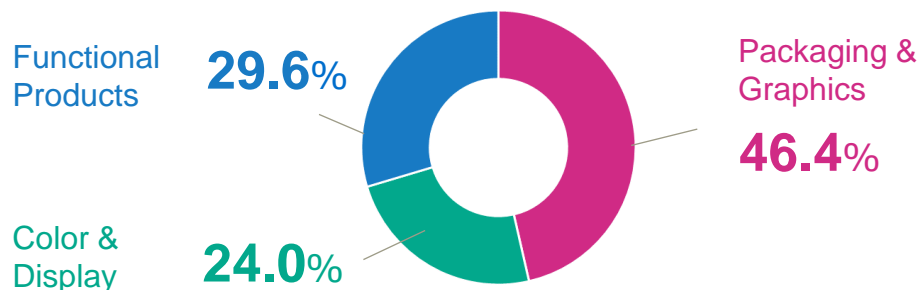
Representative Director, President and CEO

About DIC

Company Name	DIC Corporation		
Date of Foundation	February 15, 1908		
Description of Business	Manufacture and sale of printing inks, organic pigments and synthetic resins		
Number of Group Companies	190 (Domestic:30, Overseas:160) (As of June 30, 2021)		
Number of Employees	Consolidated: 22,851 (of which 16,930, or 74% are overseas) (As of June 30, 2021)		
Consolidated Net Sales	¥860.0 billion (FY2021 Forecasts)	Consolidated Operating Income	¥48.0 billion (FY2021 Forecasts)

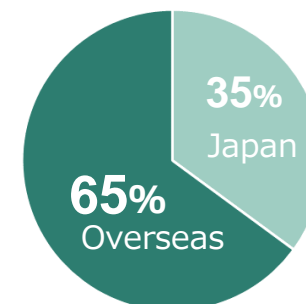
Breakdown of Net Sales by Segment

(Forecast for FY2021, including annual results for the C&E pigments business*)



Overseas Sales Ratio

(Forecast for FY2021, including annual results for the C&E pigments business*)



*Calculation made by doubling the C & E pigments business' projected net sales for fiscal year 2021 second half.

DIC Group milestones—A history of unceasing innovation and globalization



1908 1925 1952 1986 2021

Established as Kawamura Ink Manufactory **Begins production of organic pigments** **Formally enters the synthetic resins market** **Acquires the graphic arts materials division of Sun Chemical Corporation** **Acquires BASF's Colors & Effects pigments business**



Offset inks
Gravure inks
News inks

Flexo inks
Packaging adhesives

Multilayer films
Polystyrene

Jet inks
Security inks



Packaging & Graphic



Enhanced color

Pigments for inks
Pigments for coatings
Pigments for plastics

TFT LCs
Health foods

Pigments for color filters
Pigments for cosmetics
Effect pigments
Natural colorants



Color & Display



Improved ink performance

Acrylic resins
Polyurethane resins
Epoxy resins
Polyester resins
Waterborne resins
UV-curable resins

Industrial adhesive tapes
PPS compounds
Hollow-fiber membrane modules



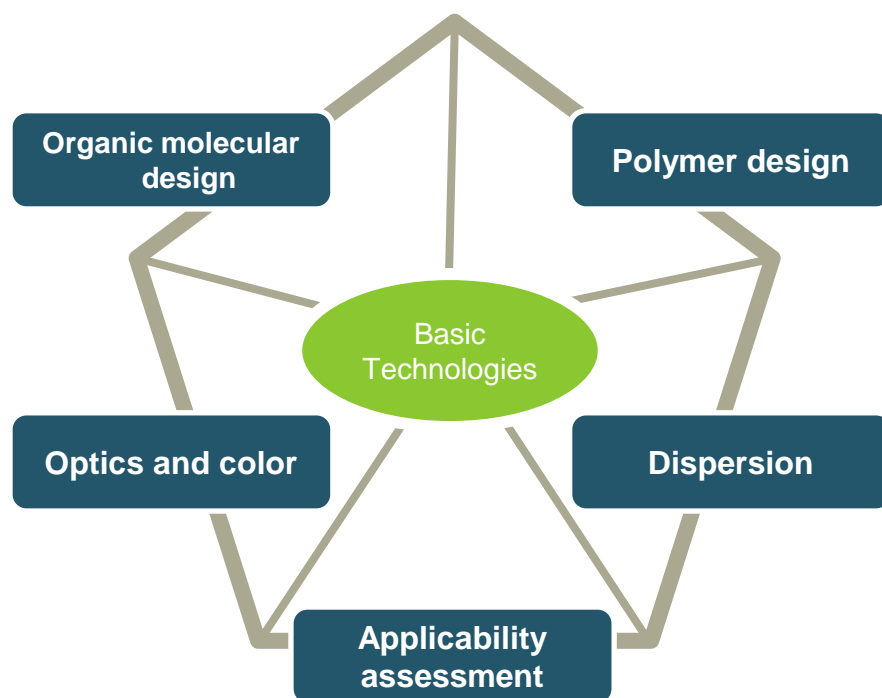
Functional Products



Basic Technologies

DIC's distinctive combination of basic technologies: A key competitive strength

- Building on its fundamental pigment and resin dispersion and formulating technologies, realized through the production of printing inks, DIC has succeeded in combining materials with different properties and performance characteristics to develop groundbreaking products.
- The acquisition of the C&E pigments business (formerly BASF's Colors & Effects pigments business) has added **inorganic materials design** to DIC's portfolio of basic technologies.



Inorganic
materials design

The DIC Way

The DIC Way

Mission

Core Values



Enterprising



Integrity



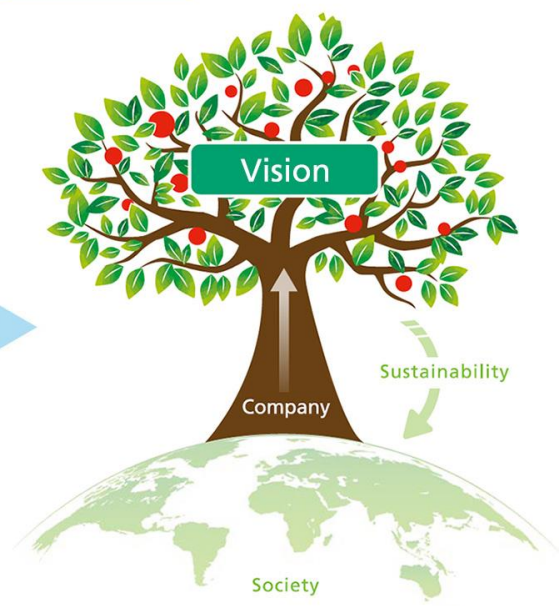
Dedication & Loyalty



Diversity



Social Responsibility



Mission

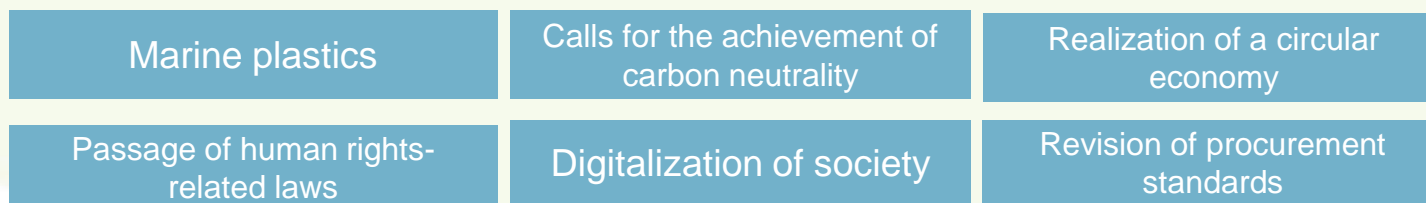
We create enhanced value and utilize innovation to introduce **socially responsible and sustainable products.**

Vision

Color & Comfort by Chemistry
We improve the human condition by safely bringing color and comfort into people's lives.

Changes in the operating environment and social imperatives

- Expectations pertaining to a sustainable society
- Establishment of global codes and changes in business rules (Paris Agreement, Sustainable Development Goals (SDGs), Task Force on Climate-related Financial Disclosures (TCFD), etc.)
- New values and social transformation



Becoming a unique global company that is trusted by society

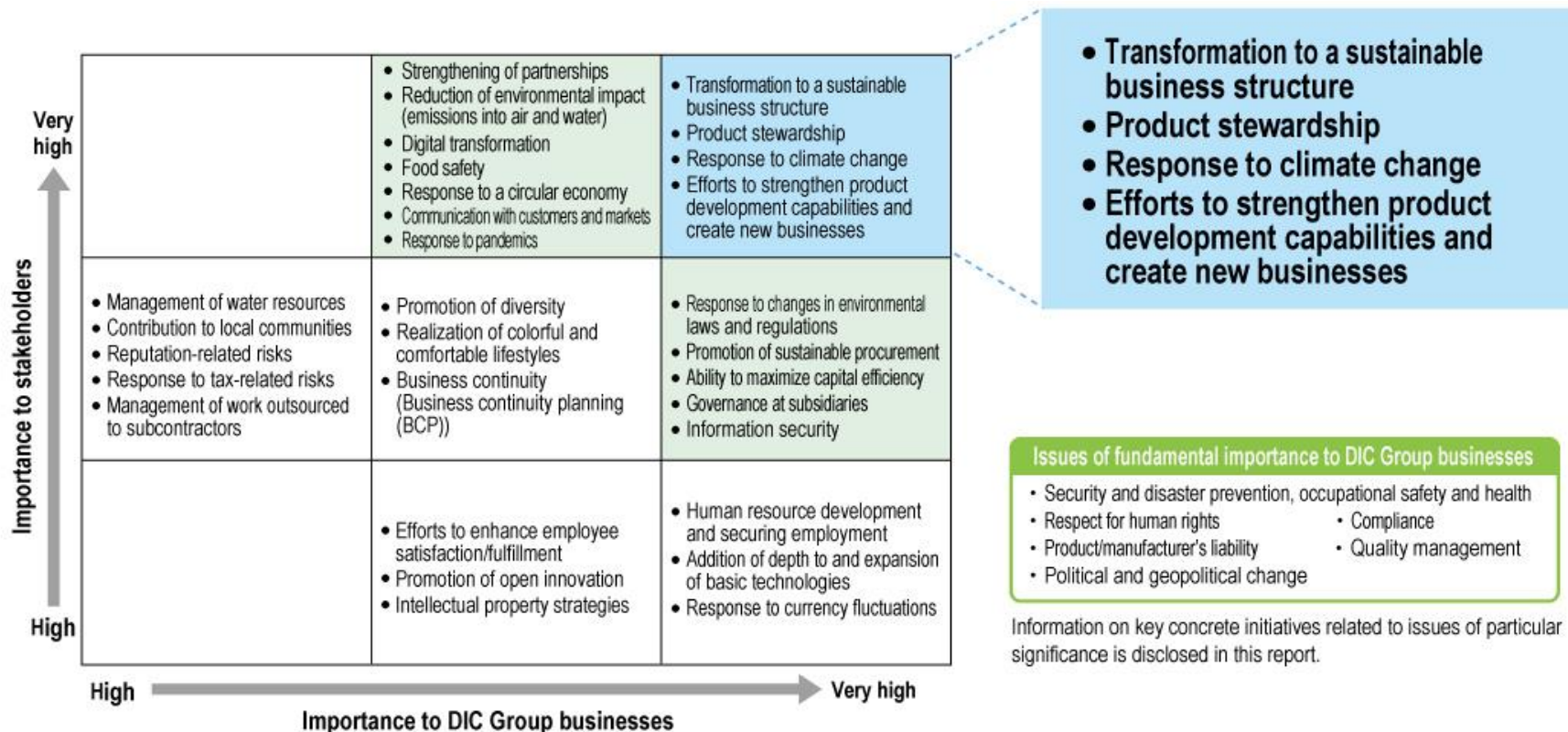
DIC NET ZERO 2050

The DIC Group aims to achieve carbon neutrality—net zero CO₂ emissions—by fiscal year 2050 and will seek to reduce CO₂ emissions by 50% from the fiscal year 2013 level by fiscal year 2030.


The Group will deploy the DIC Sustainability Index to designate sustainable products that it is uniquely positioned to offer with the aim of contributing to the resolution of social imperatives.

The DIC Group’s Materiality Matrix

The DIC Group has identified material issues, which it has aligned with its DIC111 medium-term management plan.



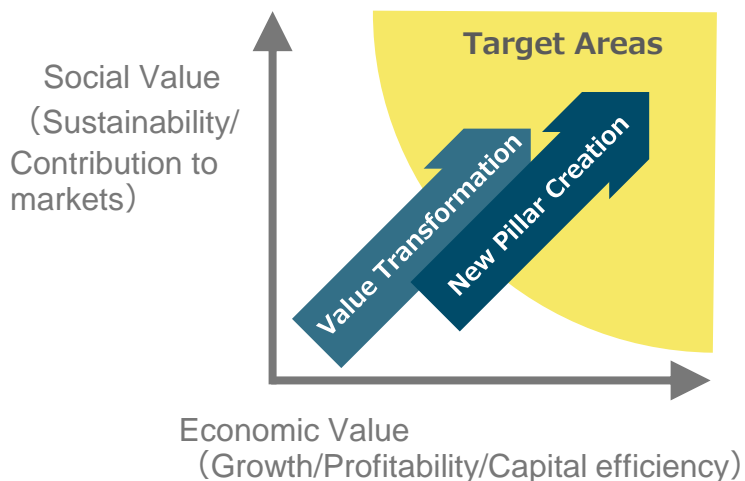
Information on key concrete initiatives related to issues of particular significance is disclosed in this report.

 The DIC Group has identified material issues, that is, issues with the potential to negatively affect its performance, from which it has designated four priority materiality themes. The Group reports on these themes, and on related targets and initiatives, on pages 50–51 of [DIC Report 2021](#).

DIC's Future Vision

The DIC Way: Addressing social imperatives

- Two Strategies for Business Portfolio Transformation**



Value Transformation

Strengthen corporate structure through qualitative reforms of businesses

- Add value to products
- Improve value provided
- Contribute to sustainability



New Pillar Creation

Create new businesses in response to ESH-related issues and social changes

- Electronics
- Next-generation packaging
- Automotive
- Health care

- Building a robust management infrastructure that addresses social change and delivers new value**

Digitalization, greening
Paradigm shifts



A forward-looking management infrastructure

- Promotion of environmental, social and governance (ESG) management
- Digital transformation (DX)
- Talent management

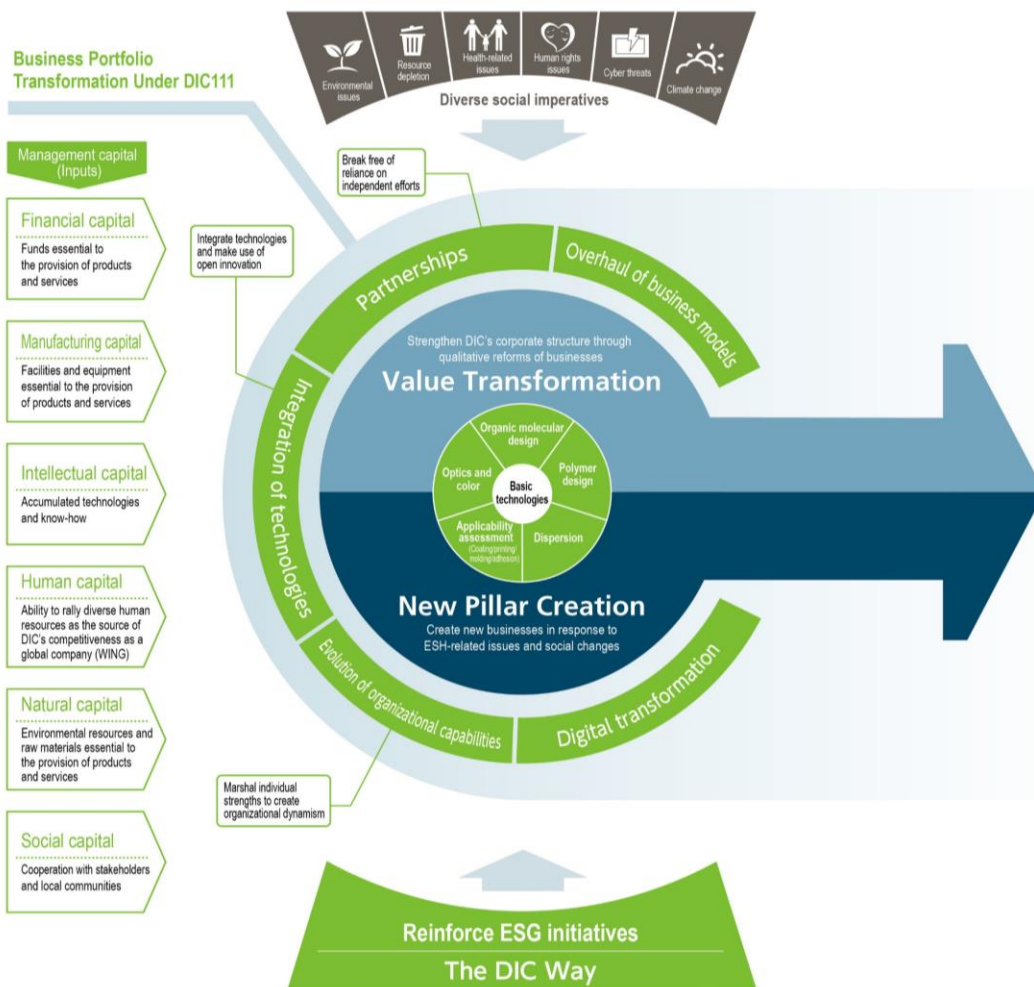


Targets

- Declaration of carbon neutrality
- Introduction of the DIC Sustainability Index

The DIC Group's Approach to Value Creation

Delivering Color & Comfort



Segment	Outputs	Outcomes
Packaging & Graphic	Next-generation packaging inks and coatings, functional packaging adhesives, industrial-use jet inks, others	Packaging materials that bring safety and peace of mind
Color & Display	Pigments for color filters, pigments for cosmetics, effect pigments, natural colorants, LC materials, next-generation display materials, others	Color and display materials that make life colorful
Functional Products	Sustainable polymers, environment-friendly PPS compounds for automotive components, high-performance industrial adhesive tapes, others	Functional products that add comfort

Business area	Outputs	Outcomes
Electronics	Technologies and functional materials that support the spread of digitization	Provide functional materials that contribute to a digital society
Automotive	Technologies and functional materials that underpin efforts to transform the automotive industry	Provide composite materials that contribute to a mobility society
Next-Generation Packaging	Packaging materials that help reduce food loss and support sustainability	Provide packaging solutions that contribute to environmental sustainability
Healthcare	Microorganism and cell culture technologies with applications extending from food safety to advanced medical care	Provide fine chemicals produced using biotechnological processes that contribute to health and longevity

- SDGs**
- 2. ZERO HUNGER
 - 3. GOOD HEALTH AND WELL-BEING
 - 6. CLEAN WATER AND SANITATION
 - 7. AFFORDABLE AND CLEAN ENERGY
 - 9. INDUSTRY, INNOVATION AND INFRASTRUCTURE
 - 11. SUSTAINABLE CITIES AND COMMUNITIES
 - 12. RESPONSIBLE CONSUMPTION AND PRODUCTION
 - 13. CLIMATE ACTION
 - 14. LIFE BELOW WATER
 - 15. LIFE ON LAND
- SDGs Goals**
2, 3, 6, 7, 9, 11, 12, 13, 14 and 15

**Become a unique global company
that is trusted by society
by providing value
(safety and peace of mind, color and comfort)**

II . The DIC Group's Sustainability Initiatives

Taihei Mukose

Executive Officer,

Head of Purchasing and Logistics Unit, Head of ESG Unit

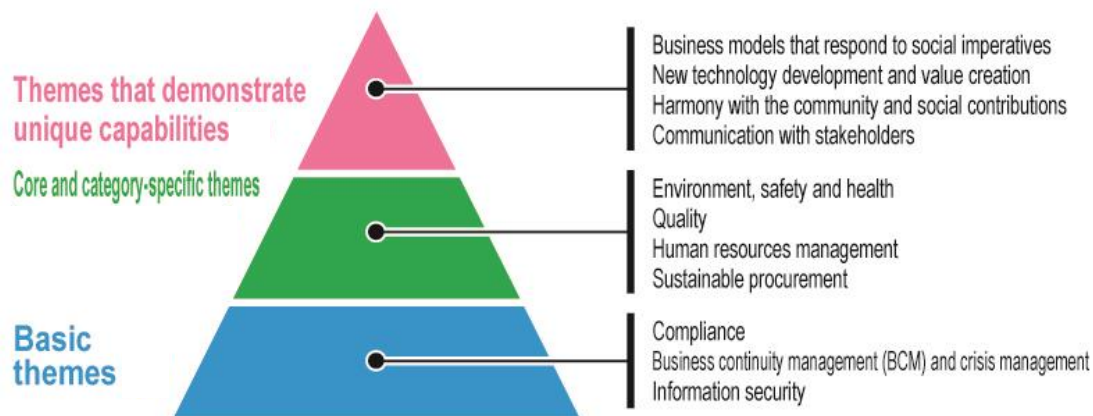
Outline <Basic Sustainability Policy>

Basic Sustainability Policy

In line with global business rule, the DIC Group is dedicated to conducting its business while retaining a strong commitment to five key concepts:

- (1) Preserving safety and health
- (2) Managing risks
- (3) Ensuring fair business practices and respect for diversity and human rights
- (4) Maintaining harmony with the environment and advancing its protection
- (5) Creating value for society through innovation and contributing to ongoing economic growth

(Formulated in January 2014; revised in March 2019)

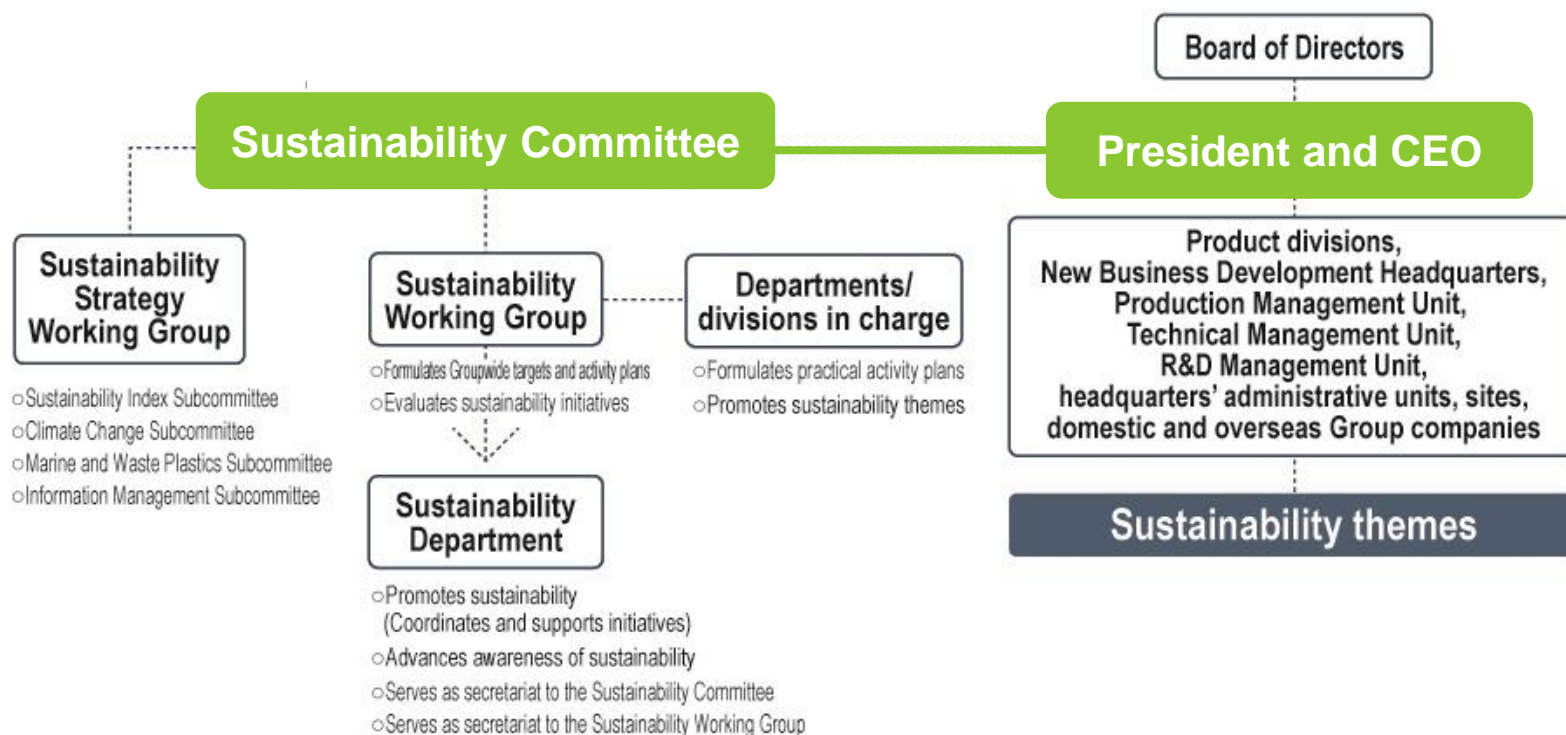


**SUSTAINABLE
DEVELOPMENT
GOALS**





Outline <System for Promoting Sustainability Initiatives>

- The DIC Group's Sustainability Committee, which answers directly to the president and CEO, is tasked with debating medium-term policies, as well as with deliberating critical matters related to key social imperatives.
- Since fiscal year 2020, the Sustainability Committee has been chaired by the president and CEO, with the head of the ESG Unit serving as vice chairman.
- Details of deliberations at meetings and the results thereof are reported to the Board of Directors.

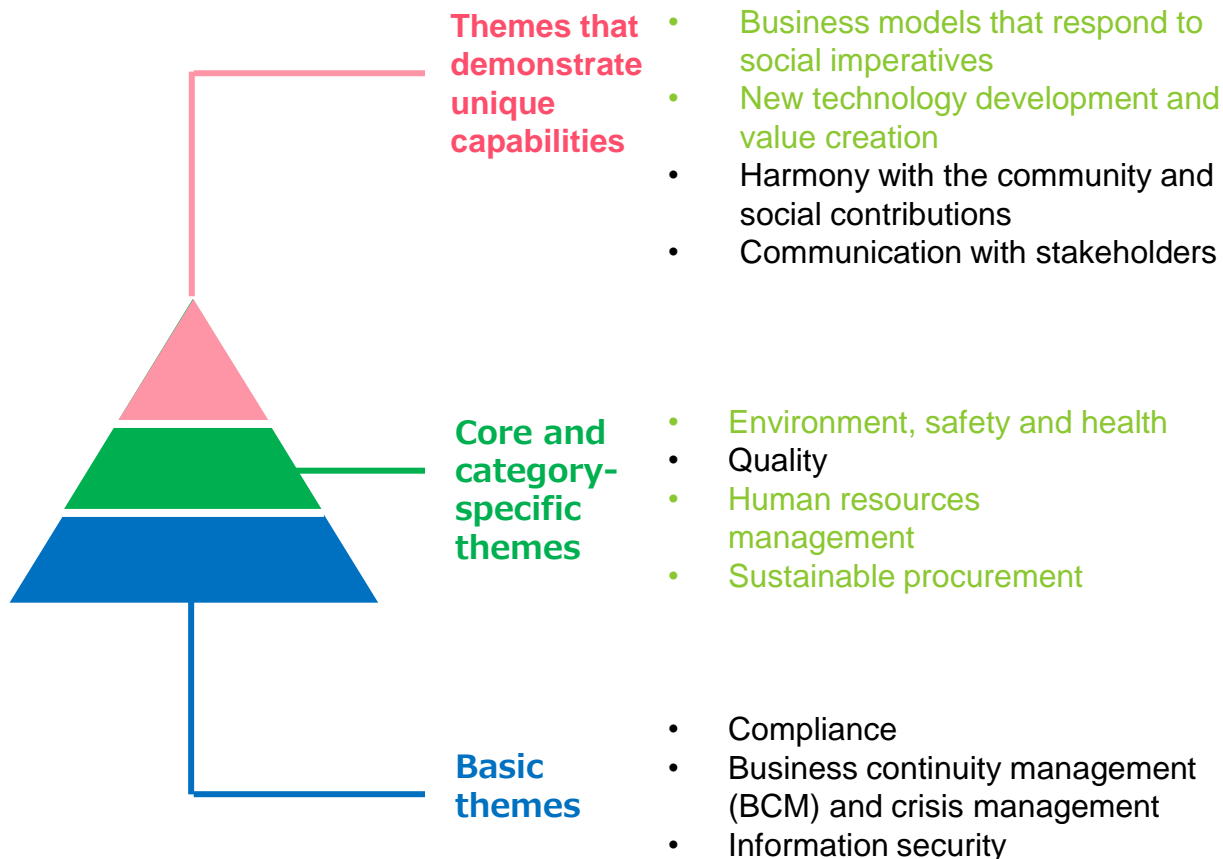


Outline < History of sustainability initiatives >

- 2007 Establishes Corporate Social Responsibility Committee and determines key CSR themes (implementation to be led by departments/divisions in charge)
- 2008 Deploys CSR policy (Japan) (overseas deployment from 2009)
Begins publishing an annual CSR report (later renamed DIC Report)
- 2010 Joins United Nations Global Compact**  Clarifies approach to sustainable corporate growth
- 2014 Changes designation from “CSR” to “sustainability”**
- 2017 Begins publishing DIC Report as an integrated report
- 2018 Establishes ESG Unit and launches Sustainability Working Group
- 2019 Declares support for the TCFD**  Conducts scenario analysis; involves entire Group in identifying risks and opportunities
Enters into loan agreement under the Mizuho Environmentally Conscious Finance (“Mizuho Eco Finance”) scheme, becoming the first company in the chemicals industry to do so
- 2020 Announces establishment of a proprietary sustainability index as a tool for measuring the social value of DIC Group products
Enters into second loan agreement under the Mizuho Eco Finance scheme.
Concludes a Positive Impact Finance (PIF) loan agreement with Sumitomo Mitsui Trust Bank, Limited
- 2021 Announces new long-term target for reducing CO₂ emissions:**
Achieve carbon neutrality by fiscal year 2050 and reduce CO₂ emissions by 50% from the fiscal year 2013 level by fiscal year 2030

Outline <11 key sustainability themes>

- The DIC Group has identified 11 key themes as a framework for promoting sustainability initiatives and formulates annual targets for each theme.



1.Reduction of CO₂ emissions

2.DIC Sustainability Index

3.Responding to a circular economy

4.Safety-related initiatives

5.Talent management

6.Sustainable procurement



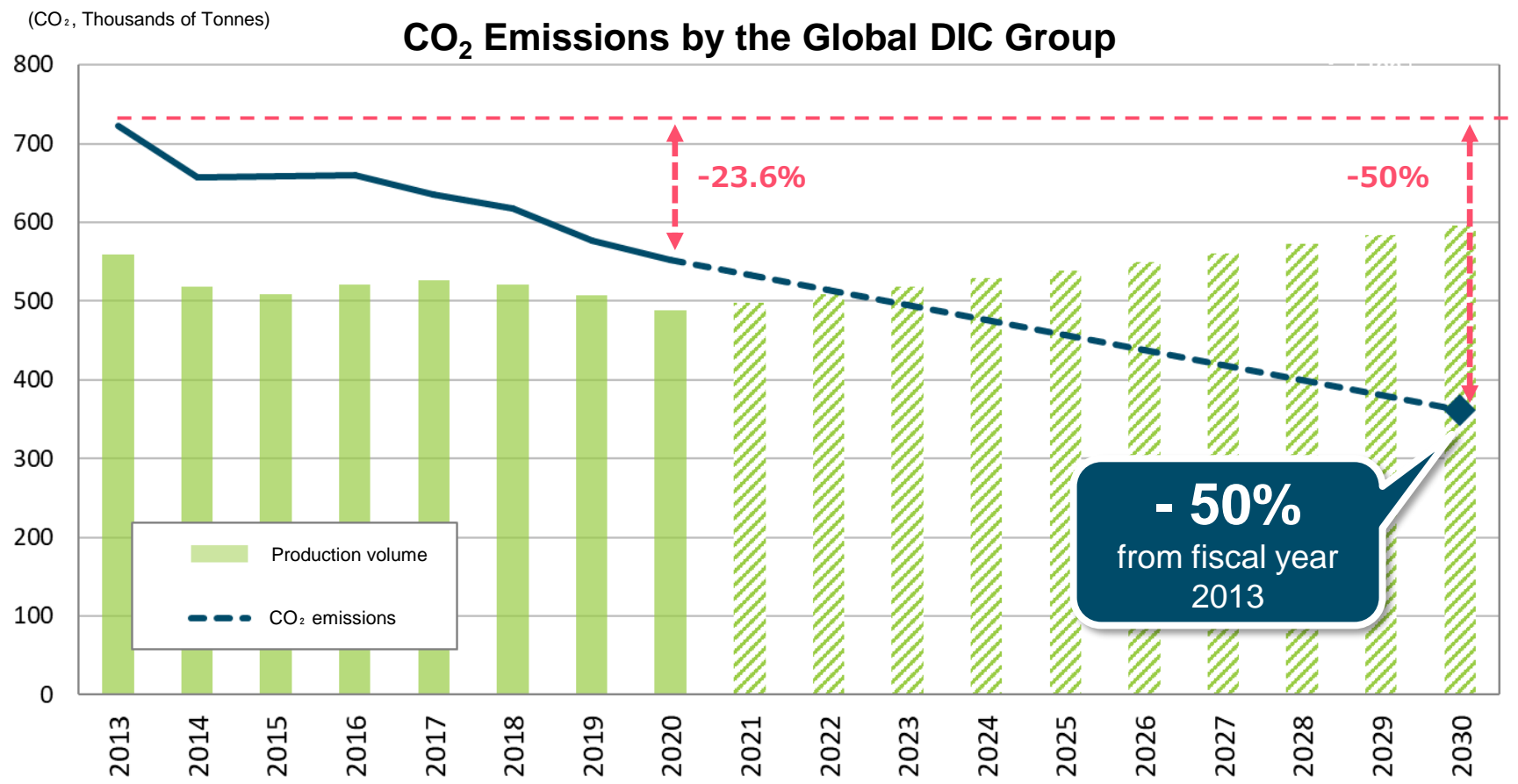
The DIC Group reports on the targets of its 11 sustainability themes and on the progress of related initiatives on pages 59–148 of [DIC Report 2021](#).



1. Reduction of CO₂ < Target and initiatives to date >

- Target: Achieve **carbon neutrality by fiscal year 2050** and reduce CO₂ emissions* by **50%** from the fiscal year 2013 level **by fiscal year 2030**.
- CO₂ emissions by the global DIC Group in fiscal year 2020 were down **23.6%** from the fiscal year 2013 level.

* Scope 1 and 2 emissions



1. Reduction of CO₂ emissions < Specific initiatives >

Principal Initiatives (FY2016–FY2021)

- Actively employ energy from renewable sources
- Undertake energy-saving initiatives worldwide (target: 1% reduction annually)
- Introduce internal carbon pricing system

Hainan DIC Microalgae (China)

Biomass boiler
(Annual reduction:1,250tonnes)

Qingdao DIC Fine Chemicals (China)

Solar Power Facilities
(Generating capacity:400KW, Annual reduction:300tonnes)

Siam Chemical Industry (Thailand)

Solar Power Facilities
(Generating capacity:700KW, Annual reduction 600tonnes)



Sun Chemical (United States)

Solar Power Facilities
(Generating capacity:800KW
Annual reduction:600tonnes)



DIC (Kashima Plant)

Megasolar power system
(Generating capacity:1,600KW,
Annual reduction: 1,200tonnes)



DIC (Tatebayashi Plant)

Megasolar power system
(Generating capacity:1,250KW,
Annual reduction: 600tonnes)



DIC (Hokuriku Plant)

Biomass boiler
(Annual reduction:2,300tonnes)



The DIC Group reports on regional CO₂ emissions, CO₂ emissions reductions attributable to the use of renewable energy, among others, on pages 82–92 of [DIC Report 2021](#).

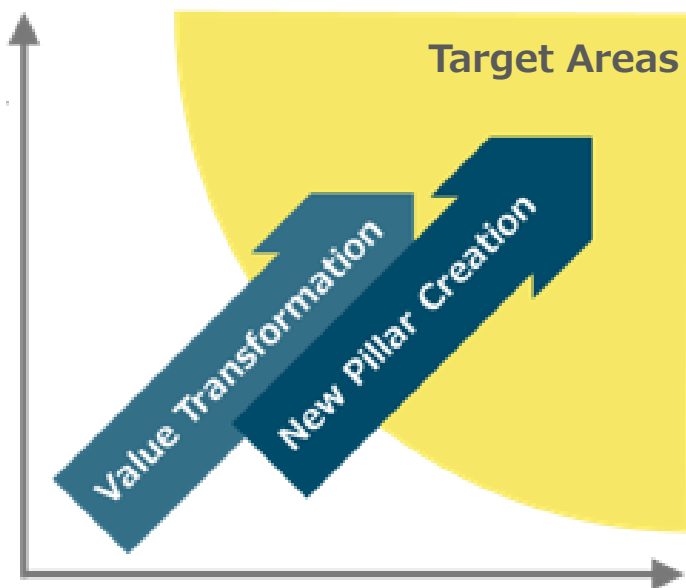
2. DIC Sustainability Index

- The DIC Group's target areas are businesses that deliver both social value and economic value.
- The **DIC Sustainability Index** was established with the goal of measuring social value.

Social Value

A tool for measuring the social value

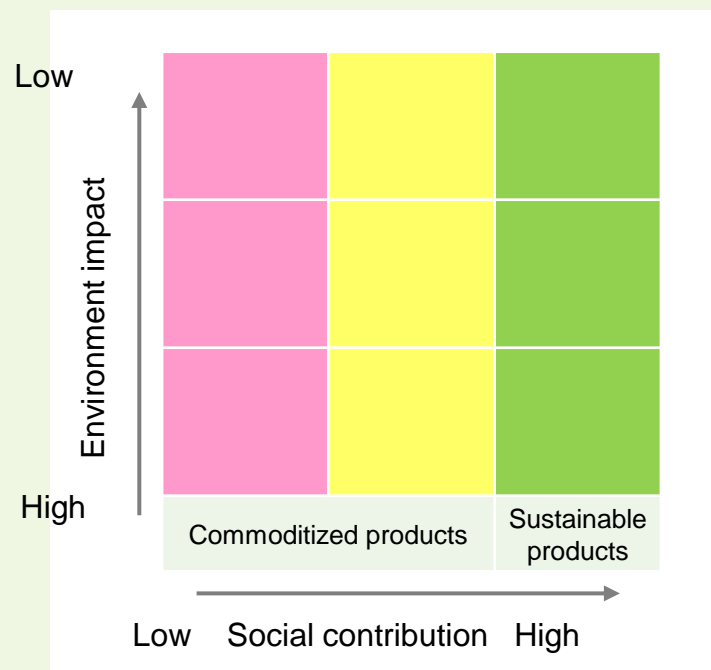
(Sustainability/Contribution to markets)



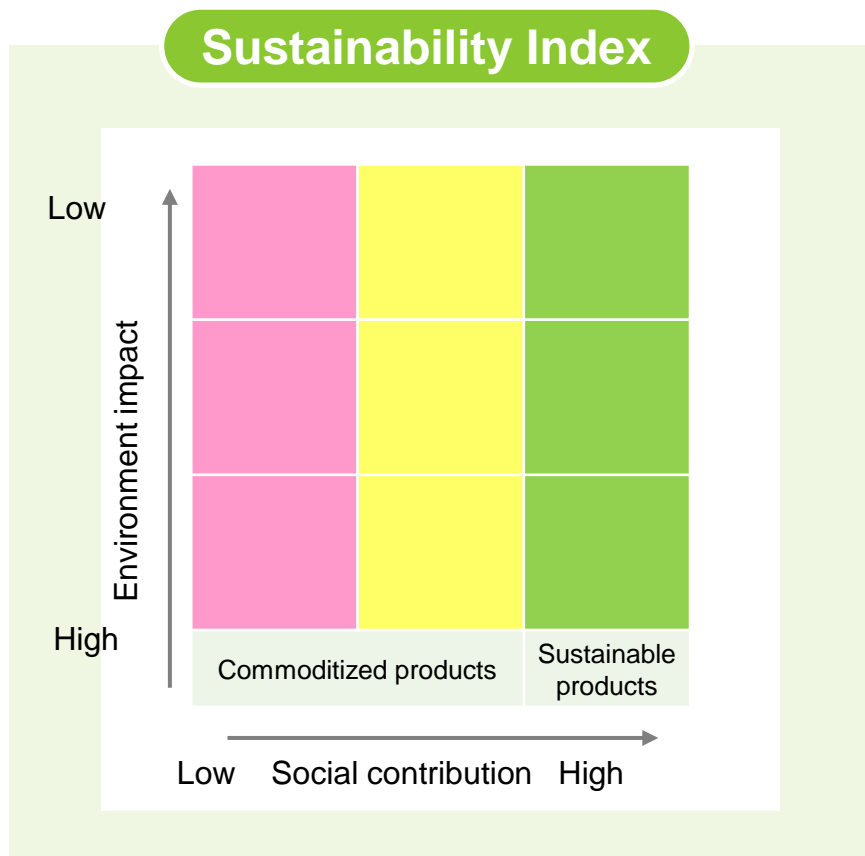
Economic Value

(Growth/Profitability/Capital efficiency)

Sustainability Index



2. DIC Sustainability Index



Horizontal axis

Classifies products into three categories based on whether they demonstrate unique competitive strengths or help to address social imperatives.

→ Products that help address social imperatives are positioned as “**sustainable**” (indicated in green).

Vertical axis
















Quantifies products' contribution to the reduction of environmental impact—measured in terms of CO₂ emissions attributable to production—as “high,” “moderate” or “low”.

→ **Precedence is given to efforts to reduce CO₂ emissions for high-priority products for which total emissions are high.**

→ Going forward, water, waste and life cycle assessment (LCA) will be added to criteria used to measure environmental impact.

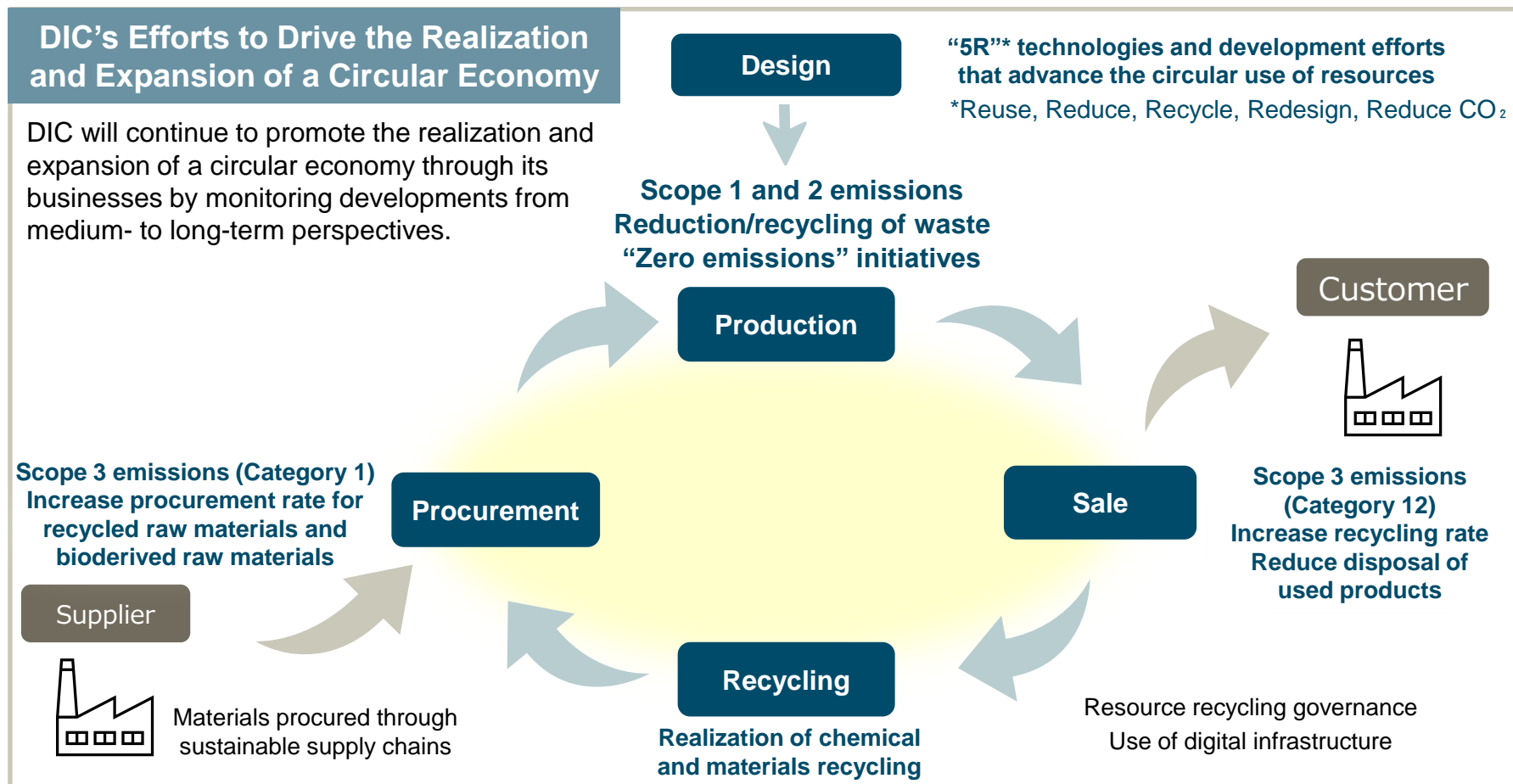
- DIC will map **all products** on the DIC Sustainability Index.
- DIC will leverage the DIC Sustainability Index in all areas, from product development to raw materials procurement, production and sales, **to expand the DIC Group's selection of sustainable products.**

2. DIC Sustainability Index < Products that provide value >

Social issues	Value of DIC products	Product examples
<p>Climate change</p>   <p>Resource conservation</p>  	<ul style="list-style-type: none"> • Contain renewable raw materials • Energy saving and thermal insulation • Reduce weight • Cope with marine plastics 	 <p>Aluminum for autoclaved aerated concrete</p> <p>Thermally insulating materials that improve the thermal insulation of buildings</p>
<p>Sustainable use of natural resources</p>   	<ul style="list-style-type: none"> • Recyclable • Reduce waste • Long life • Reduce volume 	 <p>PPS compounds for housing applications</p> <p>Rust-resistant materials that extend the useful lives of water pipes</p>
<p>Food, Safety, and health</p>  	<ul style="list-style-type: none"> • Health and comfort • Reduce food waste • Low VOCs and safe 	 <p>Multilayer films</p> <p>Films that extend the shelf life of food by facilitating a seal that is tight but also easy to open</p>
<p>Digital society</p>   	<ul style="list-style-type: none"> • High-capacity, high-speed communications • Internet of Things (IoT) 	 <p>Epoxy resins</p> <p>Epoxy resins for state-of-the-art electronics components crucial to the creation of a high-capacity, high-speed communications infrastructure</p>

3. Responding to a circular economy < DIC initiatives >

- Society is increasingly demanding the shift to a circular economy as a crucial step toward the realization of a sustainable society.
- Japan's Ministry of the Environment has issued "milestone" targets for Japan to achieve a reuse/recycle rate for containers of 60%, and to double its use of biomass plastics and recycled materials, by 2030.
- DIC will continue to support efforts in the **food packaging market**, which is our company's focus, to promote the realization of a circular economy.



3. Responding to a circular economy

< Chemical Recycling to Realize a Closed-Loop Recycling System for Polystyrene Food Containers

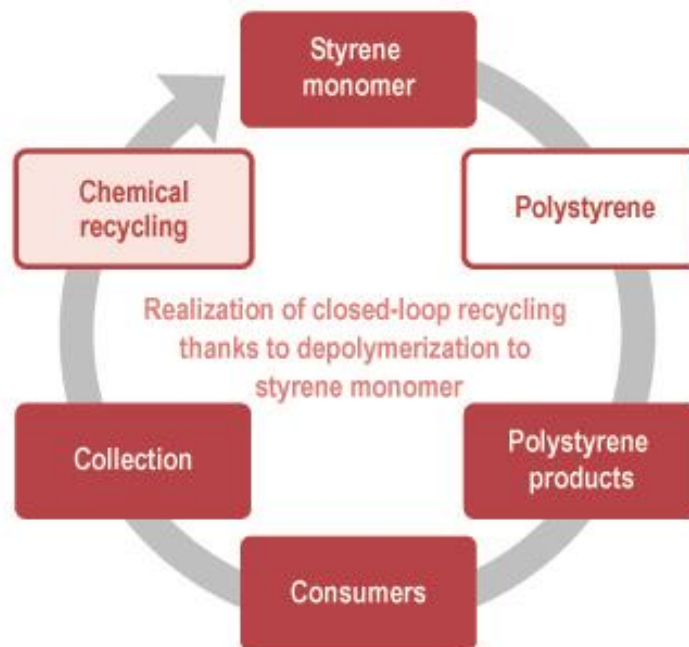
- Fine chemicals manufacturer DIC and food container manufacturer FP Corporation (FPCO) collaborate to implement **closed-loop recycling system for polystyrene** that employs **chemical recycling**.
- This initiative seeks to enable the transformation of colored and/or patterned polystyrene containers, which to date could not be recycled into food containers, facilitating fully closed-loop recycling of all types of polystyrene products. (A testing facility is scheduled to begin operating in 2023.)



A testing facility will be built at DIC's Yokkaichi Plant, in Mie Prefecture, which is its principal polystyrene production facility.



Used food containers will be collected through a network of 9,600 collection centers located at supermarkets, among others, across Japan.



The properties of recycled polystyrene are equivalent to those of virgin polystyrene.



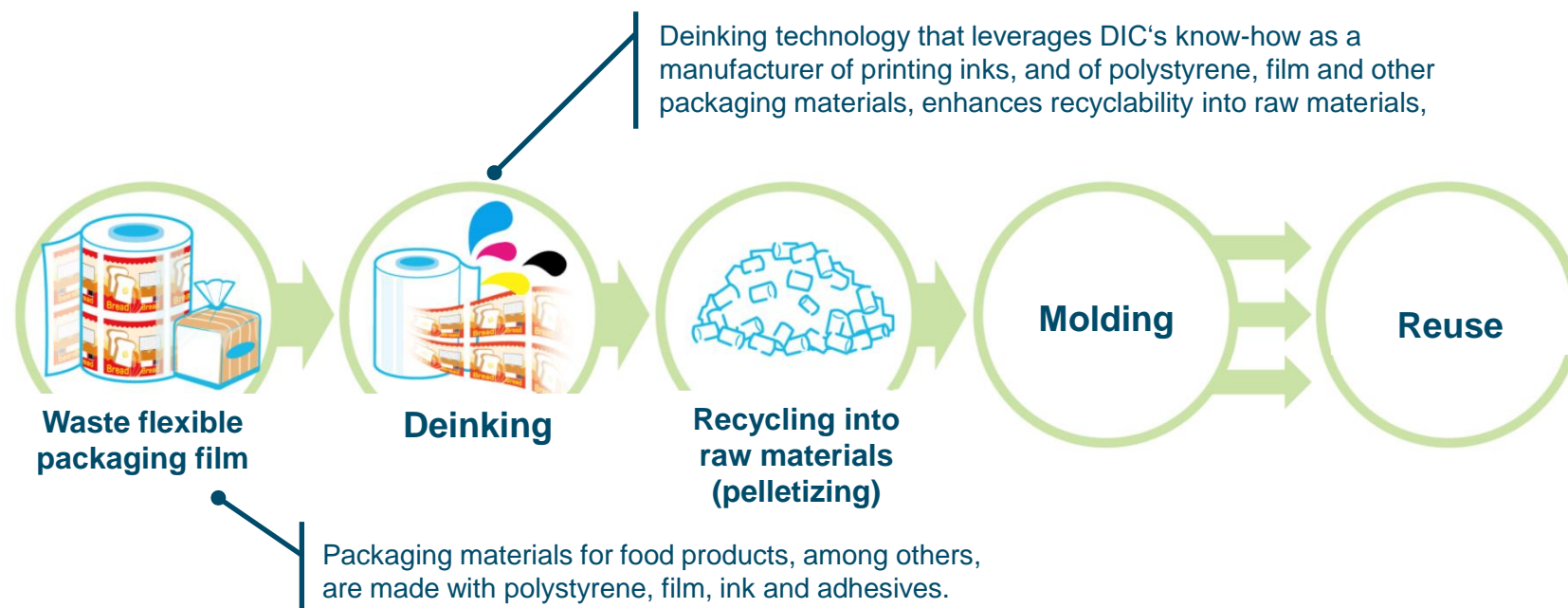
Polystyrene made with chemically recycled raw materials can be used again in food containers with no restrictions.

3. Responding to a circular economy

< Using deinking technology to enhance the efficiency of materials recycling >

- DIC and a major bread producer have begun collaborating to **recycle waste flexible packaging film** from plastic bread packages.
- The use of **deinking technology** that leverages DIC's know-how makes it possible to recycle waste flexible packaging film into white pellets.

Recycling Process for Waste Flexible Packaging Film



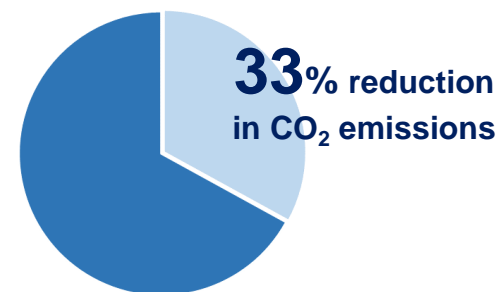
3. Responding to a circular economy <Bio renewable ink>

- Many food industry brand owners and packaging materials manufacturers are working to reduce the use of plastic by, among others, **switching to paper packaging**.
- DIC is a **leading global supplier of flexo inks**, which are often used for printing on paper packaging. Flexographic printing has long been the dominant process for this application in Europe and the Americas, enabling Group company Sun Chemical to accumulate extensive technologies in this area.
- Sun Chemical's **water-based flexo inks**, made with plant-derived raw materials, are the choice of food industry brand owners and packaging materials manufacturers around the world.

Paper packaging printed with water-based flexo inks



Benefit of printing with Sun Chemical's *SunVisto AquaGreen*[®] water-based flexo inks

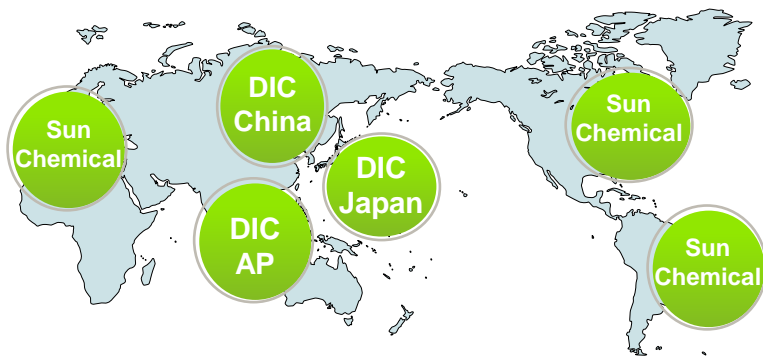


※Compared to conventional water-based flexo inks which is not made with plant-derived raw materials.

4. Safety-related initiatives

① Policy and configuration

- Formulation of Environment, Safety and Health Policy
- Promotion by regional headquarters



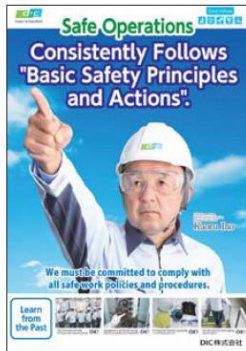
② KPIs

- Adoption of total recordable incident rate (TRIR); setting of targets and implementation of related initiatives by regional headquarters
- Results for the global DIC Group in fiscal year 2020:

KPIs	FY2020 Targets	FY2020 Results	Rating
TRIR (Number of casualties due to occupational accidents / Million work hours)	4.51	3.56	Good
Serious accidents	0	0	Good

③ Global efforts to enhance safety

- **Management initiatives**
(Workplace posters featuring the president and CEO)



- **Hands-on safety training**
(Establishment of hands-on safety centers)



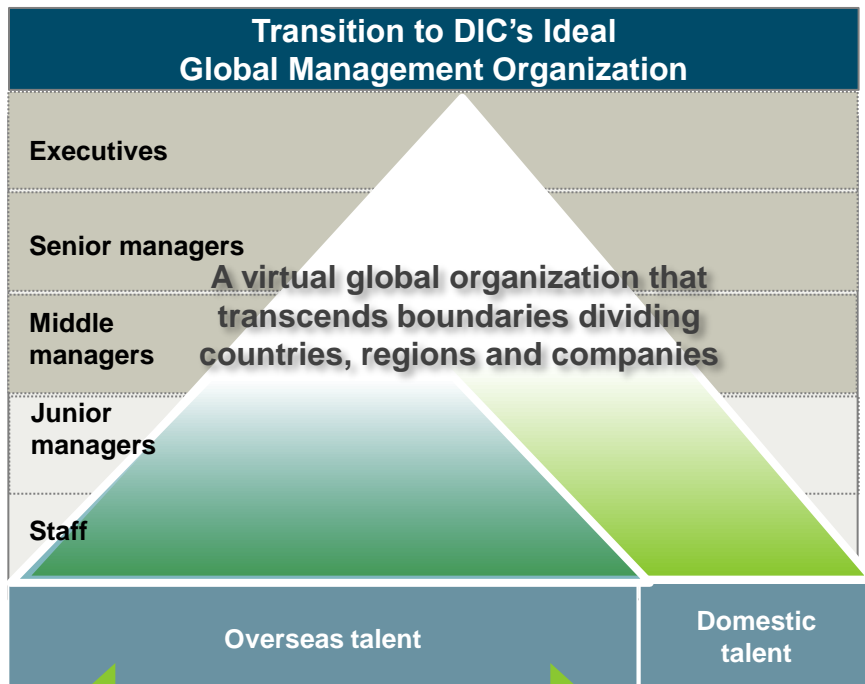
- **Principles of Safe Conduct for workplace reading circles**
(Page-a-day calendar)



5. Talent management

< Fostering global talent to reinforce the DIC Group's management infrastructure >

- Promote systematic efforts to foster global talent.



Overseas talent = 74% of the Group's labor force

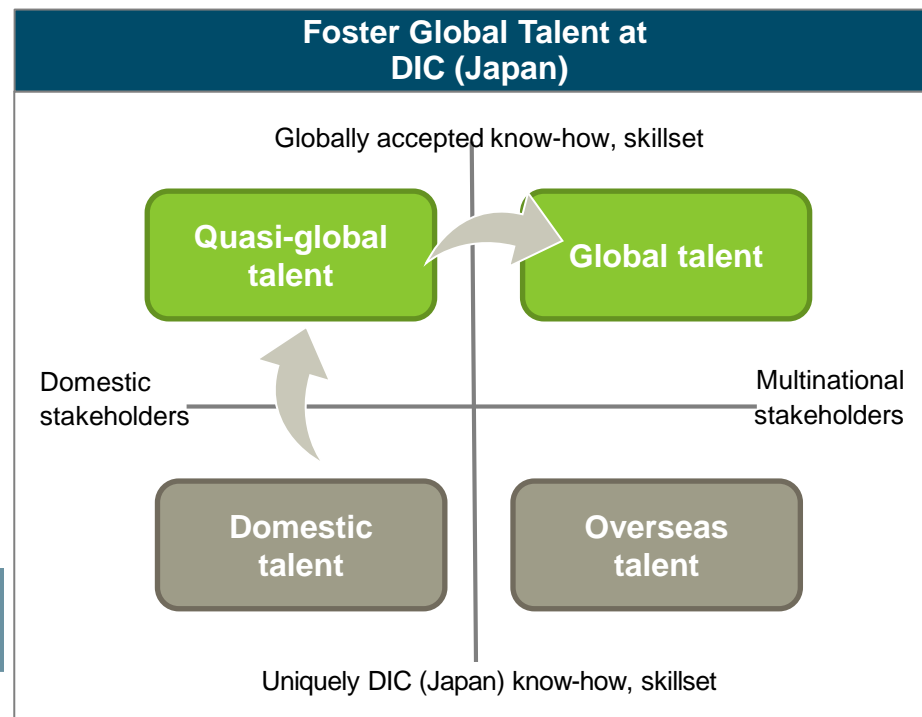
Rally diverse talent as the source of DIC's competitiveness as a global company

Soft strategies

Foster global talent at DIC (Japan)

Hard strategies

- Standardize the group grading policy and rule.
- Develop IT system for global talent platform.



Domestic and overseas talent currently account for the majority of the DIC Group's labor force.

Challenge: Expand quasi-global talent and foster global talent.

In-house efforts

Provide training and global assignments

Looking outside

Hire candidates with experience working for foreign firms

Leveraging Group employees

Admit talent from overseas Group companies

6. Sustainable procurement < Policy on sustainable procurement >

Promote socially responsible procurement practices across the extended supply chain

- As a basic purchasing policy, promote efforts to address environmental issues such as climate change and human rights issues—including those aimed at reducing risks associated with the procurement of raw materials—across the extended supply chain.
- Respond to new expectations, including for the responsible procurement of minerals such as tin, tantalum, tungsten and cobalt.

The DIC Group Sustainable Procurement Guidelines

- ① Compliance with laws/social norms
- ② Human rights and work environments
- ③ Safety and health
- ④ Consideration for the environment
- ⑤ Information security
- ⑥ Appropriate quality and safety and technological improvements
- ⑦ Stable supplies and flexible responses to change
- ⑧ Promotion of sustainability and sustainable procurement initiatives

6. Sustainable procurement < Efforts to promote sustainable procurement >

Take steps to grasp the status of/help improve the sustainability of suppliers' overall sustainability initiatives
(Initiatives aimed at addressing climate change and other global environmental issues, human rights issues, etc.)

Japan and Asia

*DIC Group Sustainable Procurement Guidebook**

Europe and the Americas
(Sun Chemical)

EcoVadis
(Third-party platform)

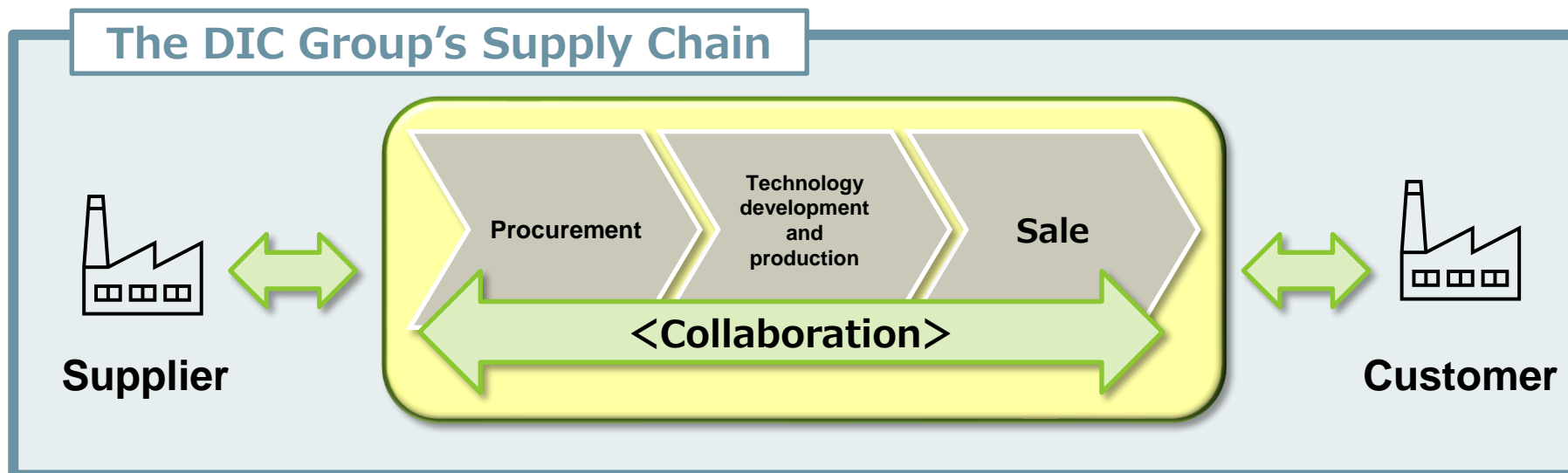
Survey and assess suppliers on a global basis

* The *DIC Group Sustainable Procurement Guidebook* was prepared to ensure suppliers understand and advance procurement practices that satisfy the DIC Group's sustainability standards. In accordance with the guidebook, the Group asks suppliers to evaluate themselves by completing a questionnaire that further segments the Group's eight procurement guidelines into 45 issues.

- Reduce risks associated with the procurement of raw materials by key suppliers
- Respond to customer requirements regarding sustainable procurement

6. Sustainable procurement < Efforts to promote sustainable procurement of raw materials >

Work actively to enhance the DIC Group's lineup of products with a low environmental impact by expanding the use of **recycled raw materials** across the extended supply chain



Bioderived raw materials
Recycled raw materials

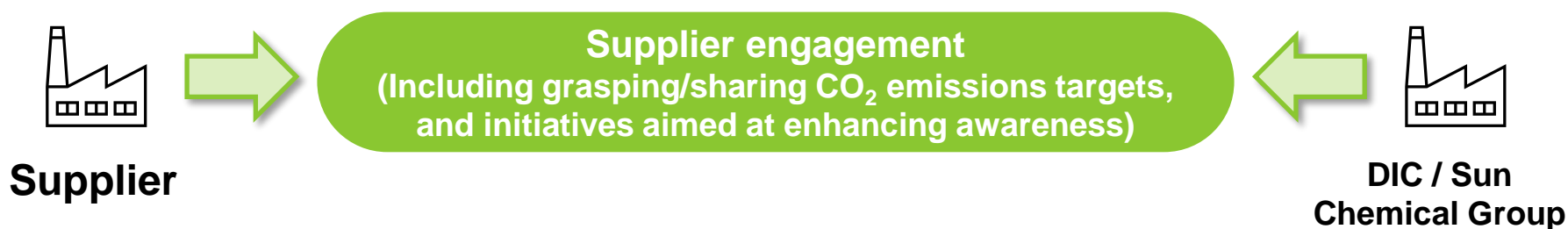
Examples

- Development aimed at realizing biomass inks made with plant-derived resins and solvents
- Development of polymer products made with plant-derived acids and glycols

- Procure raw materials/develop products with a reduced environmental impact
- Respond to customer requirements regarding a circular economy (i.e., the need to calculate products' carbon footprint)

6. Sustainable procurement < Initiatives to reduce Scope 3 CO₂ emissions >

- Encourage the reduction of CO₂ emissions by raw materials suppliers
- Promote supplier engagement (centered on initiatives aimed at enhancing awareness)



- Promote CO₂ reductions in line with science-based target* for Scope 3 emissions**
- Respond to customer requirements regarding a circular economy (i.e., the need to calculate products' carbon footprint)

* Science-based targets are greenhouse gas emissions reduction targets consistent with the level of decarbonization called for by the Paris Agreement. The time frame of these targets is from 5 to 15 years.

** Scope 3 emissions are all CO₂ emissions generated across the supply chain other than those that qualify for Scope 1 (direct emissions) and Scope 2 (indirect emissions). Category 1 emissions (those attributable to purchased goods and services) account for the largest proportion of Scope 3 emissions.

III. Sustainable DIC Group Products

Kiyotaka Kawashima

Managing Executive Officer, General Manager,
Technical Management Unit

1. Inks and adhesives for environment-friendly food packaging^①

Calls for the achievement of carbon neutrality



DIC's solution:

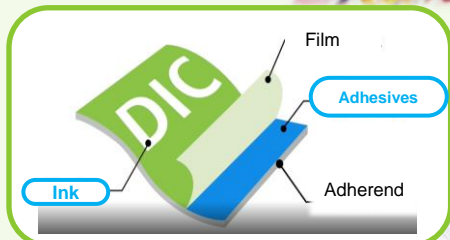
Packaging materials made with **biomass-derived raw materials**

Biomass content: 10%-plus



Ink

**Biomass gravure ink for lamination
FINART BM**



Adhesives

**Biomass adhesives
LX-500-BM, LX-760BM**



These biomass products made with renewable raw materials contribute to the creation of a decarbonized, recycling-oriented society.

Calls for the achievement of carbon neutrality



DIC's solution:

Lamination system that helps **reduce energy consumption**

Adhesives

**Fast-Curing Solvent-Free Adhesive
DUALAM[®]**

Examples of using DUALAM[™]



DIC has developed a solvent-free adhesive that delivers a high curing speed and excellent versatility. In partnership with a laminating machine manufacturer, DIC has also developed a dedicated supply unit.

- Curing speed: **3** times that of conventional solvent-free adhesives
- Energy cost: **75%** lower than with solvent-based adhesives

The increased popularity of DUALAM[®] which expands applications for conventional solvent-free laminates, will curb VOCs and help reduce CO₂ emissions on a global scale.

1. Inks and adhesives for environment-friendly food packaging^②

Realization of a circular economy



DIC's solution:
Adhesives that **enhance the recyclability** of packaging materials

Marine plastics

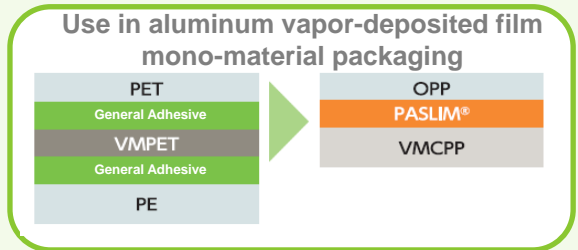


DIC's solution:
Coatings and varnishes that **enhance the performance of paper and paperboard packaging**



Adhesive

Oxygen barrier-improving adhesives
PASLIM®



To enhance recyclability, manufacturers are shifting from multilayer films requiring multiple raw materials to mono-material films made with a single raw material.



▶ Adhesive improves oxygen barrier properties

DIC's adhesives with added performance features facilitate the manufacture of mono-material packaging materials, contributing to the realization of a circular economy.

Coatings

Functional coating for paper and paperboard
HYDRECT, HYDRECT HS

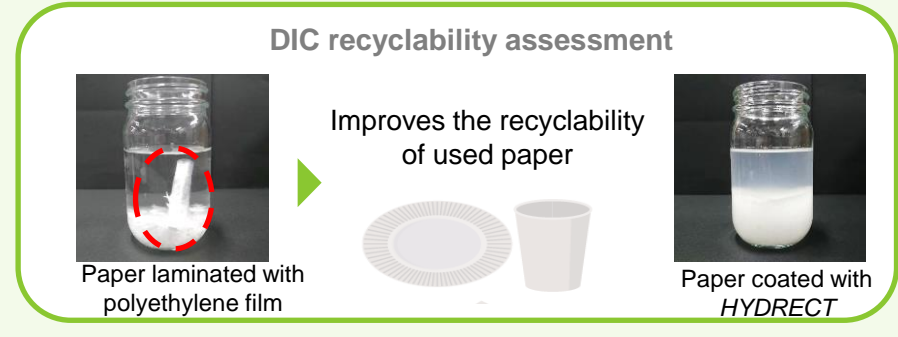
(Submitted for inclusion in Japan's Food Sanitation Act positive list) (As of December 2021)

Water-resistant coating for paper and paperboard
HYDBAR®

Varnish

Overprint (OP) varnish for paper

(Resistant to alcohol, bacteria and viruses, among others)



These coatings help reduce reliance on plastics used in polyethylene film-laminated paper and paperboard, while the OP varnish compensates for performance features lacking with paper and paperboard.

2. Functional materials that help reduce CO₂ emissions and support comfortable lifestyles

Calls for the achievement of carbon neutrality



DIC's solution:

Heat-shielding pigment that reduces long wavelength absorbance, ensuring comfortable indoor environments while also reducing energy consumption

Calls for the achievement of carbon neutrality



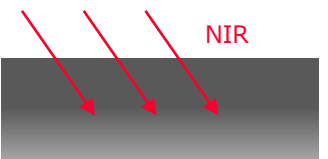
DIC's solution:

A PPS resin that helps **reduce the weight of automotive components**, which continue to evolve with the proliferation of CASE (Connected, Autonomous, Shared and Electric) vehicles

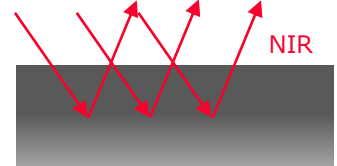
Pigments

Near infrared (NIR)-reflective inorganic black pigment **Sicopal® Black L 0095**

Functional pigments designed using long wavelength absorbance blocking technology



Carbon black



Sicopal® Black L0095

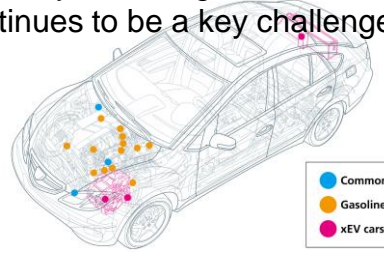
Unlike carbon black, the conventional choice, this inorganic black pigment selectively reflects light in the NIR range.

- This pigment
- prevents indoor temperatures from rising and increases cooling efficiency, and
 - prevents deterioration of the coated surfaces of building materials, preserving appearance.



PPS Compounds

- The growing importance of the CASE concept is driving the increasing electrification of vehicles and the expanded adoption of components crucial to autonomous driving.
- Reducing vehicle weight by switching from metal to resin components continues to be a key challenge.



- This resin will contribute to the increased electrification of hybrid and other vehicles, reducing fuel consumption and CO₂ emissions.
- DIC's materials development capabilities reflect its integrated production configuration, encompassing everything from polymers to compounds, and its wealth of experience in imparting features that respond to user needs.
- DIC also boasts a robust supply chain that leverages its global network.

3. Electronics and information materials that underpin high-capacity, high-speed information transmission

Digitalization of society

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

10 REDUCED INEQUALITIES

11 SUSTAINABLE CITIES AND COMMUNITIES


DIC's solution: High-performance electronics and information materials that contribute to the realization of the high-capacity, high-speed information transmission infrastructure necessary for 5G and 6G cellular communications

Because 5G and 6G communications use higher frequencies, printed circuit boards that reduce transmission loss of high-frequency signals are essential to ensuring outstanding reliability, low latency and low power consumption.

Maleimide resins

New low-dielectric material

EPICLON® NE-X



Laminated board impregnated with EPICLON®

Organic materials design


Low dielectric loss!

Phenol type	Active Property Ester Resin	Low dielectric/Active Property Ester Resin	New low-dielectric Maleimide resins EPICLON® NE-X
	HPC-8000-65T	HPC-8150-62T	

Low dielectric (good) →

Low water absorbency
Solvent solubility

Contributing to performance



Printed circuit board

Metal for wiring

Laminated plate (Dielectric)

Low latency

High-capacity, high-speed

Multiple connection

5G

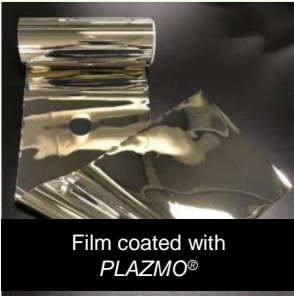
Silver nanoparticle coating

Silver nanoparticle coating

PLAZMO®


Inorganic materials design

Low conductor loss !

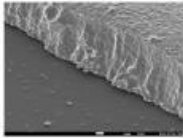


Film coated with PLAZMO®

Rough surface ⇒ High conductor loss




Metal for wiring
Resin substrate

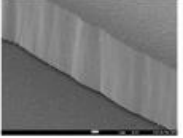


⇒

Smooth surface ⇒ Low conductor loss



Metal for wiring
Resin substrate



APPENDIX

External assessments and initiatives

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

MSCI  MSCI Japan ESG Select Leaders Index

MSCI  MSCI Japan Empowering Women Index (WIN)

NIKKEI 225



FTSE4Good



FTSE Blossom Japan



Sompo Sustainability Index



<Initiatives>

UN Global Compact

White Logistics Movement

TCFD

**CLOMA
(Japan Clean Ocean Material Alliance)**

< External assessments >

Institution	Index	Current status
Dow Jones Sustainability Index	Asia Pacific Index	Included for the 7 th consecutive year
MSCI	MSCI Japan ESG Select Leaders Index ★	Included for the 4 th consecutive year
MSCI	MSCI Japan Empowering Woman Index ★	Included for the 4 th consecutive year
FTSE	FTSE4Good	Included for the 3 rd consecutive year
FTSE	FTSE Blossom Japan Index ★	Included for the 3 rd consecutive year
S&P	S&P/JPX Carbon Efficient Index ★	Included for the 4 th consecutive year
SOMPO Asset Management	SOMPO Sustainability Index	Included for the 6 th consecutive year
CDP	CDP	Climate change B Water security B-
METI · TSE	Nadeshiko Brand	Included for the 3 rd consecutive year
METI · Japan Health Council	White 500 certification	Included for the 4 th consecutive year

★: Indices which are used by the Government Pension Investment Fund (GPIF) as benchmarks for their ESG investment strategy.



Color & Comfort

