

Proterial Group

CSR Activity Report 2023

Published: October 2023

PROTERIAL

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About This Report

Purpose

This report is published for the purpose of comprehensive disclosure of the Proterial Group's basic approach to corporate social responsibility (CSR), and the content of its related activities. The main activities for fiscal 2022 are detailed in The Proterial Report 2023 (Integrated Report). The Proterial Report 2023 (Integrated Report) is available from the Company's website (https://www.proterial.com/e/sustainability/integrated_report/2023.html).

Publication Date

November 2023

The Scope of This Report

Period covered: The report focuses on fiscal 2022 (April 1, 2022 to March 31, 2023).

Organizations covered: Proterial, Ltd. and consolidated subsidiaries

Scope of recorded data:

Finance	Proterial, Ltd., consolidated subsidiaries, and equity method companies
Social	Unless stated otherwise, Proterial, Ltd.
Environment	The extent of the data on the environmental burden created by the Proterial Group is described later.

Major changes occurring within the reporting period:

On January 5, 2023, the corporate name was changed from Hitachi Metals, Ltd. to Proterial, Ltd.

Underlying Guidelines

GRI Standards (Global Reporting Initiative)

ISO 26000:2010 (International Organization for Standardization)

Disclaimer

This report contains forward-looking statements and descriptions of plans, estimates, and projections, as well as current and historical facts about the Proterial Group. Such statements and descriptions reflect our current assumptions and expectations of future events based on information available when this report was prepared. Accordingly, they are inherently susceptible to uncertainties and changes in circumstances, and future performance and events may differ.

I. Proterial Group Codes of Conduct

Always Act with Integrity

The corporate philosophy of the Proterial Group promotes our Mission: “Make the best quality available to everyone,” Vision: “Leading sustainability by high performance,” and Values: “Unflinching integrity” and “United by respect.”

The “Proterial Group Codes of Conduct” provides support to the officers and employees in their decision making and stipulates the actions they should take to realize this corporate philosophy and to fulfill our social responsibilities.

The officers and employees of the Proterial Group pledge to fully understand and comply with the Proterial Group Codes of Conduct, and to always base their actions on the principle of integrity.

1. A Company that Contributes to Society

- (1) We will contribute to resolving social issues by promoting innovative solutions, accelerating collaborative creation with partners and stakeholders, and further integrating social and environmental responsibility into our business activities.
- (2) We will strive to develop technologies that contribute to social development and use them with due consideration of their impact on society.
- (3) We envision a decarbonized society, a resource-recycling society, and an ecosystem preservation society. To this end, we will endeavor to reduce CO₂ emissions, use water and other resources efficiently, and minimize impacts on natural capital throughout our value chain.
- (4) As a corporate citizen, we will make efforts to build a rapport with communities and contribute to their development by working together to resolve social issues.

2. Sincere and Fair Business Activities

2.1 Fair Trading

- (1) To ensure fair and open competition, we will observe the fundamental rules of trade, including domestic and overseas competition laws and regulations, and act in compliance with legislation and sound corporate ethics.
- (2) We will have no relationship whatsoever with antisocial forces anywhere in the world, and resolutely reject involvement in improper or antisocial transactions.
- (3) Should we become aware of business-related information that could possibly correspond to undisclosed important information (insider information) concerning business partners, including customers and procurement partners, we will not leak this information to any third parties or trade the shares of said business partners until the information is officially disclosed.
- (4) We strictly prohibit and will have no involvement in illicit acts including bribery, corruption or money laundering. We will neither give or receive gifts nor extend or accept invitations to business entertainment beyond socially accepted limits, as we recognize that such practices can foster corruption. When working with political

entities, we will build and maintain sound and transparent relationships.

- (5) We will help maintain international peace and security through compliance with all applicable laws and regulations concerning import and export, and will operate appropriately according to our internal rules and policies.
- (6) We will comply with applicable laws, respect social cultures and practices, and act sincerely and fairly in countries and regions where we have operations. Furthermore, we will do so guided by international norms and standards even in areas where legislation is not adequately enforced.

2.2 Relationships with Procurement Partners

- (1) With a global vision, and mindful of the long-term perspective, we will find qualified procurement partners and build fair, equal and close partnerships with them, working together to build mutual understanding and trust.
- (2) In selecting procurement partners, we will thoroughly review the quality, reliability, delivery time, and price of the materials they provide as well as their business stability and technological capability. We will give due consideration to their adoption of social responsibility practices, including the abolishment of human right infringements and unfair discrimination, and environment-related initiatives.
- (3) We will not accept any personal benefits from procurement partners in procurement transactions.

2.3 Relationships with Customers

- (1) We will provide products and services that meet the needs and requirements of our customers, complying with relevant laws and standards and ensuring quality and safety by setting additional standards of our own when necessary.
- (2) We will communicate with customers sincerely, address defects and customer complaints quickly and in good faith, and strive to determine causes in order to eliminate them and prevent recurrence.
- (3) In the event we are unable to, or there is a possibility that we are unable to, fulfill the specifications required by the customer, we will promptly communicate the facts to the customer, consult with them, and address the situation in good faith.

3. Respect for Human Rights

- (1) We will promote our understanding of internationally recognized human rights, and will respect and not infringe on the human rights of all those involved in the business activities of the Proterial Group.
- (2) We will implement human rights due diligence appropriate to the social circumstances of the countries and regions where we have operations and the nature of our businesses, products, and services there.
- (3) We will assess and prevent potential violations of human rights. In the event of such a violation, we will promptly take internal and external actions to correct and remedy the situation.
- (4) We will respect individual human rights in the recruitment and treatment of employees and during all other company activities. We will not engage in any acts that may impair individual dignity or discriminate on bases such as sex, sexual

orientation, age, nationality, race, ethnicity, ideology, belief, religion, social status, family origin, disease, or disability.

- (5) We will hire employees in compliance with the relevant laws and regulations in each country and region, and in accordance with international norms and standards. We will not use child labor that employs children below the minimum working age or forced labor that is against the will of employees.
- (6) We will strive to resolve issues through sincere and constructive discussion between management and employees, in compliance with the laws, regulations, and labor practices of each country and region, and in accordance with international norms and standards.

4. Building a Work Environment That Brings Out Employee Strengths

- (1) Prioritizing health and safety above all else, we will strive to ensure the safety of employees and the workplace. In addition, we will promote the physical and mental health of employees and their families.
- (2) We will support flexible work styles and respect diverse values, creating workplaces that provide employees with a sense of accomplishment and personal growth, and we will promote the sustainable growth of the organization and individuals.
- (3) We will invest in educational programs to help employees expand their capabilities and exercise their strengths. Supervisors will fairly and appropriately support, guide, and educate their employees to develop their abilities.

5. Information Management and Communication

- (1) We will promote the ethical handling of information, so as to ensure respect for human rights and security, through the proper management of personal information based on our Personal Information Protection Policy.
- (2) We will properly manage and protect confidential information related to our business activities in compliance with domestic and international laws and regulations as well as our internal rules and policies.
- (3) In order to maintain and expand our trusting relationship with the Proterial Group's diverse stakeholders, we will actively disclose information, and respond to stakeholders responsibly through dialogue and other means of communication.

6. Protection of Intellectual Property and Brand

- (1) We will protect our own intellectual property, respect third-party intellectual property, and use both effectively for smooth business operations.
- (2) We will manage our own and third-party confidential information by importance and manage and handle it appropriately based on this ranking.
- (3) We will protect and enhance the value of the Proterial Brand, recognizing it as an important management asset.

7. Securing Corporate Assets

We will use all our corporate assets only for business activities and other appropriate purposes, and manage them properly to protect their value.

8. Risk Management

We will actively forecast risks that will impact business activities, and implement necessary measures to prevent, avoid and alleviate the emergence of these risks. We will make concerted efforts throughout the Proterial Group to secure employee safety and business continuity in case of disasters and threats such as earthquakes, tsunamis and floods, cyberattacks, and terrorism.

9. Responsibilities of Employees

Employees shall pledge to act honestly in compliance with the Codes of Conduct and based on integrity. If they become aware of any non-compliant activity, they shall immediately report to their manager, the related department or via the internal reporting system.

10. Responsibilities of Officers

Officers shall take the initiative to comply with the Codes of Conduct and make their best efforts to conduct business based on integrity, corporate ethics and the law. In the event of violation of the Codes of Conduct, top managers shall swiftly take corrective measures and actions to prevent the recurrence of similar incidents, while at the same time strictly disciplining themselves as well as those involved in the violation.

Formulated: September 17, 2010

Revised: January 5, 2023

II. About the Proterial Group

1. Corporate Profile

Corporate Name	Proterial, Ltd.
Established	April 10, 1956
Head office	5-6-36 Toyosu, Koto-ku, Tokyo, Japan
Representative	Chairperson, President and CEO: Sean M. Stack
Share capital	¥310 million (As of March 31, 2023)
Number of Employees	Non-consolidated: 5,754 Consolidated: 26,496 (As of March 31, 2023)
Products and businesses	Manufacture and sale of specialty steel, rolls, automotive casting products, transportation equipment casting components, piping components, magnetic materials, power electronics materials, electric wires and cables, and automotive components
Group companies	61 consolidated subsidiaries (23 in Japan, 38 outside Japan) Five equity method companies (three in Japan, two outside Japan) (As of March 31, 2023)

2. Consolidated Operating Performance

	FY2021	FY2022
Revenues	¥942,701 million	¥1,118,910 million
Adjusted operating income*	¥26,809 million	¥49,081 million
IFRS operating income	¥26,695 million	¥38,816 million
Total assets	¥1,069,695 million	¥1,064,575 million
Interest-bearing debt	¥196,909 million	¥384,186 million
Total equity	¥531,118 million	¥196,274 million
Capital expenditure	¥34,349 million	¥32,041 million
R&D expenses	¥12,404 million	¥12,150 million

Note: Adjusted operating income: Revenues – Cost of sales – Selling, general and administrative expenses

3. Business Bases

Please see the following links on the Proterial website.

WEB Main Sales Bases

<https://www.proterial.com/e/corp/bases/>

WEB Major Operation Bases / R&D Bases





















https://www.proterial.com/e/corp/bases/main_bases.html

WEB The Proterial Group

<https://www.proterial.com/e/corp/bases/region/>

4. Business Domains and Major Product Applications

The Proterial Group is a materials manufacturer with highly competitive core technologies for high-performance materials. With some of the world's top brands in its portfolio, Proterial engages in a broad range of businesses in the markets related to industrial infrastructure, automobiles, and electronics. Based on broad business foundations, our business structure is readily capable of responding to the wide-ranging needs of society with its blend of technologies, which is the driving force behind the Proterial's growth.

Business Segments		Automotive-related Segment	Industrial Infrastructure-related Segment	Electronics-related Segment		
Specialty Steel Products	Specialty steel	 CVT belt materials	 Molds and tool steel	 Turbine cases	 Clad metals	 Lead frame materials
	Rolls	 Rolls for steel mills		 Cylinders and screws		
Functional Components and Equipment	Automotive casting products	 Cast iron products		 "HERCUNITE"™ heat-resistant cast components		
	Waupaca	 Transmission casing	 Clutch housing for farm equipment			
	Piping components	 Pipe fittings		 Polyethylene gas piping systems		
Magnetic Materials and Applications / Power Electronics	Magnetic materials	 "NEOMAX"® neodymium magnets		 "NMF"® ferrite magnets		
	Power electronics materials	 "Metglas"® amorphous metals			 Silicon nitride substrate	
Wires, Cables, and Related Products	Electric wires and cables	 Electrical wire for rolling stock			 Cables for industrial robots	
	Automotive components	 Harnesses for electric parking brakes				

III. Corporate Governance

1. Basic Views and Other Information on Corporate Governance

Our basic views on corporate governance and the governance structure and system are described in The Proterial Report 2023 (Integrated Report).

The Proterial Report 2023 (Integrated Report) is available from the Company's website (https://www.proterial.com/e/sustainability/integrated_report/2023.html).

2. Basic Approach and Development Status Regarding Elimination of Antisocial Forces

Our policy is to take a resolute stance against antisocial forces that pose a threat to the order and safety of civil society, and cut off all ties with them. The following systems have been put in place to ensure the efficacy of this policy.

- (1) The Compliance Department will address risks involving antisocial forces, and an officer and a person in charge will be appointed for each business site. These people will collect and provide risk-related information, and explain response procedures for risk scenarios.
- (2) To ensure close liaison with the Tokyo Metropolitan Police Department and other police departments with jurisdiction, as well as with external agencies like Tokubouren, we will keep up visits and other links to build up information on antisocial forces. If there is the possibility of harm from such forces, we will promptly notify these agencies, consult with them, and act in partnership with them.
- (3) To eliminate antisocial transactions, we will work to strengthen rules on the prevention of such transactions, establish a system for the Compliance Department to scrutinize new trading partners in each division, and introduce clauses for the elimination of gang activity into contracts and transaction terms. The Compliance Department will conduct internal audits to confirm the state of compliance.
- (4) To raise awareness among employees on how to handle antisocial forces, the Company distributes the CSR Guidebook which declares, "We absolutely refuse all contacts and demands from antisocial forces and groups," and strives to familiarize all employees with the declaration.

IV. CSR Management

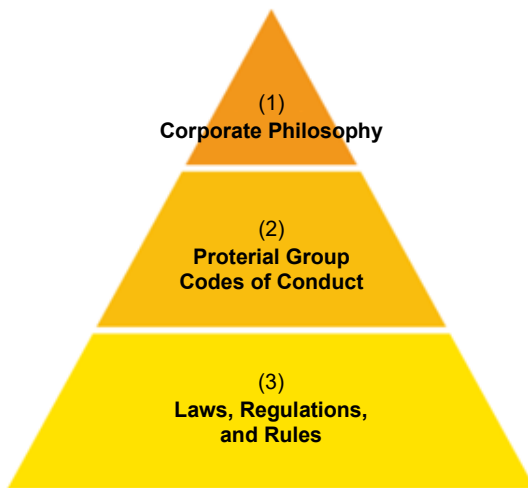
1. Proterial Group's CSR

Proterial will aim to grow as a high-performance materials company that supports a sustainable society, in accordance with the corporate philosophy. CSR management, which calls on corporations not only to pursue profitability but also to meet stakeholders' expectations and contribute to the development of society, is literally consistent with our aspiration declared in our corporate philosophy.

We at the Proterial Group promote CSR activities, aiming to contribute to society through our business operations.

(1) Guidelines for CSR Activities

The Proterial Group has systematically established guidelines for CSR activities as follows:



- (1) The corporate philosophy governs all corporate activities of the Proterial Group. It also functions as the guiding principles of our CSR activities.
- (2) The Proterial Group Codes of Conduct consist of rules and principles intended to assist the Group's officers and employees in making decisions and taking actions based on the corporate philosophy. It is a declaration to society of the direction in which our Group will move forward and it also serves as the standard of our corporate ethics.
- (3) Laws and regulations are basic and minimum requirements to be complied with to engage in corporate activities.

The Proterial Group aims to carry out its social responsibility and realize its Corporate Creed through the observance and implementation of laws and regulations, as well as the Proterial Group Codes of Conduct, by all officers and employees in their daily duties.

(2) Proterial Group Stakeholders

The business of the Proterial Group is materialized through engagement with stakeholders. The Proterial Group considers stakeholders strongly associated with its business activities as “customers,” “shareholders and investors,” “suppliers,” “employees,” and “society and local communities,” and develops its CSR activities by responding to the requests and expectations of those stakeholders and contributing to society’s connectivity.

(3) System for Promoting CSR

As the business domains of the Proterial Group have expanded rapidly on a global scale due to M&A and other activities, thorough compliance has assumed increasing importance as the management foundation that enables the Group to fulfill its social responsibility. The CSR Management Office, an organization that is independent from other corporate and business divisions, plays a central role in working with divisions involved in business activities and Group companies, in order to address compliance issues in response to the demands and expectations of stakeholders.

To achieve these goals as an organization, we have appointed a Proterial Group Risk Management Officer to supervise the compliance activities of the entire Group, and have also appointed a risk management officer and a compliance manager at each of our business units and Group companies, thereby creating a structure that encourages business units and Group companies to carry out compliance activities autonomously. These organizations cooperate with other corporate divisions to resolve socially important challenges such as human rights issues and environmental problems.

(4) CSR Activity Results and Plans

(a) Framework for CSR Activities

Every year since fiscal 2015, the Proterial Group has self-assessed its activity results for initiatives implemented against targets set by each division in the previous year. By repeating this cycle of setting and implementing road maps based on self-assessment results, the Group is continually enhancing the quality of management.

(b) Fiscal 2022 Initiative Results and Fiscal 2023 Plans

★★★ Achieved ★★ 90% achieved ★ Not achieved

Some of the FY2022 measures (planned) have been reviewed.

FY2022 Measures (Planned)	FY2022 Measures (Results)	Self-assessment	Measures Planned for FY2023
1. Organizational Governance			
<ul style="list-style-type: none"> Hold regular meetings regarding compliance, formulate preventative measures, and share information (ongoing) 	<ul style="list-style-type: none"> Held risk management meetings semiannually to analyze matters related to compliance and risks involving our businesses, formulate preventative measures, and share information 	★★★	<ul style="list-style-type: none"> Hold regular meetings regarding compliance, formulate preventative measures, and share information (ongoing)
<ul style="list-style-type: none"> Conduct compliance training at the Proterial Group (ongoing) 	<ul style="list-style-type: none"> Conducted online compliance training for all back-office workers in Group companies in Japan, and provided e-learning programs regarding compliance codes for all back-office workers in Group companies in Japan and overseas (participation rate: 100%) 	★★★	<ul style="list-style-type: none"> Conduct compliance training at the Proterial Group (ongoing)
<ul style="list-style-type: none"> Conduct environmental education at the Head Office and each business site (ongoing) Conduct environmental education within fiscal 2022 new graduate employee orientation programs 	<ul style="list-style-type: none"> Implemented environmental auditor development training (once) Provided environmental e-learning programs (participation rate: 99%) Conducted environmental education within fiscal 2022 new graduate employee orientation programs 	★★	<ul style="list-style-type: none"> Implement environmental auditor development training (once or more) Provide environmental e-learning programs (participation rate: 100%) Conduct environmental education within fiscal 2023 new graduate employee orientation programs
<ul style="list-style-type: none"> Conduct the Proterial Group Engagement Survey targeting all back-office workers 	<ul style="list-style-type: none"> Introduced new survey frameworks to replace the previous Hitachi Insights in response to the ownership transition, and conducted the new survey targeting all back-office workers in November and December (5,939 employees responded on a consolidated basis) 	★★★	<ul style="list-style-type: none"> Conduct the survey on an ongoing basis with the target expanded to direct and indirect (back-office) workers
2. Human Rights			
<ul style="list-style-type: none"> All employees receive human rights training every three years, based on the Hitachi Metals Group Human Rights Policy, according to the Hitachi Group's policies 	<ul style="list-style-type: none"> Conducted human rights training according to the plan throughout the entire Proterial Group 	★★★	<ul style="list-style-type: none"> Conduct human rights training in a planned manner throughout the entire Proterial Group (ongoing)
3. Labor Practices			
<ul style="list-style-type: none"> Set a target number of paid days-off used per person of 14 or more Set a target rate of 50% or more for employment diversity (ongoing) Set a target ratio of 5% for women in career-track positions (ongoing) 	<ul style="list-style-type: none"> At 14.6, achieved the target number of paid days-off used per person (significant variance by job level and category identified as an issue) At 66.3%, achieved the diversity employment target rate At 6.7%, achieved the target ratio of women in career-track positions 	★★★	<ul style="list-style-type: none"> Set a target number of paid days-off used per person of 14 or more (ongoing) Set a target rate of 50% or more for employment diversity (ongoing)
<ul style="list-style-type: none"> Formulate an action plan integrating the Act on Advancement of Measures to Support Raising Next-Generation Children and the Act on the Promotion of Women's Active Engagement in Professional Life, and proactively disclose related figures to the public (ongoing) Increase the ratio of women in management positions (ongoing) 	<ul style="list-style-type: none"> Formulated an integrated action plan for the three years from FY2022 and announced it to the public Related figures were also disclosed as widely as possible. Increased the ratio of women in management positions to 2.2% (annual target achieved) Sent participants to cross-industry exchange programs and external seminars for women in management positions Held forums for young women in career-track positions 	★★★	<ul style="list-style-type: none"> Proactively disclose related figures to the public (ongoing) Set KPIs to encourage more male workers to take more days of childcare leave, and revise the action plan based on the Act on Advancement of Measures to Support Raising Next-Generation Children Increase the ratio of women in management positions (ongoing) Hold forums for young women to support their career development Raise awareness related to

<ul style="list-style-type: none"> • Create opportunities for information exchange for women in career-track positions to strengthen coordination among them (ongoing) 			women's health
<ul style="list-style-type: none"> • Exceed the legal employment rate of employees with disabilities (2.3%) 	<ul style="list-style-type: none"> • The actual figure for FY2022 was 2.42%, achieving the target 	★★★	<ul style="list-style-type: none"> • Exceed the legal employment rate of 2.3%
<ul style="list-style-type: none"> • Confirm activities regarding the Proterial Group's key health and safety measures, as well as the state of legal compliance through health and safety audits of business sites, and implement health and safety training for supervisors (ongoing) • Conduct stress checks throughout the Proterial Group and enhance feedback (ongoing) • Enhance measures for health management (ongoing) 	<ul style="list-style-type: none"> • Restarted on-site health and safety audits that had been cancelled due to the COVID-19 pandemic, identifying potential risk factors at local sites and requesting each to take improvement measures, and started the new STOP 6+1 activities for eliminating the occurrence of serious accidents. Also, started health and safety training. • Continued to conduct stress checks and result feedback throughout the Proterial Group • Major measures implemented for health management: steps taken against secondhand smoking; smoking-cessation programs; established smoking areas; and designated smoking times 	★★	<ul style="list-style-type: none"> • Confirm activities regarding the Proterial Group's key health and safety measures, as well as the state of legal compliance through health and safety audits of business sites • Major health and safety training implemented: specialized training programs targeting line managers and safety managers; and online video programs for employees in general • Continue to conduct STOP 6+1 activities for eliminating the occurrence of serious accidents, moving to the second step • Conduct stress checks throughout the Proterial Group and enhance feedback (ongoing) • Enhance measures for health management (ongoing)
<ul style="list-style-type: none"> • Send individuals selected from among those at the general manager level to external training for executives (ongoing) • Conduct training of individuals selected from among those at the manager level to develop global leaders (ongoing) • Secure the determined number of human resources by hiring new graduates, and secure the required number of mid-career hires 	<ul style="list-style-type: none"> • Sent 10 individuals selected from among those at the general manager level to external training for executives • Conducted training of individuals selected from among those at the manager level to develop global leaders • Secured the determined number of human resources by hiring new graduates, and currently working to secure the required number of mid-career hires 	★	<ul style="list-style-type: none"> • Send individuals selected from among those at the general manager level to external training for executives (ongoing) • Conduct training of individuals selected from among those at the manager level to develop global leaders (ongoing) • Secure the determined number of human resources by hiring new graduates, and secure the required number of mid-career hires (ongoing)
4. The Environment			
<ul style="list-style-type: none"> • Increase the sales ratio of key environmentally conscious products*¹ (23%) 	<ul style="list-style-type: none"> • Increased the sales ratio of key environmentally conscious products (22.4%) 	★★	<ul style="list-style-type: none"> • Increase the sales ratio of key environmentally conscious products (24%)
<ul style="list-style-type: none"> • Reduce CO₂ emissions per production unit (20% compared to base year FY2015) 	<ul style="list-style-type: none"> • Reduced CO₂ emissions per production unit (31.2% compared to base year FY2015) 	★★★	<ul style="list-style-type: none"> • Reduce CO₂ emissions per production unit (20% compared to base year FY2015)
<ul style="list-style-type: none"> • Reduce the amount of waste and valuables generated per production unit (33% compared to base year FY2010) • Waste landfill rate (11.5%) 	<ul style="list-style-type: none"> • Reduced the amount of waste and valuables generated per production unit (33.6% compared to base year FY2010) • Waste landfill rate (10.1%) 	★★★	<ul style="list-style-type: none"> • Reduce the amount of waste and valuables generated per production unit (34% compared to base year FY2010) • Waste landfill rate (11.0%)
<ul style="list-style-type: none"> • Reduce atmospheric emissions of chemical substances per production unit (26% compared to base year FY2010) 	<ul style="list-style-type: none"> • Reduced atmospheric emissions of chemical substances per production unit (23.7% compared to base year FY2010) 	★★	<ul style="list-style-type: none"> • Reduce atmospheric emissions of chemical substances per production unit (27% compared to base year FY2010)
5. Fair Operating Practices			
<ul style="list-style-type: none"> • Promote the Proterial Group Sustainable Procurement Guideline internally, and plan to confirm with each supplier that they will 	<ul style="list-style-type: none"> • Published the Proterial Group Sustainable Procurement Guideline in January 2023, and promoted it internally • Provided the Guideline to suppliers 	★★	<ul style="list-style-type: none"> • Distribute the Proterial Group Sustainable Procurement Guideline to suppliers and conduct surveys to confirm the state of compliance within

comply with the Guidelines after the transition to the new company	when engaging in new transactions		FY2023
<ul style="list-style-type: none"> Enhance information security management and operation systems in response to the departure from the Hitachi Group Conduct information security education (ongoing) Conduct information security self-audits (ongoing) Require an online pledge not to retain business information on privately-owned computers (ongoing) Conduct targeted e-mail attack simulations (ongoing) Implement measures against the sending of e-mails to unintended recipients (ongoing) Take necessary steps to comply with personal information protection laws in relevant countries, including the EU General Data Protection Regulation (GDPR) (ongoing) Revise rules related to information security Enhance countermeasures against unauthorized access (ongoing) 	<ul style="list-style-type: none"> Set up the new Information Security Management Group within the Information Systems Division Conducted information security education targeting all employees Did not conduct information security self-audits All employees made an online pledge not to retain business information on privately-owned computers Conducted targeted e-mail attack simulations Held individual interviews with departments/divisions from where e-mails had been sent to unintended recipients Continued to take necessary steps to comply with personal information protection laws in relevant countries, including the EU General Data Protection Regulation (GDPR) Revised rules related to information security in response to the departure from the (Hitachi) Group Built a self-defensive unauthorized access monitoring system in response to the departure from the (Hitachi) Group 	★★	<ul style="list-style-type: none"> Enhance information security management and operation systems Conduct information security education (ongoing) Review rules related to information security and self-audit frameworks in response to the departure from the (Hitachi) Group, planning to launch new rules and frameworks in FY2024 Require an online pledge not to retain business information on privately-owned computers (ongoing) Conduct targeted e-mail attack simulations (ongoing) Implement measures against the sending of e-mails to unintended recipients (ongoing) Take necessary steps to comply with personal information protection laws in relevant countries (ongoing) Promote the revision of rules related to information security Enhance countermeasures against unauthorized access Enhance countermeasures against internal misconduct
6. Customers (Consumer Issues)			
<ul style="list-style-type: none"> Expand and enhance materials and technology development efforts aimed at carbon neutrality and a resource-efficient society Create new products/businesses that can contribute to a sustainable society (implement tasks in SBC themes and select themes) (ongoing) Process research (promote development of industrial technologies using AI and robotics) (ongoing) Promote cooperation and collaboration with customers and research institutions in Japan and overseas (expand open innovation) (ongoing) 	<ul style="list-style-type: none"> Developed technologies and materials aimed at carbon neutrality and a resource-efficient society (cathode material technology for lithium-ion batteries contributing to the reduction of greenhouse gas emissions; high-performance magnetic slot wedges that increase the efficiency of induction motors) Promoted SBC themes (continued to promote six themes) Developed industrial technologies (five applied to mass production; three under ongoing development) Conducted joint research with research institutions in Japan and overseas, such as SIMTech-PROTERIAL Additive Manufacturing Lab, Oxford UTC, Fraunhofer-Gesellschaft, and National Institute for Materials Science 	★★★	<ul style="list-style-type: none"> Expand and enhance materials and technology development efforts aimed at carbon neutrality and a resource-efficient society (ongoing) Create new products/businesses that can contribute to a sustainable society (implement tasks in SBC themes and select themes) (ongoing) Promote development of industrial technologies using AI and other digital technologies and robotics (ongoing) Promote cooperation and collaboration with customers and research institutions in Japan and overseas (expand open innovation) (ongoing)
7. Community Involvement and Development			
<ul style="list-style-type: none"> Consider social contribution activities enabling a closer relationship with local residents and culture (ongoing) 	<ul style="list-style-type: none"> Conducted local contribution activities mainly in regions where offices and factories are located (social contributions amounted to 192 million yen) 	★★★	<ul style="list-style-type: none"> Consider social contribution activities enabling a closer relationship with local residents and culture (ongoing)
<ul style="list-style-type: none"> Contribute to material science technical research through the support of Proterial Materials Science Foundation (ongoing) Support <i>tatara</i> method of iron manufacture (ongoing) 	<ul style="list-style-type: none"> Contributed to material science technical research through the support of Proterial Materials Science Foundation Supported <i>tatara</i> method of iron manufacture (operations and personnel) conducted by the Society for Preservation of Japanese Art Swords at Nittoho Tatara in 	★★★	<ul style="list-style-type: none"> Contribute to material science technical research through the support of Proterial Materials Science Foundation (ongoing) Support <i>tatara</i> method of iron manufacture (ongoing)

	Okuizumo, Shimane Prefecture		
8. Review and Improvement of CSR Activities			
<ul style="list-style-type: none"> • Improve responses to the Carbon Disclosure Project (CDP)*³ (ongoing) • Enhance information disclosure in accordance with the framework developed by the Task Force on Climate Related Financial Disclosures (TCFD) (ongoing) 	<ul style="list-style-type: none"> • Responded to the Carbon Disclosure Project (CDP) • Conducted information disclosure in accordance with the framework developed by the Task Force on Climate Related Financial Disclosures (TCFD) 	★★★	<ul style="list-style-type: none"> • Improve responses to the Carbon Disclosure Project (CDP) (ongoing) • Enhance information disclosure in accordance with the framework developed by the Task Force on Climate Related Financial Disclosures (TCFD) (ongoing)

- *1. Products that are targeted for growth based on management strategy and that make a significant contribution to resolving environmental issues such as climate change and resource recycling
- *2. Strategic Business Creation (SBC) Project refers to a company-wide business development project organized for two purposes: 1) to create new businesses in areas that are not covered by any existing business categories or covered by more than one category; and 2) to develop strategic businesses targeting new strategically important products from a company-wide point of view
- *3. This project is promoted globally through collaboration among institutional investors and calls for information disclosure about climate change from major corporations

(5) Economic Performance

(a) Direct Economic Value Generated and Distributed

Please refer to the following pages.

WEB Financial information

https://www.proterial.com/e/corp/highlight/ir_library/ir-prsen.html

Social Contribution Activities	V. Report on Social Aspects 2. In Cooperation with Society and the Local Community (2) Social Contribution Activities Carried out in Fiscal 2022
Environmental Accounting	VI. Report on Environmental Aspects 1. Environmental Management (5) Environmental Accounting

2. Compliance

(1) Basic Approach

To foster a deeper understanding of compliance, the Company has prepared and distributed the CSR Guidebook to all officers and employees of the Proterial Group, and provides compliance education in online and e-learning formats on a regular basis. In addition, the Company has set October of each year as Corporate Ethics Month, and holds compliance lectures delivered by outside instructors, primarily for employees in management-level positions, as well as various other programs to cultivate an awareness of compliance.

(2) Compliance Education Activities

(a) Corporate Ethics Month

To thoroughly instill compliance, we designated October as Corporate Ethics Month, as in past years, and carried out the following measures, in addition to conducting compliance training.

- i) The “President’s Message for Corporate Ethics Month,” prepared in his own words to call for adherence to compliance, was distributed online and by other methods to officers and employees in the Group.
- ii) We held compliance lectures (led by outside instructors) for those in management-level positions.
(Target: executive officers and other management executives; general managers or equivalent positions at the head office or regional offices; works managers; and Group company presidents)
- iii) We distributed workplace compliance education materials for use in the workplace during morning assemblies and departmental meetings.
- iv) We conducted compliance awareness surveys to understand employees’ compliance awareness and familiarity with the whistleblowing system, and culture of openness at work.

(b) Compliance Training

Each year, the Compliance Department conducts compliance training for officers and employees of the Proterial Group. This training covers compliance with the Codes of Conduct and competition laws and regulations, prevention of acts of bribery, prevention of transactions with antisocial forces, and the whistleblowing system.

Training related to compliance was included in the curriculum for new employees and in education for specific levels and positions, etc.

No.	Type	Content	Target employees
1	Education for all members	Compliance training	Proterial Group employees
2		Compliance lectures for employees in management-level positions (led by outside instructors)	Executive officers and general managers at the head office or regional offices
3		Compliance e-learning	Back-office workers
4	Education for new hires	Orientation for new hires	New hires
5	Education for mid-career hires	Training for mid-career hires	Mid-career hires
6	Education for specific levels and positions	Training for newly promoted managers	Newly promoted line managers
7		Training for employees on overseas assignment	Employees on overseas assignment

(3) Compliance Audits

The Internal Auditing Office conducted internal audits of all offices. The Compliance Department joins this audit activity in order to conduct compliance audits to check whether there is any suspicion of practices that violate either laws or company rules.

Also, the Group companies conducted self-audits of their compliance.

(4) Export Controls

In its Codes of Conduct, Proterial sets “Obey the law and walk the path of virtue” as the basis of its actions. Accordingly, our basic policy on export controls is to “Strictly observe export-related laws and contribute to the maintenance of international peace and security,” and under this policy, we formulated and resolutely apply a compliance program that includes Rules on Security Export Controls. Specifically, we scrutinize the destination countries and regions, applications, and customers of all exported goods and technologies as we perform procedures on the basis of relevant laws. We guide global Group companies in enacting export control rules and establishing systems to ensure that they control exports appropriately, in line with the policy. We also provide educational assistance and perform internal audits. Proterial will make exhaustive efforts to carry out our social responsibility for the maintenance of international peace and security in the future.

In fiscal 2022, the Proterial Group committed no major violations of export controls.

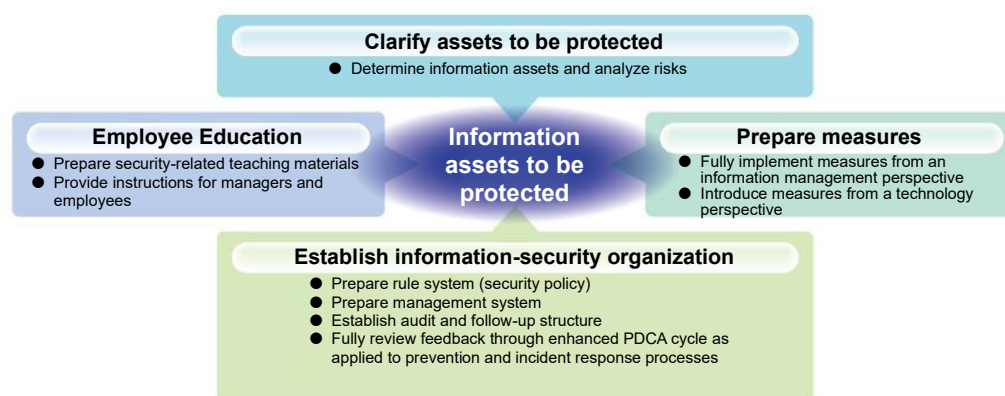
3. Information Protection and Management

(1) Basic Approach

The environment surrounding corporate information security has recently undergone a significant transformation. This situation is posing a number of pressing issues for businesses to address, such as large-scale cyberattacks, economic security, and many governments tightening personal information protection laws, including the EU's General Data Protection Regulation (GDPR).

At the Proterial Group, we recognize that it is our important corporate social responsibility to appropriately manage, protect and utilize confidential information provided by our customers and business partners, our proprietary technology information, and personal and other information we hold (hereinafter "information assets"). Based on this recognition, the Group formulated the Basic Policy of Information Security (presently Information Security Policy) in April 2004. We have subsequently developed related rules and internal structures, thus promoting information security activities on an ongoing manner. After the departure from the Hitachi Group in January 2023, we are promoting the Proterial Group's information security management independently.

Basic concept of information asset protection >>



(2) Classifying Information Assets to Be Protected

In order to classify information assets to be protected, the Proterial Group conducts information security self-audits every year, chiefly to identify information assets and analyze related risks. In fiscal 2022, we omitted the self-audit due to reviews made on the information asset management methods and the related rules in response to the departure from the Hitachi Group. The self-audit will be restarted when appropriate rules and methods have been prepared for the Proterial Group to operate on its own.

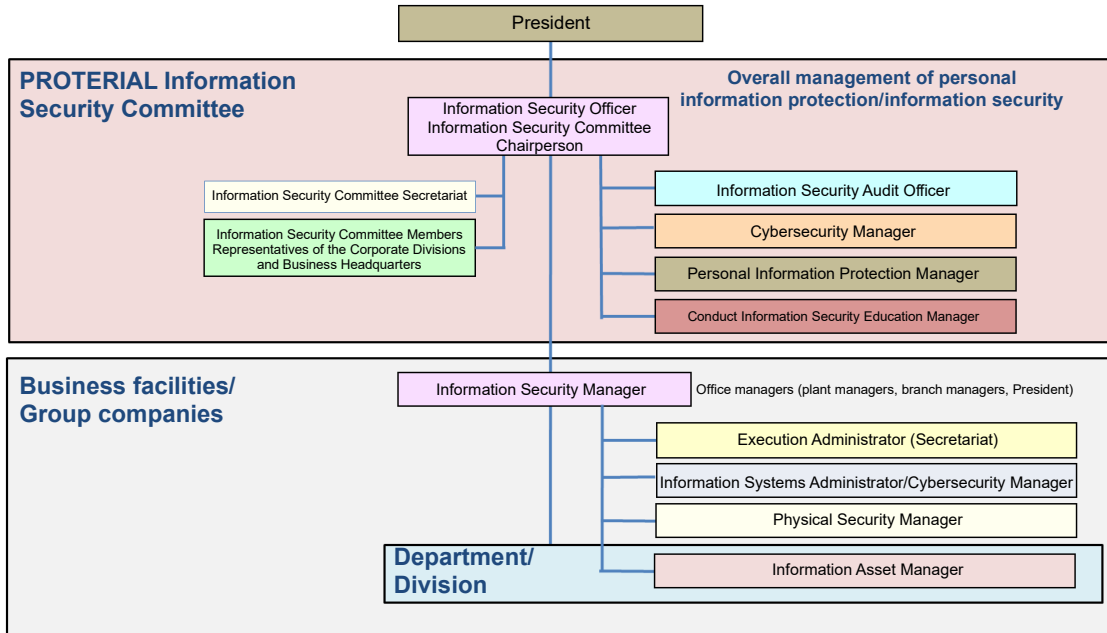
(3) Establishing Information Security Management System

The Proterial Group recognizes promoting information security activities as an important management issue, and has thus established the Group's information security management system based on our General Rules for Information Security Management, which set forth the formation of the Information Security Committee chaired by the Information Security Officer reporting directly to the President. In order to confirm effective application of the system to information security activities, the Information Security Audit Officer is appointed to be responsible for a range of tasks to establish audit follow-up procedures and enhance PDCA activities for prevention and recurrence prevention processes for thoroughgoing feedback. This way, we have engaged in information security activities in a sustainable

fashion.

In response to the needs of the times, the Information Security Committee has been reinforced, principally by appointing a Cybersecurity Manager in 2017 to address the growing threats of cyberattacks, and a Privacy Protection Manager in 2020 to cope with privacy-related risk and compliance issues.

[Proterial Group Information Security Management Structure (conceptual scheme)]



(4) Preparation of Measures

Proterial has systematically implemented measures against external risks such as targeted attacks and other unauthorized access and computer viruses, internal risks such as the unauthorized removal, loss, or theft of confidential information from the Company or the sending of e-mails to unintended recipients, and other risks including natural disasters.

In a bid to reduce the above-stated risks that may cause information leakage, we carry out both managerial measures and technical measures.

Managerial measures implemented on an ongoing basis include: inspecting the personally owned PCs and devices of all employees who have a Group e-mail address to find and delete business information; requiring the employees to submit, through the website, a written pledge not to retain business information in their personally owned PCs and devices; and ensuring that employees understand and observe the rules of managing smartphones and other mobile devices for preventing the loss of such devices.

Major technical measures include: introducing a filtering system to monitor all e-mails sent externally for preventing external leaks of information assets; and installing erroneous transmission prevention software on all business PCs of the Proterial Group as a countermeasure against the sending of e-mails to unintended recipients. Following the departure from the Hitachi Group, we prepared cybersecurity measures to create an environment with an equivalent level of security, principally by installing EDR software, building the SASE platform, and implementing a 24/7 cybersecurity surveillance system to protect from external threats.

(5) Employee Education

Each year, the Company provides information security education for all employees (including temporary staff, etc.) who use IT equipment in the Proterial Group. This education is designed to instill an understanding of rules related to the use of IT equipment for business and the handling of information assets. In order to improve capabilities to protect from targeted e-mail attacks, which have been becoming ever more sophisticated and posing a growing threat of ransomware infection, relevant training is run on an ongoing basis to raise the security awareness of individual employees.

(6) Protection and Respect for Intellectual Property

Proterial practices the principle set forth in its Codes of Conduct that reads: "We will protect our own intellectual property, respect third-party intellectual property, and use both effectively for smooth business operations."

Specifically, to appropriately protect and effectively apply intellectual property created in such processes as research, development, and manufacturing, Proterial acquires the rights to inventions, ideas and designs created by employees in the course of their work, in accordance with the Company's rules, which have been established through legally stipulated procedures. With the global expansion of our business, we acquire and maintain the rights to these creations as intellectual property rights inside and outside Japan, forming assets that will support the sustainable growth of the Proterial Group. We take appropriate action against infringements of our intellectual property rights, including exercise of our rights through legal action.

At the same time, we strive to prevent infringements of the intellectual property rights of others and smoothly advance our business. To that end, we investigate the intellectual property rights of others globally, in advance of all stages of research, development, design, etc., for new products and technologies, in accordance with Proterial's rules. If that investigation reveals a need to use the intellectual property rights of others, we acquire the necessary licenses.

We also provide our employees with ongoing education and training about intellectual property, to instill awareness of the protection and respect of our intellectual property rights and those of others.

4. Respect for Human Rights and Compliance with International Norms

The Proterial Group stipulates respect for human rights in both the Proterial Group Codes of Conduct and the supplementary Proterial Group Human Rights Policy. Our basic stance is to respect and work to refrain from infringing on the rights of all persons involved in our business operations. The Proterial Group Human Rights Policy was established in January 2023 as a result of revising the Hitachi Metals Human Rights Policy, which was formulated in December 2013. This Policy recognizes the human rights stated in the International Bill of Human Rights and the ILO (International Labour Organization) Declaration on Fundamental Principles and Rights at Work as the minimum levels of these rights. Our policy clearly states that the Proterial Group pursues measures to observe the international principles of human rights. Specifically, we will implement human rights due diligence and appropriate education based on the UN Guiding Principles on Business and Human Rights, while strictly observing the laws of the regions and countries in which we do business. We put the Proterial Group Human Rights Policy into practice, and are continuously working on initiatives such as raising the awareness of our officers and employees, and establishing hotlines to promote the creation of a corporate culture in which human rights abuses do not occur.

We regularly utilize e-learning to conduct human rights education and training at each employee level, in order to systematically raise awareness of human rights. In addition, we have established various harassment hotlines, in order to incorporate the Proterial Group Human Rights Policy into all of our activities.

As our business activities expand rapidly on a global basis, we will continue to enhance human rights awareness and support measures to prevent the occurrence of human rights abuses based on differences in religion or nationality, the presence or absence of disabilities, gender, or other factors. Also, we established the Human Rights Risk Management Committee in April 2021 as part of our efforts to strengthen global human rights risk management. The Committee is conducting activities with a focus on issues related to forced labor and immigrant labor.

V. Report on Social Aspects

1. Together with Procurement Partners

(1) Basic Policy of Sustainable Procurement

Proterial has formulated its procurement policy to outline its basic concepts on material procurement activities, and published this policy on its website. As our business progresses globally, we share this procurement policy among all companies in the Proterial Group, in order to encourage them to contribute to society through their own business activities. We will continue striving to comply with laws and regulations as well as social norms, and to fulfill our social responsibility with consideration for human rights and the environment, while building a fair and impartial business culture based on relationships of trust with our suppliers.

Procurement Policy

Basic Concept of Material Procurement

- **Open global procurement**

We procure materials from suppliers regardless of their nationality, size, and performance based on the principle of free competition.

- **Fair and equitable transactions**

We select suppliers on a fair and equitable basis according to their economic rationality such as quality, prices, delivery time, technologies, the credibility of management and services.

We will not accept any personal benefits from suppliers in procurement transactions.

- **Maintain partnerships**

We cultivate fair business relations with all of our suppliers on an equal footing.

We constantly strive to deepen mutual understanding and trust, and aim to achieve growth, development, and a working partnership with them from a long-term perspective.

- **Compliance with laws**

We conduct procurement activities in compliance with applicable laws and regulations as well as social norms.

We are determined not to have any relations with antisocial forces that threaten the order and safety of civil society.

- **Take human rights and occupational safety and health into consideration**

We take special care to ensure human rights and occupational safety and health in our procurement activities.

We also ask our suppliers to make the same efforts.

- **Maintain confidentiality**

We treat all confidential information of our suppliers obtained through procurement activities as being strictly private and confidential, by using the same degree of care we use to safeguard our own proprietary information. We do not disclose their information to a third party nor use it for purposes other than the original intent without their prior consent.

- **Preserve the environment**

We give priority to suppliers who are proactively working on environmental conservation as well as to environmentally friendly materials and components.

(a) Issuance of the Proterial Group Sustainable Procurement Guideline

We published the Proterial Group Sustainable Procurement Guideline on our website in January 2023. While based on the latest standards that have been acknowledged worldwide, the Guideline was created by encompassing a wide range of CSR concepts recognized as a company's social responsibility, including respect for human rights, consideration of the environment, fair trading and ethics, occupational health and safety, product quality and safety, information security, and social contribution. The Guideline also stipulates corrective measures to be taken in case of any clear violation discovered among suppliers. When starting a new business relationship, we request the relevant company to comply with our Sustainable Procurement Guideline, while at the same time conducting corporate surveys on bribery risks based on the Proterial Global Compliance Program (PGCP) in an effort to strengthen our screening of suppliers.

WEB Proterial Group Sustainable Procurement Guideline
<https://www.proterial.com/corp/guidance/sustainable.html>

(b) Periodic Audits of Operations

Acquiring applicable legal knowledge and accurate business information is imperative to engaging in procurement activities. We thus run sessions online and offline to provide updates on laws and regulations to persons in charge of procurement at business sites. Additionally, all business sites and Group companies in Japan perform annual mutual audits of operations, where procurement managers from business sites and Group companies as well as persons from the Head Office serve as auditors. In fiscal 2022, we performed mutual audits for all business sites and Group companies, chiefly online, to monitor whether operations were being conducted in accordance with laws and regulations as well as with Company regulations.

(c) Green Procurement

The Proterial Group procures products with a minimal environmental impact from suppliers who are proactively working on environmental conservation. In 1998, we issued the Green Procurement Guidelines to share with our suppliers our views on environmental considerations, specifically the prevention of global warming, recycling of resources, and conservation of biodiversity and ecosystems. The Guidelines have been revised many times in response to the latest laws and chemical substances regulations, and each revised version has been provided to suppliers. Additionally, in June 2021, we expressed our support for the TCFD recommendations. Going forward, we will take up initiatives for reducing our environmental impact (reduced consumption of resources and energy, recycling, and appropriate management of chemical substances contained in products), keeping in mind not only compliance with laws and regulations and responding to customer requirements but also the transition towards a decarbonized society.

(d) Procurement BCP Initiatives

We carry out procurement BCP strategies as part of preparation for risks that could halt our business operations, including earthquakes, wind and flood damage, and other natural disasters, as well as new infectious diseases, fires, and power outages. We are working to minimize procurement risk by diversifying and decentralizing our sources of procurement, while asking our key suppliers to have their own BCP measures in place.

(2) Response to Globalization

The Proterial Group strives to establish a global procurement network across Europe, North America, and Asia, while expanding its procurement base. We are working to support the optimization of procurement activities overall while enhancing CSR risk management and increasing concentration and consolidation of purchasing across the Group. We have also set up Global Procurement Offices (GPOs) in three locations—Europe, Asia, and China—where we are promoting transparent procurement activities by choosing optimal suppliers from around the world, while at the same time strengthening governance at our overseas Group companies. As part of this, we started in fiscal 2019 to standardize procurement operation criteria for overseas Group companies, and in fiscal 2022 we applied these standards to the audits performed by GPOs and appropriate guidance was given for confirmation.

Responsible Mineral Procurement

In July 2010, the United States enacted the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act), out of concern that minerals mined in the Democratic Republic of the Congo (DRC) and surrounding countries could become fund sources for armed groups, designating four minerals—tantalum, tin, tungsten, and gold (collectively “3TG”)—as conflict minerals. The region covered by the EU Conflict Minerals Regulation, passed in July 2017, was expanded to include Conflict-Affected and High Risk Areas (CAHRAs) when it came into force in January 2021. In recent years, there have been growing concerns about other aspects including serious human rights violations and environmental pollution, in addition to conflict. In the wake of such developments, the Proterial Group announced the Conflict Minerals Procurement Policy in September 2013 and the Proterial Group’s Policy for Responsible Supply Chain of Minerals in January 2023. The Proterial Group has clarified that it is working to ensure responsible procurement that does not contribute to conflict and human rights violations, and is accelerating efforts in coordination with industry groups to enhance the transparency of its supply chain.

To carry out responsible procurement, we conduct surveys using the Conflict Minerals Reporting Template (CMRT) and other tools published by the Responsible Minerals Initiative (RMI) to specify the countries of origin and smelters of the minerals used in the supply chain, and request suppliers to procure minerals from smelters that are compatible with the Responsible Minerals Assurance Process (RMAP). Up to now, no cases of armed groups being funded by or problematic uses of minerals have been found.

2. In Cooperation with Society and the Local Community

(1) Basic Approach

The Proterial Group pursues social contribution activities in fields such as sports promotion, environmental protection, social welfare, arts and culture, community activities, and support at time of disasters, to help develop communities around the world where the Group is active. We also work together with social welfare organizations and educational institutions to gain a sense of what communities want from the Proterial Group as we carry on with our activities.

Besides social contribution activities as a company, we support volunteer activities by employees through volunteer leave and a system of volunteer awards as part of our efforts to nurture a corporate culture that helps create a better society.

Proterial's characteristic social contribution activities include support for Japan's research into materials science and technology by supporting the Proterial Materials Science Foundation, which was established largely with funds willed by Dr. Kakunosuke Miyashita (a former Hitachi Metals vice president). We also contribute to the preservation of Japan's traditional culture through our work with the operations of Nittoho Tatara, which was revived in 1977 by the Society for Preservation of Japanese Art Swords.

(2) Our Social Contribution Activities in Fiscal 2022

In fiscal 2022, the Proterial Group carried out social contribution activities worth a total of 192 million yen*, including donations, with the number of programs and sessions organized for sporting and other events, environmental protection activities, factory tours, among others, increased from the past two years when these activities were affected by the spread of COVID-19. The main content of our contribution activities was as follows:

* This figure includes the calculated equivalent values of employees and company facilities required for activities.

	Category and description of activities	Company name and business site name
Social welfare	Donation of wheelchairs, etc. to social welfare councils and social welfare facilities	Proterial, Ltd. (head office)
	Central Community Chest of Japan, Year-End Mutual Aid Fund	Proterial, Ltd. and domestic Group companies
	Blood drives; donations to support activities at accommodations for children with intractable diseases and their families	Proterial, Ltd. and global Group companies
	Donations, mainly of food and clothing, to low-income families through charitable organizations; donations to welfare organizations.	Waupaca Foundry, Inc. Proterial Cable America, Inc.
	Donations to local facilities (hospitals, fire stations, churches, recreation facilities)	Waupaca Foundry, Inc. Ward Manufacturing, LLC
	Support for cancer foundations and participation in associated events	Waupaca Foundry, Inc.
	Support for activities of the local food bank (for providing free meals to low-income people and others)	Proterial Cable America, Inc. PT. NEOMAX MAGNETICTECHNOLOGIES INDONESIA
	Christmas gifts for low-income children	Waupaca Foundry, Inc.
	Food and gifts to children with disabilities	Proterial Vietnam Co., Ltd.
	Support for low-income students	Namyang Metals Co., Ltd.

	Support for elderly people	Pacific Metals Co., Ltd.
	Support for athlete training programs hosted by the Olympic Committee through the Sports Promotion Fund; donations to the Rugby World Cup tournament	Proterial, Ltd.
	Sponsor of the Mie Prefecture Rubber Baseball Association Kuwana Branch Junior High School Baseball Pennant Tournaments	Kuwana Works, Proterial, Ltd.
Health, medicine, sports	Sponsor of the Boys' Baseball Western Regional Tournament	Kuwana Works, Proterial, Ltd.
	Dispatching employees to local competitions	Works of Proterial, Ltd.
	Company sports teams hosting sports clinics for elementary, junior high and senior school students	Works of Proterial, Ltd. and global Group companies
	Support for local sporting events and sports teams	Works of Proterial, Ltd. and global Group companies
	Support through Hitachi Metals' Materials Science Foundation	Proterial, Ltd.
	Donation of education and research funds to universities	Proterial, Ltd. and overseas Group companies
Academic and research education	Visiting lecture programs and internships for local schools	Proterial, Ltd. and global Group companies
	Factory tours for schools and other groups	Works of Proterial, Ltd. and global Group companies
	Scholarship support for students	Waupaca Foundry, Inc.
	Lectures in seminars for employment promotion of people with disabilities	Proterial, Ltd. and global Group companies
	Donation of books to libraries, etc.	Waupaca Foundry, Inc. Proterial Vietnam Co., Ltd.
	Donations to forest conservation activities	Yasugi Works, Proterial, Ltd.
	Tree planting activities	Proterial Vietnam Co., Ltd.
	Cleaning activities in areas near business offices	Works of Proterial, Ltd. and global Group companies
Environmental conservation	Participation in Eco Forums in Sendai and Tagajo	Tohoku Rubber Co., Ltd.
	Guidance on operations of mini-tatara	Yasugi Works, Proterial, Ltd. Proterial Yasugi, Ltd.
	Sponsor of regional festivals and sporting events	Works of Proterial, Ltd. and global Group companies
Community activities, preservation of historical sites and traditional culture	Monetary donations to fire victims in Cavite City	San Technology, Inc.
	Participation in traffic safety and disaster prevention events	Works of Proterial, Ltd. and global Group companies
	Support for local fire stations	Waupaca Foundry, Inc. Ward Manufacturing, LLC
Disaster area support	Opening of sports grounds, gymnasias, tennis courts, welfare facilities, parking lots, etc. to local communities	Works of Proterial, Ltd. and domestic Group companies
Urban development and Disaster prevention	Opening of facilities to local events	Works of Proterial, Ltd. and domestic Group companies
	Sponsor of various organizations, including the Hitachi Global Foundation	Proterial, Ltd. and global Group companies



Sponsoring Kumagaya Sakura Marathon
(Kumagaya Works, Proterial, Ltd.)



33rd regular concert
(Yasugi Works, Proterial, Ltd.)



Tatara experience program at the local elementary school
(Yasugi Works, Proterial, Ltd.)



Cleaning in areas around the factory
(Kobe Works, Santoku Corporation)



Sponsoring the Boys' Baseball Western Regional Tournament
(Kuwana Works, Proterial, Ltd.)



Kamihideya Gion Festival
(Okegawa Works, Proterial, Ltd.)

3. Responsibility to Employees

(1) Labor and Management Relations

Proterial sincerely addresses common management-labor issues, respecting the basic rights and responsibilities of each, built on a “foundation of mutual trust.” The Company provides full explanations of management policies, business plans, management measures, etc., at various meetings, while at the same time listening to feedback from the employee union as the Company management works for the rapid implementation of various corporate measures. We will advance and deepen our labor-management relations by building a labor and management structure that corresponds to the business unit system and by fostering closer communication. The employee unions of Proterial Group companies have formed a union council, using the forum to periodically exchange opinions and clarifying Group management policies and plans, enhancing mutual understanding.

(2) Promoting Diversity

Proterial considers diversity and inclusion to be important management strategies, and is pursuing various measures, while diversifying executive decision making levels, based on the belief that “resolutely implementing diversity management will increase corporate value.”

In particular, we are actively implementing measures to promote the participation and advancement of women in the workplace, based on our management’s firm commitment regarding this issue as an important theme in diversity promotion.

[Policy on promoting the participation and advancement of women in the workplace]

- 1) Setting targets for the ratio of women among newly hired graduates (technical positions: 10%, administrative positions: 40%)
- 2) Enhancing support for retention (career support, awareness-raising for those in management-level positions, networking among women in career-track positions, etc.)
- 3) Systematic promotion of female employees (target ratio for women in management-level positions: 5.0% in fiscal 2030)

In May 2020, in recognition of the above efforts, the Company was certified as an excellent employer with respect to women’s empowerment (generally referred to as the *Eruboshi* certification) based on the Act on the Promotion of Women’s Active Engagement in Professional Life. Going forward, we will encourage male employees to take child care leave, as part of our continued efforts to create an environment where each individual can thrive.

(a) Promoting Employment of People with Disabilities

The Proterial Group began to commit to employment of people with disabilities early on, and gained high marks for the related activities, including awards from local communities. Major actions were started in 1998 by establishing Hallow, Ltd. (currently, Proterial Hallow, Ltd.), as a special subsidiary aimed to support the employment of people with disabilities and help them become socially and financially independent. Following this, Kuwana Create Co., Ltd. (currently, Proterial FineTech, Ltd.) was certified as a special subsidiary, in 2006.

Meanwhile, Proterial Yasugi, Ltd. runs a program to encourage supervisors to acquire the qualification for assisting co-workers with disabilities on site, while building a substantial track record of actively hiring people with disabilities through job centers, independent living support centers, special needs schools, and “Hello Work” Public Employment Security Offices. In fiscal 2022, the employment ratio of people with disabilities for Proterial (non-consolidated) in Japan was 2.42%, exceeding the legally required ratio of 2.3%. We plan to continue working to further expand

employment throughout the Proterial Group.

(b) The Act on Advancement of Measures to Support Raising Next-Generation Children, and the Act on the Promotion of Women’s Active Engagement in Professional Life

Starting from fiscal 2008, Proterial has established a child allowance benefit for employees as a policy for supporting the development of the next generation, strengthening our support of employees who are raising children.

In 1992, the Company was also one of the first companies to adopt a system to reemploy individuals who had to give up their jobs due to childbirth or home care, demonstrating once again our proactive and forward-thinking policies. With regard to leave related to care for family members including children and the elderly, we have created and improved a number of programs to support employees with addressing various family responsibilities without worrying about job security. For example, the period of child care leave has been extended, with a limit of three years, to the end of the month in which a child completes the first year of elementary school, which was started in fiscal 2018, and from fiscal 2022, child care leave can be divided into separate terms, while a child birth leave was newly created in the same year. For employees taking family care leave, we provide an amount equivalent to 50% of their salary as family care leave benefits during the relevant leave of absence. In addition, we provide employees with generous conditions in terms of the scope and period of leave that exceed the requirements under the revised Child and Family Care Leaves Act. As such, employees can take leave for a variety of reasons: nursing care, child care, or to look after their parents, spouse, same-sex partner, or the parents of their spouse or same-sex partner. Furthermore, following the introduction of the Act on the Promotion of Women’s Active Engagement in Professional Life, effective from April 2016, we prepared an integrated action plan covering that Act as well as the Act on Advancement of Measures to Support Raising Next-Generation Children . We have disclosed the content of this action plan, namely, initiatives over three years to reduce overall annual work hours in back-office departments and established diversity-oriented hiring ratio targets.

Number of Employees Using Work-Life Balance Support Systems

	FY2018	FY2019	FY2020	FY2021	FY2022
Number of employees taking child care leave	27	32	41	49	53
Number of employees using shorter working hours for child care	45	55	46	45	52
Number of employees taking family care leave	2	5	2	1	1
Number of employees using shorter working hours for family care	1	1	1	6	1

(3) Occupational Health and Safety

(a) Action to Eliminate Work Accidents

The Proterial Group’s safety record for 2022 in Japan reveals: one fatal injury in the consolidated group companies; and six injuries involving lost working time each at Proterial and in the consolidated group companies. The combined total number of injuries including those not involving lost working time reported by Proterial and the consolidated group companies increased by 10 year

on year to 50, a figure remaining at a high level. In particular, the incidence of injuries sustained by inexperienced workers (with less than three years' experience) was still high, accounting for more than 40% of the total, and reporting two severe injuries, including one fatal case, that are classified as the 7th or higher grade of disability. Given this situation, in fiscal 2023, we are promoting occupational health and safety activities throughout the entire Group, under the slogan, "Entrench the concept of 'Safety always comes first' in the culture of the Proterial Group with all-out efforts by each employee." For promoting activities to eliminate work accidents, we have specified four priority areas: 1) eliminate serious accidents and similar accidents; 2) abide by health and safety rules, laws and regulations, and basic rules; 3) reinforce safety culture; and 4) pursue health management to ensure the health of employees.

Frequency of Occupational Injuries

	2018	2019	2020	2021	2022
All industries	1.83	1.80	1.95	2.09	2.06
Manufacturing	1.20	1.20	1.21	1.31	1.25
Steel	1.16	0.89	0.87	0.90	0.98
Proterial Group	0.42	0.27	0.23	0.30	0.45

(b) Promoting Everyone's Mental and Physical Health

We actively support health management that promotes good mental and physical health.

To promote physical health, we recommend that all employees undertake a secondary checkup following their regular medical examination, and we focus on lifestyle diseases and other health guidance. Regarding mental health, the stress check system is implemented every year. In addition to encouraging individuals to pay attention to their own mental health, we strive to improve the work environment through groupwide analysis of the stress check results.

(4) Human Resources Training

(a) Basic Approach

Bearing in mind the Vision (our future ideal) of "leading sustainability by high performance," Proterial is striving to grow its business globally. To grow as a global company amid turbulent market conditions, we need to cultivate human resources who can constantly develop and put on the global market products that are original.

Our approach to our people is encapsulated by the phrase of "Wa sureba tsuyoshi" (united by respect), our fundamental spirit since the inception of our company. Based on this philosophy, we continuously endeavor to develop people who will be recognized as leading experts in the industry, continuing to take on new challenges on their own, and capable of creating results that exceed global expectations. This is essential to creating a workforce made of strong individuals and different personalities and demonstrating effective teamwork.

We support our employees in developing their expertise so that they become an efficient workforce who can actively seek out challenges and take action to achieve success or solve problems, as well as being shining examples for the Company.

(b) Training and Education Systems

We are building a personnel education system that links three elements: OJT, a personnel system that supports OJT, and OFF-JT for training, etc. OFF-JT training, etc., in planning fields sets personnel targets and requirements based on Proterial's corporate philosophy, plans training to

match requirements, and implements training accordingly. We have formulated a training system by job category for management, planning/administration, technical, sales, core business, and global operations.

(c) Developing the Next Generation of Human Resources

In the interest of sustainable corporate growth, we are deliberately cultivating the next generation of human resources who will take responsibility for operations on a global scale.

- **Cultivating the next generation of human resources**

We have formulated a plan for cultivating the personnel who will take responsibility for the Company in the next generation, and are conducting regular employee rotations, challenging assignments, and OFF-JT training programs. We also support employees who study abroad to earn an MBA.

- **Cultivating local management personnel at each location**

At Group companies outside Japan, we are supporting efforts to cultivate locally hired personnel, with an emphasis on future executive candidates. We are also proceeding with measures to cultivate such personnel and promote them to positions of responsibility.

- **Developing succession plans for major positions**

We are preparing succession plans (including redefinition of major positions) for all Group companies inside and outside of Japan by reviewing past activities to carry out reorganization (ongoing).

(5) Employee Benefits and Welfare

To make the lives of employees and their families more affluent and stable, Proterial offers a comprehensive range of measures to support them. These include housing support systems such as providing dormitories and housing allowances, as well as asset-building savings and group insurance. As one of the employee benefits and welfare initiatives to support self-help efforts and the independence of employees, in 2003, the Company implemented the “Cafeteria Plan System” (selective benefit and welfare system), and began to offer a range of options to meet the different lifestyles and needs of individual employees. The lineup has been expanded to deal with ability and skill development, child rearing, family care, health development, and preparation of a remote work environment, in addition to such conventional benefits as dormitories for single employees and company-run houses and the provision of medical services for employees. Each employee can choose the type of support they desire, when necessary, based on “Cafeteria Points” they have earned.

(6) Life Plan Support

In this time of declining birthrate and an aging population, and as lifestyles in old age become more diversified, having a definitive life plan is becoming more and more important. Proterial provides its employees with basic information essential to life planning after retirement (retirement benefits, company pension, welfare pension, health insurance, employment insurance, etc.) and hosts Life Plan Seminars to help them with laying out plans for ways to live and work after retirement.

(7) Composition of Employees

	FY2018 (As of the end of March 2019)	FY2019 (As of the end of March 2020)	FY2020 (As of the end of March 2021)	FY2021 (As of the end of March 2022)	FY2022 (As of the end of March 2023)
Number of employees	7,067	7,022	6,623	5,889	5,754
Work from home	6,215	5,826	6,215	5,068	4,927
Non-regular	807	797	807	821	827
Ratio of female employees (%)	11.2	11.5	12.0	13.9	14.4
Average age (years)	43.1	43.5	43.4	44.2	44.4
Average service (years)	18.4	18.8	20.1	19.2	19.2
Number of female managers	19	19	18	20	23
Employment rate of people with disabilities	2.21	2.26	2.27	2.36	2.42

4. Responsibility to Shareholders and Investors

Information disclosure

To earn trust as a highly transparent “open firm,” Proterial is actively promoting information disclosure. To this end, we are enhancing information communication tools, such as The Proterial Report (Integrated Report) published to promote our activities of utilizing our strengths to facilitate customer value creation while achieving sustainable growth, and web news releases to post updates and details of our activities regularly.

VI. Report on Environmental Aspects

1. Environmental Management

(1) Proterial Group's Environmental Vision

The Proterial Group promotes “efforts toward a decarbonized society,” “contribution to a resource-efficient society,” and “biodiversity conservation” as the three key pillars of its environmental vision. We aim to achieve both higher quality lifestyles and a sustainable society by resolving environmental issues in collaboration with our stakeholders. The Group will implement the FY2023 Environmental Action Plan by category, at each business site, in order to reduce CO₂ emissions, use water and other resources efficiently, and minimize impacts on natural capital throughout its value chain. In addition, we have set long-term targets to achieve carbon neutrality—effectively zero carbon emissions—by 2050, an approach to realizing the vision of a decarbonized society by 2050.

Proterial Group Codes of Conduct

Toward a Sustainable Society

1. We will contribute to resolving social issues by promoting innovative solutions, accelerating collaborative creation with partners and stakeholders, and further integrating social and environmental responsibility into our business activities.
2. We will strive to develop technologies that contribute to social development and use them with due consideration of their impact on society.
3. We envision a decarbonized society, a resource-recycling society, and an ecosystem preservation society. To this end, we will endeavor to reduce CO₂ emissions, use water and other resources efficiently, and minimize impacts on natural capital throughout our value chain.
4. As a corporate citizen, we will make efforts to build a rapport with local communities and contribute to their development by working together to resolve social issues.

(2) Proterial Group Basic Policy on Environmental Conservation

Proterial Group Basic Policy on Environmental Conservation

Philosophy

Aiming to pass on the common assets of humankind in a sound state to future generations, the Proterial Group considers environmental issues as an important management priority, while striving to actively preserve global and local environments under the Proterial Group vision of “a high-performance material company that supports a sustainable society.”

Slogan

- With a deep awareness that environmental protection is a major issue for all of humanity, we will fulfill our social responsibilities by striving to establish a sustainable society in harmony with the environment, regarding it as one of the essential aspects of corporate activity.
- We will contribute to society by developing highly reliable technologies and products in response to needs for environmental protection and consideration for limited natural resources.

Guidelines for action

1. Compliance with environment-related laws and prevention of pollution

We shall comply with international environmental regulations as well as the environmental laws and regulations of national and local governments and agreements. We shall establish voluntary standards where necessary to ensure compliance.

Also, we shall assess the possibility of environmental problems and strive to prevent pollution. In the unlikely event that an environmental problem arises, we shall take appropriate measures to minimize environmental impact.

2. Improving the function of the environmental management organization and enhancing supervisory function

We shall promote environmental conservation activities by establishing a group environmental management organization and operating system headed by the officer in charge of the environment, developing environment-related regulations, and setting targets for reducing environmental impact.

In addition, we shall confirm that environmental conservation activities are appropriate, reasonable and effective, and strive to continuously improve environmental management.

3. Promotion of global manufacturing while considering LCA (Life Cycle Assessment)

Aiming to reduce environmental impact at each stage of product research and development/design, production, distribution/sales, use, and disposal, etc., we shall promote global manufacturing focused on the following:

- 1) Environmentally friendly products, 2) prevention of global warming, 3) resource conservation/recycling and resource circulation, 4) management of chemical substances, and 5) conservation of biodiversity conservation.

4. Environmental Considerations at Overseas Offices

When manufacturing on a global basis, we shall strive to implement measures that can meet the needs of local communities, taking into consideration the impact on the local environment.

5. Education and training, and raising awareness

We shall look broadly at society and educate our employees about the importance of complying with environment-related laws and regulations and about environmental conservation to raise their awareness of the environment.

6. Information disclosure

We shall strive to disclose information about environmental conservation activities to stakeholders (interested parties) and actively communicate with them, and strive to strengthen mutual understanding and cooperative relationships.

Formulated: April 1, 2010

Revised: January 4, 2023

(3) Proterial Group's Environmental Management Promotion Structure

(a) Governance

In April 2010, our Group established the Group Basic Policy on Environmental Preservation to clarify the Group's unified approach to environmental management. In June 2021, we registered our support for the TCFD Recommendations, and in August of that year, following a report to the Board of Directors, we established a new environmental policy for "aiming for green growth while taking risks as opportunities." The Proterial Group Environmental Committee (Group Environmental Committee, hereafter) has been established as a framework for promoting environmental activities such as climate-change countermeasures. The Group Environmental Committee is chaired by the Environment Executive Officer, and its executive office is the Environmental Strategy Department, Manufacturing & Engineering Division. Its activities are promoted in cooperation with the environmental managers of each business unit, business sites, and group companies. The Group Environmental Committee is responsible for developing environment-related regulations, setting targets for reducing environmental impact, and confirming that activities are appropriate and effective.

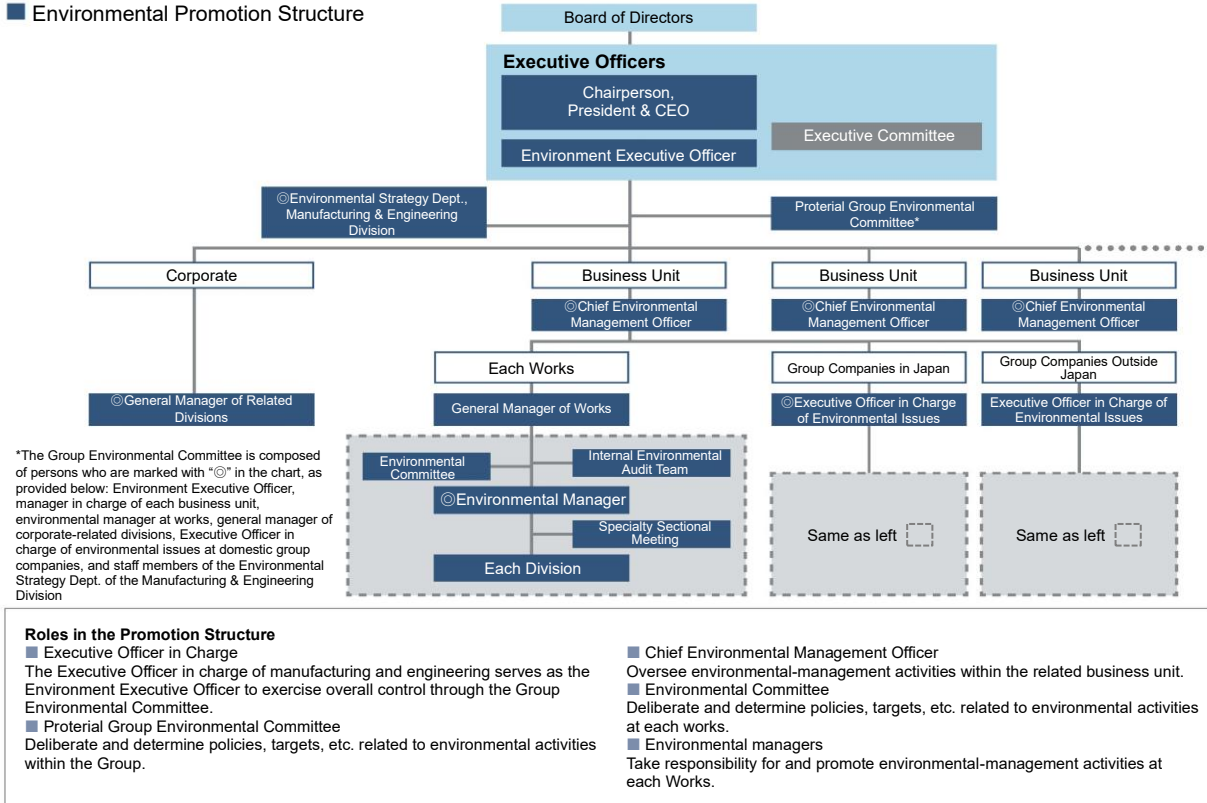
Policies and targets concerning environmental activities are discussed and set by the Group Environmental Committee as mid-term and annual environmental-action plans. With regard to climate-change countermeasures, the Environmental Action Plan sets targets for reducing CO₂ emissions within the Group. On the basis of those targets, energy-saving activities and the use of renewable energy are being promoted at each manufacturing site. The status of reductions in CO₂ emissions is monitored regularly, and the Group Environmental Committee meets once a year to share the results of the previous fiscal year, the status of numerical targets for the current fiscal year, and major initiatives to promote continuous improvement of activities.

Since fiscal year 2021, the Executive Officer in charge of environmental issues (Environment Executive Officer after January 2023), who chairs the Group Environmental Committee, reports to the Executive Committee and the Board of Directors twice a year on the status of efforts, including climate-change measures, to address environmental issues.

Status of important decisions on climate change in fiscal 2022

Month/Year	Important issues related to climate change	Meeting body
April 2022	Environmental strategy and status of initiatives	Board of Directors
May 2022	TCFD information disclosure	Executive Committee
September 2022	Support GX League	(President's decision)
October and November 2022	Environmental strategy and status of initiatives	Executive Committee, Board of Directors

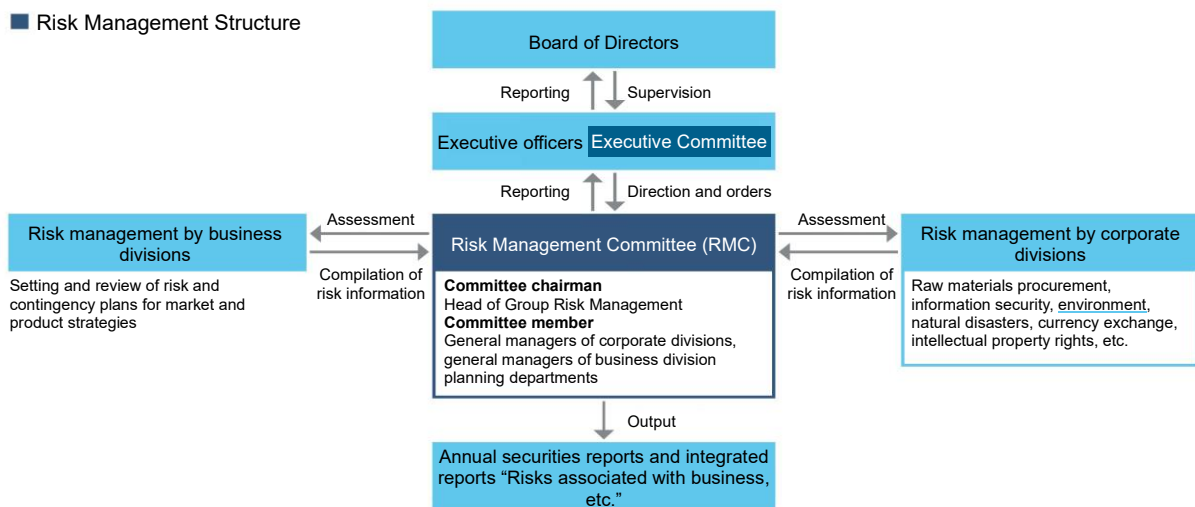
■ Environmental Promotion Structure



(b) Risk Management

In April 2022, the Group established a “Company-wide Risk Management Committee” (RMC) under the supervision of the Executive Officer responsible for group-risk management. The RMC summarizes various business risks surrounding the Group and contingency plans for those risks, and evaluates their coverage and weighting. Risks related to climate change identified by the Group Environmental Committee, corporate divisions, and business divisions are reported to the RMC together with other risks as risks related to environmental regulations. The RMC is scheduled to meet twice a year, and the results of the interim and year-end risk-management assessments of the RMC are reported to and reviewed by the Executive Committee and the Board of Directors.

■ Risk Management Structure



(4) Fiscal 2022–Fiscal 2024 Environmental Action Plan and Fiscal 2022 Results

The Proterial Group’s Environmental Action Plan for fiscal 2022 to fiscal 2024, along with results and assessments for fiscal 2022, are summarized in the table below.

		Item	Action Target	2022			2023	2024
				Target	Actual	Rating	Target	Target
Governance		Adhere to environmental compliance practices and reduce risks	Internal audit implementation rate	100%	100%	○	100%	100%
			Implement education for new hires	Once	Once	○	Once	Once
	Cultivate environmental literacy		Implement environmental auditor development training	Once or more	Once	○	Once or more	Once or more
			e-learning attendance rate*1	100%	99.1%	△	100%	100%
Decarbonized society	Products	Sales ratio of key environmentally conscious products		23%	22.4%	△	24%	25%
	Factories	Reduce CO ₂ emissions from Works	Reduce CO ₂ emissions (vs. FY2015) (total)	20%	31.2%	○	20%	22%
		Reduce CO ₂ emissions during transportation	Reduction rate of energy consumption per transportation unit (Japan) (year-on-year)	1%	0.1%	×	1%	1%
Resource-efficient society	Resource circulation	Reduce and recycle waste	Improvement in the amount of waste and valuables generated per production unit (vs. FY2010)*2	33%	33.6%	○	34%	35%
			Waste landfill rate*3	11.5%	10.1%	○	11.0%	10.5%
	Water resources	Improve water-use efficiency	Improvement rate of water usage per production unit (vs. FY2010)*2	33%	33.8%	○	34%	35%
Preservation of ecosystems	Chemical substances	Reduce output of chemical substances	Reduction rate of atmospheric emissions of chemical substances per production unit*4	26%	23.7%	△	27%	28%
	Preservation of ecosystems	Promote and contribute to activities for preservation of ecosystems		Continue activities and contribute to preservation of ecosystems through overall corporate activities		○	Continue activities and contribute to preservation of ecosystems through overall corporate activities	
Collaboration with stakeholders	Social contribution	Community cleanup activities, Lights Down campaigns, etc.	Continue activities and reduce environmental impact from aspects other than the protection of ecosystems			○	Continue activities and reduce environmental impact from aspects other than the protection of ecosystems	

*1. Environmental e-learning programs were redesigned into new general environmental education courses launched in fiscal 2020, after educational methods and contents (teaching materials) were reviewed. At each business site, general environmental education is conducted as usual.

*2. Amount of activity: weight; *3. Excluding household waste, hazardous waste, and in-house landfills (landfills on the Company's sites); *4. Amount of activity: volume handled

(5) Environmental Accounting

The Proterial Group has introduced environmental accounting to allocate corporate resources appropriately and continuously improve the efficiency of environmental investments and activities. The Group also aims to increase the understanding of its stakeholders by disclosing information about the effect and efficiency of its activities.

Environmental costs include things like environment-related capital investment, equipment maintenance and administration costs, and R&D costs.

Environmental effects include economic effects measured in monetary terms and categorized under waste processing and recycling, energy conservation, and others (R&D, recycling of products and packing materials, etc.).

The results for fiscal 2022 are as follows:

(a) Environmental Costs

Our environmental costs in fiscal 2022 were 7.16 billion yen in expenses and 1.25 billion yen in investment, for a total of 8.41 billion yen.

(b) Environmental Effects

The economic effects amounted to a total of 16.36 billion yen, primarily due to waste elimination, recycling, and energy conservation.

(c) Physical Effects

Effects in physical terms were 8,007 thousand tons from effective use of resources and 11,075 t-CO₂ for prevention of global warming.

(d) Results of Environmental Accounting

■ Environmental Costs

(100 million yen)

Cost classification			FY2021		FY2022	
			Expense	Investment	Expense	Investment
Business area costs	Pollution prevention	14.2	1.2	14.7	2.4	
	Global environmental preservation	18.6	1.5	14.4	9.8	
	Resource recycling	34.7	0.3	25.9	0.2	
Subtotal		67.5	3.0	55.0	12.4	
Upstream and downstream costs		2.4	0.0	2.1	0.0	
Management activity costs		18.3	0.0	3.3	0.0	
Research and development costs		9.2	0.0	11.0	0.0	
Community activity costs		0.0	0.0	0.0	0.0	
Other		0.4	0.0	0.4	0.0	
Total		97.9	3.0	71.6	12.5	

■ Environmental Effects (economic effects)

(100 million yen)

Economic Effects	Item	FY2021	FY2022
	Waste processing and recycling	142.8	162.5
Energy conservation	1.6	1.1	
Other	2.3	0.0	
Total		146.7	163.6

Physical Effects

(100 million yen)

Economic Effects	Item	Unit	FY2022
	Effective use of resources	kt	8,007
	Global warming prevention	t-CO2	11,075

- Scope of disclosure: The Proterial Group in Japan
- Calculation period: April 1, 2022 to March 31, 2023

(6) Integrated Environmental Management System (Integrated EMS*1)

The Proterial Group has introduced ISO 14001 as its environmental management system.

We began acquiring certification for individual factories in 1997, and then built an integrated EMS at each segment of business divisions (formerly internal companies). This action was made to meet the increasing need for close cooperation with head office functions related to engineering, planning, and sales in order to comply with environmental regulations for products and expand sales of environmentally friendly products, as well as need to achieve alignment with strategic business directions in response to requirements of ISO 14001:2015 (revised in September 2015) and integration with business processes. We revised the system in order to shift to the 2015 edition and completed the shift within fiscal 2017.

The integrated EMS*1 built for each segment of business divisions (formerly internal companies) had been in operation up to fiscal 2022. The system was revised into one to be operated by each business unit in response to the related organizational change, and the new system was launched from fiscal 2023.

*1: Environmental Management System

(7) Environmental Auditing

The Environmental Strategy Department, Manufacturing & Engineering Division, conducts company-wide environmental audits in a bid to achieve thorough adherence and compliance with environment-related laws and regulations, ensure appropriate EMS management regarding the environmental action plan, and mitigate environmental risks.

In fiscal 2022, environmental affairs audits were conducted at 14 sites (six in Japan and eight outside Japan) in conjunction with internal audits. We confirmed that there were no major non-conformities requiring immediate administrative guidance. Although 15 minor non-conformities were revealed, actions to correct them are underway according to plan.

(8) Environmental Education and Awareness Promotion

The Proterial Group has set up training systems as part of our EMS, and has clearly defined roles for company-wide training and individual factory-level training, for the purpose of further improving the environmental awareness of employees as well as enhancing knowledge and skills relevant to each workplace.

Environmental Training Systems

Target		Description	
General education	All employees	e-learning	Eco-mind training (ProterialProterial Group)
	On-site employees	On-site environmental education	General education on ISO14001 and environmental management performed by general employees
Professional education	New supervisor	Education for new supervisor	Environmental issues and workplace responsibilities
	Environmental Internal Auditors	Environmental Internal Auditor training	Environmental laws and regulations, EMS recognition and environmental skills
	Environmental officers	Environmental officer training	Education for staff responsible for environmental affairs, and comprehensive risk management
	Legally qualified personnel	Qualification-based training	Education to develop legally qualified personnel (including external training)

(9) External Communications about the Environment

(a) Participation in Exhibitions

The Proterial Group participates in various exhibitions and introduces its environmentally conscious lineup of technologies that help customers make their products more efficient, compact, and lightweight, and products that feature longer-life performance. The Group tries to show how its products contribute to the reducing of environmental burden.

Main Exhibitions in which the Proterial Group Participated (Fiscal 2022)

Program date	Exhibition name (location)	Major items on display
May 25–27, 2022	Automotive Engineering Exposition 2022 (PACIFICO Yokohama)	Exhibited distinctive technologies and products that contribute to the evolution of xEVs, advancement of electronic components, and improvement of environmental performance, from four categories: motor; light weight; inverter; and battery.
July 20–22, 2022	TECHNO-FRONTIER 2022 (Tokyo Big Sight)	Exhibited advanced materials and technologies that support the advancement of motors and electronic components, from five categories: motor-related materials; power electronics-related products; lightweight products; battery-related materials; and FA/motion engineering.
September 20–23, 2022	InnoTrans 2022 Berlin, Germany (Messe Berlin)	InnoTrans is an international trade fair for transport technology held in Berlin, a center of Germany's transportation technology, every two years. At the 2022 event, the first to take place in four years since 2018 (the 2020 event was cancelled due to COVID-19), we exhibited the Group's products for rolling stock and railway systems, including: magnetic slot wedges (GRIT); ductile iron products (Auto); communication cables, extra high-voltage cable heads, messenger wires, and contact wires (Cable).
December 7–9, 2022	2nd Sustainable Material Expo (Makuhari Messe)	Exhibited new materials and products developed by applying material technologies essential to create higher value added products, such as environmentally friendly products and materials that enable reduced workloads for maintenance and other duties.
February 18–22, 2023	ELECRAMA 2023 (India Expo Mart, Greater Noida NCR)	ELECRAMA is one of the world's largest electrical trade shows, attracting at least 1,000 exhibitors from more than 50 countries and 350,000 visitors. In the 2023 event, the first to be held in three years, we exhibited amorphous metal Metglas [®] , power electronics components for PV and xEVs, magnets for high-efficiency motors, and cables for railway systems, among others.

(b) External Awards

The Proterial Group's products and environmental activities won the following external awards in fiscal 2022 for their contribution to energy conservation and to reductions in size and weight.

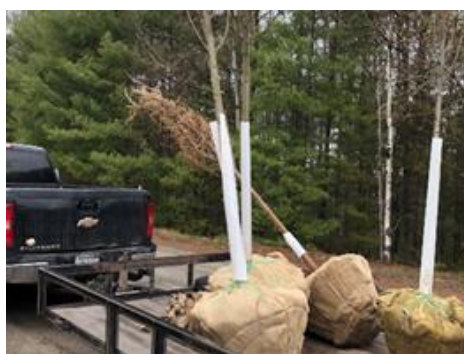
Major External Environmental Awards (Fiscal 2022)

Business unit/group company	Product/technology/project awarded	Title of award	Awarding body	Reasons for award
(SS)	Die steel SLD®-f	2022 <i>Cho Monodzukuri</i> Parts Grand Prize Machinery and Robot Parts Award	MONODZUKURI Nippon Conference Nikkan Kogyo Shimibun	Die steel SLD®-f is used to die-cast automotive frame parts (pressed parts). This product was awarded for a number of strong characteristics, specifically: high hardness and toughness exhibited together; anti-chipping and durable performance against presswork, contributing to the longer life of dies; and the special structure and composition designed to enable ultrafast processing, helping reduce die manufacturing time and cost.
(Cable)	Invention of ultrafine copper alloy wire and its applications	2022 National Commendation for Invention, Invention Prize	Japan Institute of Invention and Innovation	This product, an invention to be used in cables for gastroscopy, ultrasonography, and other medical equipment, was awarded for contribution to the development of minimally invasive medical treatment.
(Cable)	Fiber-optic warning system for contact wire	Masuda Award of Grand Prize at the 65th of the Best 10 New Products	Nikkan Kogyo Shimibun	This award was shared with Central Japan Railway Company. Railway trains run by receiving power from contact wires above the track through pantograph units fitted to their rooftops. The wires wear while trains are running due to the structure where the pantograph and contact wire are in contact. The invented system has enabled real-time monitoring of the wear status of contact wires by employing optical fibers for the detection line, as an effective measure to prevent a problem.

(10) Consideration for the Preservation of Biodiversity

The Proterial Group's ecosystem preservation measures include tree planting and forest conservation activities, cleanup activities in areas surrounding plants, and environmental education.

(a) Examples of Major Ecosystem Preservation, Tree Planting, Forest Conservation, and Social Contribution Activities



Tree planting activities (Ward Manufacturing, LLC)



Cleanup activities in areas surrounding the factory (Tsuchiura Works, Proterial Metals, Ltd.)



Cleanup activities at Shizen-fureai Park (Moka Works, Proterial, Ltd.)



Green curtain activities (Takasaki Works, NEOMAX Engineering Co., Ltd.)

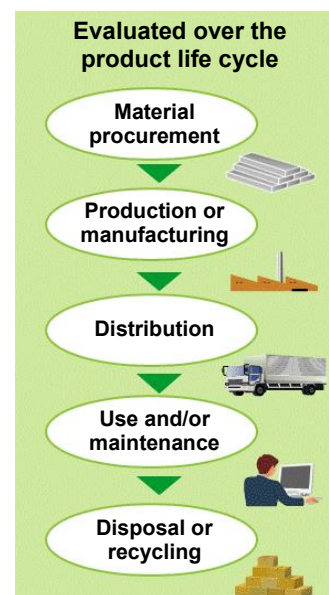
2. Environmental Consideration in Products

The Proterial Group considers “Thinking about the next generation—An environment-friendly solution” an important managerial issue. We contribute to the realization of a sustainable society through the creation of new products and new technologies that meet such needs, as well as through the provision of advanced environmentally conscious products.

(1) Environmental Consideration (Life Cycle Assessment [LCA]) in Products and Services

For the purpose of contributing to the realization of a sustainable society, the Proterial Group is focusing attention on the environmental and energy sectors when promoting the development of new products. Moreover, for the development and design of such new products, we promote environmentally friendly product development based on our Eco-Design Guidelines, taking product life cycles into account.

Eco-design that takes product life cycles into account has begun to be required by various international initiatives, including the revision of ISO 14001:2015 and the establishment of IEC 62430*1 as well as national regulations for energy-saving products. In order for evaluations to be made from the viewpoint of life cycles based on IEC 62430, the Proterial Group revised its environmentally conscious design assessment and LCA systems in fiscal 2016. Using these assessment tools, we promote product development and design in consideration of environmental impacts the product will have on the environment throughout its entire life cycle that ranges from procurement and manufacturing to use and disposal by the customer.



The table below shows examples of the Group’s environmentally friendly products and technologies that are applied to the environment and energy-related fields.

*1. IEC 62430: The standards set by the International Electrotechnical Commission (IEC) for “Environmentally conscious design for electrical and electronic products”

Examples of the Proterial Group’s environmentally friendly products and technologies applied to the environment and energy-related fields

Field of contribution		Environmental value offered	Products and development technologies
Energy	Photovoltaic generation	Renewable energy	Amorphous cut core, dust choke coil, target materials for power conditioners
	Wind-power generation		Amorphous metal materials, FINEMET® core, magnet wires
	Power generation facilities	Energy saving, higher efficiency	Super-heat-resistant metal materials, precision cast blades for turbine wheels
	Home appliances		Magnets for water pump/fan motor/air conditioner/refrigerator compressors, high-efficiency amorphous motor components
	Transformers	Higher efficiency, longer life	Amorphous metal materials for low-loss transformers
	Batteries		SOFC*2 fuel cell parts (interconnector materials, heat-resistant parts), cathode materials for lithium-ion batteries, clad metals, xEV*3 battery cases
Mobility	Automobiles	Exhaust gas purification	Components that help clean exhaust gas (CERACAT, magnets for EGR*4)

		Lighter weight	Lightweight undercarriage, magnets for EPS ^{*5} , magnets for auxiliary motor
		Higher efficiency, longer life	Heat-resistant cast steel materials, CVT ^{*6} belt materials, magnets for magnetic sensors
		Electrification	Neodymium magnets, amorphous metals, amorphous metal motor, FINEMET® core, clad metals for secondary battery electrodes, high PDIV ^{*7} enameled wire
	Members for fast charging, aluminum cast inverter cases, silicon nitride substrates for power modules, harnesses for EPB ^{*8}		
	Railway	Higher efficiency, lighter weight	Cables for rolling stock, contact wires
Aviation	Longer life, higher efficiency	Nickel-based alloy large forged parts for aircraft engines, high-heat-resistance/high-corrosion-resistance alloys	
All industries/ infrastructure	Industrial equipment, etc.	Longer life, lighter weight	Long-life die steel, carbide rolls, corrosion/heat-resistant fittings, Eco-Green cables, metal additive manufacturing technology, ultra-fine copper-alloy wire, magnets for servomotors, magnets for VCM ^{*9} , linear stages, radiating fin components, heat sink components
	Water treatment	Seawater desalination	Ceramics adsorption filters for pretreatment of seawater desalination
	Electronics	Higher efficiency, downsizing, lighter weight	Additive manufacturing parts, silicon nitride substrate for power semiconductors, clad metals for heat resistance of smartphones, low thermal expansion alloys for precision equipment

*2. SOFC: solid oxide fuel cell;

*3. generic term for electric vehicles (EVs), hybrid electric vehicles (HEVs), and plug-in hybrid electric vehicles (PHEVs);

*4. EGR: exhaust gas recirculation;

*5. EPS: electric power steering;

*6. CVT: continuously variable transmission;

*7. PDIV: partial discharge inception voltage;

*8. EPB: electric parking brake; *9. VCM: Voice Coil Motor

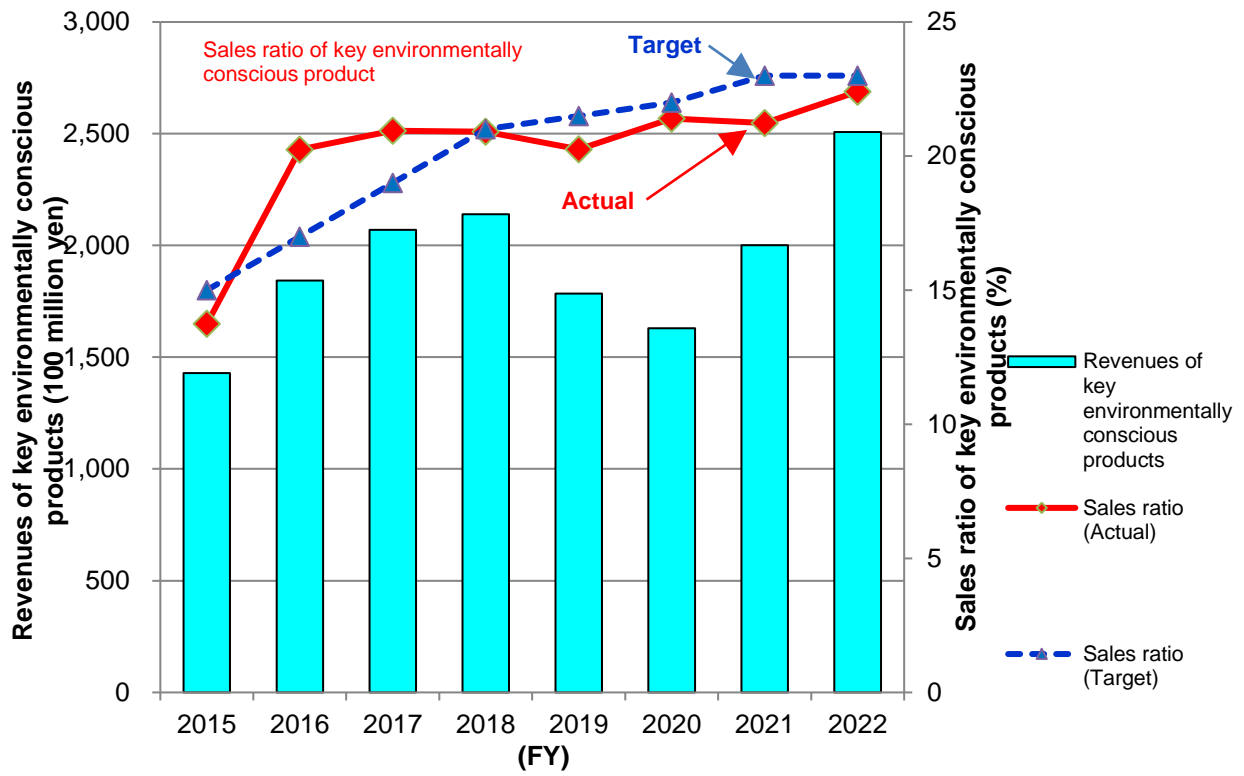
(2) Expansion of Key Environmentally Conscious Products

The Proterial Group defines environmentally conscious products as those targeted for growth based on a management strategy and that make a significant contribution to resolving environmental issues such as climate change and resource recycling. The Group is promoting the increase of revenues from environmentally conscious products.

In fiscal 2022, revenues from sales of key environmentally conscious products increased to 250.7 billion yen, reflecting an improvement of 50.6 billion yen from the previous year, when sales declined chiefly due to production being reduced globally as a result of the spread of COVID-19. The revenue ratio on a consolidated basis increased to 22.4%, exceeding the level of the previous year while falling slightly short of the target (23%).

Going forward, we will expand the lineup of target products and promote sales, aiming to contribute to tackling environmental issues facing our society (climate change, resource recycling, etc.).

Revenues and Sales Ratio of Key Environmentally Conscious Products

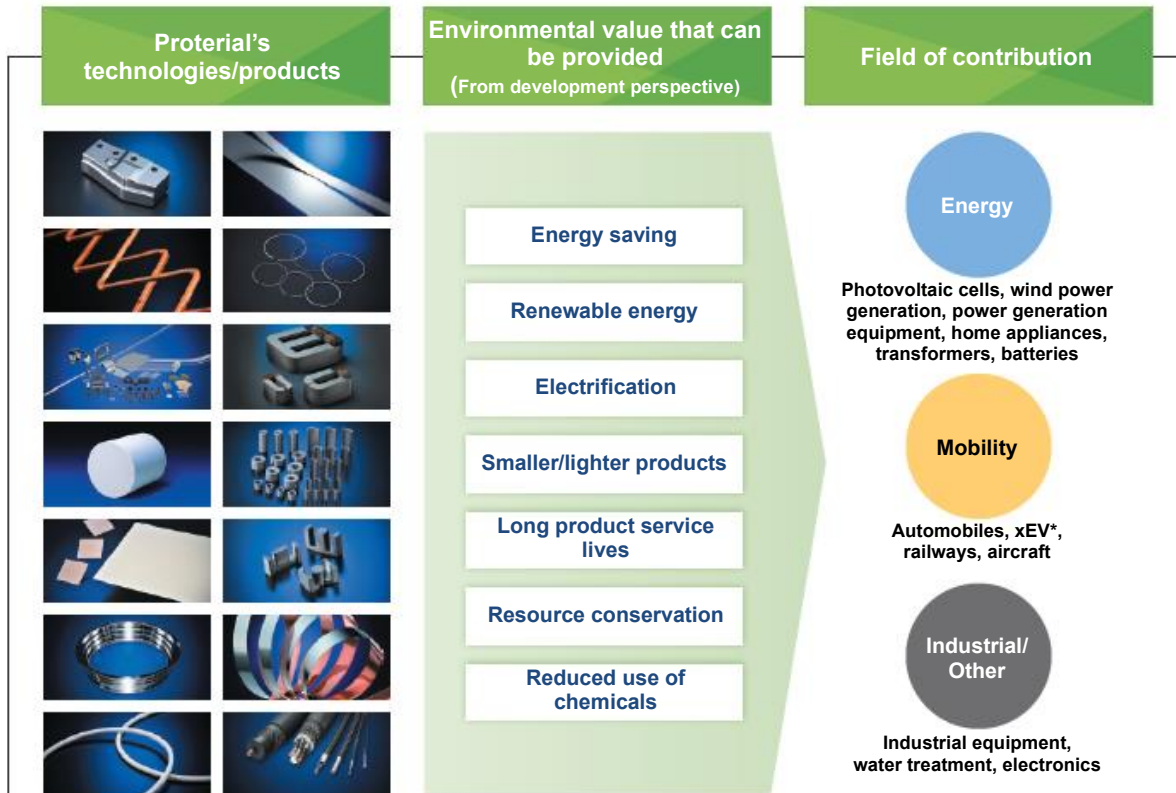


(3) The Proterial Group's Environment- and Energy-related Products

The Proterial Group develops and delivers materials and products that contribute to the environment and energy conservation across wide-ranging areas of society, from electricity generation and transformation to use in factories, plants, offices, homes, and vehicles.

Introducing Environment- and Energy-related Products

■ List of our environment-related products



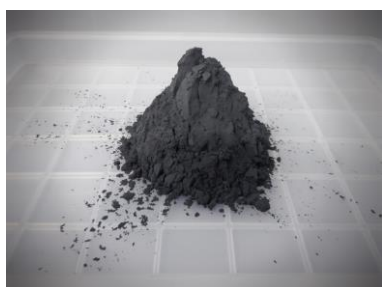
■ High-Ni cathode materials for lithium-ion batteries (development technology)

Global Research & Innovative Technology Center

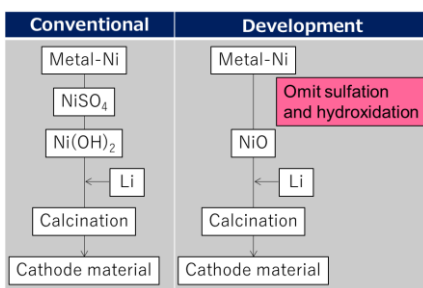
Electric vehicles (EVs), which can reduce CO2 emissions while driving, are becoming increasingly popular in order to realize a sustainable society.

However, EVs have the challenge of emitting more CO2 during vehicle manufacturing than conventional internal combustion engine vehicles.

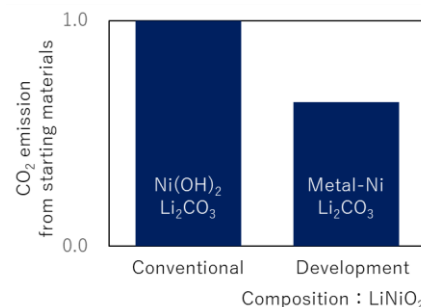
In the manufacture of EV vehicles, a large amount of CO2 emissions are derived from the production of lithium-ion rechargeable batteries (LIBs), which are the power source, and among these, the production of starting materials for cathode materials, and reduction of these emissions is required.



High Ni Cathode material for LIBs



Manufacturing Method



CO₂ emission from starting materials

We have developed a technology to produce cathode materials directly from metallic nickel without the previously required process of converting metallic nickel to nickel hydroxide (Ni(OH)₂) using the solid phase reaction method.

With this newly developed technology, we have succeeded in reducing CO₂ emissions from starting materials by more than 30% compared to the conventional manufacturing method.

This is equivalent to a reduction of more than 20% in CO₂ emissions in the entire cathode material manufacturing process, including the production of starting materials.

We will contribute to the realization of a carbon-neutral society by offering our developed technologies to the battery industry as a decarbonization solution over the product life cycle.

■ Ultrafine copper alloy wires

Engineering Dept. I, Electric Wire & Cable Business Unit

Our ultrafine copper alloy wire and its application products have been highly appreciated by our customers over more than ten years. Representative applications are found in cables for endoscopes and probe cables in medical equipment as well as in the medical field for gastroscopy and ultrasonography. They achieve higher definition, and also reduce stress on the human body. An ultrafine coaxial cable using this ultrafine copper alloy wire (wire diameter: 0.013 mm) has a diameter which is smaller than that of conventional coaxial cables by about 20% (example: 0.205 mm → 0.165 mm). At the same time, it maintains high strength and high conductivity, in addition to being a very environmentally friendly product. As this ultrafine copper alloy wire can be thinned down to 0.010 mm in diameter while maintaining high strength and high conductivity, applications are expected to be expanded to minimally invasive medical technology (catheter, etc.). In recognition of the above features, this invention received the Invention Prize in the 2022 National Commendation for Invention (Category 1) from the Japan Institute of Invention and Innovation.

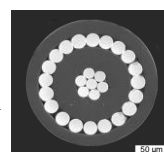
Through pursuing ultrafine wire technology to support products that are applicable to minimally invasive treatment of patients of all ages and in many countries and regions while being environmentally friendly, we contribute to the health and welfare of many people.



<Medical equipment>
(endoscopy, ultrasonography, etc.)



multiconductor cables for
ultrasonography



wire
diameter
(0.013 mm)

ultrafine coaxial cables

■ Applying metal additive manufacturing material ADMUSTER® C21P (high corrosion-resistant nickel-based alloy) to mass production

AM Solution CV, R&D Division

Additive manufacturing (3D printing), which will eliminate the need for dies and assembly and enable the low-cost manufacture of complex-shaped products, is gaining the spotlight as a technique that is transforming conventional manufacturing. High corrosion-resistant nickel-based alloy ADMUSTER® C21P, among our metal additive manufacturing material series ADMUSTER®, enables the creation of metal additive manufacturing products with a hundredth or less the corrosion speed (100 times or more the corrosion resistance) of forged steel roll SUS316L. This property is suitable for use in production sites handling highly corrosive fluids, such as: chemical plants; oil, gas, and other energy facilities; and semiconductor manufacturing factories. This will improve production reliability, helping reduce operation halt risks and lower the frequency of parts exchange. Additive manufacturing eliminates the need for die preparation and assembly processes and shortens the lead time for small lot production. Given these characteristics bringing about higher expectations for reducing CO₂ generated from parts production processes, our customers have started mass production of metal additive manufacturing parts made of ADMUSTER® C21P. Going forward, we will expand the lineup of the ADMUSTER® series into various fields requiring heat resistance, wear resistance, and high functionality, aiming to contribute to the solution of customer issues and CO₂ reduction.

Table Comparison of corrosion speeds of ADMUSTER® C21P additive manufacturing material and various forging and rolling materials in various acid aqueous solutions

	(mm/year, test time: 24hours)					
	C21P as built	C21P solution- heat treated	C21P aging- heat treated	MAT21® wrought	Alloy 22 wrought	SUS316L wrought
PRE*			82		70	26
1% HCl boiling	0.01	–	–	0.01	0.13	24
2% HCl boiling	0.01	0.01	0.01	0.05	1.72	51.2
5% HCl boiling	1.6	–	–	1.15	7.95	199.3
30% HF room temp.	0.06	–	–	0.08	–	–
10% H ₂ SO ₄ boiling	0.03	0.03	0.02	0.04	0.23	69.4

* PRE: Pitting Resistance Equivalent number, an index of corrosion resistance. $PRE = Cr + 3.3 (Mo + W/2) + 16N$

■ Non-furnace use steel annealing method

Heat Treatment Engineering Department, Yasugi Works, Specialty Steels Business Unit

Depending on the temperature at which the steel is heated and the speed at which it is cooled, the microstructure of the steel changes (transforms) mainly to austenite, pearlite, martensite. Heat treatment is the process of intentionally transforming steel by utilizing these characteristics to obtain the appropriate properties for an intended purpose. This invention is related to the method of manufacturing semi-finished steel products containing high-hardenability alloys, such as hot-die steel, and an achievement made through an appropriate alteration to the intermediate annealing technique performed during hot working.

After hot working, semi-finished steel quickly cools at ambient temperatures and transforms into the hard martensite structure, which lowers workability and occasionally causes cracking depending on the type of steel. To address this issue, the previous intermediate annealing process used a heating furnace to heat semi-finished steel to the austenite-range temperatures and decreased the cooling rate to induce pearlite transformation. In the invented annealing process, hot-worked semi-finished steel is placed in the incubator at an appropriate timing in the course of cooling for the purpose of recuperation of the steel while utilizing the latent heat of transformation generated during the conversion to pearlite (self-generated heat of the steel).

No heating furnace, fuel or electricity is required, making it possible to reduce CO₂ emissions from these sources. In addition, this annealing method is applied to processing hot-die steel, including environmentally friendly longer life die materials. Our proprietary intermediate annealing method for metal product manufacturing has been developed by making an appropriate alteration to essential technology adopting an incubator.



Annealing process using the incubator

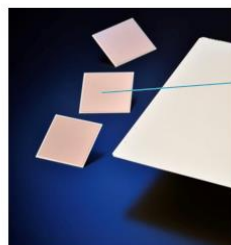
■ Silicon nitride substrate for xEV power semiconductors

Power Electronics Materials Business Unit

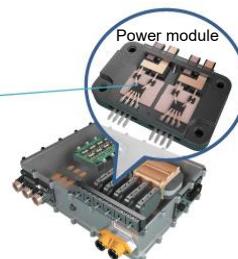
Silicon nitride substrates are used for the packaging of power semiconductors that control motors and convert power in xEVs and other applications. The power semiconductor is responsible for the switching function for the high voltages and large currents, and heat generated from the process causes characteristic degradation.

Our silicon nitride substrate offers a solution to this practical issue by dissipating heat transferred from the power semiconductor, preventing characteristic degradation. This will help improve the driving range of xEVs. With the objective of delivering products that contribute to our customers' heat management process, we have expanded the lineup for mass production, in addition to the standard substrate with a thermal conductivity of 90 W/m-k, to provide a high thermal conductivity type with the thermal dissipation performance improved by increasing thermal conductivity by 30% and a thin type with the substrate thickness reduced more than 20% to decrease thermal resistance.

We will build structures to expand production capacity in response to an ever-growing demand for silicon nitride substrates, thus contributing to popularizing xEVs and reducing environmental burden.



Silicon nitride substrate



Inverters

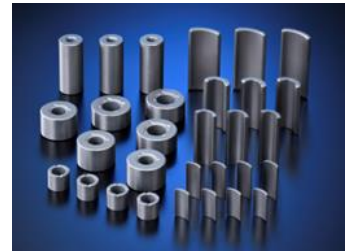
■ High-performance ferrite magnet NMF®-15 series

Magnetic Materials Business Unit

Ferrite magnets are known for good chemical stability, high electrical resistance, and other characteristics specific to oxides, while the magnetic property is weaker than that of rare earth magnets. Our NMF®-15 series represents a mass-production ferrite magnet that exhibits a best-in-class magnetic property, and one of the industry's earliest to be developed and put into mass production.

Recently, primarily along with the progress of automotive electrification, demand for rare earth magnets used in high power motors is expected to rise significantly, increasing dependence on specific rare earth elements, including neodymium, the main raw material, and dysprosium and terbium, which are heavy rare earths. We have begun to recommend a switch from rare earth magnets to NMF®-15 for applications previously designed for the former, while improving the performance of our rare earth magnet NEOMAX® and reducing the amount of heavy rare earth used. As part of related efforts, we are working together with Global Research & Innovative Technology Center (GRIT) to examine the possible applications of NMF®-15 to the main motor of xEVs, and performed simulations that clarified design specifications to achieve output power equivalent to that exhibited by rare earth magnets. At present, we are creating prototype motors based on simulation results and conducting relevant evaluations.

We will utilize evaluation results to examine the possibility of applications of high-performance ferrite, in cooperation with customers, thus contributing to effective use of resources and realizing a low-carbon society.



High-performance ferrite magnet NMF® series



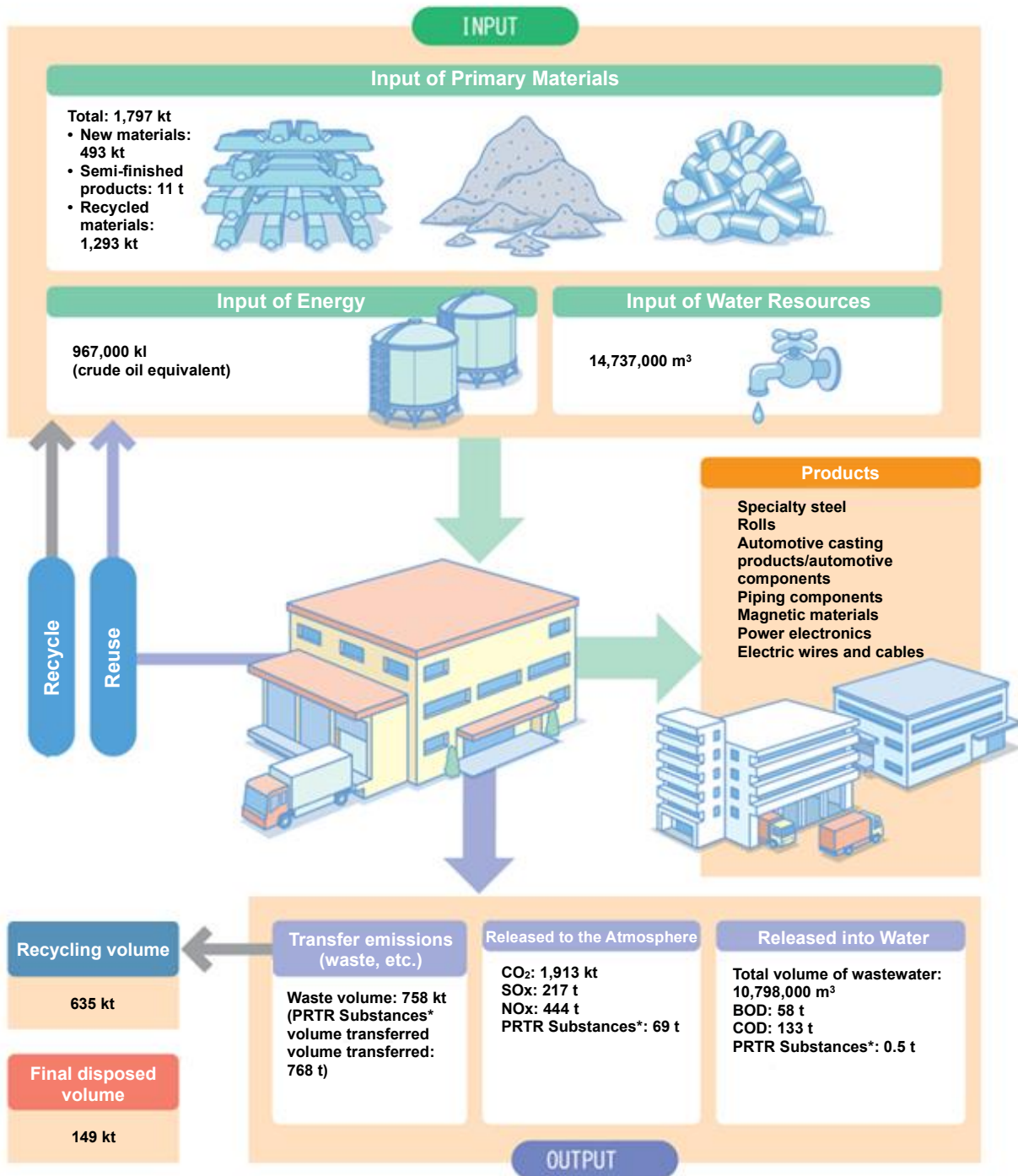
Main motor for xEVs to which NMF®-15 is applied (rotor area, prototype created by Proterial)

3. Environmental Consideration in Manufacturing

This is a graphical representation of the balance of materials in manufacturing processes at the Proterial Group for fiscal 2022. The Proterial Group is promoting the reduction of environmental burden in two directions: reducing the volume of input through the efficient use of resources and energy, and reducing the volume of output by controlling atmospheric releases and wastewater discharges, reducing and recycling waste, and so on.

(1) Material Balance

The Proterial Group's Material Balance for Fiscal 2022 (Global)



* PRTR emission quantities are totals of those released by domestic companies in the Proterial Group. The final disposal amount includes household waste, hazardous waste, and in-house landfill. Input of water resources: total amount handled

(2) Toward a decarbonized society

As a materials company that “leads sustainability by high performance” as stated in its corporate philosophy, the Proterial Group has expressed in the Code of Conduct its commitment to reducing CO₂ emissions throughout the value chain to aim for a decarbonized society, and set medium and long-term goals to achieve carbon neutrality in order to promote efforts to reduce CO₂ emissions from production operations.

(a) Addressing Climate Change

1. Disclosure in accordance with TCFD Recommendations

As countries around the world intensify their efforts to address climate change in accordance with the Paris Agreement, the Japanese government announced in October 2020 its policy goal of reducing emissions of greenhouse gases, as typified by carbon dioxide (CO₂), to virtually zero by 2050.

Accordingly, companies are expected to be more proactive than ever in their efforts to transition to a decarbonized society.

The Proterial Group considers the impact of climate change on its business as one of its most important management issues, and we believe that enhanced disclosure of climate change-related information is a key factor in building a relationship of trust with our stakeholders. Accordingly, in June 2021, we registered our support for the TCFD^{*} Recommendations. We will continue to enhance our disclosure of information on the impact of climate change on our business activities in accordance with the TCFD Recommendations.



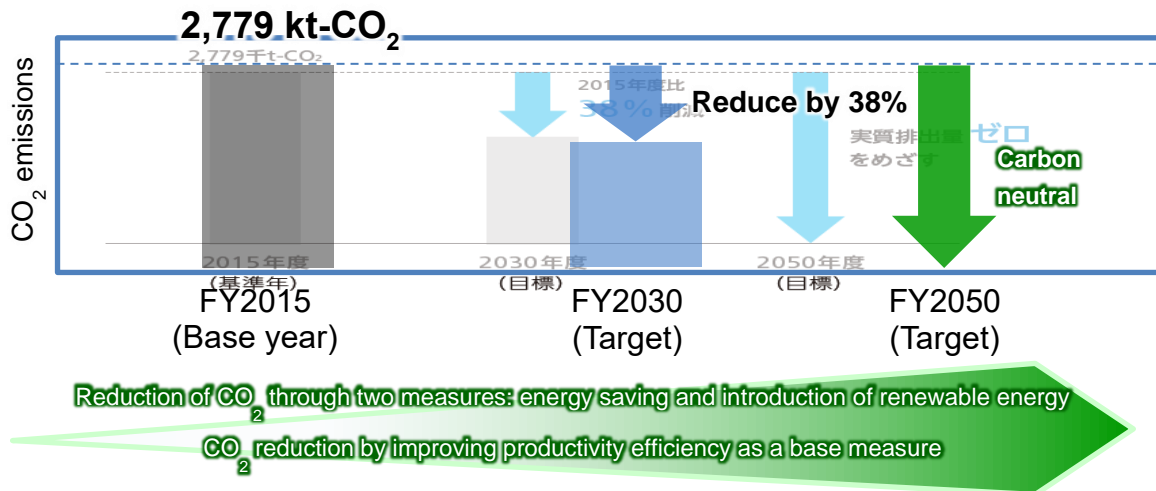
*TCFD (Task Force on Climate-related Financial Disclosures):

Created in 2015 by the Financial Stability Board (FSB) in response to the related request from the G20 summit meeting. In June 2017, the TCFD published the final recommendations, specifying items for business and other organizations to deal with when disclosing information on climate-related risks and opportunities.

2. Indicators and Targets

The Proterial Group has set targets for reducing CO₂ emissions* as shown in the illustration below. In promoting carbon neutrality, we will implement various measures, such as process improvement particularly through facility investment, fuel conversion for melting and heating furnaces and other equipment, technology development for expanding usage of carbon-free fuels, and introducing renewable energy in addition to continuing with previous energy-conserving activities.

CO₂ emissions reduction targets (Group)



- * Scope 1: direct CO₂ emissions by the Company
- Scope 2: indirect emissions associated with the use of electricity, heat, and steam supplied by other companies (absolute value)

Group-wide Scope 1 and 2 results (kt-CO₂)

Item	FY2020	FY2021	FY2022
Scope 1	777	876	818
Scope 2	1,218	1,340	1,095
Scope 1 + Scope 2	1,995	2,216	1,913

About Scope 3

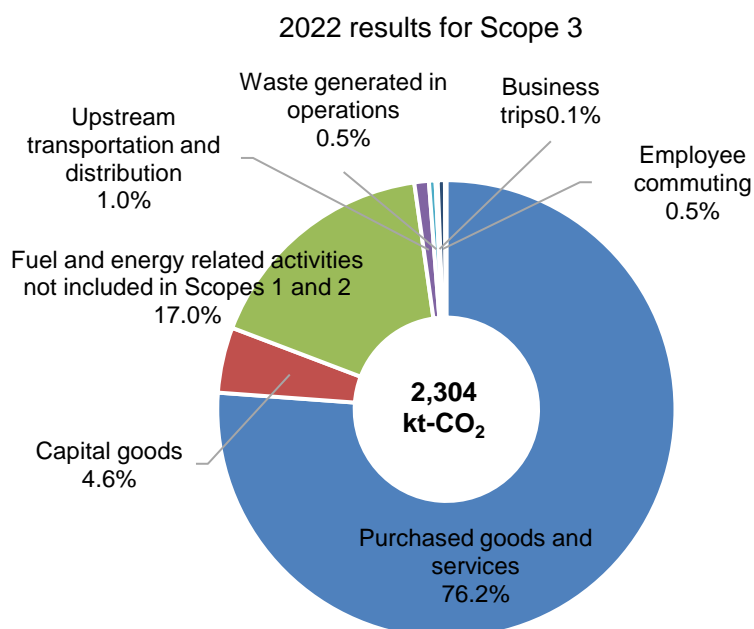
The Company calculated CO₂ amount for Scope 3 Categories 1 to 7 and 13 according to Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain.

CO₂ emissions in fiscal year 2022 totaled 2,304 kt-CO₂, of which “Category 1: Purchased Goods and Services” accounted for the largest share (76.2%).

Category	Category description	FY2021		FY2022	
		CO ₂ emissions (kt-CO ₂)	Percentage (%)	CO ₂ emissions (kt-CO ₂)	Percentage (%)
Category 1	Purchased goods and services	1,746	74.1	1,755	76.2
Category 2	Capital goods	115	4.9	106	4.6
Category 3	Fuel and energy related activities not included in Scopes 1 and 2	412	17.5	391	17.0
Category 4	Upstream transportation and distribution	38	1.6	24	1.0
Category 5	Waste generated in operations	27	1.1	11	0.5
Category 6	Business trips	4	0.2	3	0.1
Category 7	Employee commuting	12	0.5	12	0.5
Category 13	Downstream leased assets	2	0.1	2	0.1
Total		2,356	100.0	2,304	100.0

*Scope of data: Calculated only for the relevant category within the Group

*Calculation method: Ministry of the Environment DB3.1 and IDEA database Ver. 3.2 were used.



* Executive compensation

Executive compensation in the Proterial Group is determined on the basis of the achievement of annual targets. Starting in fiscal 2022, the achievement of the Group's CO₂-emissions reduction target has been added as an evaluation item for climate-change response. This indicator is applied to management positions, as a measure to encourage the holders to work on carbon neutrality initiatives recognizing it as an important issue facing our business operations.

* Internal carbon pricing

To promote CO₂ emissions reduction, we have added the concept of "internal carbon pricing" to our internal regulations related to capital investment. In detail, we set a carbon price (8,000 yen/t CO₂) based on the total amount of CO₂ emissions after capital investment, and the effect of the CO₂ reduction of the capital investment is calculated as profit. (October 2021)

The carbon price will be calculated with reference to the procurement price of renewable energy in Japan and reviewed periodically.

3. Strategy (scenario analysis)

The Group has begun "scenario analysis" to clarify the risks and opportunities posed by future climate change and to develop business strategies to reduce risks and expand opportunities. While we recognize that scenario analysis should cover the entire group, including the supply chain, in fiscal year 2021, we limited our analysis to a limited number of scenarios and scope of coverage. In fiscal 2022, we performed the analysis of our domestic business.

In fiscal 2023, we re-evaluated our domestic business in line with the transition to the new system. From now onwards, we will promote scenario analysis that includes overseas operations.

- Scenario-analysis process

Scenario analysis is conducted following the relevant steps to assess (i) financial and business impacts under different scenarios and (ii) resilience of the Proterial Group strategy in regard to climate-related risks and opportunities.

- Assumptions for scenario analysis

Scenario: Refer to “Below-2°C scenario” for risks and opportunities excluding physical risks, and refer to “4°C scenario” for physical risks.

Target businesses: FY2021: Advanced Metals Division (domestic sites)

FY2022: Advanced Components and Materials Division (domestic sites); Advanced Metals Division (domestic sites)

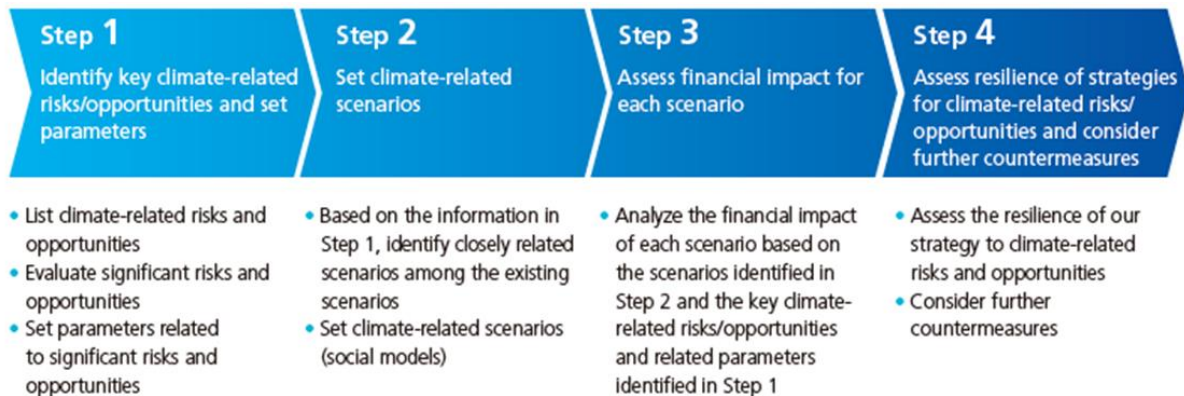
FY2023: each business unit (domestic sites)

Target year: Impact as of 2030

- Reference scenario

Classification	Main reference scenario
Less-than 2°C scenario	<ul style="list-style-type: none"> IEA World Energy Outlook 2020. Sustainable Development Scenario IPCC RCP2.6
4°C scenario	<ul style="list-style-type: none"> IEA World Energy Outlook 2020. Stated Policy Scenario IPCC RCP8.5

- Steps of scenario analysis



The following table summarizes the results of examinations on risks and opportunities posed by climate change.

Classification	Type	Content	Business/financial impact				Our response	
			Specialty steel	Rolls	Piping Components	Automotive Casting		
Risk	Transition	Policy/ regulations	Increased production and operating costs due to tighter regulations on carbon pricing (CP), including carbon taxes, taxes on fuel and energy consumption, and emissions trading	Medium	Medium	Small	Medium	Currently, we are working to reduce CO ₂ emissions by promoting various energy-saving measures (e.g., introduction of or switch to LED lighting and high-efficiency equipment) and activities to improve productivity, aiming to reduce per-unit energy consumption by at least 1% per annum. From now onwards, we will implement additional measures for active promotion of fuel conversion, and introduction of renewable energy equipment (i.e., installation of solar panels) so as to accomplish our CO ₂ reduction target for 2030, a milestone toward achieving carbon neutrality by 2050.
			Rising procurement costs of raw materials, including rare metals and auxiliary materials such as direct supplementary materials, due to stricter CP and other regulations	Medium	Small	Small	Medium	As for principle raw materials, we will work to increase surcharges and consider and implement plans to find new suppliers. From the perspective of life-cycle assessment (LCA), we will increase the utilization ratio of scrap generating low CO ₂ emissions and find new suppliers.
		Technology	Increase in operating costs due to capital investment involved in the introduction of manufacturing processes (electrification and alternative fuels) to meet decarbonization requirements	Medium	Small	Small	Large	When introducing new manufacturing processes, we will examine equipment specifications with the aim of reducing its impact on operating costs.
		Market	Decreased sales of peripheral components of internal combustion engines owing to the expansion of xEVs	Medium	-	-	Large	As for capturing demand for components of automotive internal combustion engines, we will target the commercial vehicle and agricultural/construction equipment fields.
			Decreased sales due to changes in customers' procurement standards (RE100 and other compliance requirements) in accordance with decarbonization	Medium	Small	Large	Small	As for reducing CO ₂ emissions from manufacturing processes, we will continue to promote both energy conservation and renewable energy, and we will focus on how to respond to customer requests for decarbonization.
			Increased costs of developing new products for a decarbonized society	Small	Small	Medium	Large	We will develop environmentally friendly products and launch them onto the market sequentially while not being restricted to our conventional business areas.
			Increased procurement risk due to increased demand for raw materials	Small	Small	Small	Small	We will develop processes that utilize overseas scrap alloys and low-grade materials.
		Reputation	Decreased sales due to lower customer evaluations resulting from delays in the development and launch of environmentally conscious products onto the market	Small	Small	Medium	Large	We will strengthen cooperation between sales departments and research and development departments with the aim of developing environmentally friendly products, and address the issue as a company-wide top priority.
	Physical	Acute and chronic	Orders and sales decreased as a result of delays in delivery owing to operations suspended due to abnormal weather-induced natural disasters	Small	Small	Small	Small	We will systematically improve our production systems in anticipation of extreme weather events. We will expand the BCP system and refine the action manual for emergencies.
			Increased business costs due to rising insurance costs	Medium	Small	Small	Large	In areas where disasters such as tidal waves and floods are anticipated based on the local history of disasters, we will systematically implement disaster preparedness measures such as relocation of factories and product warehouses, protection of production lines, etc.
	Opportunity	Resource efficiency	Sales increased by increasing product value through efficient production and efficient use of materials and energy	Medium	Small	Small	Small	To achieve the 2030 CO ₂ emissions reduction target, we will promote various energy-saving measures (e.g., introduction of or switch to LED lighting and high-efficiency equipment) and productivity-improvement measures while promoting fuel conversion and introduction of renewable energy (i.e., installation of solar panels) in a proactive manner. Also, we will publicize our efforts and achievements.
		Source of energy	Sales increased by gaining improved customer evaluation as business partner by working on decarbonization	Medium	Medium	Small	Medium	We will actively promote CO ₂ reduction by introducing renewable energy and switching to carbon-neutral fuels.
Products/ Services		Sales increased by developing and launching environmentally friendly products onto the market	Large	Small	Small	Large	We will receive new orders and increase the market share of target products by shortening the development lead time and reducing the costs of environmentally friendly products. We will continue to expand sales of environmentally friendly products, which are expected to be in more demand in the future. Examples: <ul style="list-style-type: none"> • Mold materials that provide longer service life • Materials for various industrial machinery, undercarriage parts, and exhaust-gas filters that contribute to improved fuel efficiency and reduced emissions by cars • Aerospace products that are expected to improve the fuel efficiency of airplanes 	

							<ul style="list-style-type: none"> • Battery materials (clad products) and power-semiconductor materials for use in batteries and other products • Mass-flow controllers that enable semiconductor manufacturing equipment to save energy
	Market	Sales increased by expanding sales of environmentally friendly products into new global markets in response to increased demand	Medium	Small	Small	Small	As decarbonization progresses, products are expected to become smaller, more powerful, and lighter; accordingly, we will develop new applications with various alloys that can take advantage of different material properties.
		Sales increased by expanding into the xEV market	Medium	-	-	Small	Many of our products, including clad metals, are used in lithium-ion rechargeable batteries, for which demand is increasing with the expanding xEV market, so we expect sales to increase.

Classification	Type	Content	Business/financial impact				Our response	
			Magnetic Materials	Power Electronics	Electric wires and cables	Automotive components		
Risk	Transition	Policy/regulations	Increased production and operating costs due to tighter regulations on carbon pricing (CP), including carbon taxes, taxes on fuel and energy consumption, and emissions trading	Large	Medium	Medium	Medium	Currently, we are working to reduce CO ₂ emissions by promoting various energy-saving measures (e.g., introduction of or switch to LED lighting and high-efficiency equipment) and activities to improve productivity. From now onwards, aiming to achieve our CO ₂ emissions target for 2030, we will actively promote fuel conversion and purchase of renewable electricity as well as the introduction of renewable energy (i.e., installation of solar panels).
			Rising procurement costs of raw materials, including rare metals and auxiliary materials such as direct supplementary materials, due to stricter CP and other regulations	Large	Medium	-	Small	As for principle raw materials, we will work to increase surcharges (price sliding-scale system) and cultivate new suppliers. From the perspective of life-cycle assessment (LCA), we will increase the utilization ratio of scrap (which generates low CO ₂ emissions), and in regard to the magnet business, we will work to reduce the amount of heavy rare earths used and reduce procurement costs by developing low-heavy rare earth materials and introducing them to the market.
		Technology	Increase in operating costs due to capital investment involved in the introduction of manufacturing processes (electrification and alternative fuels) to meet decarbonization requirements	Small	Small	Small	-	When introducing new manufacturing processes (e.g., introduction of the latest energy-saving technologies), we will examine equipment specifications with the aim of reducing their impact on operating costs. And the increased costs will be passed on to sales prices.
		Market	Decrease in sales due to lower sales prices and lower customer evaluations due to intensifying competition in the Asian market with competing xEV suppliers	-	Large	Small	Large	We will reduce costs by introducing high-efficiency equipment, improving productivity, and procuring parts locally.
	Sales decreased due to reduced operations as a result of rising copper demand causing tight supply of main materials.		-	-	Large	-	We will reduce the amount of copper used by improving productivity and secure multiple procurement sources by securing new suppliers.	
	Decrease in sales due to delays in responding to decarbonized-product requirements for existing products or lost opportunities to expand new sales (RE100, etc.)		Small	Large	Small	Large	We will improve the ratio of renewable energy use by promoting introduction of renewable energy and selecting electric-power companies with a high RE power-generation ratio.	
	Physical	Acute and chronic	Orders and sales decreased as a result of delays in delivery owing to operations suspended due to abnormal weather-induced natural disasters	Small	Small	Medium	Large	We will systematically improve our production systems in anticipation of extreme weather events. We will expand the BCP system and refine the action manual for emergencies.
Opportunity	Resource efficiency	Sales increased by raising product value through efficient production and effective use of materials and energy.	Small	Small	Medium	Small	To achieve the 2030 CO ₂ emissions reduction target, we will promote various energy-saving measures (e.g., introduction of or switch to LED lighting and high-efficiency equipment) and productivity-improvement measures while promoting fuel conversion and introduction of renewable energy (i.e., installation of solar panels) in a proactive manner. Also, we will publicize our efforts and achievements.	
	Source of energy	Sales increased through improved customer evaluation as business partner by working on decarbonization.	Small	Small	Small	Small	We will work reduce electricity consumption by improving productivity and increase the utilization rate of renewable energy.	
	Products/ Services	Sales increased by developing and launching environment-friendly products onto the market.	Large	Large	Medium	Medium	We aim to expand sales by developing products that contribute to a low-carbon society. <ul style="list-style-type: none"> • Various products for xEVs (magnets, SiN, SiC, magnet wires, automotive electrical components, etc.) • Amorphous alloy (MaDC-ATM) that contributes to higher efficiency of transformers 	
	Market	The shift to lighter rare earths will accelerate due to increased procurement risks and costs of heavy rare earths due to stricter regulations on CP and decarbonization requirements.	Large	Small	-	-	We aim to increase sales by developing low heavy rare earth magnets for customers who are considering replacing rare earth magnets containing a large amount of heavy rare earth elements, introducing them into the market, and proposing replacements for rare-earth magnets by improving the characteristics of ferrite magnets.	

xEV: Generic term for electric vehicles (EVs), hybrid electric vehicles (HEVs), and plug-in hybrid electric vehicles (PHEVs)

RE100: Abbreviation for 100% Renewable Energy. An international initiative that aims to provide 100% of the electricity used in business operations from renewable energy sources.

<p>Definition of assessment of business/financial impact</p> <p>Large: cost or effect equal to or greater than 5% of sales*1</p> <p>Medium: cost or effect equal to at least 1% but less than 5% of sales*1</p> <p>Small: cost or effect is less than 1% of sales*1</p> <p>-: Not subject to impact assessment</p>
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*1. Net sales of target businesses

As described above, the scenario analysis of the business areas of Advanced Components and Materials Division (domestic sites), in addition to that for the Advanced Metals Division (domestic sites) with the results disclosed on May 26, 2022, verified the response to each risk and opportunity with respect to the strategy for each business, and the analysis results confirmed that our strategy is resilient.

(b) Medium and Long-term Goals for Carbon Neutrality

The Proterial Group has set medium and long-term goals to achieve carbon neutrality, as specified below, and is promoting activities toward a decarbonized society according to the goals.

■ Medium and long-term goals to achieve carbon neutrality by 2050

Medium-term goal: Reduce CO₂ emissions by 38% by FY2030 (compared with FY2015)

Long-term goal: Reduce CO₂ emissions to net zero by FY2050

Target: direct emissions related to fuel consumption (Scope 1) and indirect emissions related to electricity consumption, etc. (Scope 2)

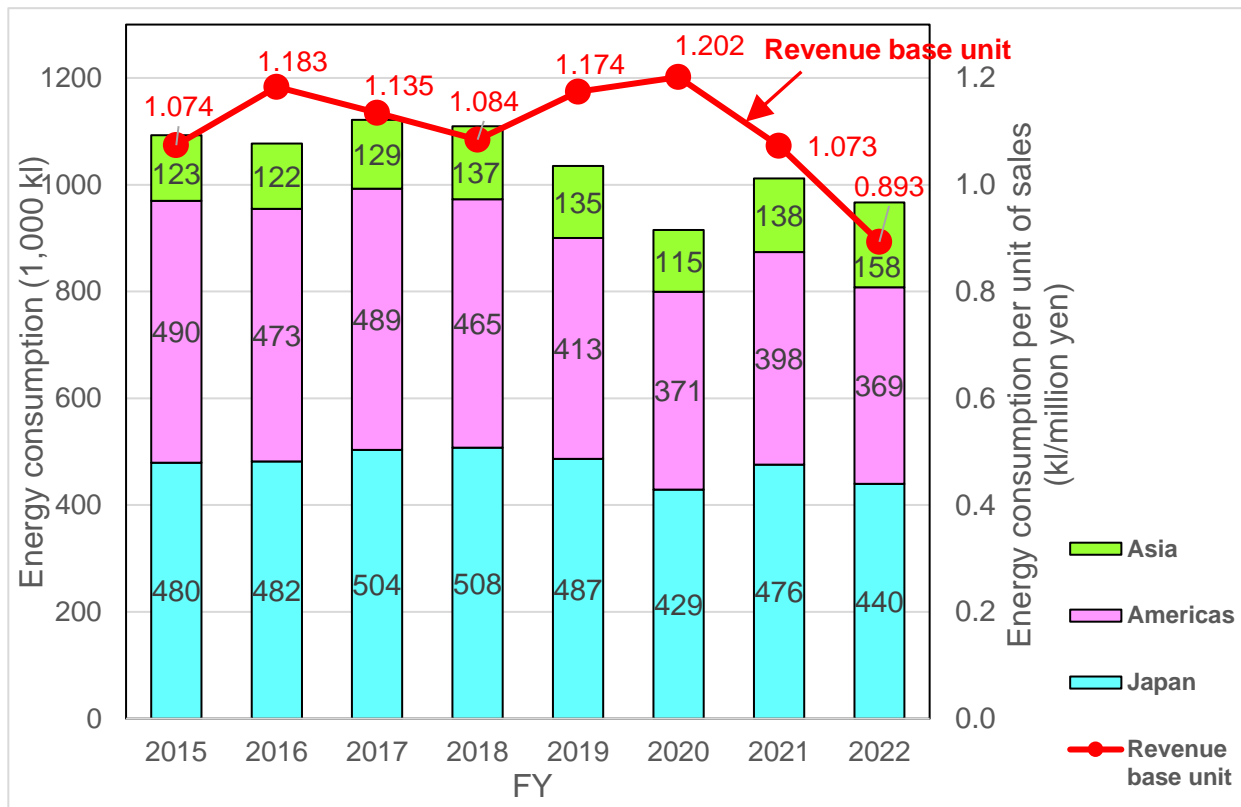
(c) Trends in Energy Consumption and Energy Consumption per Unit of Sales

The Proterial Group's global energy consumption in fiscal 2022 was 967 thousand kl in crude oil equivalent, down 45 thousand kl (4.5%) from fiscal 2021.

Energy consumption in fiscal 2022 declined from fiscal 2021 due to a decrease in production (approximately 9.2% on a weight basis) and energy-saving activities implemented. Meanwhile, energy consumption per unit of sales improved from fiscal 2021 by 19.5% to 0.864. This was attributable to a 18.7% year-on-year increase in revenues and effective energy-saving efforts. Major measures for reducing energy consumption were carried out through improving productivity, ensuring efficient operation of facilities, adopting highly efficient equipment, facilitating fuel conversion, particularly to alternative coke, and promoting heat insulation and waste heat utilization.

To reduce energy consumption even further, we will continue to pursue energy-saving activities linked to *monozukuri* (manufacturing). The emphasis is on eliminating excess processes, improving efficiency, boosting the yield rate, curtailing fixed energy, installing energy-saving equipment, fuel conversion and introducing renewable energy.

Trends in Energy Consumption and Energy Consumption per Unit of Sales



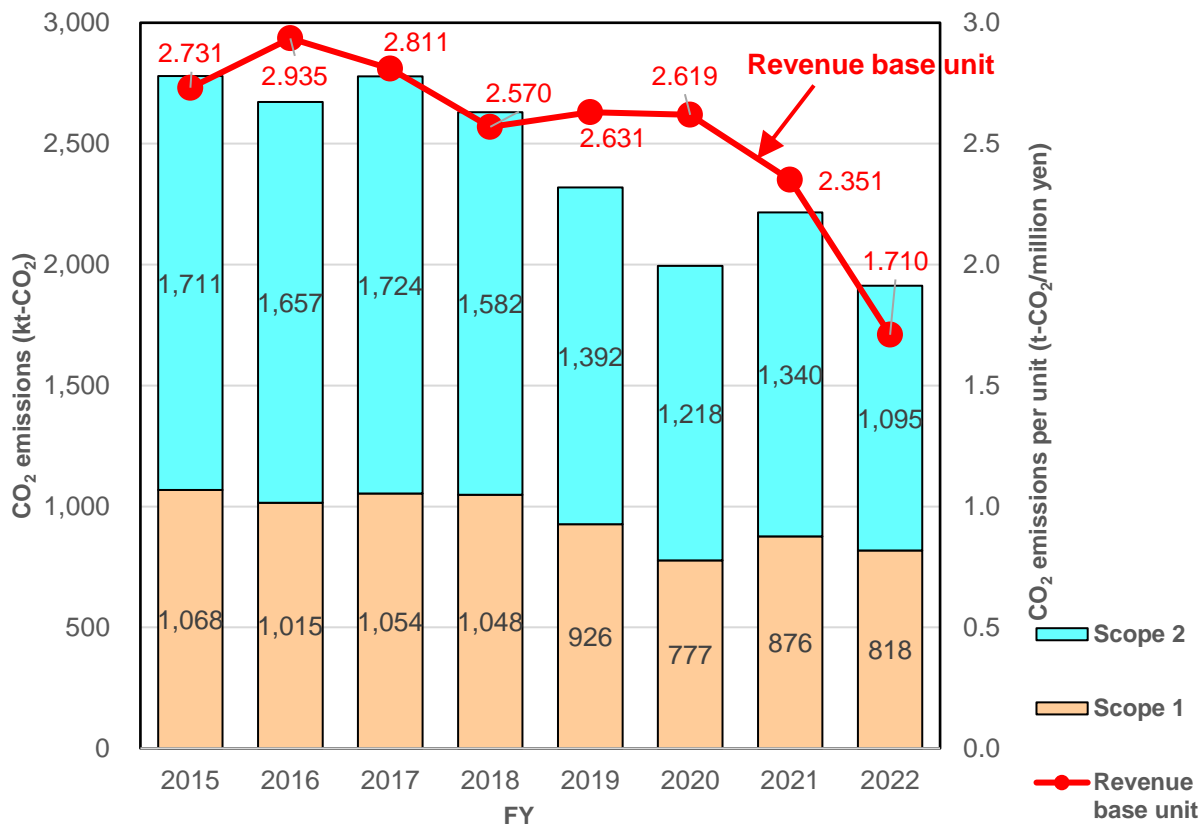
(d) Trends in CO₂ Emissions from Energy Usage and CO₂ Emissions per Unit

The Proterial Group's global CO₂ emissions from energy usage in fiscal 2022 were 1,913 thousand tons, down 303 thousand tons (13.7%) from fiscal 2021. This was down 866 thousand tons (31.2%) from the base year (fiscal 2015).

CO₂ emissions per unit of revenues were 1.710, down 27.3% from fiscal 2021, and down 37.4% from fiscal 2015. Contributors to the improved per unit value were found in variables both in the numerator and denominator—reduced CO₂ emissions in the former (due chiefly to energy-saving activities, switching electricity companies, and lower production) and higher revenues in the latter (up 19% from fiscal 2021, factoring in effect of a rise in prices for raw materials and a weaker yen). Major CO₂ emissions reduction measures were carried out through improving productivity, adopting highly efficient equipment, facilitating fuel conversion, particularly to alternative coke, promoting heat insulation and waste heat utilization, and accelerating the introduction of renewable energy, and adopting carbon-free natural gas.

Going forward, we will step up our efforts to reduce CO₂ emissions, aiming at medium and long-term targets set to achieve carbon neutrality by 2050, with a focus on introducing renewable energy while continuing with our energy-saving activities.

Trends in CO₂ Emissions from Energy Usage and CO₂ Emissions per Unit



Note: Approximately 60% of the Proterial Group's CO₂ emissions are attributable to Scope 2 (electricity). Within Scope 1 (fossil fuels), the largest emitter is coke, followed by city gas. We use CO₂ emission factors of electric power on a regional basis: in Japan, emission factor for each electric power company published by the Ministry of the Environment; and outside Japan, the country-specific conversion factor in World Energy Outlook 2022 issued by the International Energy Agency (IEA).

(3) Effective Use of Resources

(a) Vision for Effective Use of Resources

The Proterial Group is using in-house reuse and recycling by way of intermediate processing to create a resource-efficient society and achieve the "thorough circulation of resources throughout the life cycle of goods and services," as stated in the 4th Fundamental Plan for Establishing a Sound Material-Cycle Society.

● Targets for Fiscal 2022 in the Medium-Term Environmental Action Plan

- Reduction of waste generation per production unit*¹ by at least 33% compared to fiscal 2010 (global)
- Waste landfill rate: 11.5% or less (global)

*1. (Waste and valuables generation) / (amount of activity)^{*2}

*2: A figure representing the scale of business activities such as sales or production weight

● Fiscal 2022 Results

Reduction rate of waste generation per production unit: 33.6%

Waste landfill rate: 10.1%

We are working to reduce the amount of waste and valuables ("waste") generated per production unit, which is calculated to provide us with an indicator for waste reduction activities. We are promoting efforts to reduce waste output, focusing on process innovation such as improvement of production processes.

Furthermore, in response to tight conditions at final disposal sites and requirements to respond to social demands regarding the effective use of resources, we are working to improve the waste landfill rate to attain the targets set in fiscal 2019, chiefly by promoting recycling and reducing the final disposal volume.

(b) Results of Waste Management

Total waste generated by the Proterial Group in fiscal 2022 amounted to about 758 thousand tons, down 66 thousand tons from 824 thousand tons in the previous fiscal year.

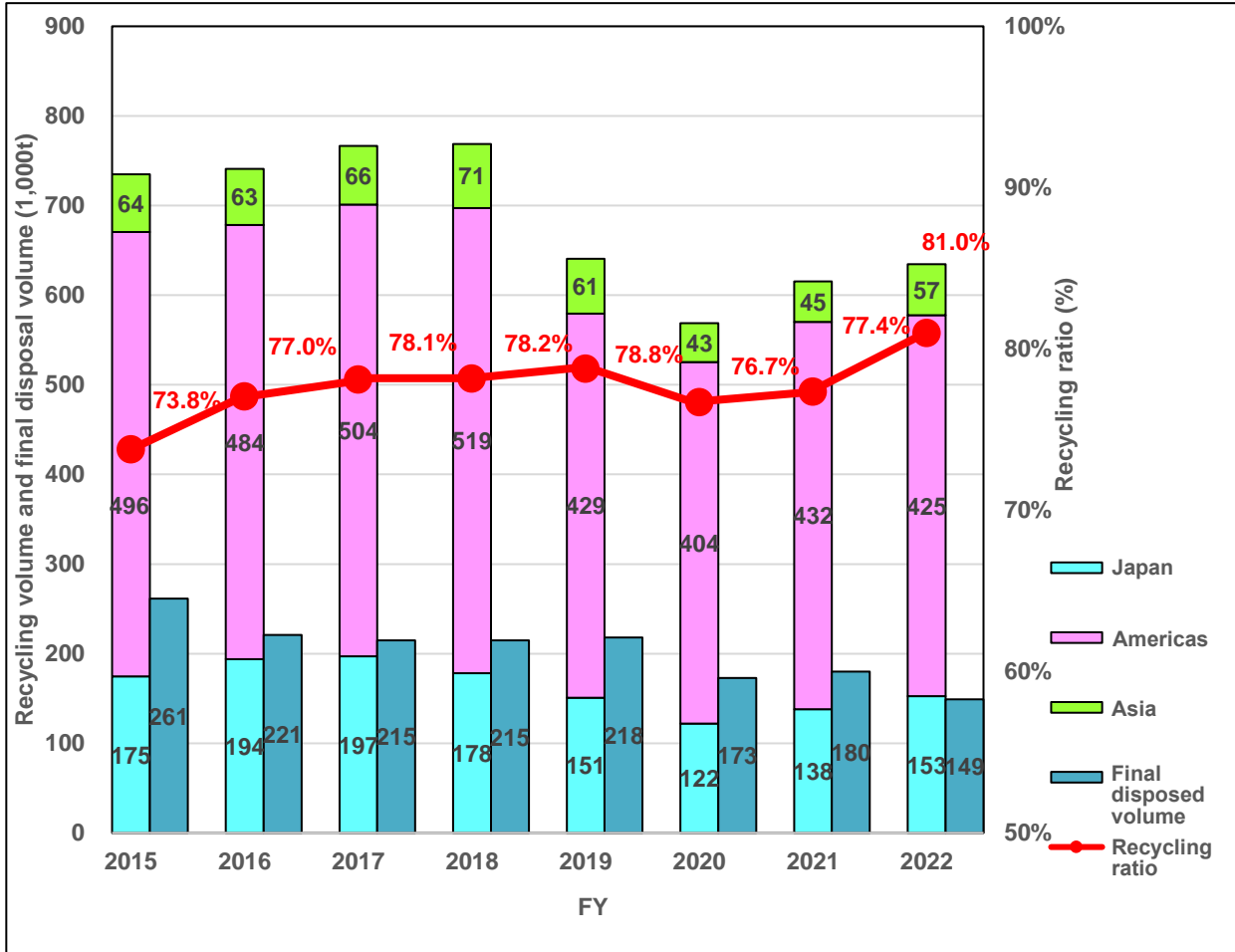
We achieved a 33.6% reduction from the base year in the generation of waste per production unit, a management indicator in our Environmental Action Plan, and exceeded the target for fiscal 2022 (33%). This was attributable to the launch of a sand recycling system at the U.S.-based Waupaca Foundry, Inc. The amount of recycled resources was 153 thousand tons in Japan, 425 thousand tons in the Americas, and 57 thousand tons in Asia (total: 635 thousand tons). The final disposal amount was 13 thousand tons in Japan, 126 thousand tons in the Americas, and 10 thousand tons in Asia (total: 149 thousand tons). (The final disposal amount includes the amount of household waste, hazardous waste, and waste deposited on our premises.) The amount of recycled plastics waste was 4.2 thousand tons (2.0 thousand tons on a non-consolidated basis), and the recycling rate was 87.6%, up 5.8% (86.7%, up 4.9%, on a non-consolidated basis). (Target of reducing the amount of waste plastics, waste and valuables per production unit:1% [in and after fiscal 2023])

There were many challenges to recycling waste in Japan, but thanks to recycling activities in the Americas and other factors, the waste landfill rate in fiscal 2022 was 10.1%, compared to the target value of 11.5%. Going forward, we plan to raise the bar overall through activities stepped up at overseas sites, where we believe that many recyclable items remain.

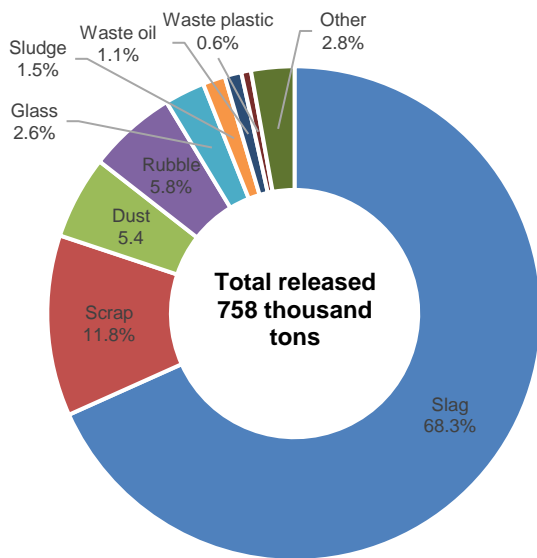
Also of note, we achieved zero emission status^{*1} at 17 business offices.

*1. From fiscal 2011, deemed to be a final disposal volume of less than 0.5% of total emissions.

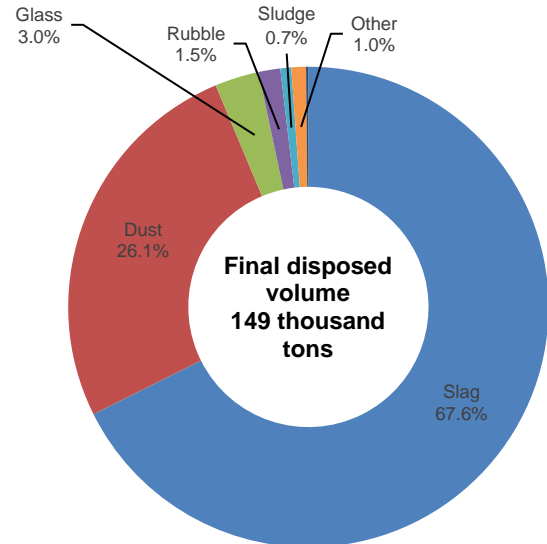
Trends in Recycling Volume, Final Disposal Volume, and Recycling Ratio



Breakdown of Waste Volume (Proterial Group)



Breakdown of Final Disposal Volume (Proterial Group)



Note: The final disposal amount includes household waste, hazardous waste, and in-house landfill.

(c) Reduction of Water Usage

● **Targets for Fiscal 2022 in the Medium-Term Environmental Action Plan**

- Reduction of water usage per production unit*1 by at least 33% compared to fiscal 2010 (global)

*1. (Water usage) / (amount of activity*2)

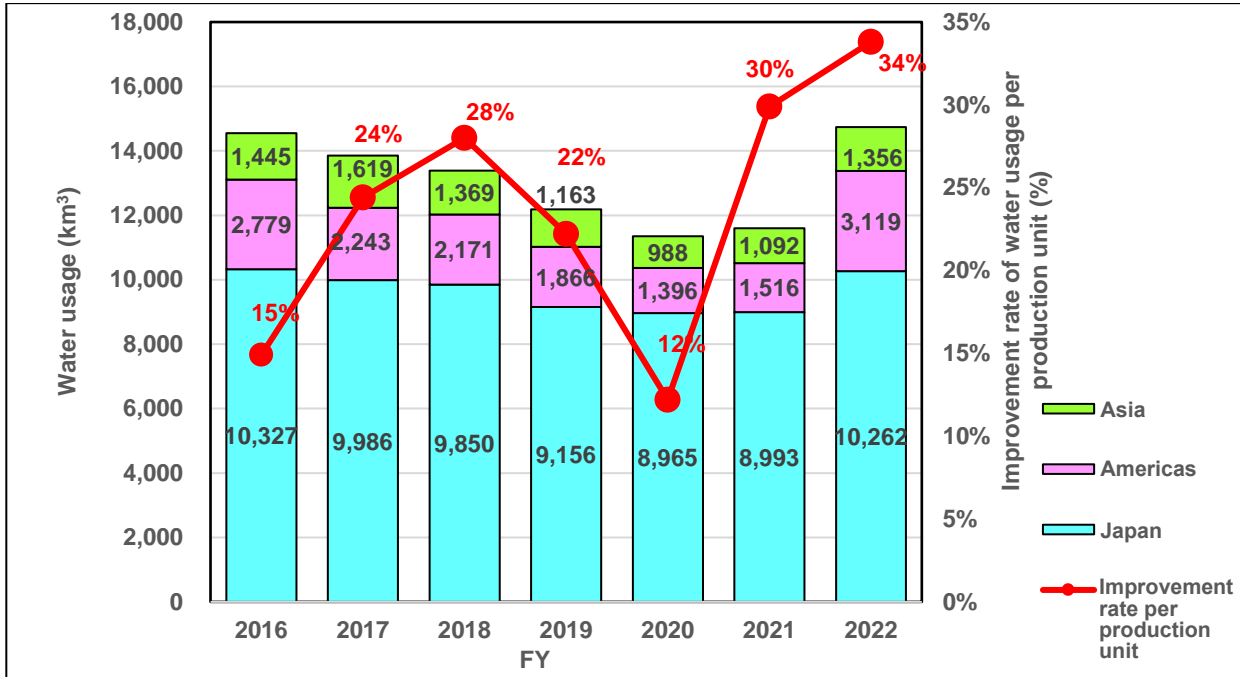
*2. A figure representing the scale of business activities such as sales or production weight

● **Fiscal 2022 Results**

Reduction rate of water usage per production unit: 33.8%

Since fiscal 2016, we have been working to achieve the targets for effective use of water resources set in the Environmental Action Plan through global efforts. Per unit water usage increased 3,135 thousand m³ from fiscal 2021 to 14,737 thousand m³ in fiscal 2022, when the denominator variable changed to the amount of water intake. We reduced water usage per production unit by 33.8% compared to the base year, achieving our target. Major contributors to achieved per unit value targets were: recovery of production volume; and reduction of water usage through measures such as installing water recycling systems in equipment with less impact on quality, adopting functions to reduce water discharge, and repair of water leakage. We plan to work on raising water use efficiency, in order to further reduce water usage.

Trends in Reduction Rate of Water Usage per Production Unit



(4) Chemical Substance Management

(a) Reduction of Substances of Environmental Concern

Of the substances handled by domestic companies in the Proterial Group that are subject to the PRTR Law,^{*1} six substances—nickel (including compounds), chromium, molybdenum, manganese, phthalic acid (2-ethylhexyl), and cobalt—are essential raw materials used in Proterial’s products. These six substances constitute 96% of the total amount handled and 79% of that transferred. Of the total amount released into the atmosphere, 58% is attributable to toluene and xylene, which are volatile organic compounds (VOCs).

*1. Act on the Assessment of Releases of Specified Chemical Substances in the Environment and the Promotion of Management Improvement

The State of PRTR Substance Handling in Fiscal 2022 (Domestic Group)

Fig. Breakdown of Volume Handled

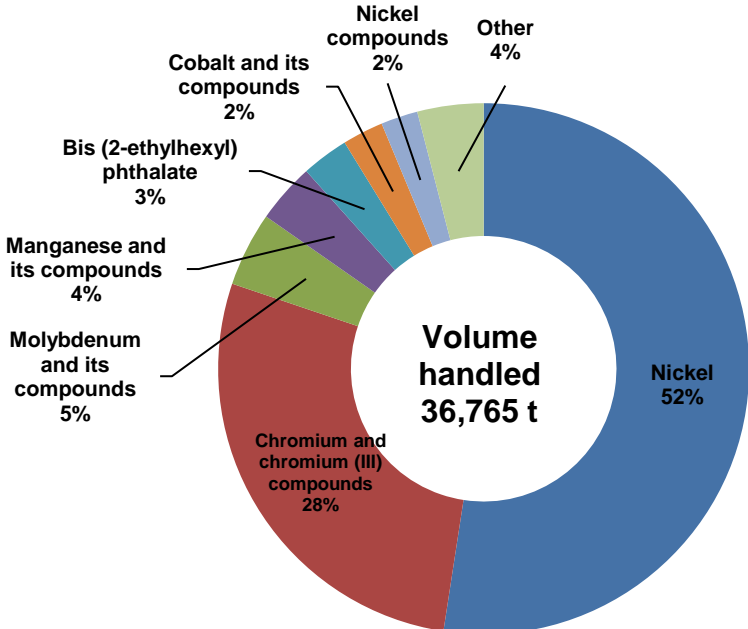


Fig. Volumes Consumed, Released, and Transferred, and Other Breakdowns

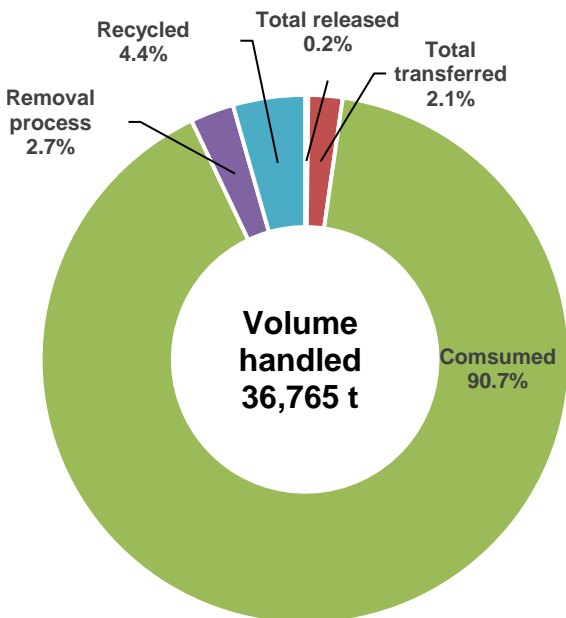


Fig. Breakdown of Release (atmosphere, water)

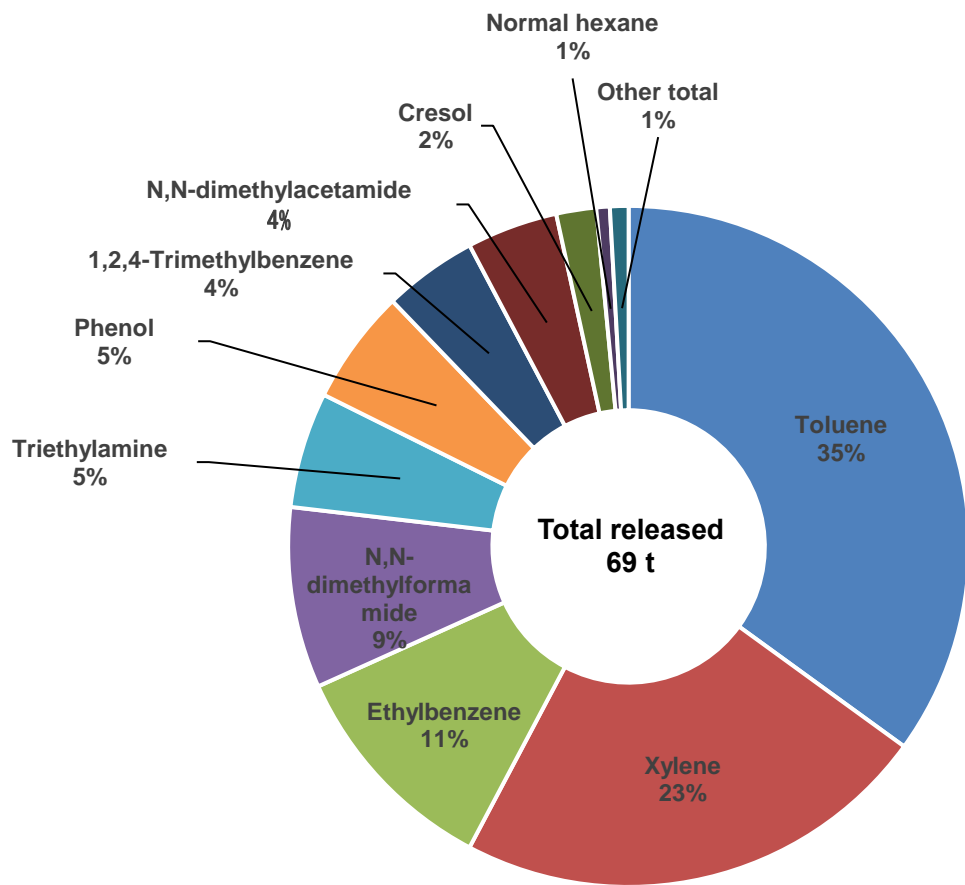
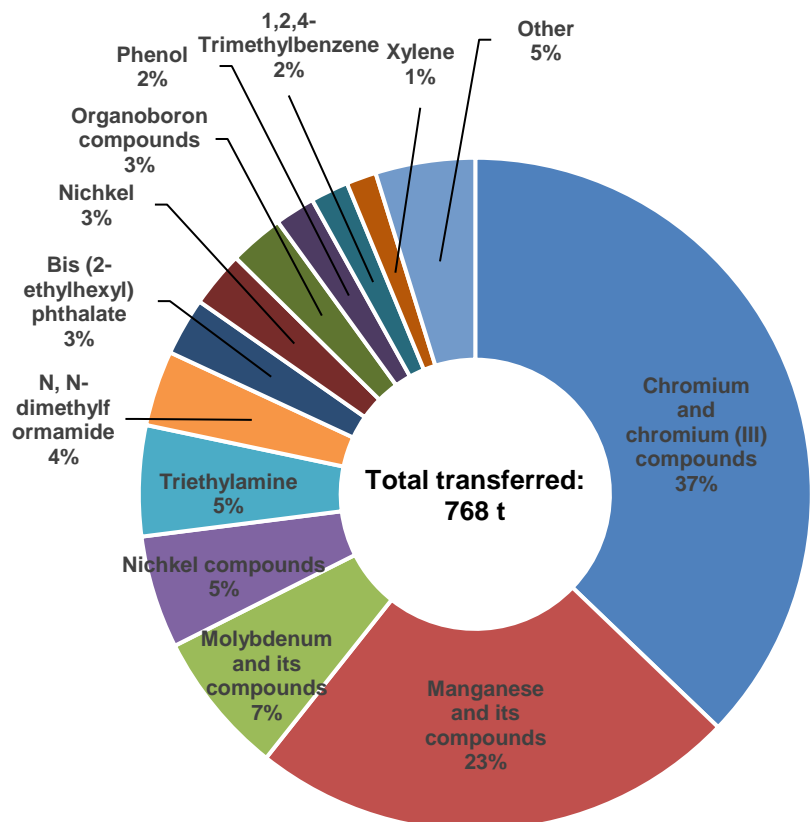


Fig. Breakdown of Transfer (waste, sewerage)



Fiscal 2022: PRTR Data (in Japan) (Unit: Tons/year)

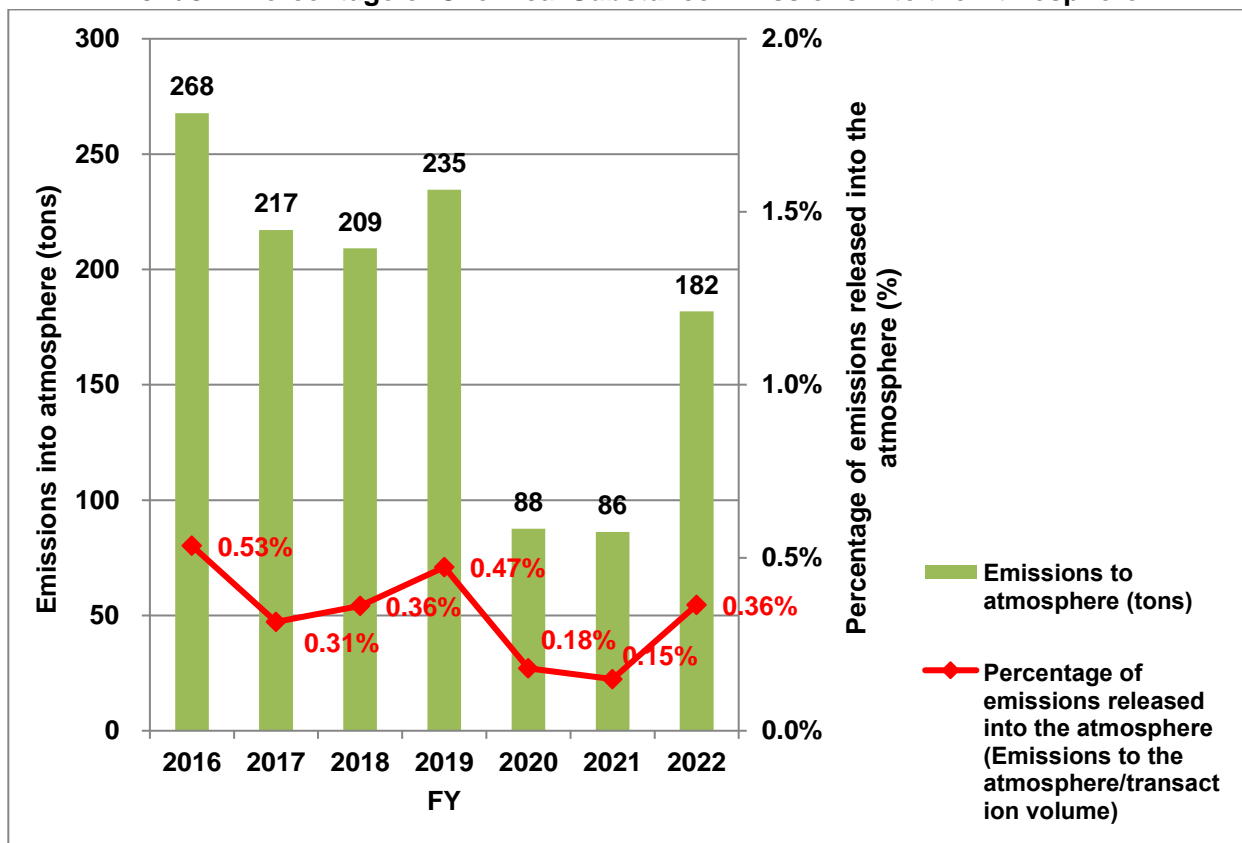
№	Name	CAS№	Volume handled	Volume released					Volume transferred		
				Atmosphere	Public water system	Soil	Landfill	Total	Sewerage	Waste	Total
31	Antimony and its compounds	-	56	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
44	Indium and its compounds	-	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
53	Ethylbenzene	100-41-4	31	7.3	0.0	0.0	0.0	7.3	0.0	5.5	5.5
71	Ferric chloride	7705-08-0	244	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7
80	Xylene	1330-20-7	89	15.7	0.0	0.0	0.0	15.7	0.0	11.1	11.1
86	Cresol	1319-77-3	176	1.3	0.0	0.0	0.0	1.3	0.0	4.3	4.3
87	Chromium and chromium (III) compounds	-	10,208	0.0	0.0	0.0	0.0	0.1	0.0	285.3	285.3
132	Cobalt and its compounds	563-47-3	919	0.0	0.0	0.0	0.0	0.0	0.0	5.8	5.8
188	N,N-dicyclohexylamine	101-83-7	2	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.6
213	N,N-dimethylacetamide	127-19-5	145	3.0	0.0	0.0	0.0	3.0	0.0	4.4	4.4
230	N-(1,3-dimethylbutyl)-N'-phenyl-p-phenylenediamine	793-24-8	3	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
232	N, N-dimethylformamide	68-12-2	235	5.9	0.0	0.0	0.0	5.9	0.0	27.8	27.8
265	Tetrahydromethylphthalic anhydride	11070-44-3	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
277	Triethylamine	121-44-8	95	3.8	0.0	0.0	0.0	3.8	0.0	40.8	40.8
296	1,2,4-Trimethylbenzene	95-63-6	32	3.1	0.0	0.0	0.0	3.1	0.0	14.0	14.0
297	1,3,5-Trimethylbenzene	108-67-8	9	0.3	0.0	0.0	0.0	0.3	0.0	3.3	3.3
300	Toluene (Synonym: methylbenzene)	108-88-3	33	24.2	0.0	0.0	0.0	24.2	0.0	6.0	6.0
304	Lead	7439-92-1	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305	Lead compounds	-	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
308	Nickel	7440-02-0	19,274	0.0	0.0	0.0	0.0	0.0	0.0	20.6	20.6
309	Nickel compounds	-	827	0.0	0.2	0.0	0.0	0.2	0.0	41.6	41.6
330	Bis (1-methyl-1-phenylethyl) peroxide	80-43-3	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
349	Phenol	108-95-2	205	3.8	0.0	0.0	0.0	3.8	0.0	14.8	14.8
355	Bis (2-ethylhexyl) phthalate	117-81-7	1,055	0.0	0.0	0.0	0.0	0.0	0.0	21.3	21.3
374	Hydrofluoric acid and its water-soluble salts	-	23	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
391	Hexamethylene = diisocyanate	822-06-0	28	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
405	Boron compounds	-	33	0.0	0.0	0.0	0.0	0.0	0.0	20.1	20.1
412	Manganese and its compounds	-	1,338	0.0	0.2	0.0	0.0	0.3	0.0	180.5	180.5
438	Methylnaphthalene	1321-94-4	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
453	Molybdenum and its compounds	-	1,663	0.0	0.0	0.0	0.0	0.0	0.0	52.9	52.9
(A total of 40 substances with handled volumes of less than one ton)			10	0.7	0.0	0.0	0.0	0.7	0.0	1.8	1.8

(b) Reduction of Chemical Substance Emissions

We have revised our chemical substance management system launched in fiscal 2016, which had previously targeted only volatile organic compounds (VOCs), based on risks such as acute toxicity and carcinogenesis, and have identified 47 new substances for management from among substances handled in large amounts (as a result of three types of metal compounds being removed from the former list in fiscal 2022). We are engaged in activities aimed at controlling the release of these substances into the environment. Most are emitted into the atmosphere, and VOCs account for over 90% of the total. We are therefore continuing improvement activities that focus on the treatment of solvent components used for product coating, as in the past, working to reduce emissions by conducting technological investigations and making changes in equipment to find substitutes for coating materials and improve processes.

In fiscal 2022, emissions released into the atmosphere increased by 96 tons from fiscal 2021 to 182 tons. Also, the percentage of emissions released into the atmosphere rose by 0.21% from fiscal 2021 to 0.36%. This was principally due to starting the manufacturing of some new products in fiscal 2022, which involves solvents containing substances subject to management.

Trends in Percentage of Chemical Substance Emissions into the Atmosphere



(5) Eco-Factory Case Study

Introduction of a PV Power Generation System Based on the TPO/PPA Model at the Moka Site

The Proterial Group has identified contributions to the realization of a decarbonized society as an important management issue. We are thus committed to reducing environmental impacts and promoting sustainable energy usage. In one of the related projects implemented in fiscal 2022, a photovoltaic (PV) power generation system was launched at our Moka site based on the Third Party Ownership/Power Purchase Agreement (TPO/PPA) model. Operations commenced in April 2023. This system has a total solar cell capacity of 1,333 kW and an annual power generation of 2,500 MWh, all of which is consumed on-site. This amount of electricity is equivalent to approximately 2.5% to 3% of the Moka Works' electricity consumption, and is expected to reduce CO₂ emissions by about 1,100 tons per year. The clean electricity produced by this PV power generation system on the Company's property is being used in the manufacturing process internally and is a central measure for realizing a decarbonized society. In addition to our efforts to reduce CO₂ emissions through the introduction of PV power generation, we will continue to promote initiatives that contribute to the transition to a decarbonized society.



Panoramic view of the PV power generation system at the Moka site

Reduction Activities for a Plastic-related Resource-recycling Society at the Ibaraki site

In Japan, especially with Plastic Resource Circulation Act coming into effect, businesses have recently begun to deal with the need to control the discharge of industrial waste from products made from plastics and to promote recycling and other resource conservation measures.

Against this backdrop, Proterial conducts surveys on its amount of industrial waste from plastic-based products and is implementing activities aimed at recycling resources, focusing on business sites with large amounts of such waste.

Waste separation/sorting case study



Outsourcing the disposal of waste



Sorting into valuable materials and waste, sales of valuable materials, and outsourcing disposal of residual waste

Each business site uses a waste emission classification chart to reduce waste through a process of collection, recovery, disassembly, and recycling.

Through this process, industrial waste from plastic products is separated for recycling and disposal at each business site to reduce the amount of waste.

The world is currently facing a host of marine plastic debris-related issues. Proterial places the overriding emphasis on preventing marine pollution, including the protection of fish ecosystems. Moreover, we are looking at ways to increase the use of recycled materials at the raw material procurement stage while recycling resources at the development and design stages, which will lead to a circular economy.

(6) Site Data

Materials Flow at Major Domestic Manufacturing Sites in the Proterial Group in Fiscal 2022

Classification	INPUT				OUTPUT									
	Raw materials, etc. *5 (t/year)	Energy consumption (crude oil kl/year)	Water (thousand m3/year)	PRTR chemical substances (t/year)	Emissions (t/year)	CO ₂ *1 (t/year)	SOx*2 (t/year)	NOx*2 (t/year)	BOD*2 (t/year)	COD*2 (t/year)	PRTR emissions *3 (t/year)	Transferred amount of PRTR *3 (t/year)	Drainage (thousand m3/year)	Main Discharge Destinations
Moka Works	41,194	27,373	389	86	21,324	46,796	0.1	2.3	1.3	0.0	0.1	60.2	290	Kinugawa River
Kuwana Works	1,400,745	15,165	358	13	9,242	29,816	1.0	3.1	0.0	0.1	2.5	3.8	358	Inabegawa River
Yasugi Works	130,881	156,781	5,123	16,171	51,643	257,509	21.9	145.2	0.6	11.6	0.6	489.1	4,991	Nakaumi Lake
Okegawa Works	2,165	16,434	288	744	924	31,331	0.2	8.1	3.0	2.2	0.0	1.8	274	Arakawa River
Kumagaya Magnetics Works	6,687	26,255	623	139	5,535	44,110	0.5	0.0	0.0	0.0	1.8	3.8	0	Arakawa River
Yamazaki Works	286	3,228	51	4	599	4,120	0.0	0.0	0.2	0.2	0.2	3.1	49	Sewerage
Metglas Yasugi Works	23,794	9,111	0	2	237	11,356	0.0	0.0	0.0	0.0	0.0	0.0	0	Nakaumi Lake
Ibaraki Plant	117,854	35,505	1,138	1,505	12,196	61,172	0.2	3.6	24.6	22.2	28.6	65.4	741	Pacific Ocean Kazu sawagawa River, Juo River
Kyushu Techno Metal, Ltd.	10,735	24,186	149	2,615	1,074	38,929	0.0	1.2	0.0	0.3	6.8	50.9	34	Seto Inland Sea
Proterial Yasugi, Ltd.	0	*4	9	11,997	1,258	*4	0.5	0.5	0.0	0.0	0.0	0.0	2	Nakaumi Lake
Proterial Precision, Ltd.	2,659	7,952	14	2,064	3,389	11,951	0.0	1.9	0.0	0.0	0.0	6.9	3	Nakaumi Lake
Proterial Metals, Ltd.	42,786	40,256.5	590	15	16,468	65,972	0.0	2.8	1.8	0.8	0.5	0.6	526	Sewerage Yoneshirogawa River Kasumigaura
Proterial Wakamatsu, Ltd.	42,366	28,682	329	750	43,304	49,087	0.0	11.2	0.0	0.0	0.4	51.8	130	Sewerage
Proterial Specialty Steel, Ltd.	0	4,915	19	0	46	8,876	0.0	0.0	0.0	0.0	0.0	0.0	13	Sewerage
Proterial Ferrite Electronics, Ltd.	1,831	6,872	78	105	1,170	9,140	0.0	0.0	1.2	0.0	0.0	2.4	75	Sewerage
NEOMAX KINKI Co.,Ltd.	1,882	14,027	147	0	1,573	17,604	0.0	0.4	0.3	0.0	0.0	0.0	136	Maruyamagawa River
NEOMAX KYUSHU Co., Ltd.	6,540	8,593	57	54	1,036	14,320	2.2	0.4	0.0	0.0	4.5	1.2	44	Rokkakugawa River
Tonichi Kyosan Cable, Ltd.	5,207	4,230	50	460	1,502	7,109	0.1	0.3	0.0	0.0	0.0	20.7	50	Kasumigaura
Tohoku Rubber Co.,Ltd.	1,068	1,460	73	43	393	3,254	0.8	0.5	0.2	0.3	23.6	6.0	63	Pacific Ocean
Santoku Corporation	8,816	4,714	196	0	945	7,480	0.0	0.0	0.0	0.0	0.0	0.0	196	Sewerage

*1. Calculations of CO₂ emissions for electric power use the adjusted emission coefficients for each power company.

*2. Atmospheric emission concentrations are measured based upon the Air Pollution Control Act and Water Pollution Prevention Act.

*3. PRTR emission quantities are totals of emissions into the atmosphere, public waterways, and soil. PRTR transfers are totals of transfers to waste materials and to sewers.

*4. Data for energy consumption and CO₂ emissions related to Proterial Yasugi, Ltd. are managed together with those for the Yasugi Works.

*5. From fiscal 2022, data for raw materials include those for products and semi-finished products.