

KIOXIA

Sustainability Report 2022



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Sustainability Reporting Policy

We report on sustainability issues that are a priority for KIOXIA Group^{*1} and our stakeholders.

In updating the Sustainability website of KIOXIA Holdings, we have taken into consideration and incorporated issues that are material for both the Group and our stakeholders.

In FY2021 these were the following:

1. Top-level commitment from the executive officer in charge of sustainability to engage in sustainability activities on behalf of KIOXIA Group.

[Messages to Stakeholders](#)

2. Reporting on sustainability material issues that have been identified

[Sustainability Materiality](#)

3. Group performance in the area of sustainability

[Environment](#)

[Social](#)

[Governance](#)

*1 KIOXIA Group is a corporate group consisting of KIOXIA Holdings Corporation and its subsidiaries, including KIOXIA Corporation.

Organizations covered in this report

In principle, KIOXIA Group is covered in this report, but individual entities are referenced in cases where the information provided does not apply to the whole KIOXIA Group.

Note: "KIOXIA" in this report refers to KIOXIA Holdings Corporation and KIOXIA Corporation.

"KIOXIA Group in Japan" refers to KIOXIA Holdings Corporation and its consolidated subsidiaries in Japan. "KIOXIA Group overseas" refers to consolidated subsidiaries overseas. Organizations which were combined within recent years may not be covered.

Reporting period

This report focuses on the results of activities in FY2021 (April 1, 2021 to March 31, 2022).

It also includes some details of activities initiated prior to FY2021 as well as more recent ones.

Publication

Current issue: October 2022 (next issue scheduled for October 2023; previous issue: November 2021)

Reference Guidelines

- GRI (Global Reporting Initiative)
This report contains standard disclosures from the GRI Sustainability Reporting Standard.
- SASB (Sustainability Accounting Standards Board)
- United Nations Global Compact [COP (Communication of Progress) Advanced level]
- ISO 26000

Company Information

Kioxia Holdings Corporation Company Outline

Address	3-1-21, Shibaura, Minato-ku, Tokyo 108-0023, Japan
President and CEO	Nobuo Hayasaka
Capital	10 billion yen
Shareholders	Toshiba Corporation (40.64%) BCPE Pangea Cayman, L.P. (25.92%) BCPE Pangea Cayman2, Ltd. (14.96%) BCPE Pangea Cayman 1A, L.P. (9.37%) BCPE Pangea Cayman 1B, L.P. (5.99%) Hoya Corporation (3.13%) Total 100.00% * Note: Above shows the voting shareholding ratio as of August 27, 2020. * The ratio of voting rights owned to the voting rights of all shareholders is rounded to two decimal places. However, the total number is rounded off to one decimal place.
Business	Group strategy formulation and management oversight
Employees	Non-consolidated: approx. 120, Consolidated: approx. 14,200 (As of March 31, 2022)

Management

Directors

Representative Director	Nobuo Hayasaka
Director	Stacy J. Smith
Director	Yuji Sugimoto
Director	David Gross-Loh
Director	Hiroshi Suzuki
Director	Michael R. Splinter

Statutory Auditors

Statutory Auditor	Isao Morita
Statutory Auditor	Koichi Hatano
Statutory Auditor	Masashi Suekane

Executive Officers

President and Chief Executive Officer	Nobuo Hayasaka
Executive Chairman	Stacy J. Smith
Executive Vice Chairman	Lorenzo A. Flores
Executive Vice President and Executive Officer	Naohisa Sano
Executive Vice President and Executive Officer	Tomoharu Watanabe
Senior Managing Executive Officer (Chief Financial Officer)	Hideki Hanazawa
Managing Executive Officer (General Manager, Legal Affairs Division)	Takahiro Asakura
Executive Officer (General Manager, Human Resources and Administration Division)	Kyota Okishiro
Executive Officer (Chief Information and Security Officer)	Toshiaki Kawabata
Executive Officer (Chief Strategy Officer)	Junichiro Yaguchi

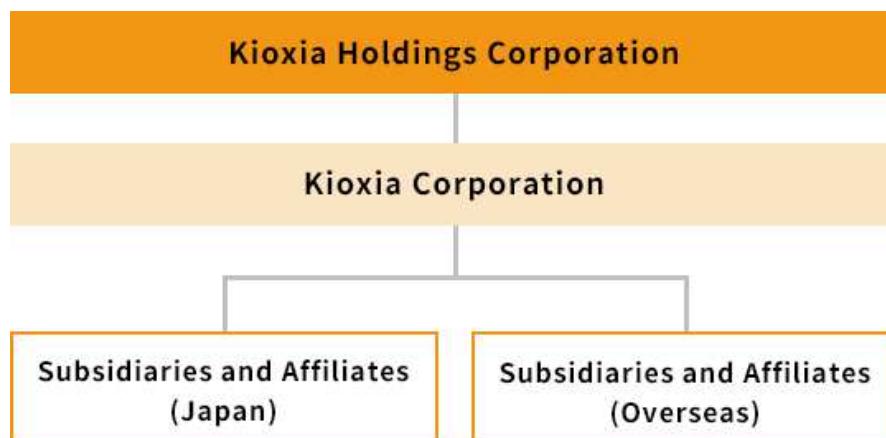
Financial Results

FY2021 ended March 31, 2022

Sales	1,526.5 billion yen
Operating Income	216.2 billion yen
Net Income	105.9 billion yen

Global Network

KIOXIA Group is the world leader in memory solutions, dedicated to the development, production and sale of flash memory and solid state drives (SSDs). Kioxia Group comprises Kioxia Holdings, its 21 subsidiaries (6 in Japan and 15 overseas) and 6 affiliated companies (4 in Japan and 2 overseas).



Kioxia Corporation

Kioxia Corporation

Research, development, design, production and marketing of memory and SSD products

Subsidiaries and Affiliates (Japan)

Kioxia Iwate Corporation

Production of flash memory products

Kioxia Engineering Corporation

Engineering services related to semiconductor development, design and manufacturing
Development and operation of semiconductor CIM systems

Kioxia Systems Co., Ltd.

Design and development of memory products, and customer support

Kioxia Etoile Corporation

Cleaning and healthcare services for Yokkaichi Plant

Subsidiaries and Affiliates (Overseas)

Kioxia America Inc.

Research, development and marketing of memory and SSD products

Kioxia Europe GmbH

Sales and marketing of memory and SSD products

Kioxia Asia, Limited

Sales and marketing of memory and SSD products

Kioxia Singapore Pte. Ltd.

Sales and marketing of memory and SSD products

Kioxia Taiwan Corporation

Sales and marketing of memory and SSD products

Kioxia Semiconductor Taiwan Corporation

Management of subcontracted production

Kioxia Korea Corporation

Research and development of memory products, and marketing of memory and SSD products

Kioxia (China) Co., Ltd.

Sales and marketing of memory and SSD products

Kioxia Israel Ltd.

Software development for SSD products

Kioxia Technology UK Ltd.

SSD Product Development

Solid State Storage Technology Corporation

Design, development, manufacturing and marketing of SSD products

KIOXIA Group History

1987	Invention of world's first NAND flash memory
1992	Yokkaichi Plant established
2007	World's first 3D flash memory technology announced
April 2017	Toshiba Memory Corporation established
Dec-17	Toshiba Memory Iwate Corporation (currently KIOXIA Iwate Corporation) established
1-Mar-19	Toshiba Memory Holdings Corporation established
1-Oct-19	Changed company name to Kioxia Holdings Corporation
Jul-20	Acquired LITE-ON Technology's SSD Business, Solid State Storage Technology Corporation
Apr-21	KIOXIA Corporation absorbed Kioxia Advanced Package Corporation through an absorption-type merger
Jun-22	Kioxia Corporation completed acquisition of Chubu Toshiba Engineering Corporation (currently Kioxia Engineering Corporation)

Kioxia Group Standards of Conduct

[Kioxia Group Standards of Conduct](#)

KIOXIA Group's Mission and Vision

Mission

Uplifting the World with “Memory”

By evolving “memory,” we create uplifting experiences and change the world.

Vision

With progressive memory technology at the core, we offer products, services, and systems that create choice and define the future.

The origin of the name "KIOXIA"

KIOXIA

KIOKU × AXIA

On October 1st 2019, we made a fresh start as KIOXIA Holdings Corporation. The name KIOXIA is a combination of the Japanese word kioku meaning “memory” and the Greek word axia meaning “value.”

The concept of kioku, which underpins our mission and vision, goes beyond the notion of memory as mere data to more broadly encompass experiences, emotions and ideas.

Messages to Stakeholders

Message from the President and CEO



**"Uplifting the world with 'memory,'"
KIOXIA Group continues to deliver
value to society**

Nobuo Hayasaka
President and CEO
KIOXIA Holdings Corporation

Global issues such as climate change, finite natural resources, the spread of infectious diseases and various forms of social inequality are becoming more pressing. If we want to pass on a sustainable world to future generations, we will need to provide transformational solutions that address these and many other issues.

Advanced technologies are addressing some of these challenges today. Innovations in AI, IoT and Big Data are expected to play a key role as we move forward. KIOXIA's memory solutions are indispensable part of efforts to build a sustainable future.

The external business environment is also becoming more complex than ever, with the ongoing COVID-19 pandemic and the evolution of society and new frameworks being set up in anticipation of the end of the pandemic, as well as increasing international tensions and the need to respond to the resulting geopolitical risks.

Given these changes, KIOXIA Group is addressing sustainability as a priority issue in its overall management strategy. In FY2021, we defined the key issues that will have a material impact on our sustainability efforts in the medium- to long-term, and incorporated several key indicators relevant to the addressing of these issues into our medium-term management plan.

As we continue on our journey toward a decarbonized society, KIOXIA Group is implementing a number of initiatives in order to achieve our goal of using 100% renewable energy across KIOXIA by FY2040.

In an increasingly complex global environment, we will also strengthen our efforts to respect human rights and enable a diverse range of employees to play active and essential roles, in order to secure our business continuity.

Aligned with our mission to “uplift the world with ‘memory,’” we will work with our partners to transform and enrich the lives of people everywhere and help build a more creative and inspiring world.

Message from the Executive Officer in Charge of Sustainability



**We are boosting the sustainability of
KIOXIA Group operations in order to
continue to be of value to society**

Tomoharu Watanabe

Executive Officer in Charge of Sustainability
Executive Vice President and Executive
Officer

KIOXIA Holdings Corporation

KIOXIA Group provides semiconductor memory products that are essential for a wide range of electronic devices, such as smartphones and servers, which make life more convenient for people all over the world. Our technologies, innovations, and value-added products and services will continue to meet the constantly evolving needs of society and help ensure sustainability on a global scale.

There are many global challenges that need to be addressed, and society's expectations of global corporations like ours are increasing. By endorsing the UN's Sustainable Development Goals (SDGs), contributing to the reduction of greenhouse gas emissions as per the Paris Agreement, and aligning with the stipulations of the Task Force on Climate-Related Financial Disclosures (TCFD) established by the Financial Security Board and the Responsible Business Alliance (RBA) we can address some of these issues.

To respond to these expectations and demands, we are promoting our sustainability initiatives in accordance with industry standards established by the RBA, and request that our suppliers make their own efforts to support sustainability. Underlining the fact that we see climate change as an important social issue, we joined the TCFD Consortium in June 2022.

In addition to proactively installing equipment to limit the emission of PFCs and other gases at our 7th Fabrication Plant at Yokkaichi (completed April 2022) and our 2nd Fabrication Plant in KIOXIA Iwate Corporation (scheduled for completion in FY2023), we are endeavoring to reduce our environmental footprint across all our manufacturing sites by introducing AI and IoT technology into our production lines to achieve energy savings and boost efficiency.

We comply with all relevant laws, regulations and social norms, and will continue to aspire to be a

KIOXIA Group that is trusted by all our stakeholders, proactively engaging in sustainability activities to create value for society through “memory.”

KIOXIA Group's Sustainability Efforts

Sustainability Management

Major Sustainability Issues and Initiatives in the Value Chain

Stakeholder Engagement

KIOXIA Group Initiatives in Support the Achievement of SDGs

Sustainability Management

The KIOXIA Group promotes sustainability management aiming to enrich people's lives through our products and services and to broaden society's possibilities based on our corporate mission of "uplifting the world with 'memory.'" Through communication and collaboration with a range of stakeholders including customers, suppliers, employees and their families, we aspire to gain an understanding of issues that affect them and build relationships with them founded on trust.

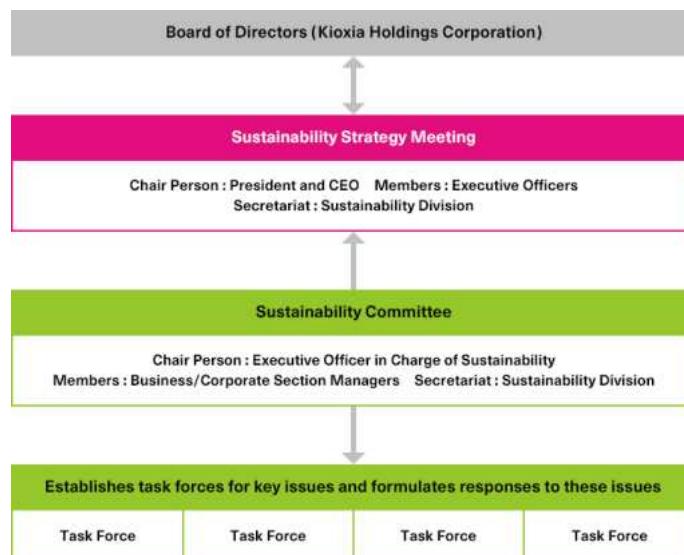
Sustainability Management Organization

In order to ensure that sustainability management is integrated into our day-to-day corporate management, in July 2022 the KIOXIA Group established a new Sustainability Department dedicated to promoting sustainability.

To strengthen and further advance our sustainability management, we have created two conferencing bodies. The Sustainability Committee, with the Executive Officer in charge of sustainability as chair, comprises the heads of each of the business and corporate divisions, who come together to discuss sustainability issues. The Sustainability Strategy Meeting, chaired by the President and CEO, is where executive officers deliberate and decide on the same issues.

We have set up task forces under these conferencing bodies to engage in important sustainability issues, to report on progress and to confirm our direction.

KIOXIA Group's Sustainability Management Structure



In FY2021, KIOXIA group defined the key issues that will have a material impact on our sustainability efforts; addressing these will enable us to grow in the medium term and continue to deliver value to society.

Additionally, we discussed and agreed appropriate KPIs, which are an essential factors in our continued efforts to address these issues. We selected as priorities ten indicators that were already treated as key elements; these included the environment, diversity, and our supply chain. These were incorporated into our non-financial medium-term management plan for business integration.

Building on the indicators identified during these discussions, we are reviewing and establishing fresh KPIs for incorporation into our medium-term management plan for FY2022 and beyond.

Third-party Sustainability Certification

KIOXIA Group has acquired certification by the International Organization for Standardization (ISO) in the categories of Quality, Environment and Operational Health and Safety Management Systems, and we work to retain these certifications on an ongoing basis.

In July 2021, KIOXIA Group joined the Responsible Business Alliance (RBA). We accordingly fulfil the responsibilities specified in the RBA Code of Conduct, progressing our own sustainability activities and requiring our suppliers to do the same. We conduct sustainability surveys using the self-assessment form provided annually by RBA; our manufacturing sites voluntarily undergo third-party audits by the RBA once every two years. In the most recent audits, both Yokkaichi Plant and KIOXIA Iwate Corporation secured maximum ratings and Platinum Status, certifying the plants' labor and safety standards as well as their environmental protection measures; this additionally confirmed that the management and operation of both facilities observe the highest ethical standards.

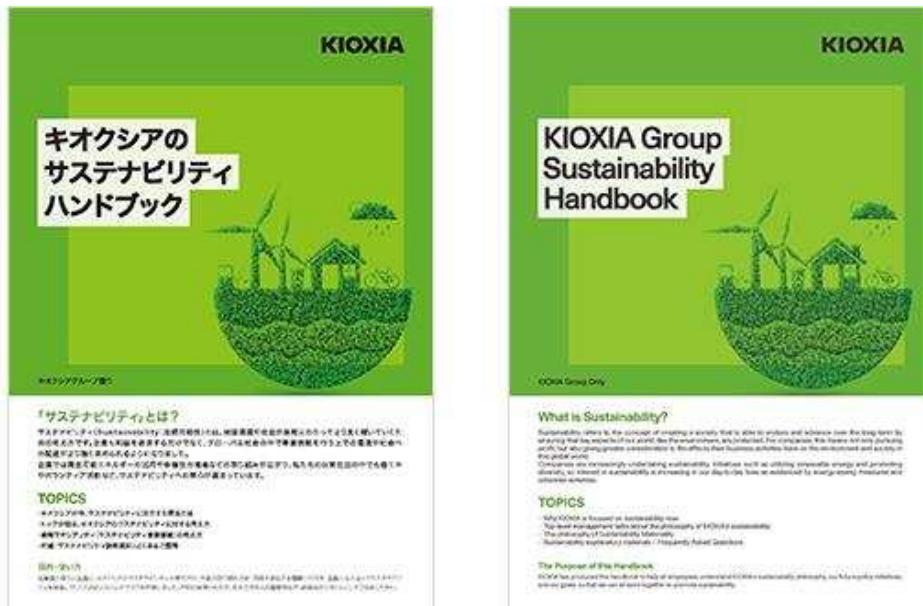
Encouraging Employees to Adopt a Sustainability Mindset

To raise sustainability awareness across the entire KIOXIA Group, our President and CEO and other senior executives communicate our management vision and emphasize the importance of good sustainability management practices in corporate strategy meetings at the beginning of each half semester.

Sustainability-related education is also provided during training for new graduates and newly appointed executives, as well as in role-specific training for employees in sales, procurement and other departments.

In April 2022, the “KIOXIA Group Sustainability Handbook” was published, aiming to help educate employees and encourage active dialogue with stakeholders, and was distributed widely amongst Group employees.

KIOXIA's Group Sustainability Handbook (Japanese / English)



Major Sustainability Issues and Initiatives in the Value Chain

As the structure of our various business segments differs and their value chains and stakeholders vary, KIOXIA Group performs mapping and analyzes sustainability challenges and risks for each segment, doing our utmost to avoid and mitigate risks.

Value chain	Relevant stakeholders	Major sustainability issues	KIOXIA Group's Approach
Mining of raw materials	Local communities	<ul style="list-style-type: none"> <Sustainability issues concerning human rights and labor relations> <ul style="list-style-type: none"> - Responsible Minerals Sourcing - Respect for human rights - Child labor, forced labor - Occupational health and safety <Sustainability issues concerning environmental relations> <ul style="list-style-type: none"> - Consideration for biodiversity - Sustainable resources 	A Action on Responsible Minerals Sourcing
Manufacture of components and materials	Suppliers Local communities	<ul style="list-style-type: none"> <Sustainability issues concerning human rights and labor relations> <ul style="list-style-type: none"> - Respect for human rights - Occupational health and safety - Child labor, forced labor <Sustainability issues concerning environmental relations> <ul style="list-style-type: none"> - Proper management of chemical substances - Reducing greenhouse gas emissions - Sustainable use of water resources - Consideration for biodiversity <Other sustainability issues> <ul style="list-style-type: none"> - Anti-corruption 	B Monitoring suppliers
R&D, Product planning, Product design	Employees	<ul style="list-style-type: none"> <Sustainability issues concerning human rights and labor relations> <ul style="list-style-type: none"> - Respect for human rights - Occupational health and safety - Labor management <Other sustainability issues> <ul style="list-style-type: none"> - Protection of intellectual property - Product safety - Information security management 	C Promoting the career development of female employees
Product manufacture	Employees Resellers	<ul style="list-style-type: none"> <Sustainability issues concerning human rights and labor relations> <ul style="list-style-type: none"> - Respect for human rights - Occupational health and safety - Labor management <Sustainability issues concerning environmental relations> <ul style="list-style-type: none"> - Proper management of chemical substances - Efficient use of energy - Sustainable use of water resources - Reducing greenhouse gas emissions <Other sustainability issues> <ul style="list-style-type: none"> - Protection of intellectual property - Quality control - Information security management 	C Promoting the career development of female employees D Reducing the environmental burden of manufacturing sites
Sales	Resellers Customers	<ul style="list-style-type: none"> <Other sustainability issues> <ul style="list-style-type: none"> - Antitrust and fair trade practices - Protection of customer and personal information - Export control - Advertising expressions - Providing information about product safety 	
Distribution	Resellers	<ul style="list-style-type: none"> <Sustainability issues concerning human rights and labor relations> <ul style="list-style-type: none"> - Occupational health and safety <Sustainability issues concerning environmental relations> <ul style="list-style-type: none"> - Reducing greenhouse gas emissions 	
Use	Customers	<ul style="list-style-type: none"> <Sustainability issues concerning environmental relations> <ul style="list-style-type: none"> - Reducing greenhouse gas emissions <Other sustainability issues> <ul style="list-style-type: none"> - Response to product accidents - Customer service and support 	
Disposal	Customers	<ul style="list-style-type: none"> <Sustainability issues concerning environmental relations> <ul style="list-style-type: none"> - The product 3Rs - Reducing environmental impact when disposing products 	

A: Action on Responsible Minerals Sourcing

B: Monitoring suppliers

C: Promoting the career development of female employees

D: Reducing the environmental impact of manufacturing sites

Stakeholder Engagement

KIOXIA Group's business activities involve relationships with diverse stakeholders, as outlined below.

Here we clarify our relationships with our major stakeholders, the relationship between KIOXIA Group and each stakeholder, the points of dialogue, and examples of communication.

Major Stakeholders

Stakeholders	Relationship with KIOXIA Group
Customers	 We sell a wide range of memory and SSD products around the world. These are mainly used in smartphones, laptop PCs, data centers, and data servers.
Shareholders /Investors	 Toshiba Corporation (40.64%) BCPE Pangea Cayman, L.P. (25.92%) BCPE Pangea Cayman2, Ltd. (14.96%) BCPE Pangea Cayman 1A, L.P. (9.37%) BCPE Pangea Cayman 1B, L.P. (5.99%) Hoya Corporation (3.13%) Total 100.00% Note: Above shows the voting shareholding ratios as of August 27, 2020.
Suppliers	 We deal continuously with some 700 suppliers worldwide (as of March 31, 2022)
Employees	 About 14,200 people work in KIOXIA Group companies (as of March 31, 2022)

Local Communities		In carrying out our business operations, we respect the cultures, history and customs of people in each country or region.
Governments /Public Bodies		We observe the laws and regulations of the respective countries and regions in which we do business.
NPOs/NGOs		We cooperate with and draw on the strength of NPOs and NGOs in areas such as the environment, human rights and our contribution to society, and always endeavor to engage in constructive dialogue with them.
Global Environment		We are tackling climate change and other environmental challenges so that the habitats of diverse life-forms, including our own descendants, can be maintained.

Customers

	
Key responsibilities	<ul style="list-style-type: none"> • Providing safe, secure products and services that offer great value • Providing appropriate product information • Offering excellent customer relations and support
Major means of identifying stakeholders' views and requests	<ul style="list-style-type: none"> • Routine sales activities • Call center contact (phone, email, etc.)
Stakeholder point of contact	Corporate Sales & Marketing Headquarters and each division

Communication Method and Case Study

Sharing and Reflecting on Customer Feedback

We receive comments and requests for products and services in our daily operations; these are shared among relevant personnel including top management and used to improve product quality and improve after sales services.

Shareholders/Investors



Key responsibilities	<ul style="list-style-type: none">• Disclosing information in a timely and appropriate manner
Major means of identifying stakeholders' views and requests	<ul style="list-style-type: none">• Press releases
Stakeholder point of contact	Legal Affairs Division, Corporate Strategy Division, and Investor Relations Division

Suppliers



Key responsibilities	<ul style="list-style-type: none">• Selecting suppliers fairly and engaging in fair trading practices• Respecting human rights, promoting labor and environmental management in the supply chain
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Major means of identifying stakeholders' views and requests	<ul style="list-style-type: none"> • Routine procurement activities • Partners' Day (to explain our procurement policies) • CSR survey, audit, guidance • Business Partner Hotline
Stakeholder point of contact	Procurement Division

Communication Method and Case Study

Requesting Suppliers to Undertake Sustainability Management

We ask suppliers to undertake their own sustainability management through regular events that we call Partners' Days, where we explain our procurement policies and daily procurement operations. We also conduct surveys of suppliers based on the RBA Code of Conduct to confirm the status of their compliance.

Sustainable Supply Chain

Employees



Key responsibilities	<ul style="list-style-type: none"> • Respecting human rights • Maintaining appropriate employment and labor-management relations • Conducting fair assessment, treatment, and development of human resources • Respecting diversity • Supporting diverse working styles • Ensuring occupational health and safety
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Major means of identifying stakeholders' views and requests	<ul style="list-style-type: none"> • Dialogue, information exchange meetings • Labor-Management Congress • Employee engagement survey • Risk hotline
Stakeholder point of contact	Human Resources & Administration Division and Legal Division

Communication Method and Case Study

Messages from Top Executives

In FY2021, KIOXIA's president and top-level executives shared videos with employees outlining our management vision and strategies; they were shown via video conferences and via our intranet at the beginning of each half semester.

The aim was to maintain and improve employee motivation by directly delivering emails in a timely manner to all employees in order to share accurate information about management decisions that affect the whole company.

Promoting Employee-Management Dialogue

KIOXIA respects internationally recognized human rights to the fullest extent, including the International Bill of Human Rights (Universal Declaration of Human Rights and International Covenants on Human Rights) and the core labor standards specified by the International Labor Organization, and we support the basic principles of the United Nations Guiding Principles on Business and Human Rights and the OECD Guidelines for Multinational Enterprises, and we work to ensure that our employees enjoy fundamental labor rights. The labor agreement concluded with the KIOXIA Labor Union stipulates that the Labor Union has three basic rights - the right to association, the right to collective bargaining, and the right to act collectively.

At the KIOXIA Labor-Management Congress held every six months, KIOXIA discusses its business policies with representatives of the Association of KIOXIA Unions in Japan.

Moreover KIOXIA and representatives of the Association of KIOXIA Union in Japan hold wage negotiation in every spring, consequently KIOXIA pays higher than legal minimum wage to employees.

KIOXIA Group companies overseas hold similar discussions with their labor unions or employee representatives in accordance with the laws and regulations of the countries and regions in which they operate.

Employee Engagement Survey and Disclosure of Results

KIOXIA regularly conducts employee engagement surveys in order to solicit feedback from employees, and to periodically monitor the level of employees' understanding of, and agreement with, the company's policies.

We share the survey results with employees, and our president sends a message addressing and commenting on these; in this way we leverage the survey to create a more open corporate culture.

[Respect for Human Rights](#)

[Talent Development](#)

[Diversity Promotion](#)

[Occupational Health and Safety](#)

Local Communities

 Key responsibilities	<ul style="list-style-type: none">• Stimulating local economies• Respecting different customs and cultures• Contributing to cultivating the scientists and engineers of the future• Engaging in social contribution activities in local communities
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	<ul style="list-style-type: none"> • Preventing accidents and disasters at business sites
Major means of identifying stakeholders' views and requests	<ul style="list-style-type: none"> • Dialogue, information exchange meetings • Science classes, research scholarships • Factory visits • Holding summer festivals to promote communication with residents and to revitalize communities • Providing opportunities for community workshops to sell their products • Employee participation in community activities
Stakeholder point of contact	Each business site

Communication Method and Case Study

Environmental Communication

We communicate with local communities about our environmental efforts by means of such initiatives as factory visits and by holding classes at elementary schools. We do this so that a wide range of stakeholders, such as the communities around Yokkaichi Plant—including schools, students, customers, and other companies—can learn about KIOXIA Group's activities.

Supporting Local Community Development

KIOXIA Group sees it as our responsibility as a good corporate citizen and as a member of the local communities to not just leverage our business activities to address issues faced by those communities, but to engage in business activities that are rooted in the area, such as promoting local employment and trade with local companies.

KIOXIA Group offers internships to enable students to experience working and the enjoyment of manufacturing.

Contributions to Society

As a good corporate citizen, KIOXIA Group strives to build better relationships with the communities where we conduct our business.

At the eco-charity bazaar that our Yokkaichi Operations plant has been hosting since 2007, we recycle unwanted household goods and donate all profits from the bazaar to the Yokkaichi City Greening Fund.

In FY2021, we collected and donated approximately 37,000 contact lens cases through an activity promoting corneal transplants.

[Yokkaichi Plant - CSR and Cooperation with the Local Community](#)

Governments/Public Bodies

	
Key responsibilities	<ul style="list-style-type: none">• Complying with laws and regulations, and paying taxes• Supporting government policies that address social issues
Major means of identifying stakeholders' views and requests	<ul style="list-style-type: none">• Dialogue and proposals via economic associations and industry bodies
Stakeholder point of contact	Each business site and Corporate Strategy Division

Communication Method and Case Study

Job Creation and Tax Contribution

KIOXIA Group is expanding its business around the world. The jobs we create help support local communities, especially production facilities that employ large numbers of local people.

By paying taxes in accordance with national laws and regulations, Group companies and their employees make an economic contribution to the countries and regions where they operate.

Participation in Industry Associations

KIOXIA actively participates in the activities of Keidanren (Japan Business Federation), the Japan Electronics and Information Technology Industries Association, TCFD Consortium, Responsible Business Alliance, and other industry organizations, to help address various social issues.

NPOs/NGOs



Key responsibilities	<ul style="list-style-type: none">• Collaborating on and helping to solve global social issues• Collaborating on corporate citizenship
Major means of identifying stakeholders' views and requests	<ul style="list-style-type: none">• Dialogue through collaboration• Exchange of views during stakeholder dialogue
Stakeholder point of contact	Each business site and Sustainability Division

Global Environment



Key responsibilities	<ul style="list-style-type: none">• Mitigating climate change• Reducing waste discharge• Reducing release of chemicals• Conserving biodiversity
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Major means of identifying stakeholders' views and requests	—
Stakeholder point of contact	Environment Planning Promotion Group

[Yokkaichi Plant - Environmental Initiatives](#)

KIOXIA Group Initiatives in Support the Achievement of SDGs

The 2030 Agenda for Sustainable Development was unanimously adopted at the United Nations headquarters in New York in September 2015. The agenda calls for no one to be left behind and stipulates 17 Sustainable Development Goals (SDGs) as important guidelines aimed at driving the international community's realization of sustainable development and the elimination of poverty by 2030.



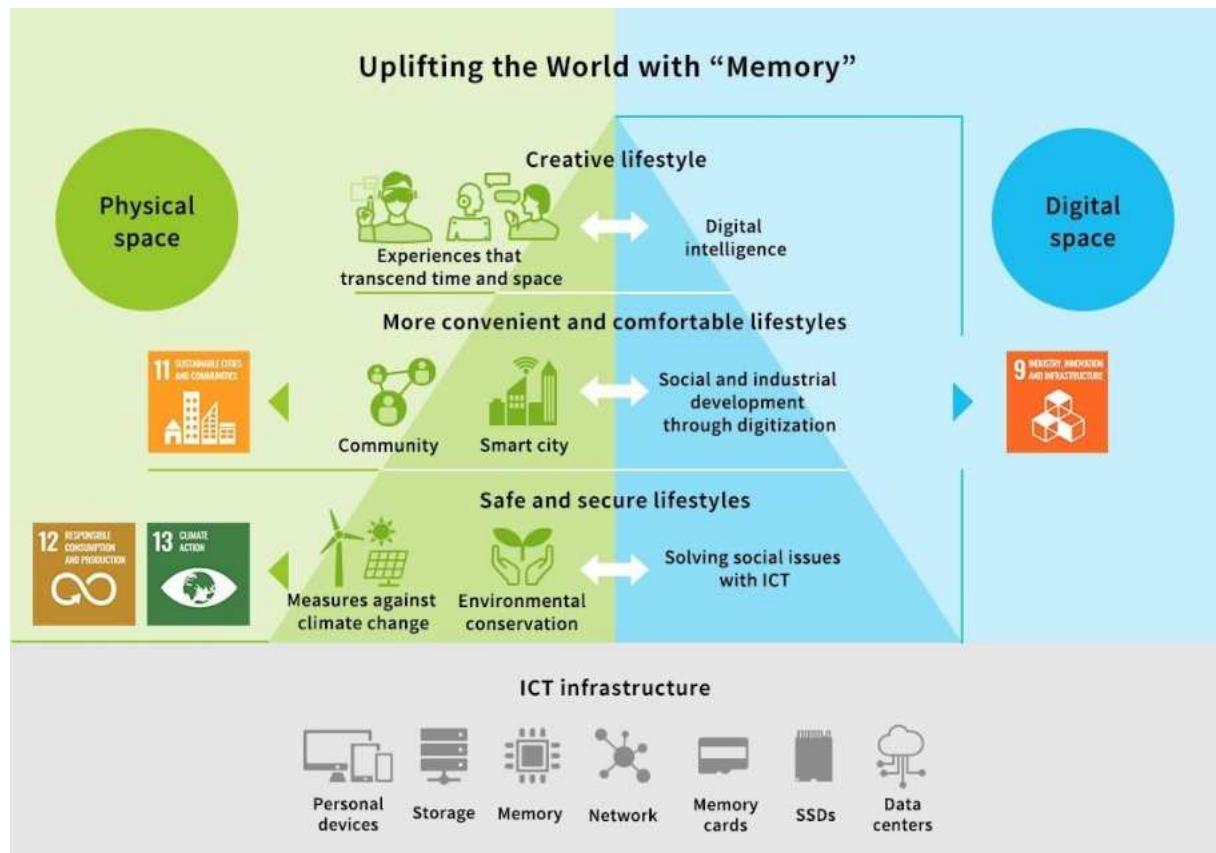
Contribution to the Solving of Social Issues through Our Business

Humanity is facing a variety of issues on a global scale including global environmental problems; climate change; the water crisis; an increasing population; shortages of energy, resources, and food caused by industrialization; and disparity of wealth. The 2030 Agenda for Sustainable Development was adopted at the United Nations Summit in September 2015. In order to address various social issues, companies are required to contribute to the development of a sustainable society by demonstrating creativity and innovation in order to create business opportunities from a long-term perspective.

In October 2019, the KIOXIA Group changed its name and began life as a new company. The name "KIOXIA" reflects our strong determination to change the world by storing "memories" ("kioku" in Japanese) created by society and using them to create new "value" ("axia" in Greek). Our mission is to uplift the world with "memory."

The KIOXIA Group, which provides the value of "memory" to society through products such as flash memory and solid state drives (SSDs), will continue to develop a sustainable society by contributing to the SDGs through its business.

Based on a full understanding of its mission and its role as a global company, the KIOXIA Group contributes to achieving goals 9, 11, 12 and 13 of the SDGs through its main business. In addition to contributing via our existing business, we are investigating technology development in new business sectors with a focus on future social issues.



KIOXIA Enriches People’s Lives by Uplifting the World with “Memory”

The KIOXIA Group wants to achieve a world where many people can experience an “uplifting” human culture. However, to do so, we must first create the lifestyle infrastructure that allows people to acquire a minimum level of food, clothing and shelter and to live peaceful lives. The groundwork for this safe and secure lifestyle infrastructure cannot be laid unless global environmental problems are solved. The KIOXIA Group is helping to lay this groundwork by implementing measures against climate change and ensuring the effective use of resources in the course of its business activities. Furthermore, with our flash memory and SSD products, we are helping people achieve convenient and comfortable lifestyles where internet access is available anytime and anywhere. In addition, we believe that once such lifestyles have been achieved, we can provide people with more creative lifestyles through “memory.”

The KIOXIA Group has a history of leading the industry in the development of products such as NAND flash memory and 3D flash memory. Going forward, we will continue to change the world by remaining a leader in cutting-edge technology.

When we look at the environment surrounding us, in addition to the physical space in which people live, the advancement of technology has also provided digital space. As digital technology advances, it will lead to the realization of environmental conservation, smart cities, the ability to provide people with creative experiences that transcend time and space, and more. The KIOXIA Group supplies storage products that serve as the foundation for a digital society, and we continue to pursue further research and development. In addition, we aim to contribute to future society by undertaking digital technology research and development through a process of ‘backcasting’ from the perspective of various envisaged future social issues in the physical environment.

The KIOXIA Group's Contribution to the Solving of Social Issues through its Business

Contribution to the Solving of Social Issues through our Business

The KIOXIA Group's mission is to uplift the world with "memory." By pushing the boundaries of "memory", we create uplifting experiences, add new value and change the world. With progressive memory technology at our core, we offer products, services and systems that create choice and define the future. Based on this mission and vision, we aim to launch a new era of memory with cutting-edge technology and continue evolving with the world.

Under this policy, we are pursuing activities in order to contribute to the achievement of the SDGs in the belief that our business itself will have a substantial impact on society.

SDGs to which the KIOXIA Group Contributes through its Business



The KIOXIA Group's business activities can contribute to achievement of the SDGs in a wide variety of ways. The four SDGs that we are focusing on contributing to through our business are Goal 9 (Industry, Innovation and Infrastructure), Goal 11 (Sustainable Cities and Communities), Goal 12 (Responsible Consumption and Production), and Goal 13 (Climate Action).

To aid in the development of a sustainable society, the KIOXIA Group will contribute to the achievement of the SDGs through its business activities.

The KIOXIA Group's SDG-Oriented Activities

Goal 9: Accelerating Innovation with Cutting-Edge Technology

Social Issues

In addition to recent globalization, the development of technologies such as AI and IoT is more promising than ever due to rapid technological innovation, and discontinuous innovations in various fields are bringing about changes in occupational structures and the way people live and work.



Additionally, these technological innovations promise to pave the way for solutions to various social issues (including global warming, energy, the concentration of populations in large cities, food and water-related issues, and medical and health-related issues).

Reference

[Build resilient infrastructure, promote sustainable industrialization and foster innovation](#)

Topics

[Technological Developments that Support Cutting-Edge Science](#)

[Technological Developments that Support the 5G Communications Era](#)

KIOXIA's Contributions to a Solution

As a leader in flash memory, the KIOXIA Group has created various technologies that are the first of their kind in the world. With the expansion of AI and the dawn of the 5G high-speed wireless communications era, the amount of data being generated, stored and used has increased exponentially. The KIOXIA Group is focusing on developing state-of-the-art storage technology to respond to the rapidly increasing need for high-capacity, high-performance storage, and high-

speed data processing systems. Furthermore, in addition to storage technology, we are pursuing new research and development that perceives future social issues as business opportunities.

Goal 11: Contributing to the Development of Sustainable Cities

Social Issues

Since 2007, more than half the world's population has been living in cities, and that share is projected to rise to approximately 60% by 2030. Under these circumstances, there is a need to create resilient cities that have a low environmental impact and allow people to safely maintain a high quality of life. In addition, the concentration of populations in urban areas has led to the depopulation of surrounding rural areas and led to lifestyle differences between the two. Furthermore, there is a need to create cities that can counteract threats such as new infectious diseases and respond to fresh changes in the social environment.



Reference

[Goal 11: Make cities inclusive, safe, resilient and sustainable](#)

Topics

[Reducing the Cost of Every Bit of Data and Making Data More Widely Available](#)

[Leveling Up the World with Every Bit of Data](#)

[Giving Value to a New Way of Life with "Bits"](#)

KIOXIA's Contributions to a Solution

By supplying flash memory and SSD products, we have contributed to the widespread use of internet access devices, the development of data centers, and access to high-quality telecommunications. This has given rise to internet access that is available anytime and anywhere, changing the lifestyles of people all over the world. Today, flash memory and SSDs

have become indispensable products in people's lives. By developing various cutting-edge technologies to lower the cost of these products while increasing their capacity and performance, the KIOXIA Group will help more people lead more convenient and comfortable lives.

Goal 12: Sustainable Consumption and Production

Social Issues

It is said that the world's population will reach 9.6 billion by 2050 (roughly a 30% increase), and that we will need three planets' worth of resources to maintain our current lifestyles. Companies are required to efficiently manage natural resources, produce products with low environmental impact, and reduce waste and chemical substance emissions. It is also important that information on sustainability efforts is regularly disclosed to all stakeholders.



Reference

[Goal 12: Ensure sustainable consumption and production patterns](#)

Topics

[High-Efficiency Manufacturing](#)

[Waste Recycling \(Calcium Fluoride\)](#)

KIOXIA's Contributions to a Solution

KIOXIA has set targets for production efficiency, waste generation, and chemical substance emissions, and is working to achieve efficient production.

By obtaining information on the chemical substances used in production and those contained in products throughout the supply chain, we have managed to achieve greater use of substances with a low environmental impact. In addition, chemical substances used and/or generated during

production are recycled, properly disposed of by contractors, or detoxified in our production plants. Furthermore, our plants' voluntary control standards are stricter than the corresponding legal regulations, and discharges into the air and rivers are monitored.

Our environmental activities are disclosed in our reports to the CDP and our Sustainability Reports, among others.

[Environment](#)

Goal 13: Addressing Climate Change Social Issues

The global effects of climate change, such as abnormal weather and rising sea levels, are becoming more apparent. Climate change affects not only the weather, but a variety of areas including food, drinking water, ecosystems, and infrastructure. The Paris Agreement (COP21, 2015) established the long-term goal of limiting the increase in global average temperatures to well within 2°C, preferably to 1.5°C, compared to pre-industrial levels, and achieving net-zero greenhouse gas emissions in the second half of the 21st century.



Reference

[Take urgent action to combat climate change and its impacts](#)

Topics

[Efforts Geared toward Introduction of Renewable Energy](#)

[PFCs \(A Greenhouse Gas\) Reduction](#)

[Efforts to Increase Product Energy Efficiency](#)

KIOXIA's Contributions to a Solution

KIOXIA is working to reduce and optimize the usage and emission of the greenhouse gases that cause climate change.

Specifically, we are engaging in energy conservation activities (active introduction of energy-saving equipment, changes and reductions in the number of processes, and improvements in energy efficiency), comprehensive installation of abatement equipment that breaks down greenhouse gases and emits them as gases with low global warming potential, and the development of high-energy-efficiency products.

Additionally, we are undertaking a series of efforts to introduce renewable energy into our business activities.

Ripple Effect from 4 SDGs to 17

The KIOXIA Group believes that all of the SDGs are interrelated and that its contribution to reaching these four goals will ripple out to help realize many related goals.



To aid in the development of a sustainable society, the KIOXIA Group will contribute to the achievement of the SDGs through its business activities.

Future-Facing Efforts

The KIOXIA Group's mission is to uplift the world with "memory." Based on this mission, we introduced a 'backcasting' framework to look to the future and examine the creation of opportunities and new technology that are not extensions of our conventional storage business. We are examining what kinds of technological developments and business opportunities the KIOXIA Group can conceive starting from the perspective of future social issues.

[Discussion Aimed at Creating a Sustainable Society](#)

[Research and Technology Development](#)

SDG-Related Topics

KIOXIA Group Businesses that Contribute to Society

Here, we will introduce specific examples that show how the KIOXIA Group's business has contributed to solving social issues and achieving the SDGs.

[KIOXIA Group Initiatives in Support of the SDGs](#)

[The KIOXIA Group's Contribution to the Solving of Social Issues through its Business](#)

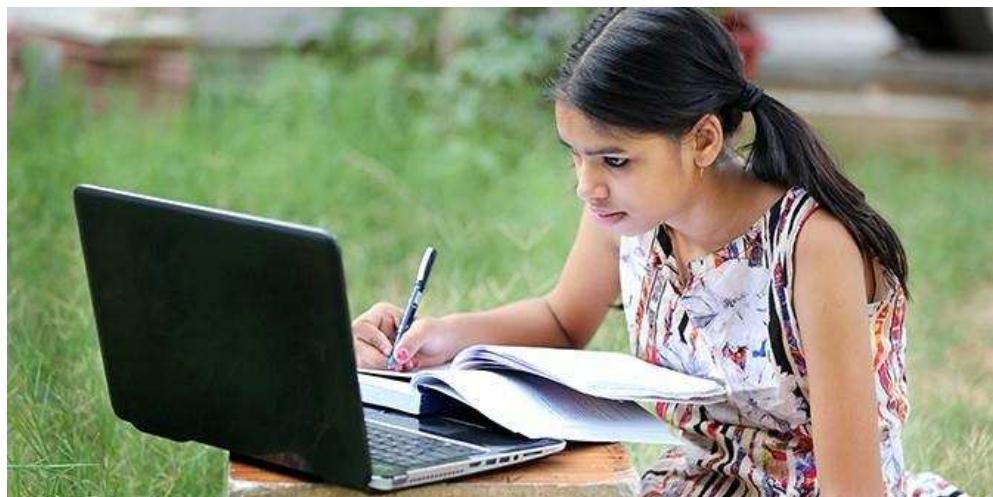
Reducing the Cost of Every Bit of Data and Making Data More Widely Available



Urban areas

where populations are concentrating need to enable lifestyles that are safe, highly convenient, and allow people to maintain a high quality of life. The spread of flash memory and SSDs has helped provide people with internet access that is available anytime and anywhere. For example, it has made it possible to access news updates via the internet using a tablet while on a train and communicate with people all over the world from the home or office using a PC or tablet. In addition, recording technologies such as image authentication and dashboard cameras have led to safer lifestyles. By manufacturing flash memories and SSDs at even lower cost and increasing their capacity and performance, the KIOXIA Group will help more people improve their lives.

Leveling Up the World with Every Bit of Data



Worldwide

concentration of population in cities has led to the depopulation of surrounding rural areas and the creation of lifestyle differences between the two. However, an internet-accessible environment allows people to obtain the same information with devices such as smartphones or tablets. The availability of internet access anytime and anywhere has led to an improved quality of life for people as well as increased opportunities for work and for children's education.

Giving Value to a New Way of Life with “Bits”



Due to the
global spread

of COVID-19, we have been forced to make major changes to our daily lives. As commercial activity and movement are being greatly restricted worldwide, online communication has become

a means to connect people and things. An environment in which the internet is accessible anytime and anywhere also contributes to remote work, online classes at home, and other alternatives that help realize a new way of life.

Technological Developments that Support Cutting-Edge Science

Treating various illnesses such as Alzheimer's requires research on the human brain deploying state-of-the-art science. One of the ways to analyze the human brain is through neuron research. The neurons in the human brain are said to have a total capacity of 3 zettabytes, which means that state-of-the-art computing systems and storage technology that can conduct high-speed processing are essential when researching them.

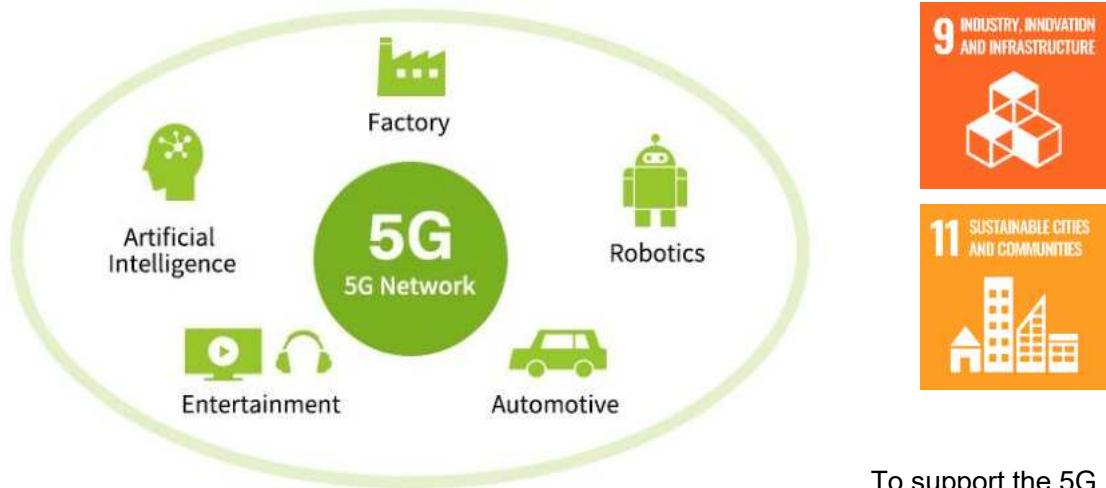


KIOXIA collaborated with the MIT Media Lab and NHK (Japan Broadcasting Corporation) to successfully develop technology that visualizes the neurons in a mouse's brain in real-time with a high-resolution 8K display and a VR headset. By using our CM5 SSDs, which meet high-speed specifications, we were able to display an enormous amount of 3D image data (5 to 10 TB) in real-time.

We will continue to further advance the development of SSD technology to contribute to the development of cutting-edge science and medical technology.

Challenging to the Brain with Data Storage

Technological Developments that Support the 5G Communications Era



To support the 5G communications era, the KIOXIA Group is pursuing cutting-edge research and development in fields such as automobiles (self-driving vehicles), smart factories, robotics, and entertainment.

High-Efficiency Manufacturing



Yokkaichi Plant



Transport equipment inside
the clean room



At the Yokkaichi Plant in Mie prefecture, Japan, we collect over two billion pieces of data every day in real-time from production equipment and transport systems and conduct big data analysis using AI technology. By doing so, we analyze any failures and strive for increased productivity.

Smart factories that utilize these types of AI technology go further than simple automation with “smart” functions that lead to a sustainable society; these include reducing the amount of materials used in production by avoiding the production of defective products, reducing energy consumption by shortening turnaround times, and ensuring a stable supply of high-quality products.

Big data, which is our strength, is a goldmine of useful information and contains a lot of buried wisdom. However, it is not easy to find manually. Therefore, we will use new AI technology to understand the big picture while also unraveling the complex relationships between individual pieces of data. In addition to helping us understand the present, this technology also allows us to predict the future, leading to more efficient development and production.

These state-of-the-art AI technologies were created through internal and external open innovation.

In semiconductor manufacturing, which continues to advance in the form of highly integrated products, we will continue to utilize AI technology to maintain and improve high productivity.

Waste Recycling (Calcium Fluoride)



At KIOXIA's Yokkaichi Plant, a large amount of hydrofluoric acid is used in wafer cleaning and etching processes, resulting in the generation of high-concentration hydrofluoric acid waste liquid and low-concentration hydrofluoric acid wastewater.

Fluorine in wastewater was traditionally removed using the coagulation-sedimentation method. This method was problematic in that it made recycling and reuse difficult due to the large amounts of impurities such as silica as well as the excessive moisture.

In 2013, we partnered with Organo Corporation and AGC Inc. to develop technology allowing high-concentration hydrofluoric acid waste liquid to be recycled as high-purity calcium fluoride (artificial fluorite). Using Organo Corporation's artificial fluorite production equipment, hydrofluoric acid waste liquid is treated with a crystallizer, extracted from the crystallizer as a slurry containing calcium fluoride crystals, dehydrated, and recycled as high-purity calcium fluoride (artificial fluorite). Manufacturers of fluorine-based products use hydrofluoric acid production equipment to purify it together with natural fluorite by causing it to react with sulfuric acid, and the hydrofluoric

acid produced is then sold commercially or used as raw material for fluorine products. Gypsum generated as a by-product of hydrofluoric acid production is also sold commercially.

Through this kind of recycling, we have reduced the amount of sludge containing hydrofluoric acid by roughly 30%. In addition, manufacturers of fluorine-based products use the recycled calcium fluoride (artificial fluorite) to produce fluorine-based materials such as hydrofluoric acid. This recycling reduces the use of fluorite, which is an imported natural resource.

We received an award for this technology along with Organo Corporation and AGC Inc.

[Award for Resource Recirculation Technologies and Systems/ \(Japanese only\)](#)

Efforts Geared toward Introduction of Renewable Energy

In 2020, under its new administration, Japan set a new course toward full-scale decarbonization.

Going forward, administrative bodies, NPOs and companies will all pursue more activities than ever before aimed at reaching the Japanese government's new goal of "reducing overall greenhouse gas emissions to zero by 2050." The KIOXIA Group has been pursuing cross-organizational energy conservation activities centered on its plants. Furthermore, we plan to reduce CO₂ emissions by introducing renewable energy group-wide.



As a long-term goal, we aim to use 100% renewable energy by 2040. To achieve this goal, we are pursuing collaboration with other companies and the government through industry groups and others. In addition, as the first step to achieving this long-term goal, we plan to introduce electricity derived from renewable energy at sites such as development and test centers, and take measures such as installing solar panels on plant premises.

In order to meet the expectations of the international community, we will accelerate efforts geared toward decarbonization by introducing renewable energy in line with regional and national government policies.



2020 Minister of the Environment Award for Climate Change Action.

The Minister of the Environment grants this award to individuals and groups that have made remarkable achievements in their ongoing efforts to mitigate climate change and adapt to climate change. KIOXIA's Yokkaichi Plant received the award in November 2020 in the Mitigation field in the Promotion category.

http://www.env.go.jp/earth/ondanka/min_action_award/ (Japanese only)

PFCs (A Greenhouse Gas) Reduction



In the semiconductor manufacturing process, PFCs (a greenhouse gas) is used during the P-CVD (plasma CVD) process where thin films are formed on wafers, the metal-CVD process, and the plasma etching process, where wiring and contact holes are formed by nanofabrication technology. In order to reduce PFCs gas emissions, KIOXIA has installed abatement equipment on 100% of relevant machinery; this breaks down PFCs gases and emits them as gases with small global warming potential. We will continue to pursue achievement of the 100% usage of abatement equipment in the future. In addition, we are also working to reduce the amount of PFC gases used during the cleaning of reaction chambers by introducing high-efficiency equipment and optimizing cleaning time.

No.	Measure	Process	Target gas	Contribution to total reduction (%) FY2021	Remarks
1	Installation of abatement equipment	Metal, CVD, DRY	CF4, C4F8, CHF3, SF6, NF3, CH2F2, CH3F, CH4, N2O	99.1%	Continue to install in new equipment
2	Installation of high efficient plasma cutdown	CVD	NF3	0.2%	Continue to install the feature in new equipment
3	Optimized cleaning frequency of the reaction chamber	CVD	NF3、N2O	0.2%	Completed in FY2021
4	Shorter cleaning time in the reaction chamber	Metal	NF3	0.5%	Continue to expand

Efforts to Increase Product Energy Efficiency

Through efforts to increase the power efficiency of the flash memory and SSDs that the KIOXIA Group supplies, we believe that we can contribute to achieving a low-carbon society by supplying products with high capacity and low power consumption.

In particular, we are working to reduce the amount of electricity and materials per storage capacity output, and to improve the energy consumption efficiency for processing one gigabyte of products when they are in use.

Details of Products that Improve Power Efficiency and Reduce Standby Power Consumption

Discussion Aimed at Creating a Sustainable Society



Internal discussion

Our mission is to uplift the world with “memory.” This mission was established through discussion about what kind of company to create going forward, not only among management, but among employees as well.

Based on this mission, as part of its efforts to create businesses that are not extensions of conventional storage production technology, the KIOXIA Group launched an internal project focused on young employees from the perspective of future social issues, and began examining what kind of new business opportunities KIOXIA could conceive.

Sustainability Materiality

Sustainability Materiality: Priority Areas for the Group's Medium- to Long-term Growth

Creating Social Value

Foundation of Value Creation

Sustainability Materiality: Priority Areas for the Group's Medium- to Long-term Growth

Basic Philosophy

The KIOXIA Group will continue to create value for society through our memory technology, based on our mission of “uplifting the world with ‘memory.’” We will contribute to the development of a sustainable society by strengthening the foundations supporting the Group’s medium- to long-term business activities, and by responding to the demands of our stakeholders as a member of global society.

Process of Setting Materiality

Environmental issues such as climate change, energy and resource shortages due to industrialization, widening disparities of wealth, and the threat of new infectious diseases are just some of the growing challenges facing society. On the other hand, the development of digital technology continues to make people’s lives more convenient than ever. Technological innovation brought about by AI, IoT and the use of big data has changed social and industrial structures and is expected to rapidly generate needs that haven’t been seen before.

Taking these social changes into account, there are rising expectations of the role the Group should play in the sustainable development of society; we have therefore decided there is an urgent need to further enhance our sustainability management and clearly set out our policies.

We have established themes we see as particularly important for governing the sustainable development of the Group and of society, which we call Sustainability Materiality.

Overview of Sustainability Materiality

Sustainability Materiality comprises three domains.

Creating Social Value

The KIOXIA Group will create social value in the medium- to long-term together with our partners

by using memory technology to expand the possibilities of our current and future products and services based on our mission of “uplifting the world with ‘memory.’”

Foundation of Value Creation

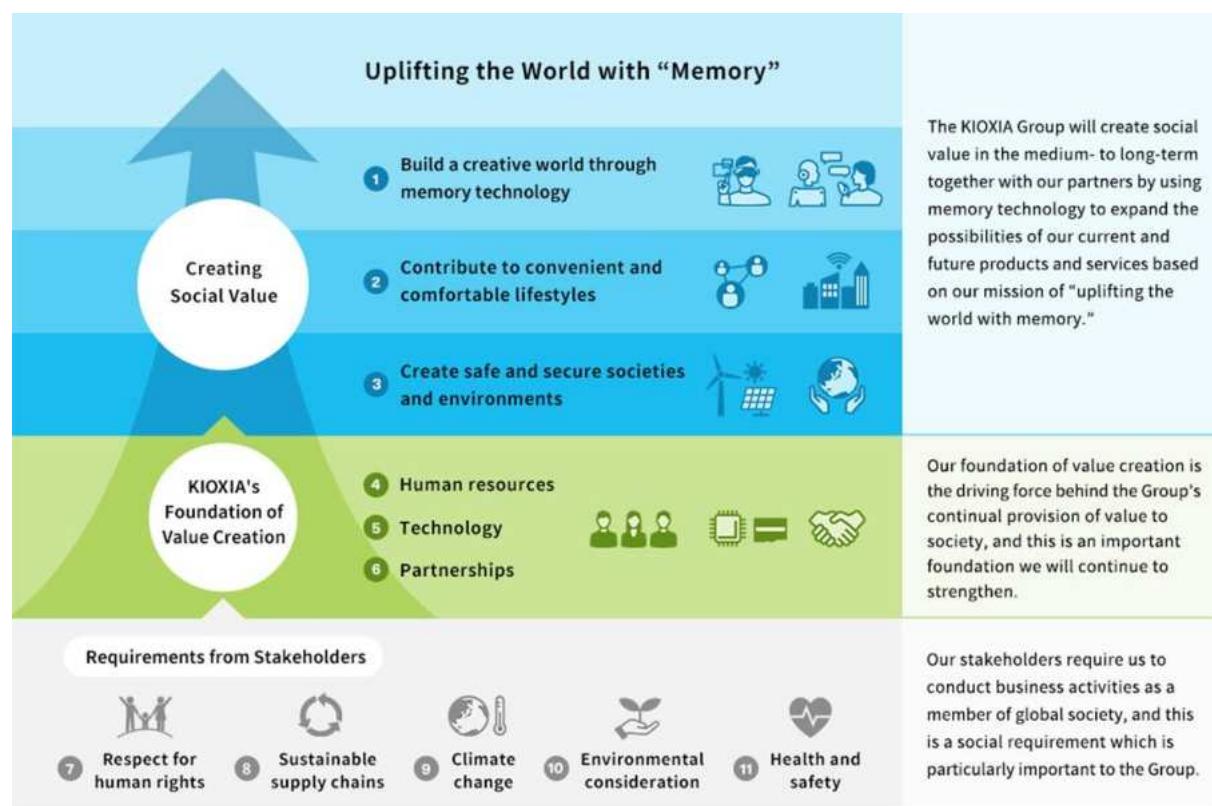
Our foundation of value creation is the driving force behind the Group’s continual provision of value to society, and this is an important foundation we will continue to strengthen.

Requirements from Stakeholders

Our stakeholders require us to conduct business activities as a member of global society, and this is a social requirement which is particularly important to the Group.

Concepts of Sustainability Materiality

Creating Social Value



Basic Philosophy

By using memory technology, we expand the possibilities of our current and future products and

services and work with our partners to create value for society.

We use memory technology to create digital innovations for a data-driven society, and contribute to solving social and environmental challenges.

In addition to providing people with safety, security, convenience and comfort, we will help to build a more creative world.

This comprises the following three elements:



(1) Build a creative world through memory technology

Through memory technology we support value creation by working with partners to provide people with diverse experiences and creative means of expression and communication.

(2) Contribute to convenient and comfortable lifestyles

By enhancing high-capacity, high-speed, low-power and high-reliability technologies, making people's lifestyles smarter, and reducing bit unit costs, we will contribute to creating a society in which more people can lead convenient and comfortable lives.

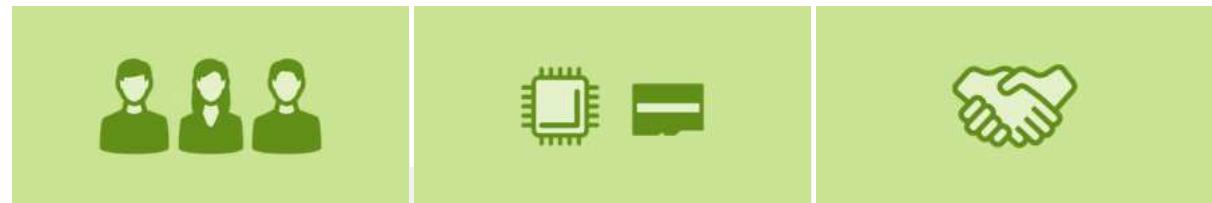
(3) Create safe and secure societies and environments

Based on digital technology developments, we will contribute to solving social and environmental issues through providing storage to allow people to live safely and securely.

Creating Social Value

Foundation for Value Creation

This comprises the following three elements:



(4) Human resources

We will recruit and train highly specialized human resources to develop advanced technologies, and diverse human resources to meet expanding and diversifying market requirements.

(5) Technology

We will promote continuous technological investment and initiatives for future-oriented advanced development.

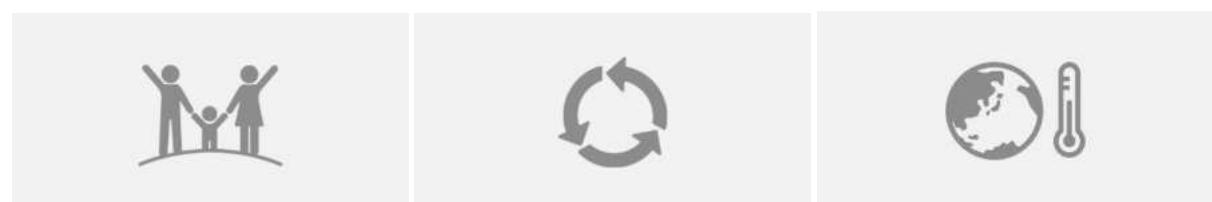
(6) Partnerships

We will build partnerships with customers, suppliers and research institutions to create products and services that anticipate the needs of society.

Foundation of Value Creation

Requirements from Stakeholders

This comprises the following five elements:



(7) Respect for human rights

We will comply with international human rights principles and promote fair and sound business activities.

(8) Sustainable supply chains

We will promote sustainable business activities by addressing human rights, labor, safety, environmental and other business risks, including those of our suppliers.

(9) Climate change

We will contribute to a decarbonized society by reducing greenhouse gas emissions and promoting the use of renewable energy in our business activities.



(10) Environmental consideration

We will promote business activities in consideration of their environmental impact, focusing on areas such as waste reduction, chemical substance management and wastewater quality management, with the aim of enriching human life in harmony with the Earth.

(11) Health and safety

We will strive to create safe and healthy workplaces, taking into account changes in society and behavioral patterns, with the aim of preventing occupational accidents, improving employees' health and increasing productivity through enhanced vitality.

Sustainability Materiality Identification Process

In the first half of 2021 we reviewed the CSR Materiality we set out in 2017 (respect for human rights, promotion of diversity, promotion of supply chain CSR, environmental management) from the perspective of trends in global society and requirements from stakeholders. Furthermore, we

identified non-financial capital as a strength for the KIOXIA Group over the medium- to long-term and extracted elements of Sustainability Materiality, taking into account the society we want to realize together with our partners and the societal impact of our products, services and technological developments. To do this we listened to the opinions of outside experts at meetings of the Sustainability Committee that became the focus of lively discussions at Sustainability Strategy Meetings.

Looking ahead, we will set targets and build a framework around which we will further evolve our activities.

[Sustainability Management](#)

Creating Social Value

Under its mission of “uplifting the world with ‘memory,’” Kioxia Group has created a number of world-firsts as a leader in the areas of flash memory and SSDs, and with its partners has supported the advance of the digital society.

By increasing the capacity, performance and efficiency of our flash memory and SSD products, we will help make people's lives convenient and comfortable. We will also cooperate with our partners in finding solutions to increasingly diverse social and economic issues and contributing to the development of a sustainable society.

Through memory technology, we will help realize a world in which uplifting and diverse experiences, more forms of expression and easier communication are possible, and we will continue striving to build a more creative world.

Build a Creative World through Memory Technology

Using memory technology to contribute to the realization of a world in which people can lead fulfilling lives with uplifting experiences



Note: Image of the data-driven, digitalized society
of the future

Build a Creative World through Memory Technology

Through the provision of memory technology, we help create value by working with partners to provide people with various experiences and creative means of expression and communication.

In addition, KIOXIA's products, services and technologies help support the information society of the future.

In this feature, we introduce some of our innovations aimed at shaping the future.

Contribute to Convenient and Comfortable Lifestyles

Making data more widely available will help achieve improved lifestyles for even more people



Contribute to Convenient and Comfortable Lifestyles

By enhancing high-capacity, high-speed, low-power-consumption and high-reliability technologies, and making people's lifestyles smarter, we will help create a society in which more people can lead convenient and comfortable lives.

In this feature, we show how over the years we have grown together with the digital society.

Create Safe and Secure Societies and Environments

Evolving New Memory Technology Solutions for Social Issues



Create Safe and Secure Societies and Environments

We deliver memory and SSD products that contribute to resolving social and environmental issues and help people live safely and securely.

In this feature, we introduce examples of ways in which we are contributing to society and creating a safe and secure society and environment through our products and technology.

Build a Creative World through Memory Technology

Using memory technology to contribute to the realization of a world in which people can lead fulfilling lives with uplifting experiences



Note: Image of the data-driven, digitalized society of the future

Utilizing our memory technology, we help create value by working with partners to provide people with diverse experiences and creative means of expression and communication.

Memory Technology That Will Support the Information Society of the Future

The volume of information generated and accumulated by society is increasing steadily, driven mainly by the spread of cloud computing, the advent of the IoT era, and the widespread use of AI technology.

Kioxia Group is engaged in various innovative activities aimed at creating a new future, guided by its vision: "With progressive memory technology at the core, we offer products, services, and systems that create choice and define the future."



Brand Website

[Future Memories](#)

Our brand website introducing people and activities that open up possibilities of "memory" for the future.

KIOXIA's Innovative and Cutting-Edge Technologies

Kioxia Group and its partners utilize memory technology for a variety of research and development in cutting-edge fields, with the aim of creating innovative products that will open up new possibilities for people and society.



KIOXIA's Cutting-Edge Technology

Introducing latest technologies being researched and developed at KIOXIA and various use cases of flash memories.

[Technology Topics \(Kioxia Corporation\)](#)



Kioxia Corporation has been building signal processing systems for neuroscience in collaboration with Massachusetts Institute of Technology (MIT).

Neuroscience research calls for faster analysis of large quantities of data. Kioxia Corporation is contributing to advances in neuroscience by accelerating data analysis in the research cycle by using high-speed, high-capacity SSDs.

[Challenging to the Brain with Data Storage \(Kioxia Corporation\)](#)



Automatic Quiz-Generating AI

Kioxia Corporation has developed automatic quiz-generating AI in cooperation with QuizKnock (baton Co., Ltd.) by applying AI and machine learning technology cultivated through the analysis of over 2 billion data lines generated each day at Kioxia Corporation's semiconductor plants.

[Development of AI That Automatically Generates Quizzes \(Kioxia Corporation\) \(Japanese only\)](#)

[Quiz-Generating AI Development Project - "In the Pipeline" Combining Memory and Technology in](#)

[Pursuit of Future Horizons - \(Brand website\)](#)

Contribute to Convenient and Comfortable Lifestyles

Making data more widely available will help achieve improved lifestyles for even more people.



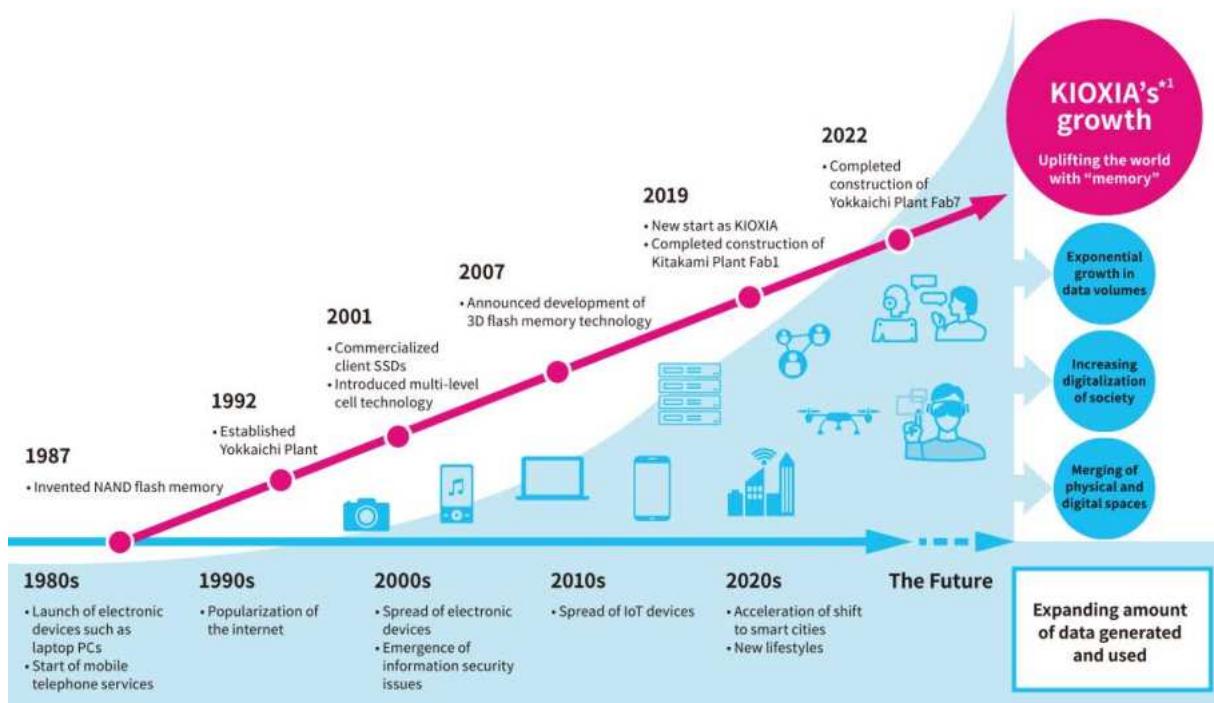
By enhancing high-capacity, high-speed, low-power-consumption, and high-reliability technologies, and making people's lifestyles smarter, we will help create a society, in which more people can lead convenient and comfortable lives.

* The information on this page is current as of the date of the announcement.

Kioxia Group is Responding in a Sustainable Manner to the Evolution of a Digital Society and the Increasing Demand for Data

KIOXIA's semiconductor memory technologies, typified by the NAND flash memory we invented in 1987, have supported the emergence of digital devices and the evolution of a digital society. As the amount of data generated increases exponentially with the use of AI, IoT and big data, new needs and issues are expected to arise. Always in touch with the times, we will continue to innovate and provide society with new products and services.

Kioxia Group will continue to evolve with society, based on our mission of "uplifting the world with 'memory.'"



*1 In 2017, the memory business of Toshiba Corporation was incorporated into a separate company, which commenced operations as Toshiba Memory Corporation. The company changed its name to Kioxia Corporation in 2019.

From the 1970s, semiconductor manufacturing boomed in Japan, and it became an essential element of the country's industrial sector.

In the 1980s came the first steps in the evolution of a digital society with the launch of new electronic devices such as laptop PCs and video game consoles, and the start of mobile telephone services in Japan.



1987 Invented NAND Flash Memory

KIOXIA invented NAND flash memory in 1987. Flash memory is an “extremely small semiconductor storage device.” Prior to the launch of NAND flash memory, magnetic tape and disks that required no power source were the mainstream storage devices. NAND flash memory offered the distinct advantages of short read/write speed and the potential for miniaturization.



1990s

Social Trends	KIOXIA
<p>In the early 1990s, personal computers had become ubiquitous and the internet started to become popular with the advent of the World Wide Web. The dial-up connections used to connect to the internet at the time were a far cry from the high-speed connections commonly used today.</p> <p>Digital cameras then appeared. Playing a part in this technological innovation were memory cards that store image data.</p> 	<p>1991 Commercialized the world's first* 4Mbit NAND flash memory (the world's first NAND flash memory commercialization)</p> <p>1992 Established Yokkaichi Plant</p> <p>Yokkaichi Plant was established for the mass production of memory products that were state of the art at the time. Production of NAND flash memory started at Yokkaichi Plant in 1999.</p>
	

Yokkaichi Plant at the time of its establishment (1992)

2000s

Social Trends	KIOXIA
<p>Digital devices such as mobile phones, portable music players and digital cameras became prevalent in the early 2000's, and advances were made in compression technology for audio and video data. Against this backdrop, there was growth in the demand for flash memory as a high-capacity,</p>	<p>2001 Commercialized 1Gbit MLC (160nm generation) NAND flash memory which was the first application in the world* of multi-level cell technology to a NAND flash memory product</p> <p>2007 Announcement of 3D Flash Memory Technology Development</p>

high-performance recording medium.

Mobile phones with integrated digital cameras emerged, and the start of third-generation (3G) telecommunication services enabled high-speed, high-capacity data transmission, paving the way for the use of email and internet access on mobile phones.



At the time, the miniaturization technology used to increase flash memory capacity (a large number of memory cells per plane) was reaching its physical limits.

In response, in 2007 KIOXIA announced the world's first 3D flash memory technology in which multiple memory cells were stacked. To reduce manufacturing costs, an innovative technology known as BiCS FLASH™ was used whereby plate-shaped electrodes were stacked and through which vertical holes were punched for electrodes, thereby creating memory cells in all the layers at once.



**2007 Announced industry's largest level*
of capacity 128GB SATA SSD**

SSDs began to replace hard disk drives (HDDs) in laptop PCs, leading to significantly higher performance, reduced weight and lower prices of these devices.

2010s

Social Trends	KIOXIA
The use of flash memory in smartphones to enable portable devices to store large images and music became commonplace.	2016 Started mass production of 3D flash memory BiCS FLASH™
A range of electronic devices appeared, including wearable devices, smart speakers and VR headsets, and the volume of data traffic increased exponentially with the increasing popularity of the internet and cloud computing. Digital technology had become an essential part of daily life.	2017 Established Toshiba Memory Corporation (currently Kioxia Corporation)
	March 1, 2019 Established Toshiba Memory Holdings Corporation (currently Kioxia Holdings Corporation)
	2019 Made a Fresh Start as KIOXIA
	On October 1, 2019, Toshiba Memory changed its company name to KIOXIA in order to mark a new start.
	KIOXIA

2020 Onward

Social Trends	KIOXIA
The development of digital technology has greatly changed people's lifestyles in ways such as increasing the efficiency of economic activities through the use of data and enabling communication via the Internet that transcends national and regional boundaries.	July 2020 Completed Acquisition of Solid State Storage Technology Corporation, a Subsidiary of Taiwan-based LITE-ON Technology Corporation
A growing array of new needs and issues is expected, ranging from ongoing growth in the	October 2022 Completed Fab7 at Yokkaichi Plant Fab7 has the capability to produce sixth-generation, 162-layer flash memory and

amount of data people generate through the use of AI, IoT and big data to autonomous driving and telemedicine.

future advanced 3D flash memory.



Kioxia Group will continue using its memory technologies to provide new value, allowing people to lead more convenient and comfortable lives in our digital society.

Create Safe and Secure Societies and Environments

Evolving new memory technology solutions for social issues



We deliver memory and SSD products that contribute to resolving social and environmental issues and help people live safely and securely.

Our Contribution to Climate Change Countermeasures

Social Issues: The Digital Society and the Global Environment

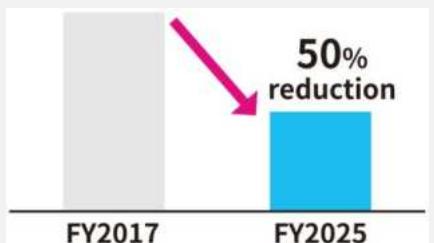
With the evolution of a digital society, flash memory and SSDs are now being used in every aspect of life, and demand for higher capacities and higher speeds continues to increase. As digital products and services become more widespread, it has become necessary to reduce electricity consumption and CO₂ emissions. Addressing this need has become a matter of urgency.

Contributing to the Environment through our Business Activities

At our Yokkaichi and Kitakami Plants, we are reducing our consumption of electricity and working to reduce the amount of chemicals and gas used during manufacturing by increasing productivity. We are also helping to reduce electricity consumption during the use of our products and services by making these more energy efficient.

KPIs: Improving the Energy Efficiency of our Products

Kioxia Group is striving to improve the energy efficiency of our products. Specifically, we have set the ambitious target of reducing the energy consumption per 1GB of memory processing in our memory and SSD products to 50% of FY2017 levels by FY2025.*



Energy consumption per 1GB of memory processing

* In 2017, the memory business of Toshiba Corporation was incorporated into a separate company, which commenced operations as Toshiba Memory Corporation. The company changed its name to Kioxia Corporation in 2019.

Contributing to the Environment through Our Products (Sustainability)

Environment (Sustainability)

Contributing to a Bright Future for a Motorized Society

Social Issue: The Convenience and Safety of a Motorized Society

With the advances in 5G, IoT and AI technologies, connectivity has extended to automobiles, which now make use of a wide range of data. Demand for data storage in vehicles continues to expand with the increase in complexity and sophistication of automotive equipment. In-Vehicle Infotainment (IVI) systems that provide traffic information and entertainment while driving and Advanced Driver-Assistance Systems (ADAS) are just two examples.

Helping Ensure Improved Automobile Safety and Convenience through Automotive Memory Solutions

Kioxia Group will help improve automobile safety and convenience levels with high-performance, high-capacity automotive UFS and e-MMC memory products that meet the sophisticated demands of in-vehicle use, such as reliability under a wide range of environmental conditions.



Automotive Applications (Kioxia Corporation)

UFS & e-MMC for Automotive (Kioxia Corporation)

A microSD Memory Card with the Durability Required for Use in Dashboard Cameras

Kioxia Group is helping to improve drivers' convenience by providing products with sufficient durability for dashboard camera video recording.



As an example, EXCERIA HIGH ENDURANCE microSD memory cards featuring BiCS FLASH™ 3D flash memory technology have been specially designed for use in surveillance cameras and dashboard cameras.

Contributing to Information Security

Social Issue: Security in an Increasingly Sophisticated Information Society

While the advance of digital technology and popularization of the internet have made daily life and the conducting of business more convenient, they have also increased the prevalence of information security issues.

SSD Security and Encryption Options for Diverse Needs

Kioxia Group is addressing the need for the protection of personal and business data in our enterprise-, data center- and client SSDs. As an example, in the event of laptop theft, an encrypted SSD can prevent important data such as customer information from being compromised.



* Note: Optional security feature compliant drives are not available in all countries due to export and local regulations.

[KIOXIA SSD Security and Encryption \(Kioxia Corporation\)](#)

KIOXIA SSD × Sustainability - For a Sustainable and Green Future -

Introducing the collaboration between KIOXIA and NTT Communications on KIOXIA's SSD (Solid State Drive) products for a sustainable and green future.

KIOXIA is dedicated to handle ever-increasing data volumes by its data centers and the latest SSD / flash memory technologies and solutions for enterprise systems, while NTT Communications is committed to meet the demand for high-speed processing of complex workloads with its cutting-edge data center technologies and solutions.

In this video, you will learn about the initiatives by both companies to engage the "sustainability".



[Movie: KIOXIA SSD × Sustainability - For a Sustainable and Green Future – \(4:22\)](#)
[KIOXIA SSD × Sustainability \(Kioxia Corporation\)](#)

The Kioxia Group's contribution to the Solving of social issues through its business

Kioxia Group provides value of "memory" to society through products such as flash memory and solid state drives (SSDs). We will continue to contribute to the achievement of the SDGs through our business activities, with the aim of helping to create a more sustainable society.

[Kioxia Group Initiatives in Support of the Achievement of the SDGs \(Sustainability\)](#)



Foundation for Value Creation

Our foundation of value creation is an important driving force behind the Group's ability to continually provide value to society. This domain is made up of three elements: Human resources, Technology, and Partnerships.

Human Resources



Our human resources represent important capital that helps us meet the expanding and increasingly sophisticated and wide-ranging needs of the market in a timely way. We recruit and train high-caliber graduates and experienced people to work with advanced technologies, and are implementing processes that will enable diverse employees to make full use of their capabilities.

Recruitment Initiatives

We focus on recruiting diverse human resources capable of working on an expanding range of memory and SSD product applications and other increasingly sophisticated technologies, to help us meet the growing demand for these.

Number^{*1} of New Graduate Recruits^{*2} in Administrative and Technical Positions (Kioxia Corporation)

FY2019	FY2020	FY2021	FY2022
280	207	298	303

*1 Undergraduate and postgraduate degrees

*2 As of April 1 each fiscal year

Talent Development

KIOXIA Group has established fair personnel systems to enable our diverse employees to fully display their individual abilities, and we focus on talent development and utilization.

Recruiting Talent with Diverse Expertise

Kioxia Group recruits talented individuals with high levels of expertise and helps people make full use of their capabilities through measures such as increased mid-career recruitment and deploying human resource processes and systems that develop talent.

Number of Mid-Career Recruits (Kioxia Corporation)

FY2019	FY2020	FY2021
113	275	280

Diversity Promotion

KIOXIA Group promotes diversity to enable our employees with a diverse range of personalities to each fully display their individual abilities.

Technology

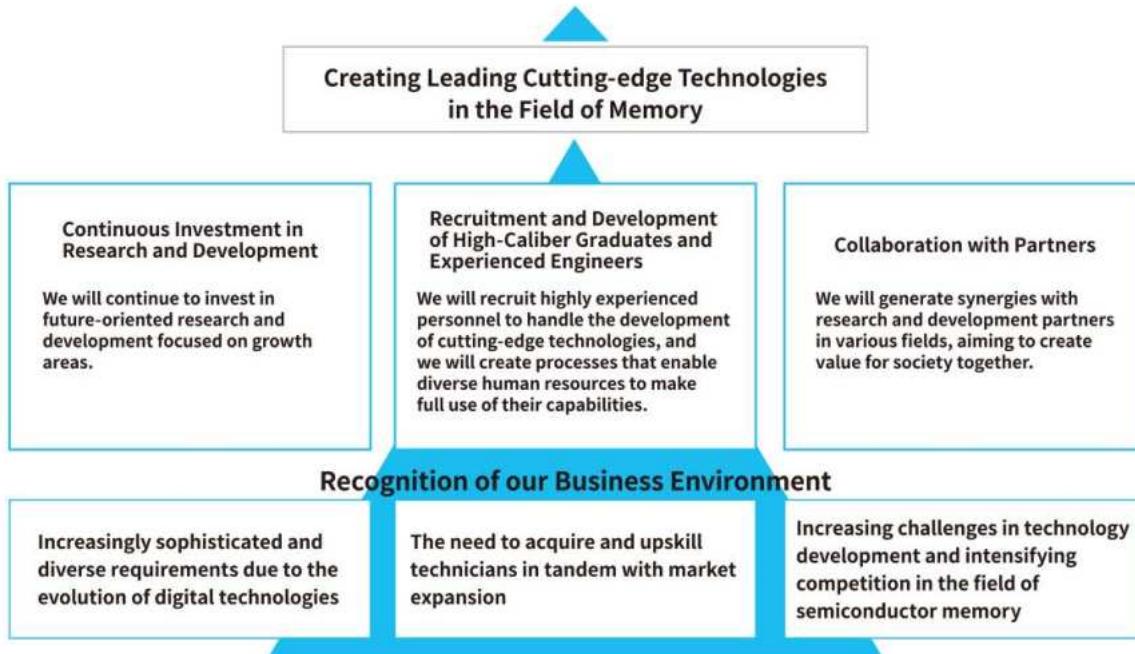


We will steadfastly maintain our leadership position in the field of semiconductor memory technology, undertaking research and technology development.

Basic Approach to Research and Technology Development

As a technology leader in the field of memory, Kioxia Group is engaged in cutting-edge research and development, aiming to continuously expand its business portfolio.

We will address market requirements in both new and existing domains and create new business opportunities to steadfastly maintain our position as a technology leader.



[Research and Technology Development Policy \(Kioxia Corporation\)](#)

Strengthening Research and Technology Development

To strengthen our flash memory and SSD research and technology development capabilities and devise memory technologies that provide new value, we will construct a Technology Development Building (tentative name) at our Yokohama Technology Campus in Sakae-ku, Yokohama City, Kanagawa Prefecture, in addition to an R&D center with a clean room (tentative name: Shin-Koyasu Advanced Research Center) in Kanagawa-ku, Yokohama City, in 2023. When these facilities become operational, they will drive innovation and strengthen our research and technology development by bringing together divisions that are currently spread throughout Yokohama and Kawasaki, enabling us to improve efficiency and stimulate collaboration.

The market for flash memory and SSDs is expected to continue growing. Accordingly, we aim to continue strengthening our research and development in these fields while creating new memory technologies and other innovative technologies and products.

[Kioxia Announces Expansion of Yokohama Technology Campus and New Research Center to Strengthen Research and Technology Development and Promote Open Innovation \(Kioxia Corporation\)](#)

Collaboration with R&D Partners

To conduct timely, cutting-edge research and development in diverse fields in a rapidly changing and competitive environment, it is necessary to have access to the latest know-how in a number of fields at all times. Through relationships with R&D partners in Japan and overseas (technology organizations, universities and research institutes), Kioxia Group is able to leverage a wide range of knowledge and ideas and use these to further evolve its products and technologies.

Moreover, in addition to collaborating with partners in research and development, Kioxia Group actively engages in personnel exchange through open innovation.

In Japan, our operations are structured around the following three frameworks:

- Research grants: these support research at academic institutions in a wide range of fields, including semiconductors
- Joint research: addressing business issues through a deep understanding of technology
- Comprehensive collaboration: in addition to conducting research, the objective is to develop the next generation of researchers

Overseas, the Group is also forging links with a number of universities and research institutes.

Main Achievements in FY2021

In Japan, in the area of research grants we solicited proposals for research projects in fields such as information processing; AI-related technologies; big data; applications; security; semiconductor circuit design; devices; manufacturing and process simulation technologies; and carbon-neutral environmental technologies, for use in semiconductor manufacturing. We selected 21 projects and implemented these.

In the category of joint research, we continue to conduct research in conjunction with academic institutions in Japan. In the area of comprehensive collaboration, we continued to undertake a number of collaborative activities involving research and personnel exchange with the University of Electro-Communications and Waseda Research Institute for Science and Engineering.

Overseas, we continue to conduct joint research with Massachusetts Institute of Technology Media Lab in the United States, among others.

[Academic Collaboration \(Kioxia Corporation\)](#)

Research and Technology Development Achievements

While constantly working to develop cutting-edge technologies, Kioxia Group has also been highly commended for presenting its R&D findings through a variety of channels, including major academic societies and research papers.

Main Achievements in FY2021

[Received IEEE Andrew S. Grove Award for pioneering and sustained contributions to high-density, three-dimensional flash memory.](#)

Kioxia Corporation was recognized for its longstanding leadership in research and technology development of 3D flash memory BiCS FLASH™.

[Received the 2021 Invention Prize from the National Commendation for Invention for our invention of semiconductor flash memory extension-of-life-span technology. \(Japanese only\)](#)

Kioxia Corporation was recognized for the invention of a memory system that enables the lifespan of flash memory to be extended by lengthening data erasure intervals.

[Received Best Paper Award at the IEEE Electron Devices Technology and Manufacturing \(EDTM\) Conference for study of 6-bit/cell cryogenic operation of 3D flash memory](#)

This report is the first in the world to outline the experimental cryogenic operation of 3D Flash memory BiCS FLASH™ as a means of improving storage performance.

[KIOXIA's AI Project Team Awarded Field Innovation Award Silver Prize by the Japanese Society for Artificial Intelligence.](#)

The project was highly commended as an innovative way to use artificial intelligence technology to generate *manga* (comic book) plots and character faces for the completion of a new *manga* work.

Initiatives for Creating Intellectual Property

Kioxia Corporation Selected in 2022 Edition of Clarivate Top 100 Global Innovators™

In February 2022, Kioxia Corporation was named one of the Clarivate Top 100 Global InnovatorTM for 2022. This is the first time for the company to receive this award, which is presented by Clarivate—a world leader in the provision of highly reliable information and knowledge—to the world's 100 most innovative companies and institutions, based on Clarivate's proprietary analysis of intellectual property and patent trends. Award recipients included Kioxia Corporation and 34 other Japanese companies including some Japanese electronics manufacturers.



Kioxia Group will protect and utilize its intellectual property as intangible assets, while respecting the legitimate intellectual properties rights of third parties.

The Group will continue to protect and utilize its intellectual properties and proactively implement initiatives to strengthen the competitiveness of its business.

Partnerships

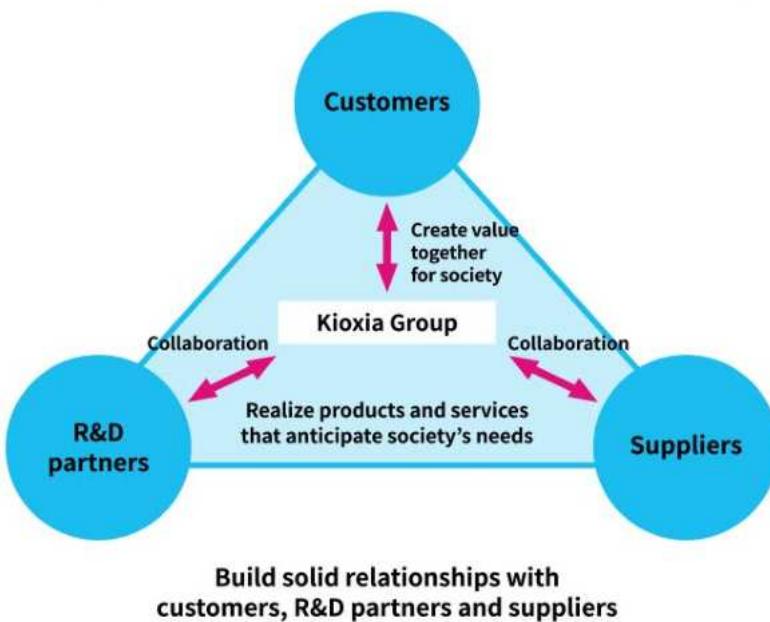


We will build strong relationships with our customers and other partners, with the aim of growing together sustainably.

Co-Creation with Partners

Kioxia Group builds partnerships with customers, research institutes and suppliers to create products and services that anticipate the needs of society. We collaborate and generate synergy with these partners, aiming to create value for society.

Generating synergy through collaboration with partners to create value together for society



Customers

Kioxia Group has built global sales capabilities, technical support networks, and supply chain processes to anticipate the needs of our customers, who are providing new value to society around the world, and to respond to any of their issues swiftly.

R&D partners

Kioxia Group leverages a wide range of cutting-edge knowledge and ideas and collaborates with R&D partners in Japan and overseas with the aim of further evolving our products and services; the partners include technology organizations, universities and research institutes.

Suppliers

Kioxia Group will provide a steady supply of high-quality products through co-creation with suppliers and extend its competitive advantages by generating new manufacturing technologies and other innovations.

Main Achievements in FY2021

Customers

In FY2021, we continued to engage on a regular basis with our customers via quarterly business reviews and other means. Listening to customers' views and understanding their requirements helps us to establish how we can partner with them more effectively to support their business expansion. It also highlights for us how we can improve our products and services and enhance the sustainability of customers' own supply chains.

R&D Partners

Collaboration with R&D Partners

Technology

Suppliers

Energy-Saving Processing Technology for Advanced Semiconductor Manufacturing by Nano-Imprint Technology (NIL)

Kioxia Group is collaborating with partners to develop new technology that will achieve energy savings and increase productivity in the semiconductor manufacturing sector.

In May 2022, the energy-saving processing technology for advanced semiconductor manufacturing using nano-imprint lithography (NIL), which was jointly developed by Canon Inc., Dai Nippon Printing Co., Ltd. and Kioxia Corporation, was awarded the Prize for Excellence at the 49th Environmental Awards sponsored by the National Institute for Environmental Studies and the Nikkan Kogyo Shimbun and supported by the Ministry of the Environment.

[About the 49th Environmental Awards Prize for Excellence \(Kioxia Corporation\) \(Japanese only\)](#)

Mutual Understanding with Suppliers

Kioxia Group provides its suppliers with opportunities to understand the Group's business strategies and to foster mutual understanding with the aim of growing together. For example, we regularly exchange opinions with equipment manufacturers on achieving energy savings and increasing productivity.

Sustainability Reporting

Environment

Environmental Management
Environmental Protection System
Climate Change
Current Status of Environmental Impact and Environmental Targets and Outcomes
Water Risk Management
Biodiversity Preservation
Contributing to the Environment through Our Products
Environmental Evaluation by External Parties
Environmental Communication
Acquisition of Environmental Certification

Social

Respect for Human Rights
Talent Development
Diversity Promotion
Occupational Health and Safety
Sustainable Supply Chain
Quality Control
Supporting Local Community Development

Governance

Corporate Governance
Risk and Compliance

Environmental Management

KIOXIA Group has incorporated concern for environmental issues into our Standards of Conduct; we see climate change and consideration for the environment as priority areas of focus in terms of ensuring the Group's medium- to long-term growth (sustainability materiality). We strive to enhance our corporate value and contribute to realize a sustainable society through our business activities by paying attention to their environmental impact. In addition to complying with relevant laws and regulations, we also strive to develop products and services with a reduced environmental impact and take systematic and globally accredited steps to reduce greenhouse gas emissions and other environmental impact throughout our entire value chain.

Environmental Policy

KIOXIA Group has formulated the KIOXIA Group's Environmental Policy, which is our basic philosophy concerning the environment, and we have communicated this across the entire Group.

[KIOXIA Group's Environmental Policy](#)

[Kioxia Group Standards of Conduct 5. The Environment](#)

KIOXIA Group's Environmental Policy

KIOXIA Group has set up an Environmental Planning and Promotion Group within the Production Technology Promotion Division to promote environmental management. The Environmental Planning and Promotion Group plans and proposes strategies to address social issues and company environmental measures and compiles environment-related data from workplaces and manufacturing bases within Japan and overseas. At the Environmental Management Review (chaired by the officer in charge of environment with attendees including Executive Officers) which is held every half-year, it conducts deliberations and confirms the degree of achievement of overall environmental measures. The Board of Directors discusses key issues flagged in reports from the Sustainability Committee or arising in Sustainability Strategy Meetings.

KIOXIA Group's Environmental Management



Promotion of Activities through the Environmental Management System

KIOXIA Group has obtained ISO 14001:2015 certification at its Head Office and manufacturing sites.

[Acquisition of Environmental Certification](#)

Environmental Education and Awareness-Raising

In addition to training covering environmental legislation and regulations, KIOXIA Group also provides all executives and employees (including temporary workers) with annual training based on environmental issues such as the latest social trends.

Furthermore, the Yokkaichi Plant promotes environmental awareness among its employees in all aspects of their professional and daily lives through internal publications such as the "Energy-Saving Wall Newsletter" and the "Eco Times." KIOXIA Iwate Corporation shares environmental activities that its employees are engaged in and would like to undertake in the future.



Energy-Saving Wall Newsletter (December 2021, March 2022, May 2022)

Environmental Protection System

Environmental Protection System

To promote environmental preservation activities continually and efficiently, in each manufacturing site of KIOXIA Group in Japan has established environmental preservation procedures overseen by a General Manager with clearly defined responsibilities and authority. An Environment Management Committee deliberates environmental preservation across the entire spectrum of environmental activities, including environmental management systems, policies, and objectives. We have further established a Compliance Committee to supervise and ensure full compliance with all relevant environmental laws and ordinances.

Environmental Protection System Diagram (Case of Yokkaichi Plant)



Introduction of environmental-related facilities

In order to prevent contamination by chemical substances and reduce contamination risk, KIOXIA Group has established Structural Design Guidelines to reduce the risk of chemical leaks at environmental facilities.

Examples



Waste gas scrubber

Structures and specifications for stable processing



Overhead piping

Reducing soil contamination risks



Drainage dike

Preventing wastewater from discharging into underground or public water areas



Wastewater treatment

Stable processing system and preventing outflow of wastewater



Double joints in piping

Monitoring and preventing liquid leakages



Six-sided inspection

Six-sided inspection finds abnormality easily at an early stage

Status of water and air quality management

In each of our domestic manufacturing operations, KIOXIA Group monitors water and air quality using voluntary standards that are more stringent than the prevailing legal requirements on a daily basis, in order to minimize the environmental burden of our business operations.

Around-the-clock, automated monitoring is conducted in respect of legally regulated factors such as NOx (nitrogen oxides), SOx (sulfur oxides), T-N (total nitrogen), T-P (total phosphorus), COD (chemical oxygen demand), SS (suspended solids), F (fluorine), and pH (power of hydrogen) levels.

We also voluntarily control items not subject to legal restrictions through sampling conducted at the Analysis Centers located within our manufacturing plants. The Yokkaichi Plant tests around 38,000 samples per year, with KIOXIA Iwate Corporation testing around 10,000.

In FY2021, KIOXIA Group was not subject to any government fines or penalties related to conservation of the environment such as water quality and atmosphere. Please refer to the environmental report for the results of wastewater and exhaust gas.

[Yokkaichi Plant Environmental Report 2022 \(PDF: 4.6MB\)](#)

[KIOXIA Iwate Corporation Environmental Report 2022 \(Japanese\) \(PDF : 2.6MB\)](#)

Environmental Plant Audit System

KIOXIA Group audit teams conduct annual environmental audits of its sites based on the following principles: three "Zen" approach (all aspects, all facilities, all staff), three "Gen" approach (actual place, actual product, actual reality), and visual control approach (look, visualize, show).

Through audits, we promote improvement in compliance with laws and regulations, measurement and management of controlled substances, and the 4S approach (sorting, straightening up, sanitation, sweeping). These audits target eight facilities, including the legally mandated wastewater treatment facilities.

KIOXIA Group Environmental Plant Audit System Diagram



Climate Change

Climate Change Policy

KIOXIA Group treats initiatives addressing climate change as one of our most important management issues and aims to reduce greenhouse gas emissions and energy consumption both in terms of our business activities and our product lifecycles.

Regarding greenhouse gas emissions, we have installed abatement equipment in 100% of our targeted facilities since 2011, aiming to eliminate the emission of PFCs^{*1} with high global warming potential during manufacturing. We have additionally set the goal of reducing by 1% each year the previous year's total energy consumption (SCOPE 2: indirect emissions from business activities) based on a policy of reducing emissions through energy-saving activities in Japan in line with the Act on Rationalizing Energy Use (hereinafter, "the Energy-Saving Act"). Moreover, in FY2020 we formulated a long-term goal of ensuring that by FY2040, 100% of all energy we use will be from renewable sources.

During product development, we strive to incorporate features that will improve the energy efficiency of our products when they are in use. We also make every attempt to reduce greenhouse gas emissions throughout our value chain, by ascertaining the volume of these emitted by our suppliers, and taking steps to help reduce those.

*1 PFCs: Alternative to CFC gas used in manufacture of semiconductors. PFCs gas has high global warming potential.

Our Response to the Task Force on Climate-Related Financial Disclosures

In June 2021, KIOXIA Group announced our endorsement of the recommendations released by the Task Force on Climate-Related Financial Disclosures (TCFD).^{*2} We believe that accurately ascertaining the climate-related impact of our business, disclosing information to stakeholders and deepening mutual understanding are indispensable for sustainable corporate growth, and we proactively disclose information in accordance with the TCFD recommendations.

*2 TCFD: A task force established by the Financial Stability Board which devises methods to disclose climate-related financial information; an initiative to promote the disclosure of information related to climate-related risks and opportunities.

Governance

At Sustainability Strategy Meetings chaired by the President and CEO, executive officers formulate our company strategies and policies on climate change and check the level of achievement before submitting recommendations to the Board of Directors. The Sustainability Committee, chaired by the Executive Officer in charge of sustainability, discusses key themes and sets KPIs based on the strategies and policies formulated at the Sustainability Strategy Meetings. We also set up task forces reporting to these organizations to tackle important sustainability issues; they report on progress and confirm direction. In FY2021, scenario analysis, analysis of climate-related risks and opportunities, and strategies, metrics and targets were examined, based on the recommendations of the TCFD.

Scenario Analysis

KIOXIA Group carried out an impact analysis of the effects of climate change on our business for each stakeholder and each business using two scenarios stipulated by the International Energy Agency (IEA) etc.: the 2°C Scenario and 4°C Scenario.*³

Under the 2°C Scenario, we believe there will be a significant impact from government provisions and strengthening of regulations, as well as changes in the preferences of customers and other stakeholders. For example, we assume that there will be an increase in the costs associated with measures for reducing greenhouse gases emissions developed at manufacturing sites, and higher research and development expenses arising from the need to develop high-energy efficiency and high-capacity products.

Under the 4°C Scenario, we project rising material costs and the emergence of physical risks to our company bases. KIOXIA Group has aggressively employed energy-saving and renewable energy measures to address these risks and is moving forward with product development processes that address the need for more efficient energy usage and other requirements.

*³ The 2°C Scenario and 4°C Scenario are common terms for climate-related scenarios depicted by the IEA and other organizations. Each scenario includes specification of the economic measures needed to suppress rising temperatures and the envisaged environmental damage in the event such increases in temperature occur.

Climate-Related Risks and Opportunities

KIOXIA Group assesses, as shown in the table below, the risks and opportunities arising from the external environment in 2030 under the 2°C Scenario (2DS) assumed by IEA etc.

We recognize risks such as increased power supply costs resulting from the introduction of a carbon tax, and the cost of installing additional equipment to remove PFCs in line with an increase in manufacturing output. In addition, we are aware of physical risks, such as an increase

in clean room air-conditioning costs as a result of a rise in outdoor temperatures.

In terms of opportunities, we envisage using less power and accordingly reducing our expenditure on power in our manufacturing facilities by promoting energy conservation.

To clarify the potential effects of climate-related risks and opportunities on business activities, a cross-division taskforce conducts detailed calculations of the financial impact of these. These risks and opportunities, and their potential financial impact are reported at Sustainability Strategy Meetings or at meetings of the Sustainability Committee, where response strategies are discussed.

External events	Risks		Opportunities	
	Attributes	Potential Financial Impact	Attributes	Potential Financial Impact
Introduction of carbon pricing	(Transitional Risks) Government policies, laws and regulation	<ul style="list-style-type: none"> Increased cost of power. Soaring manufacturing equipment costs. Soaring construction costs. 	—	—
Strict and promotion of energy saving during manufacturing/Conversion to renewable energy	(Transitional Risks) Technology	<ul style="list-style-type: none"> Increased cost of introducing PFCs gas abatement equipment to the new building. Incurred cost of installing energy of renewable energy (solar power generators, etc.). 	(Transitional Opportunities) Energy source (Transitional Opportunities) Resource efficiency	<ul style="list-style-type: none"> Reduction of environmental load and running costs of the building during construction and post-construction. Reduce costs through deployment of energy-saving production equipment. Reduce costs by building efficient transportation systems and procuring materials with high resource efficiency. Expand business opportunities by large capacity and high energy efficient product.

Contribution to energy saving and efficiency/Improving environmental awareness	(Transitional Risks) Market	<ul style="list-style-type: none"> Increased R&D costs. 	(Transitional Opportunities) Products and services	<ul style="list-style-type: none"> Expand business opportunities by large capacity and high energy efficient product.
	(Transitional Risks) Reputation	<ul style="list-style-type: none"> Reputational risk and fundraising risk if response to our stakeholders is insufficient. 	(Transitional Opportunities) Markets	<ul style="list-style-type: none"> Increased customer trust levels due to strengthened BCP *4 leading to stronger branding power and higher corporate value.
Decreased demand for high carbon products	(Transitional Risks) Reputation	<ul style="list-style-type: none"> Impact on business of GHG emission reduction requirements from customers. 	(Transitional Opportunities) Markets	<ul style="list-style-type: none"> Positive impact on business by responding to GHG emission reduction requests. Increased corporate value and fundraising capabilities arising from strengthened ESG activities.
Stable supply of electricity	(Transitional Risks) Technology	<ul style="list-style-type: none"> Unstable power supply due to expansion of renewable energy usage. 	(Transitional Opportunities) Energy sources	<ul style="list-style-type: none"> Stabilization of power supply by early securing power sources.
Operations halted due to natural disasters	(Physical Risks) Chronic	<ul style="list-style-type: none"> Extreme weather conditions, incurring suspension of operations, etc. Supply chain stagnation, incurring suspension of operations, etc. 	—	—
Water risk	(Physical Risks) Acute	<ul style="list-style-type: none"> Operations halted due to inability to secure sufficient water supply. 	—	—
Rising temperature	(Physical Risks) Acute	<ul style="list-style-type: none"> Increased air-conditioning costs. 	—	—

*4 Business Continuity Plan

Strategies, Metrics and Targets

Our strategy to avert climate change involves setting and meeting targets related to energy consumption, environmental impact, and our products. We review the degree of achievement of these at Environmental Management Review meetings held every six months. As mentioned earlier, with regard to energy consumption (SCOPE 2), we are promoting energy-saving activities with the stated goal of reducing the volume of emissions by 1% compared to the previous fiscal year. For details, please refer to Greenhouse gases emissions from our entire value chain and Efforts to adapt to climate change.

Moreover, we have set the long-term goal of using 100% renewable energy by FY2040. By considering the creation of an energy portfolio that includes energy conservation activities and non-fossil certificates,^{*5} we will work to secure the optimal and stable procurement of renewable energy in line with our business expansion. We plan to install facilities that will allow the use of renewable energy in our factories, and to use carbon-neutral city gas in facilities.

*5 Non-fossil certificates: certificates that allow the trading of the environmental value of renewable non-fossil power sources that do not emit CO₂ during generation.

Greenhouse gases emissions from our entire value chain

Greenhouse gases (SCOPE 1, 2, 3: CO₂ equivalent) emissions from KIOXIA Group's business operations in FY2021 are shown in the chart below.

(Hyphenated cells indicate "not applicable," and we have not calculated "emissions generated during the use of products")

SCOPE 1 (Direct emissions)

CO ₂ Emissions in FY2021 (t-CO ₂)	Category Outlines
694,000	Direct greenhouse gas emissions from our own operations

SCOPE 2 (Indirect emissions, electricity)

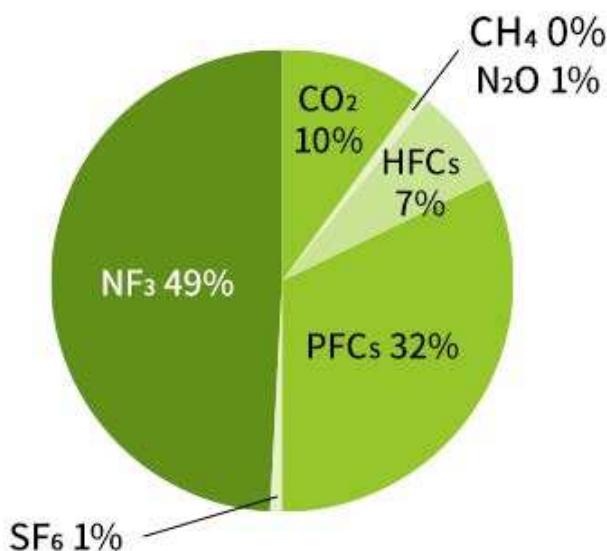
CO ₂ Emissions in FY2021 (t-CO ₂)	Category Outlines
1,848,000	Emissions associated with purchased energy supplies

SCOPE 3 (Indirect emissions through supply chain, excluding those outlined in SCOPE 1, 2)

Category	CO ₂ Emissions in FY2021 (t-CO ₂)	Category Outlines
1. Purchased goods and services	4,885,202	Emissions from activities up to the manufacturing of raw materials
2. Capital goods	1,259,310	Emissions from the construction and manufacturing of capital goods
3. Fuel- and energy-related activities not included in SCOPE 1 or 2	322,621	Upstream emissions of purchased fuels/electricity, etc.
4. Upstream transport and delivery	315	Emissions arising from the transportation of products and waste in Japan (excluding overseas transportation and suppliers' transportation)
5. Waste generated in operations	20,353	Emissions from the treatment of waste
6. Business travel	107	Emissions arising from employees' business travel
7. Employee commuting	13,586	Emissions arising from employees' commuting
8. Leased assets (upstream)	—	—
9. Downstream transportation and delivery	—	—
10. Processing of sold products	—	—
11. Use of sold products	—	—

Category	CO ₂ Emissions in FY2021 (t-CO ₂)	Category Outlines
12. End-of-life treatment of sold products	—	—
13. Downstream leased assets	—	—
14. Franchises	—	—
15. Investments	—	—
SCOPE 3 (Total)	6,501,494	

Breakdown of emissions from SCOPE 1 (FY2021)

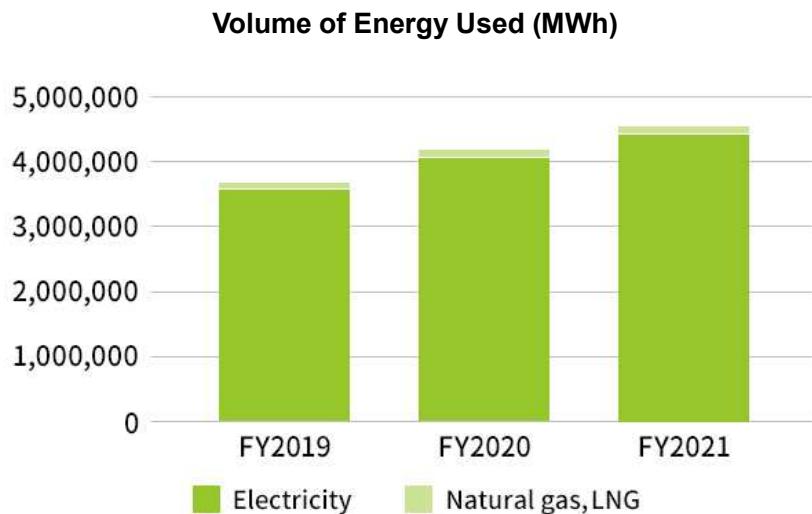


Result of energy consumption and greenhouse gases emissions from business operations

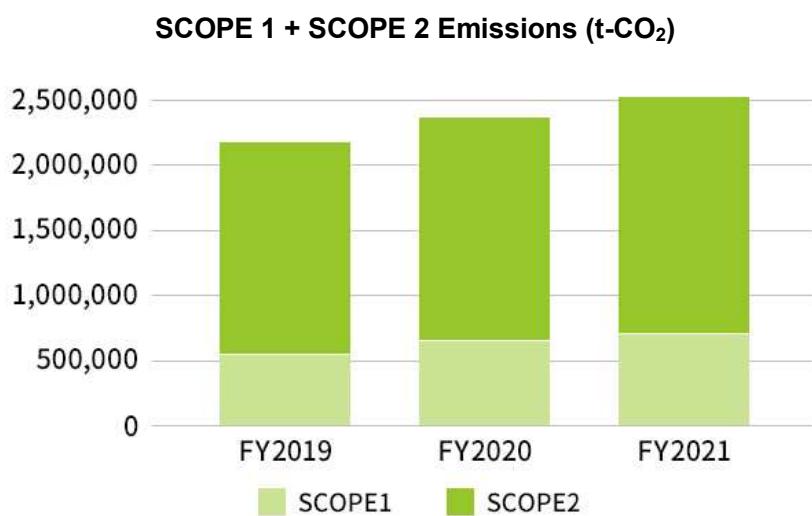
We plan and implement capital expenditure to secure the production capacity that will allow us to respond to the dramatic increase in the volumes of data circulating in everyday life. In so doing our energy consumption is on the rise.

The graph below shows KIOXIA Group's energy consumption and greenhouse gas (SCOPE 1 + 2) emissions. We are striving to achieve our goal of 100% renewable energy usage by fiscal 2040

through the purchase of non-fossil fuel certificates in respect of some of the electricity used at our Head Office and Yokohama Technology Campus, among other initiatives.



* The usage ratio of renewable energy in total energy consumption in FY2021 was 0.02%.



Efforts to adapt to climate change

KIOXIA Group in Japan is progressing with efforts to adapt to climate change in the course of our product development, the operation of our manufacturing sites, and the establishment of our supply chains.

Product Development

In the storage market, the need for low-power consumption-type products is growing extremely rapidly, and we expect to expand sales opportunities by further developing these products. We have set a challenging target of reducing the energy consumption per 1GB processed by 50% from 2017 levels by FY2025. We are working on the research and development of more energy-efficient processes and increased capacity through the development of advanced stacking technology.

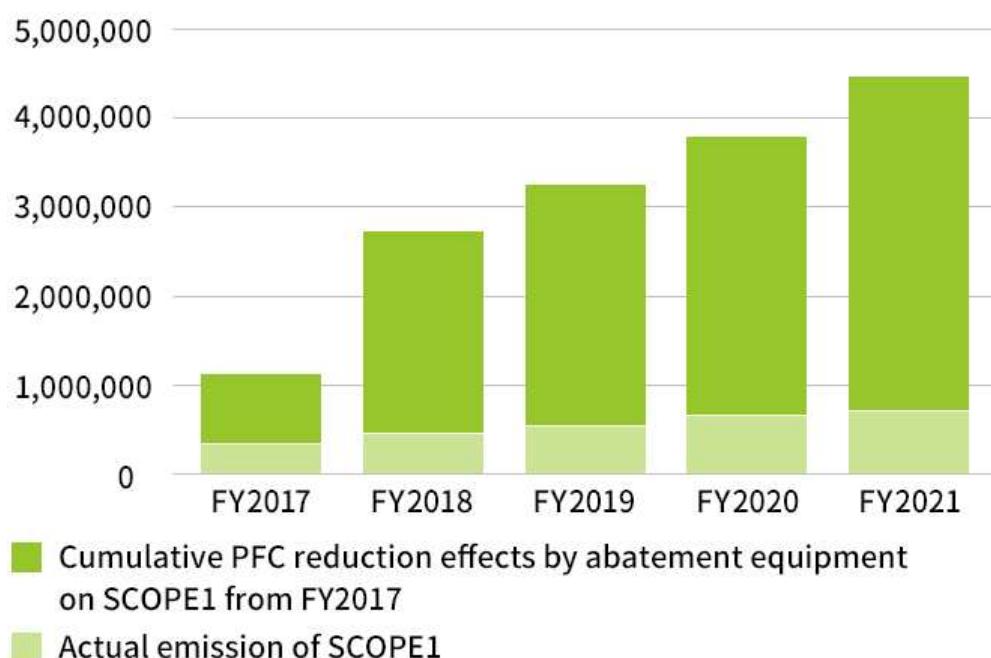
Please see below for details.

[Contributing to the Environment through Our Products](#)

Operation of Manufacturing Sites

KIOXIA is proactive in the installation of abatement equipment to deal with PFCs – greenhouse gases with high global warming potential. The installation of 160 items of PFCs abatement equipment in FY2021 led to a reduction of 610,000 tons of CO₂ emissions. From FY2011 onwards, we installed PFCs abatement equipment on 100% of the target facilities and reduced CO₂ emissions by 3,770,000 tons over the four years between FY2017 and FY2021.

The contribution of PFCs abatement equipment to SCOPE 1 emission levels from FY2017 (t-CO₂)



KIOXIA manufacturing sites have the stated goal of reducing energy consumption by 1% compared to the previous year's total energy consumption (SCOPE 2), based on the

aforementioned Energy Saving Act.

In FY2021 we achieved our goal of reducing energy use through various energy-saving activities, recording an actual reduction of 29,652 tons of CO₂ emissions per year against a target reduction of at least 23,313 tons of CO₂ emissions. Over the past 11 years, the result of our energy conservation programs was a cumulative reduction of approximately 210,000 tons of CO₂ emissions.

To promote energy conservation and efficiency at each facility, we endeavor to improve and incorporate new technologies while periodically addressing priority areas and assessing the progress of improvements. In FY2021, the Yokkaichi Plant identified 10 power-related items as priority targets. One example is the use of different pressure boosters to generate the high-pressure air required for semiconductor manufacturing.

By changing the boost method, we successfully switched to equipment that requires no power supply and has no exhaust, enabling a reduction of 109 tons of CO₂ emissions per year.

Supply Chains

As climate change continues in the form of global warming, damage due to river flooding is becoming more apparent every year. These events impact on the production of component manufacturers and logistics, and increase the risk of disruption to supply chains. KIOXIA Group has targeted all business units with the drafting of business continuity plans (BCPs), and has established response processes that take account of a variety of risks, including natural disasters, throughout the entire supply chain. Under our BCP policy, we strive to be fully conscious of the status of our supply chains even at times of no disruption, and ensure we have multiple suppliers. Furthermore, we are making efforts to ensure we are able to swiftly assess the situation in the event of an emergency, and to minimize effects on the business at such times by means of a collaborative process designed to ensure the early recovery of services.

Taking Part in External Initiatives Related to Climate Change

KIOXIA is involved in the addressing of energy and global warming issues as a member of the Environmental Working Group of the Japan Electronics and Information Technology Industries Association (JEITA), a group representing the electronic device industry.

Since FY2020 we have been a supporting member of the Japan Climate Leaders' Partnership (JCLP), a corporate group that aims to achieve a decarbonized society. We have collaborated in measures aimed at achieving the 1.5°C reduction target stipulated under the Paris Agreement, as well as in discussions about proposals to be made to the government. Moreover, following the

announcement by KIOXIA Holdings of its endorsement of the TCFD in 2021, we are participating in the TCFD Consortium with effect from this year.

We will continue to devise appropriate measures to handle climate change, collect information by participating in these industry organizations, and make recommendations to the government in order to contribute towards the realization of a sustainable society.

Current Status of Environmental Impact and Environmental Targets and Outcomes

Current Status of Environmental Impact

The following tables outline the environmental impact (material balance) of the manufacturing activities at KIOXIA Group.

Although the environmental burden shows an increasing trend, as we are increasing production capacity in response to the growing demand for communications infrastructure, we continue to work on reducing this burden by means of various initiatives.

We have set specific targets for the reduction of the environmental impact per storage capacity output and other indicators to plan and implement measures, and to verify levels of achievement.

For details of the environmental impact of each manufacturing site and its activities aimed at helping to protect the environment, see manufacturing site's environmental reports.

[Yokkaichi Plant Environmental Report 2022 \(PDF: 4.6MB\)](#)

[KIOXIA Iwate Corporation Environmental Report 2022 \(Japanese\)\(PDF : 2.6MB\)](#)

Input

	FY2019	FY2020	FY2021
Chemicals*¹ (tons)	47,147	56,418	63,539
- VOC* ² (tons)	14,208	16,985	18,330
- PRTR* ³ (tons)	5,946	7,214	7,539
City water*⁴ (thousand m³)	30	59	71
Industrial water*⁴ (thousand m³)	19,766	22,764	24,417

Output

	FY2019	FY2020	FY2021
Greenhouse gas (thousand tons)	2,186	2,365	2,542
Chemicals*¹ (tons)	518	639	625
- VOC* ² (tons)	479	599	583
- PRTR* ³ (tons)	3	3	2
Waste (tons)	81,211	93,914	105,737
- Recycled volume (tons)	61,268	67,925	75,025
Wastewater (thousand m³)	14,733	17,300	18,445
NOx (tons)	27.0	28.7	26.6
SOx (tons)	0	0	0

*1 Chemicals targeted for reduction

*2 VOC (volatile organic compounds): Causative agents such as IPA, butyl acetate and cyclohexanone that generate photochemical smog.

*3 PRTR (pollutant release and transfer register): A system to ascertain, compile and disclose data on hazardous chemical substances (such as water-soluble zinc compounds, 2-aminoethanol, silver and its water-soluble compounds, etc.) discharged into the environment from any source or transported from work sites in waste.

*4 All fresh water

Targets and Outcomes

KIOXIA Group promotes business activities that contribute to the realization of a sustainable society by setting its own environmental targets. The following table summarizes the environmental targets of KIOXIA for FY2021 and their achievement status.

We again achieved all environmental targets in FY2021 thanks to our energy-saving activities promoted across the organization and our efforts to reduce the amounts of used and discarded

chemical substances at our flash memory manufacturing plants. We are also actively engaging in social contribution activities with employee participation and biodiversity conservation activities, primarily at our manufacturing plants.

We adopted the “rate of change of environmental impacts per storage capacity output FY2013 basis” as our target, excluding the reduction of CO₂ emissions from energy sources.

Accompanying our plans for production line expansion, the environmental impact of KIOXIA's activities is expected to have increased in FY2022 compared with the previous year, and our cross-functional environmental initiatives will continue.

Environmental targets and objectives	FY2021 Target	FY2021 Result	FY2021 Achievement Status
Development of products, the manufacturing of which has a reduced environmental impact	Reducing the environmental impact of production processes through miniaturization of devices	3 or more measures per year	3 measures ✓
Mitigation of global warming	Reduction of CO ₂ emissions from energy sources	≥ 23,313t-CO ₂	29,652t-CO ₂ ✓
	PFCs* ⁵ emissions (Rate of change from FY2013)	≤ 68.9%	57.9% ✓

Promoting efficient use of resources	Total amount of waste generated minus amount of valuable waste (Rate of change from FY2013)	$\leq 34.5\%$	30.2%	✓
	Total waste generated (Rate of change from FY2013)	$\leq 23.1\%$	21.0%	✓
	Water intake (Rate of change from FY2013)	$\leq 24.6\%$	23.2%	✓
Reduction of environmental risk	Emissions of chemical substances to air and water (Total amount, rate of change from FY2013)	$\leq 22.0\%$	18.0%	✓
Biodiversity conservation	Biodiversity conservation	Periodic monitoring of indicator species	Periodic monitoring of indicator species	✓
Promotion of environmental communication	Social communication	Charity eco bazaars, collection of recyclable waste, donations, etc.	Held charity bazaars, collected recyclable garbage, made donations, etc.	✓

	Community communication	Local communication	Communicated with local people (e.g., meetings with local residents' associations)	✓
Raising environmental awareness	Raising environmental awareness	Measures for raising awareness	Held awareness-raising programs (e.g., monthly environmental events)	✓

(✓: Achieved, ✗: Not achieved)

*5 PFCs: Alternative to CFC gas used in manufacture of semiconductors. PFCs gas has high global warming potential.

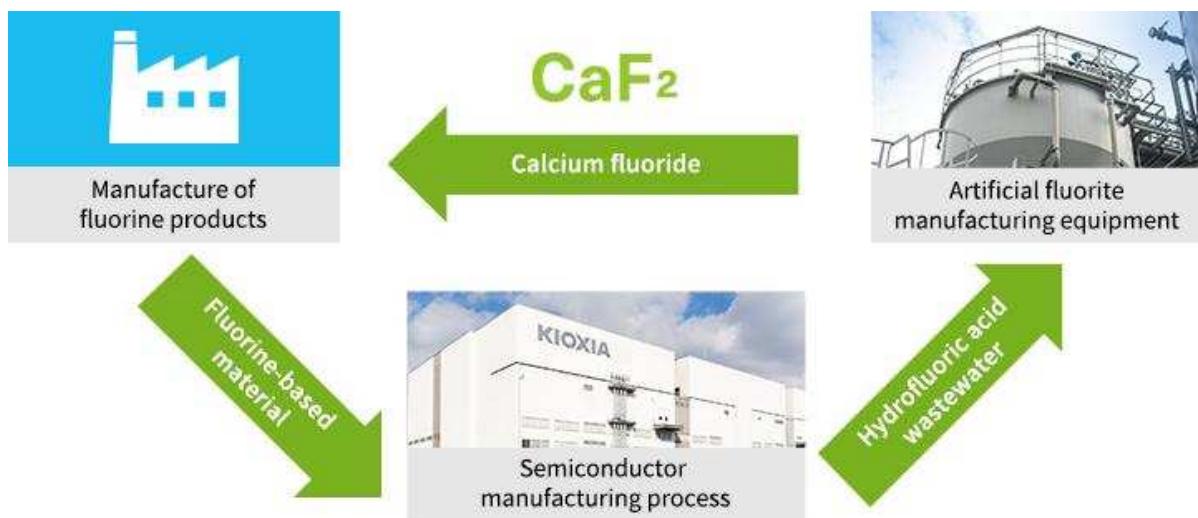
Effective Use of Resources

Although the amount of waste generated is tending to increase as the scale of our factories expands, we are striving to promote effective use of resources throughout our entire supply chain with the aim of reducing our environmental footprint. In addition to collecting and recycling waste generated during manufacturing, we are also proactively reducing our consumption of chemicals and gas by improving manufacturing processes and using environmentally friendly packaging.

Collection and Reusing of Fluorite

By processing waste materials generated during the product manufacturing process, we collect resources and extract value from them, thereby reducing the amount of waste sent to landfill. We have reduced the amount of sludge containing hydrofluoric acid by about 30% by treating the hydrofluoric acid wastewater generated in the manufacturing process at an artificial fluorspar manufacturing facility and recovering it in the form of calcium fluoride (artificial fluorite). The artificial fluorite recovered is used as an alternative to fluorite, an imported natural resource, and

is a material used by fluorinated product manufacturers. These efforts contribute to reducing the import volume of fluorite, which is a rare resource.



Use of Environmentally Friendly Packaging

KIOXIA has been extending its use of environmentally friendly packaging. Memory chips and silicon wafers are transported between KIOXIA and subcontractors or material suppliers during manufacturing and processing. To maintain the quality of these delicate components, we use durable plastic cases that provide effective protection during transportation and ensure cleanliness. We inspect and reuse these cases after use, and the reuse ratio is approximately 60% for memory chips and nearly 90% for wafers.

When packaging SSD products for delivery to corporate customers, we use both plastic inner trays that achieve high shape accuracy to firmly anchor the contents and recyclability^{*6}, and cardboard packaging materials (examples: outer box for transportation, inner box, etc.) that are strong and easy to recycle. In FY2021, we reduced the inner box's unfolded dimensions by approximately 15% by reviewing its design.^{*7}

*6 A single material is used for ease of recycling.

*7 We plan to utilize this new compact external packaging for all new products.

Water Risk Management

Water Risk Management Policy

Amid worldwide concern over water shortages, KIOXIA Group has established the conservation of water resources and stable operations as business priorities. The balance between supply and demand, the amount of water that can be withdrawn, and the quality of water vary greatly between regions. Accordingly, KIOXIA Group has identified water-related risks for each region from all aspects and conducts environmental impact assessments to ensure appropriate water management focusing on the medium- to long-term. It is necessary to consider the impact of external environmental factors, such as drought and flooding, on our business operations, as well as the impact of our operations on local water levels. KIOXIA Group has accordingly established voluntary standards that are more rigorous than the corresponding legal requirements. We continually strive to reduce the environmental impact of the wastewater produced during our manufacturing processes and we recycle the water we use as best we can to conserve precious water resources and ensure business continuity.

Water Management Organization

At KIOXIA Group, we position initiatives and indices related to water as important management issues. Sustainability strategies and policies, including those related to water, are formulated at Sustainability Strategy Meetings, chaired by the President and CEO, with the degree of target achievement confirmed in each case, before a final review by the Board of Directors.

KPIs are discussed and determined by a Sustainability Committee chaired by the executive officer in charge of sustainability, based on sustainability strategies and policies formulated in Sustainability Strategy Meetings, including those related to water.

At Environmental Management Review Meetings, which involve discussions primarily between the officers responsible for environmental protection, it has evaluated the impact on our business, and compliance with relevant laws and regulations with reference to social and legislative trends, and our medium-term environmental plan, considering the risks and opportunities related to our usage of water.

Issues deliberated at Sustainability Strategy Meetings include the installation of equipment to reduce water consumption during the construction of new plants, and the management of risk

through business continuity plan (BCP) activities. Assessments of water hazards such as overflowing rivers, large-scale typhoons and drought are also conducted as part of our BCP policy, to reinforce our overall business risk management and enable swift business continuity in the wake of any disaster. Furthermore, specialists investigate and monitor domestic and international regulations and trends to reduce the risks posed to constantly changing water environments.

Evaluating Water Risk

The balance between supply and demand, the amount of water that can be withdrawn, and the quality of water vary greatly between regions. KIOXIA Group has commissioned external experts to evaluate water-related risks from the perspective of current and future water supply and demand risks; these are assessed using tools such as the World Resources Institute's WRI Aqueduct and the World Wide Fund for Nature (WWF) Water Risk Filter. We are using these assessments to analyze risks such as water stress levels and seasonal variations in water supplies through the year 2040 in order to understand the potential impact on our business activities.

The outcome of the assessment of our manufacturing operations was confirmation that they are not exposed to any water risk likely to have practical financial or strategic impact prior to the year 2040. This assessment was based on investigations into such areas as water supply and demand risk (driven by seasonal changes, the frequency of droughts, water storage capacity and water source protection), the risk of water-related disasters such as flooding or landslides, and regional vulnerability to water pollution that might endanger public health or ecosystems.

Water-related Targets and Results

Using FY2013 levels as the baseline, KIOXIA Group has set targets for the reduction of our water intake per storage capacity output, and we manage these using a PDCA cycle.

For FY2021, we set the target of consuming 24.6% or less of FY2013 levels, and achieved this with an actual result of 23.2%.

Going forward, we will continue to promote activities aimed at achieving water intake reduction targets by both reducing water consumption and by promoting recycling.

Enhanced Wastewater Monitoring

In each of our domestic manufacturing operations, KIOXIA Group in Japan monitors wastewater using voluntary standards that are more stringent than the prevailing legal requirements, in order to minimize the impact of our business operations on the atmosphere and on rivers.

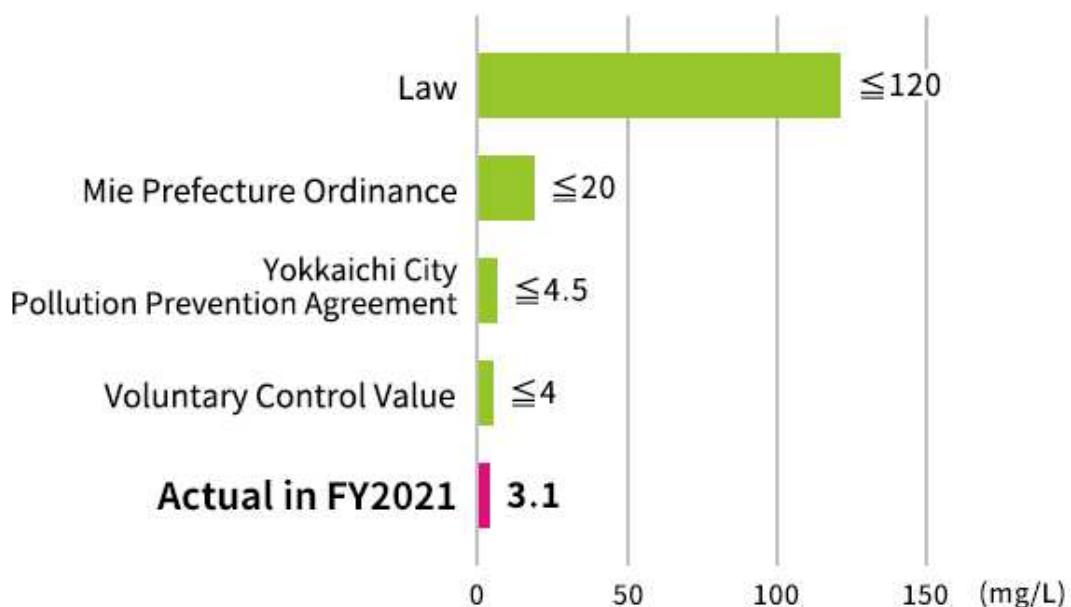
Around-the-clock, automated monitoring is conducted in respect of legally regulated factors, including chemical oxygen demand (COD), suspended solids (SS), fluorine (F), and power of hydrogen (pH) levels. We also voluntarily control items not subject to legal restrictions through sampling conducted at the Analysis Centers located within our manufacturing plants. The Yokkaichi Plant tests waste water qualities around 29,000 samples per year, with KIOXIA Iwate Corporation testing around 10,000.

In FY2021, KIOXIA Group was not subject to any government fines or penalties related to wastewater.

Wastewater voluntary rules

Daily control is implemented based on voluntary guidelines that are more stringent than corresponding laws, regulations or agreements.

**Wastewater COD (Chemical Oxygen Demand) concentration control values
(Yokkaichi Plant)**



Water Recycling

In order to promote more effective use of resources, KIOXIA Group in Japan is devising initiatives aimed at controlling the amount of water we intake and discharge at our manufacturing plants. One example of this is the collection and reuse of water used in manufacturing processes inside plants.

Water recycling at domestic manufacturing plants in FY2021 resulted in the collection and reuse of approximately 30 million cubic meters of water (equivalent to about 55% of our total intake), which has helped ensure the effective use of water resources and reduced the environmental impact of public water utilities' operations.

Biodiversity Preservation

KIOXIA Group is engaging in a range of biodiversity conservation activities in order to protect the rich ecosystems in the areas where we operate reduce that impact and to enhance our contribution to society.

Our involvement in the Owl Protection Project

In 2018 our Yokkaichi Operations signed a “Mie Biodiversity Partnership Agreement,” forming a partnership with Mie prefecture and the Yokkaichi-Nishi High School aimed at supporting the owl protection project being undertaken by the school’s Natural Study Group. Under this agreement, we provide equipment enabling owls to be observed in their natural habitat; this supports the group’s aim of passing on the region’s rich natural environment to future generations.

As part of this activity, we have installed items such as solar power generation systems, cameras and solar panels, all designed by volunteer employees, to monitor the bird boxes set up by Yokkaichi-Nishi High School students in Mie prefecture’s Forest Park. Since 2019 this has enabled the successful observation of owls nesting, raising offspring, and the offspring leaving their nest, for four consecutive years. Discussions between representatives of Mie prefecture, Yokkaichi-Nishi High School and our Yokkaichi Plant regarding this activity were conducted and efforts made to further improve the observation environment.

In 2021, Kuwana High School in Mie prefecture also participated in this program, further expanding its scope of activities.



Solar battery panels powering the on-site equipment



Installing observation equipment inside and outside the bird boxes



Adjusting the observation equipment



Baby owls inside the bird box (May 2021)



A baby owl about to leave the bird box nest (May 2021)

Achievements and future plans

Year	Main accomplishments and future plans
2018	<ul style="list-style-type: none"> Concluded Mie Biodiversity Partnership Agreement Decided observation equipment specifications Yokkaichi Plant employees installed and adjusted observation equipment Started promoting the project internally and outside of the company
2019	<ul style="list-style-type: none"> Reviewing FY2018 activities and formulating action plan for FY2019 Boosted observation equipment (added solar panels and batteries, updated cameras and HDD recorder)
2020	<ul style="list-style-type: none"> Reviewing FY2019 activities and formulating action plan for FY2020 Improved observation equipment (swapped out the HDD, switched power source inverter, dealt with communication irregularities by switching router)
2021	<ul style="list-style-type: none"> Extended the agreement to cover further collaboration in the future (with the agreement to be automatically renewed annually from the following year) Reviewing FY2020 activities and formulating action plan for FY2021 Made donations Added Kuwana High School to the agreement

Planting flowers

Since 2017, Yokkaichi Plant has been conducting a FloWA*¹ project whereby employees plant flowers around the site in order to increase environmental awareness among our workforce, and to create a more attractive and relaxing environment. During 2020 and 2021, these activities were carried out solely by staff from the project organizing team as a measure to contain the spread of COVID-19.

*1 The ‘WA’ in FloWA incorporates numerous meanings derived from the Japanese character ‘wa,’ which can denote a circle of friends, sharing, harmony, or laughter.



Transplanting activities (June 2021)

Our participation in cherry blossom conservation activities

The city of Kitakami in Iwate prefecture is running a *Sakura-mori* Project, in which the entire community works to cultivate and maintain the cherry blossoms in Tenshochi Park^{*2} so that they can be passed down to and enjoyed by future generations. KIOXIA Iwate Corporation joined the project in 2021, and has been taking part in volunteer fertilization activities with local junior high school students, city officials, and other volunteers.

*2 Tenshochi Park celebrated its 100th anniversary in 2021 and is famous for its cherry blossoms after being selected as one of the "100 Best Cherry Blossom Spots in Japan."



KIOXIA Iwate employees participating in fertilization activities

Contributing to the Environment through Our Products

The NAND Flash Memories and Solid State Drives (SSDs) that KIOXIA Group supplies are integrated into a wide range of applications and used throughout the world. We are making efforts to reduce the environmental impact of our products throughout all stages of their lifecycle; this includes appropriate management of chemical substances used in their manufacture and ensuring the products themselves consume as little energy as possible when in use.

Given the recent boom in the use of AI, IoT and Autonomous Driving capabilities, there is a growing need to increase the capacity and speed of flash memory and SSD products. KIOXIA Group's further development of integration technology and the increased capacity resulting from this technology are allowing us to reduce the levels of CO₂ emission per capacity. Specifically, this is being achieved by reducing the amount of electricity and materials per storage capacity output, and improving the energy consumption efficiency for processing one gigabyte when they are in use.

Furthermore, faster devices with even greater capacities will be required for 5G mobile communication systems, which are expected to become more widespread in the future. There is a concern that these will require even more electricity to operate. For this reason, we expect the use of our highly energy-efficient, large-capacity flash memory and low-latency SSDs to expand to various new fields. Thus, we are looking to provide more energy-efficient and higher-capacity products by developing advanced integration technology as our top priority, in order to contribute to the realization of a low-carbon society.

Examples of Fields in Which KIOXIA Products Contribute



Targets for Improving Energy Efficiency of Our Products

The KIOXIA Group invented the world's first NAND flash memory in 1987. In 2007, the Group also announced its development of the world's first 3D flash memory technology.

The KIOXIA Group will utilize these advanced technologies to further improve the high energy efficiency of its products.

Specifically, we have set a high target of reducing the energy consumption efficiency for processing one gigabyte by 50% by FY2025 from the FY2017 level.*1

In FY2021, we successfully achieved a reduction of around 19% in the energy consumption efficiency for processing one gigabyte compared to FY2017 levels through higher speeds and the integration by advanced technologies in our NAND Flash memory, and by developing our own optimal controller design, thereby making considerable progress towards our FY2025 targets.



*1 In 2017, the memory business of Toshiba Corporation became a separate company, commencing operations as Toshiba Memory Corporation on April 1, 2017. The Company changed its name to KIOXIA Corporation in 2019.

Case Studies: Improving Energy Efficiency during Product Use Embedded Flash Memory Devices Supporting UFS4.0

KIOXIA has developed embedded flash memory devices (UFS^{*2} products) supporting UFS 4.0. These products incorporate our fifth-generation 3D flash memory BiCS FLASH™ and adopt new controller which is supporting UFS 4.0 specification, improving the energy consumption efficiency for processing one gigabyte by approximately 9% during sequential reads compared to our previous generation products.*³



Embedded Flash Memory Devices Supporting UFS4.0

The sequential read and write performance of the 256GB device have improved by approximately 100 percent and 95 percent respectively, compared with the previous generation devices.*³ Both random read and write performance also improved by approximately 75% when compared to our previous generation products.*³

The demand for high-performance/large-capacity products has been increasing with the use of mobile devices and other applications that call for smaller, power-saving components, and the demand for UFS embedded flash memory is expected to grow.

By providing this product, which supports mobile applications, including high-end smartphones, KIOXIA is helping to develop devices that improve the 5G user experience as well as energy consumption efficiency in the system.

*2 Universal Flash Storage (UFS) is a category of embedded memory products built to JEDEC UFS-standard specifications. Its serial interface supports full duplexing, which enables both concurrent reading and writing between the host processor and UFS device.

*3 Kioxia Corporation's previous generation 256GB device "THGJFGT1E45BAIP"

* The advertised memory on each Kioxia product is based on the on-board memory capacity, not the amount of memory capacity available for data storage by the end user. Since a portion of the memory capacity is used for

memory management and other functions, the usable capacity will be less than that advertised; please refer to the product specifications for details.

* Read and write speeds represent the fastest times recorded under test conditions at Kioxia Corporation; we are unable to guarantee the read or write speeds of individual devices in actual use. Read and write speed may vary depending on the device used.

* All company names, product names and service names may be trademarks of their respective companies.

PCIe® 4.0-Compatible Compact Client SSD "KIOXIA BG5 Series"

We have developed the KIOXIA BG5 series of client SSD products, which incorporate a small form factor for mobile devices and support high-speed PCIe® 4.0 interfaces.

The KIOXIA BG5 Series, equipped with our fifth-generation BiCS FLASH™ 3D flash memory, supports high interface speeds of 64 GT/s thanks to its PCIe® Gen4 x4 lane structure. It has been improved by approximately 50% maximum sequential read performance when compared to our existing PCIe® Gen3 x4 lane structure client SSD,*⁴ and its maximum sequential write performance is improved by approximately 60%. Furthermore, the energy consumption efficiency for processing one gigabyte of the 1024 GB product is approximately 15% improved during sequential read operation, and approximately 20% during sequential write operation.



Client SSD: KIOXIA BG5 Series

In addition, adopting technologies such as virtual multiple Logical Unit Numbers (LUNs) and Host Memory Buffer (HMB), the KIOXIA BG5 Series provides a comfortable storage environment for notebook PCs and small mobile devices that require high-speed data processing.

KIOXIA's provision of this product is enabling the development of high-functioning, high-performance laptops and compact mobile devices with high-speed interfaces; the product also helps to improve the energy consumption efficiency of these devices.

[Kioxia Delivers PCIe® 4.0 Performance to Everyday PC Users](#)

*4 Compared to KIOXIA BG4 Series

* PCIe is a registered trademark of PCI-SIG.

* NVMe is a registered trademark or trademark of NVM Express, Inc. in the United States and other countries.

* All other company names, product names and service names may be trademarks of their respective companies.

Management of Chemical Substances in Products

As part of our efforts to help achieve a sustainable society, KIOXIA Group endeavors to reduce the risks posed to people's health and to the environment by any chemical substances used in the manufacture of our products.

Environmental laws and regulations are being reinforced year by year in a number of countries and regions. By complying with these regulations and customer requests, we are doing our bit to reduce or eliminate the use of substances that may have a significant impact on people's health or the environment. Furthermore, to ensure appropriate oversight of chemical substances, we utilize monitoring tools and engage external consultants, participate in industry associations, and conduct periodic evaluations of the presence of any substances whose use is restricted or prohibited.

We have established a Green Procurement Working Group which has formulated KIOXIA Group Green Procurement Guidelines focused on our Environment, Quality Control, and Procurement Divisions. These Guidelines reflect matters such as the environmental laws and regulations of each country and region, as well as customer requests, and are shared with our suppliers and periodically updated.

Additionally, environmental impact assessments are conducted from the design and development stage of each product with regard to chemical substances used in products or their components, and we make every effort to use chemicals that have minimal impact on the environment within our manufacturing processes as well.

Related Links

- [SDGs- Related Topics: Efforts to Increase Product Energy Efficiency](#)

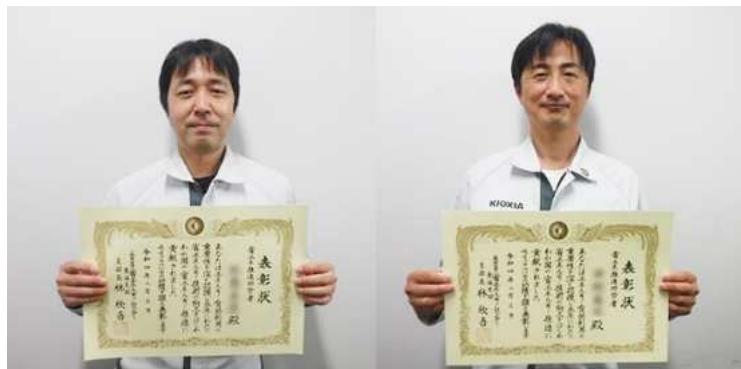
Environmental Evaluation by External Parties

Introducing KIOXIA's awards and evaluation by external parties.

Two Yokkaichi Plant Employees Awarded for Efforts to Promote Energy Conservation

In February 2021, two Yokkaichi Plant employees received an award from Japan's Energy Conservation Center in recognition of their contribution to energy conservation. The two recipients played a significant role in the installation and operation of energy-saving equipment at the plant, made a number of other improvements, and conducted training sessions for younger employees.

Aiming to contribute to the realization of a sustainable society, we will continue our company-wide efforts to promote energy conservation.



Award recipients

Disclosure of environmental data to CDP

KIOXIA applies for, and receives, certification from the Carbon Disclosure Project (CDP), the world's largest environmental information evaluation organization, every year.

CDP Climate Change

This evaluates the risks and opportunities posed to a company by climate change, and the concrete action it has taken. In FY2021, we were rated "B" in the category of "management" of these risks.

CDP Water Security

This evaluates a company's efforts in the area of water stewardship. In FY2021, we were rated B (management level).



CDP is an international not-for-profit organization established in 2000 to tackle environmental issues, including climate change and water risks. It collects information from major companies around the world using questionnaires on the subject of management

risks that climate change and other environmental issues pose to companies, and it rates them on an 8-point scale from A to D- (A is the highest grade) based on the received responses. In 2021, it received responses from over 13,000 companies and provided information to over 600 institutional investors.

Environmental Communication

At KIOXIA Group, all employees, including resident suppliers, actively participate in various initiatives to contribute to society by improving the environment. In addition to raising employees' awareness of the environment and their local community, we are also conducting such activities as promoting the 3Rs (reduce, reuse, and recycle) and implementing greening initiatives with the aim of making our contribution to society.

Contributing to Society by Means of Resource Collection

The below sections 1 to 10 provide examples of activities at the Yokkaichi Plant; section 11 covers activities at the Solid State Storage Technology Corporation (SSSTC) in Taiwan (the results shown in brackets are 2021 achievements).



1. Collecting calendars and notebooks (2007-)

We collect unwanted calendars and notebooks from within the plant over the New Year period and donate these to the Yokkaichi Social Welfare Council. As these can be useful for those wanting to jot down notes for communication, they are passed on for reuse in places such as homes for the elderly or nursing care facilities. (1,253 calendars, 373 notebooks)



2. Collecting plastic bottle caps (2008 -)

We collect plastic bottle caps, which are sold through NPOs to fund the donation of vaccines to children in developing countries. Since April 2015 we have helped support the implementation of polio vaccinations in developing countries through the NPOs Re-Lifestyle and Japan Committee, and Vaccines for the World's Children. (Approximately 323,000 caps, funding around 647 vaccinations)



3. Collecting discarded postcards (2014 -)

We collect discarded unused postcards and cooperate with “The World TERAKOYA Movement” (National Federation of UNESCO Association in Japan), which supports equal education opportunities in developing nations for all people regardless of age, religion, or sex. (167 postcards, equivalent to ¥8,348)



4. Collecting used postage stamps (2015 -)

We collect used postage stamps and donate them to the NPO Live with Friends on the Earth (LIFE). The money raised is used to support farming in India and Indonesia. (5,741 stamps)



5. Collecting down products (2015 -)

We collect used down products and donate the proceeds from their sale to the Mie Prefecture community chest's “UMOU PROJECT”. Donated funds are used to support community activities in Yokkaichi and Asahi. (In 2021: down jackets)



6. Collecting disposable contact lens cases (2016 -)

We cooperate with the “Eye City Eco Project” run by HOYA CORPORATION by collecting empty disposable contact lens cases. The money generated through recycling these is donated to the Japan Eye Bank Association. This activity helps to support the provision of cornea transplants. (Donated 36,938 lens cases)



7. Collecting aluminum cans (2016 -)

Employees bring aluminum cans from home and donate them to Asake Works, a facility supporting independent lifestyles for people with disabilities, and proceeds are used to help them live independent lives in the community. (3,356 cans, equivalent to ¥4,363)



8. Collecting old books (2018 -)

We collect books that are no longer being read and through Shinrai Shihon Zaidan's "Arigatobon" project support the activities of the Wacca non-profit organization, which provides lifestyle and career support for children and young people. (37 books donated)



9. Food drives (2021 -)

Employees brought leftover food from home and donated it to people in need through the Yokkaichi Social Welfare Council. Those benefiting included people living on welfare or people unable to live on the income they earned. (5,536 items donated)



10. Wheelchairs (2021)

Wheelchairs used at the Yokkaichi Plant are refurbished and donated to the Yokkaichi Social Welfare Council. They are used in such places as COVID-19 vaccination sites. (3 wheelchairs)



11. e-waste Recycling (2021 -)

SSSTC supports the PC Recycling for a Brighter Future Project run by the ASUS Foundation. Used computers and other equipment are collected, repaired or recycled and donated to non-profit organizations and educational institutions. They are used by children, students, and the handicapped to improve their digital skills, enabling them to improve their daily lives. (Number of computers collected: 2,222)

Children's Environmental Study Class

The Yokkaichi Plant holds children's environmental study classes titled "Operation CO₂ Reduction" at neighboring elementary schools and at Yokkaichi Pollution and Environmental Miraikan museum. In FY2021, approximately 40 elementary school students participated and learned about the impact of global warming and the importance of energy conservation. They conducted experiments and discussed what they can do in their daily lives to protect the environment. Children are our future and we will continue to provide this support so that they can learn about the environment in a fun way.

KIOXIA Group will continue to promote environmental activities that contribute to society, by further improving employees environmental awareness and encouraging a sense of belonging among them.



Children's Environmental Study Class

Acquisition of Environmental Certification

KIOXIA Group obtained ISO 14001:2015 certification at our HQ and all manufacturing sites.

KIOXIA will continue to actively promote the development of energy-efficient products that address the need for exponentially increasing volumes of data. We will also continue with communication activities at our state-of-the-art factories, as well as with communication about the environment that takes regional characteristics into account, and with our biodiversity conservation activities.

Acquisition of ISO 14001 certification

Scope of certification	Certified body	Registration date	Certificate expiry date	Approval certificate No.
Kioxia Corporation Head Office	Bureau Veritas Japan Co., Ltd.	March 11, 2021	March 27, 2024	4616607
Yokkaichi Plant				
Kioxia Iwate Corporation				
Solid State Storage Technology Corporation	DNV	June 26, 2022	June 26, 2025	1250-1998-AE-RGC-RvA

Acquisition of Sony Green Partner

MC Name/FC Name	Expiry Date	Factory Code
Kioxia Corporation Yokkaichi Plant	March 31, 2024	FC007421
Kioxia Iwate Corporation	March 31, 2024	FC015073

Respect for Human Rights

KIOXIA group upholds and respects human rights as stipulated in our Standards of Conduct. We show respect for human rights aiming to become an enterprise trusted by society, and to contribute to the realization of a sustainable society.

Policy Governing Respect for Human Rights

KIOXIA Group recognizes that corporate activities based on respect for human rights are a prerequisite for the sustainable development of companies and of society, and has established respect for human rights as priority areas of focus in terms of ensuring the Group's medium- to long-term growth (sustainability materiality). In 2021, we formulated the KIOXIA Human Rights Policy in accordance with international standards, including the United Nation's Guiding Principles on Business and Human Rights, as a way to clarify our corporate responsibility to respect these.

KIOXIA Group is committed to respecting human rights in accordance with this policy. We also require our suppliers to respect human rights in line with this policy and with the KIOXIA Group Supply Chain Code of Conduct, which references the Responsible Business Alliance (RBA)*¹ Code of Conduct.

* RBA is a corporate alliance that promotes social responsibility within global supply chains.

[KIOXIA Human Rights Policy](#)

[Kioxia Group Standards of Conduct 6. Human Rights and Diversity](#)

[Strategic Materiality](#)

Framework Governing Promotion of Respect for Human Rights

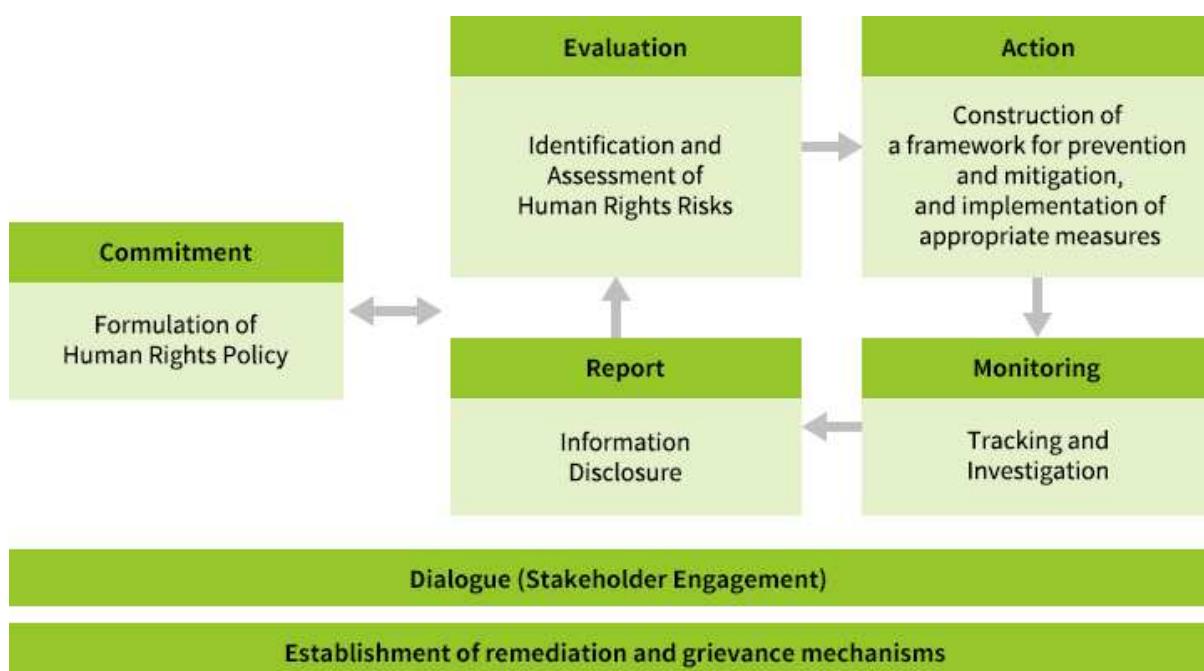
The Executive Officer in charge of personnel is assigned overall responsibility for ensuring awareness of human rights; we have additionally appointed a staff member with day-to-day responsibility for this within the Human Resources and Administration Division of KIOXIA Corporation. This Executive Officer oversees compliance with KIOXIA's Human Rights Policy. As part of this initiative, a taskforce has been established reporting to the Sustainability Committee; it works with relevant divisions and officers responsible for human rights at Group companies to promote human rights initiatives at these.

Assessment and Monitoring of Human Rights Risks

Human Rights Due Diligence

In order to respect the human rights of those who are affected by our business activities and throughout our overall value chain, KIOXIA Group has implemented an ongoing cycle of activities based on the UN Guiding Principles. These activities include identifying and assessing the scope of human rights abuse risks across our business activities; conducting prevention and mitigation measures; tracking, investigating and reporting issues; and disclosing relevant information.

Due Diligence in KIOXIA Group



Assessment and Monitoring of Human Rights Risks

With the cooperation of outside experts, in FY2021 we conducted human rights risk assessments across our domestic group companies and identified the following risks that are characteristic of a semiconductor-related company operating globally.

From now on, to ensure that the human rights of all people affected by our business activities are respected, we will also be conducting human rights risk assessments at KIOXIA Group overseas. We will also make ongoing efforts to construct a framework for prevent and mitigate the negative impact of human rights risks identified through those assessments. Furthermore, based on the UN Guiding Principles, we aim to create an environment that facilitates consultations with stakeholders and prioritizes dialogue.

Potential Human Rights Risks in KIOXIA Group

Labor and employment	<ul style="list-style-type: none">Forced labor (including our supply chains)Lack of employment for those with disabilitiesLack of consideration toward sexual minoritiesLong working hours(including our supply chains)Infringement of the rights of foreign workers (such as technical interns)Harassment of workers
Occupational health and safety	<ul style="list-style-type: none">COVID-19 related riskWorkplace accidentsMental health problems
Environment	<ul style="list-style-type: none">Negative impact on the living environment of local residents
Ethics	<ul style="list-style-type: none">Responsible conflict mineral sourcing (including the use of new rare metals)Transactions with clients in countries where there are concerns about human rights abusesInadequate supplier educationInadequate/dysfunctional grievance mechanisms (suppliers and contract workers)Impact of product failures on end usersLeakage of technologies to countries that violate human rights or misuse of these in ways that infringe human rightsImpact of data falsification on product safety, etc.Responsible advertising

Prevention and Mitigation of Human Rights Risks

KIOXIA Group observes and utilizes the RBA Code of Conduct as our standard for sustainability activities at manufacturing sites. We also encourage suppliers through such means as conducting sustainability surveys in line with the RBA Code of Conduct and surveys of responsible mineral procurement to ensure that human rights are respected within the value chain.

Prohibition of Child Labor

The Kioxia Group Standards of Conduct ban the use of child labor and forced labor and in order to help prevent this, we rigorously confirm by means of family registers and other sources that all those employed are at least 15 years of age.

[Major Sustainability Issues and Initiatives in the Value Chain](#)

Education and Awareness-Raising of the Need to Respect Human Rights

KIOXIA Group provides training on human rights and harassment issues to all employees once a year and during our staff onboarding process (for new graduates and mid-career hires) as part of our Basic Training and Development program.

In FY2021, a lecture titled "Business and Human Rights" given by an outside expert was hosted for Executive Officers, to deepen their understanding of issues such as changes in external environments affecting businesses and human rights, the efforts required of companies, and advanced case studies of other companies.

Moreover, we request our suppliers to make every effort to respect human rights in accordance with the standards of the KIOXIA Group Supply Chain Code of Conduct and the RBA Code of Conduct.

Establishment of Whistleblower System and Consulting Service

KIOXIA has set up a consultation center for employees and business partners to consult with and use for the reporting of any suspected violation of the laws and regulations of each country or region, the KIOXIA Group Standards of Conduct, or other internal rules or regulations.

Harassment Consultation Counter Whistleblower System for Employees

KIOXIA Group has set up a "Harassment Hotline" to address any reports of harassment—including power harassment and sexual harassment—from employees and others, and to prevent this from occurring or protect them from it. We ensure whistleblowers are not treated in a disadvantageous manner as a result of them having submitted their allegations.

Business Partner Hotline

[Business Partner Hotline](#)

Participation in External Initiatives

In FY2021, KIOXIA became a member of the CSR Committee of the Grievance Mechanism Working Group^{*2} at the Japan Electronics and Information Technology Industries Association (JEITA). We participate in discussions of the issues surrounding the operation of a common industry platform allowing access to remedies (grievance mechanisms), which is one of the pillars of corporate responsibility in terms of respecting human rights.

*2 One of the predecessor organizations of the Japan Center for Engagement and Remedy on Business and Human Rights (JaCER), which was established in June 2022.

Talent Development

KIOXIA Group encourages all of our employees to make use of their individual capabilities; we have accordingly established fair evaluation processes, seeking to develop and maximize the potential of our diverse human resources.

Fair Evaluation and Talent Development Policies

For KIOXIA Group to thrive in the face of global competition, we need energetic, creative people. We are accordingly strengthening our training processes in order to develop talent, allowing each of our employees to utilize their abilities to the fullest.

Enhancement and Promotion of Training Measures

Kioxia Corporation has established a Training and Development Committee, chaired by the president, which proposes initiatives for the improvement of in-house personnel training and development based on program results. This committee deliberates policies for the following fiscal year on the basis of our business plan. The outcome of discussions by the Training and Development Committee are reflected in new training and development measures.

Talent Development

Training Programs

KIOXIA Group implements a variety of training programs that help create a common ground of understanding among employees, including programs based on the requirements of each career level. Furthermore, we provide tools to support self-development, encouraging employees to voluntarily acquire fresh knowledge and skills.

Main Training Programs

Training Category	Outline
Basic Training and Development*1	A program designed to familiarize employees with the Kioxia Group Standards of Conduct and values that form a shared basis for all members of the KIOXIA Group, covering such areas as compliance and sustainability. The Kioxia Group Standards of Conduct are available in Japanese, English, traditional Chinese, simplified Chinese, and Korean.
Global Training and Development	A program that seeks to develop globally minded people who can not only perform their jobs within the scope of their own countries or regions, but also at a global level, by accepting cross-cultural differences and communicating with a wide range of stakeholders.
Training and Development Based on Levels of Responsibility	A program that seeks to improve the basic knowledge, skills and management capabilities of employees promoted to new positions (leaders, managers, etc.). This program also includes training aimed at continuously improving the leadership capabilities of managers, as well as education aimed at imparting at an early stage the knowledge and skills required to conduct business on a global basis.
Job-Specific Training and Development	This aims to equip employees with the knowledge and skills they require based on their job function and career status.
Managerial Training	A program for the select group of individuals who are candidates for managerial or leadership positions.
Self-Development Support	Offers about 187 e-learning courses to encourage employees to voluntarily acquire knowledge and skills; these include managerial skills (organization, strategy, marketing, goal management and personnel evaluation, sustainability and compliance, labor affairs, mental health, customer satisfaction,

Training Category	Outline
	and sales, careers, business skills and cultural skills), computer skills, and languages.

*1 Basic Training and Development: as one aspect of basic training and development at KIOXIA Group, various compliance training sessions were conducted to promote understanding of the Kioxia Group Standards of Conduct. There was a 100% attendance rate among Group employees in Japan throughout FY2021

Company-wide Standardized Training



* Includes self-development outside working hours, such as language study

KIOXIA Common Training Courses (FY2021)

	Selective / Mandatory	Self-Development
No. of programs	13	364
Total no. of attendees	112,452	1,934

	Selective / Mandatory	Self-Development
Total attendance time (hours)	121,988	1,396

Technical Training

KIOXIA Group provides a large number of diverse training programs aimed at encouraging employee self-development. For new employees, basic training programs covering electrical engineering, electronics, and semiconductors as well as manufacturing, statistics, AI, and machine learning are provided as essential steps to achieve self-growth and to enhance their technical background.

On-the-job training and a variety of education programs within each division are provided under a mentor in each workplace, with detailed instructions provided to each individual in accordance with their career status. Each workplace additionally provides a variety of technical core training for engineers responsible for development, allowing them to acquire knowledge and skills in the field of cutting-edge technologies as they learn about their work. We also provide a work environment that encourages employees to think for themselves what they need to learn and to then undertake this learning, while making the most of conversations with mentors.

Nurturing Technologies and Expertise

KIOXIA newly established the job title of “Fellow”*2 in 2019 in order to nurture the company’s specialist knowledge and expertise in the field of advanced technologies. The fellows are active in a wide variety of fields: device process basic research, computer systems, simulations, and cutting-edge memory development. They are all committed to the development of semiconductor technologies and nurturing expertise among the next generation through activities at forums such as academic societies and industry groups.

*2 In April 2022, we changed from “Fellow” to "Senior Fellow".

Fellow Interviews

Using Fully Fledged Career Development Systems

KIOXIA Group supports the career development of each employee in an effort to maximize their current and future job performance. The Career Design System, for example, provides each employee with an annual opportunity to discuss and share their views on their own long-term

career development as well as on mid-term skill acquisition goals, the improvement of these, and ways to showcase such skills to their superiors. The Performance Management System gives each employee a semi-annual opportunity to review and discuss with their superiors their job performance over the previous six months as well as their job objectives for the following six months.

Dispatch at Overseas Universities and Research Institutes

Kioxia Group develops global leaders who are able to make full use of their capabilities across a wide range of different countries, regions and cultures, and strives to create a corporate culture that stimulates innovation.

Kioxia Corporation provides an environment in which employees have opportunities for even higher level studies at overseas universities, graduate schools and research institutes. Two examples are Massachusetts Institute of Technology and the University of California San Diego.

Employee Engagement Survey

KIOXIA Group regularly conducts surveys aimed at soliciting the opinions of employees. Each department is given feedback on the results, which are also closely examined by Executive Officers, including the President and CEO and the head of every department, and are used as a basis for the discussion of measures to enhance employee engagement.

In FY2021, we conducted an anonymous survey targeting about 13,000 employees, and received responses from 92% of them.

Annual Employee Engagement Survey Cycle



Related Links

People from various backgrounds fulfill their potential and leverage their strengths at KIOXIA Group.

- [Careers](#)

Diversity Promotion

KIOXIA Group firmly believes that the maximization of the capabilities and strengths of individual employees is critical for innovation, corporate growth, and the creation of new value for society. As such, the promotion of diversity is a priority within the Group.

Diversity Promotion Policy and Management Structure

KIOXIA Group embeds a respect for diversity in our Standards of Conduct and fosters a culture that enables a diverse range of employees to play active roles irrespective of race, religion, gender, nationality, disability, age, or sexual orientation.

We have assigned responsibility for the promotion of diversity to KIOXIA Holdings' Human Resources & Administration Division, which seeks to advance diversity within the entire Group. Organization-wide strategies, policies and priority measures are discussed by a taskforce under the Sustainability Committee.

[Kioxia Group Standards of Conduct 6. Human Rights and Diversity](#)

Promoting the Career Development of Female Employees

KIOXIA Group seeks ways to enable all employees to fully demonstrate their strengths and play an active role at work, regardless of their gender.

To promote women's participation in management, in FY2021 we set a number of medium-term targets, such as ensuring that 45% or more of the graduates we recruit for administrative work, and 15% or more of those recruited for technical work, are female.*¹ Our aim is to double the number of female managers by FY2025 compared to FY2019. Measures that will help achieve these targets were discussed by the taskforce.

*¹ The targets are mainly set with reference to the percentage of women majoring in the humanities and social sciences and the percentage of women majoring in science and engineering at the undergraduate level in Japan.

[KIOXIA's Action Plan Based on the Advancement of Measures to Support the Act on Raising the Next Generation and the Act on Promotion of Women's Participation and Advancement in the Workplace \(PDF: 314KB\)](#)

[Participation and Career Counseling in the Summer School for Girls in Junior and Senior High Schools](#)

Covers of the two handbooks, “Preparing to Balance Work and Nursing Care Handbook” and “Child-Raising System/Procedural Handbook”

Handbooks supporting a balance between work and family time.



Key data related to the career development of female employees in KIOXIA, FY2021

Item	Actual
Gender balance of employees* ² (KIOXIA Group in Japan)	Male 90.7%, Female 9.3% (Male 90.4%, Female 9.6%)
Percentage of managers who are female* ²	3.9%
Percentage of officers who are female* ²	0%
Percentage of recruits who are female* ³	Administrative 60.0% Technical 11.5%

*2 As of April 2021

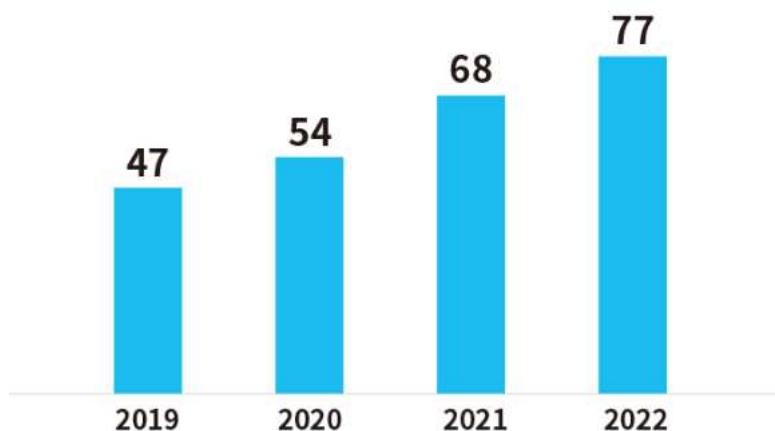
*3 New graduate employees as of April 2021

Initiatives Aimed at Expanding Recruitment of Female New Graduates and Developing Female Managers

Percentage of New Graduate Recruits*⁴ Who Are Female (Kioxia Corporation)

	FY2019	FY2020	FY2021	FY2022
Administrative	25.0%	25.0%	60.0%	53.3%
Technical	7.2%	14.4%	11.5%	13.2%

Number of Female Managers^{*5} (Kioxia Corporation)



*4 Undergraduate and postgraduate degrees

*5 As of April 1 each year

Recruitment and Career Advancement of Non-Japanese Employees

As part of our diversity promotion program, we are increasing the recruitment of non-Japanese employees.

Career Advancement for Seniors

From FY2019 we raised our retirement age from 60 to 65 with the aim of enabling employees, regardless of their age, to continue to utilize the knowledge and experience they have spent many years cultivating.

Employment of People with Disabilities

As of March 2022, the percentage of KIOXIA Group in Japan employees with disabilities was 1.63%.

Along with initiatives to achieve the statutory minimum employment rates of those with disabilities, we will endeavor to achieve society's goal of "social inclusion" by encouraging interaction among all employees, creating a comfortable and rewarding workplace and thereby boosting our business value.

Activity Example: KIOXIA Sign Language Club

KIOXIA Group provides employees with monthly sign language lessons at the KIOXIA Sign Language Club. Employees with impaired hearing serve as instructors during these lessons, teaching sign language in order to facilitate smooth communication and providing information to promote understanding of those with hearing disabilities. In-person lessons were suspended in FY2021 to prevent the spread of COVID-19, and preparations for future online events are currently underway.

Members of the KIOXIA Sign Language Club took the lead in introducing a tool that displays conversation details in text form as a measure to counter the difficulties experienced by those with hearing disabilities amid the spread of teleworking, the increased use of teleconferencing, and the widespread use of masks.

KIOXIA Etoile (Our Special Subsidiary)

At our KIOXIA Etoile Corporation that aims to promote the employment and active participation of people with disabilities, we strive to create a comfortable workplace and encourage individual growth through daily communication and by understanding the characteristics of each employee.

Diversity Education

We conduct diversity training for leaders as a part of our education programs; these are tailored to their positions and levels of experience. We also conduct “Cross-Cultural Communication Training” workshop at the Yokohama Technology Campus covering how to communicate with people from different cultures and those with different ways of thinking.

In May 2022, an officer from other company was invited to conduct a lecture for Executive Officers and Managers to promote diversity. Approximately 300 participants attended—more than 80% of the target audience—and lively discussions took place.

Promoting Work-Life Balance

KIOXIA Group constantly strives to enhance our employees' work-life balance. At KIOXIA Group companies, each employee is encouraged to undertake different working styles and deploy methods that help increase their productivity.

Consideration and Reduction of Working Hours

We comply with the local laws of the countries and regions in which we operate with regard to working hours, and in Japan we monitor time spent at work and encourage staff to take annual leave. We also have company doctors who meet with those who work long hours.

In KIOXIA in FY2021, the average annual total working hours per employee was 1,992 and the average annual total of non-scheduled working hours per employee was 401.*⁶

KIOXIA Group is making the transition to a style of work that does not rely on overtime. The purpose is to better utilize our diverse workforce and to promote a better work-life balance.

Following a trial and based on the results of surveys, earlier this year we officially introduced a “remote working” system. This initiative is creating opportunities for employees to reflect on how they communicate in the workplace and on the time they spend on a variety of working styles; it is also encouraging changes in our workplace culture and work ethics, and aims to improve efficiency and job satisfaction.

*⁶ Excludes managers and supervisors

Key systems and measures regulating working hours in FY2021, KIOXIA Group

System / measure	Overview
Flexible Work System	Flextime system, Work from home system
Long Leave System	Employees can take a maximum of 25 days of accumulated leave for objectives, such as self-development, community activities, nursing, marriage, bereavement, or spouse childbirth, and also for treatment of non-work-related injuries and illnesses, and other conditions, including infertility.
Annual paid vacation	To promote employee rejuvenation, KIOXIA Group encourages employees to make use of all their annual paid vacation.
Making working hours more visible	KIOXIA Group has introduced systems including a “Work Record Display” system to increase the transparency of hours worked by each employee.

System / measure	Overview
Addressing long working hours at workplaces	<p>We implement measures in various divisions and business sites to address the problem of long working hours, and publish case studies on our intranet site to spread good practice among departments (e.g., having employees declare their target leaving time, in principle forbidding employees from coming to work on Sundays, banning late-night overtime, setting “focus hours,” and banning meetings outside normal working hours).</p>

Activity Example: Using the System to Make Working Hours Visible

In order to effectively monitor the working conditions of our employees, KIOXIA Group has started using a “Work Record Display” system to provide better visibility of working hours to employees and their managers.

The Work Record Display system draws employees’ attention to their overtime hours on a weekly basis.

Supporting Employees Balancing Work with Childcare and Nursing Care

KIOXIA Group helps employees to balance their work and personal lives. We have implemented various measures in excess of our legal obligations, and continue to make them more adaptable and flexible. Under our Hourly-Unit Annual Leave system, when taking leave in excess of one hour, employees can take leave on a quarter-hourly basis instead of hourly.

Key Systems Supporting Employees' Work and Childcare (KIOXIA)

Childbirth and Child-rearing

System	As required by law	KIOXIA provisions
Childcare leave	<p>Period: Up to 1 year old except when certain requirements are met</p> <p>Number of times: Maximum once per child</p>	<p>Period: Until the end of the month in which the child turns 3 years old</p> <p>Number of times: Up to three times per child</p>
Short-time shifts	<p>Target: Employees raising children under the age of 3</p>	<p>Target: Employees raising children who have not yet completed elementary school</p> <ol style="list-style-type: none"> 1. No limits on the number of times employees can apply 2. Able to combine with flextime system 3. Can be set in 15-minute units
Hourly leave system	No provision	Leave is available in 1-hour units. If more than one hour is taken at a time, however, employees may take leave in 15-minute units thereafter.

Family care

System	As required by law	KIOXIA provisions
Family care leave	Up to 93 days in total per person requiring nursing care	Up to 365 days in total per person requiring nursing care The leave can be taken separately up to 3 times.
Hourly leave system	No provision	Leave is available in 1-hour units. If more than one hour is taken at a time, however, employees may take leave in 15-minute units thereafter.

Returning to work

System	KIOXIA system
Allowance for raising the next generation	To be provided in respect of each eligible child (children being taken care of by a spouse working for another company are also eligible for the allowance).
Mutual understanding program	The program offers the opportunity for employees to discuss future career plans and any necessary arrangements with their manager and HR personnel before taking a leave of absence or after resuming work, thus helping to reduce any concerns of employees who take such leave.
Reemployment system (return to work system)	We have established a system to reemploy those who had to resign for any of the following reasons: <ol style="list-style-type: none">1. In order to accompany a spouse who was transferred by his/her company to a different location (within 5 years)2. In order to provide nursing care for those requiring it (within 3 years)3. Childbirth, childcare, or raising children (within 3 years)

Benefits

Corporate Pension Plan

To help support employees after their retirement, we offer a defined-benefit Corporate Pension Plan. This complements their state pension provided under Japan's welfare pension insurance scheme. We also introduced a defined contribution pension scheme aimed at broadening employees' post-retirement options.

Employee-related data (FY2021)(KIOXIA)

Item	Actual
Number of employees ^{*7}	11,970
Labor union membership ratio ^{*8}	81.6
Average length of service ^{*7}	All 17.6 years (Male 18.1 years, Female 12.8 years)
Turnover rate ^{*9}	All 1.8% (Male 1.7%, Female 2.7%)
Number of paid leave days taken	19.7 days
Percentage of paid annual leave taken	82.2%

*7 As of April 2021

*8 Percentage refers to the ratio of union members to regular employees, excluding supervisors, pursuant to the Labor Standards Act. Of these, employees stipulated as non-union members in the Labor Agreement (those working in HR, Accounting, Security, etc.) are not included in the ratio calculation. These results are as of March 31, 2022.

*9 Only those leaving for personal reasons

Related Links

People from various backgrounds fulfill their potential and leverage their strengths at KIOXIA Group.

[Careers](#)

Occupational Health and Safety

It is important for each and every employee to maintain and strengthen their mental and physical health in order to shine and flourish professionally. KIOXIA Group has established health and safety as priority areas of focus in terms of ensuring the Group's medium- to long-term growth (sustainability materiality), and strive to create a safe and comfortable working environment for all employees and workers involved in our business.

Occupational Health and Safety (OHS) Policy

KIOXIA Group's OHS Policy in Japan was formulated in April 2017 following the declaration by senior management of its commitment to OHS, with the goal of having all employees embrace the same commitment.

KIOXIA Corporation^{*1} Fiscal 2022 Basic Policy for Safety and Health

Under our mission of uplifting the world with memory, by evolving memory, the Company will create uplifting experiences and change the world. The Company will also provide products, services, and mechanisms for enabling each person to realize a new future with progressive memory technology at the core.

In its entire business activities, each and every worker^{*2} will continue to devote oneself to "building a safe and delightful workplace environment and maintaining and promoting a healthy body and mind," striving to enhance and improve occupational safety and health performance.

1. The Company hereby declares that safety and health is the most important issue in its management. Under the leadership of Top Management, the Company will establish a safety and health management structure for the implementation of an effective occupational health and safety management system in accordance with management strategy, as well as decide on and provide the necessary resources to form a health and safety culture.
2. The Company is committed to comply with laws and regulations and other requirements.

3. To provide a safe and healthy workplace in an ongoing manner by controlling risks and opportunities related to occupational safety and health and preventing labor-related injuries and illnesses, the Company will perform the following matters by setting goals and creating action plans:
 - 1) Identification and reduction of potential risks for new work processes (installation, tasks, introduction of materials, etc.)
 - 2) Potential risks in associated work and actions performed between each work step (in accordance with the actual safety management situation at each site)
 - 3) Re-evaluation of risk for risk level III or above and reduction of new potential risks
 - 4) Continued promotion of effective and focused measures with respect to the risk of infectious diseases
 - 5) Improvement of occupational safety and health awareness and evaluation of recognition, maintenance, and effectiveness of competence
4. Strive to “cultivate a healthy culture” by identifying health issues with the aim of practicing “health-focused operations”, and promoting measures that maintain and improve the physical and mental health of employees and improve health literacy.
5. In its entire business activities, the Company will appropriately consult workers and their representatives about safety and health initiatives, assisting them in participating in these initiatives.
6. Valuing needs and expectations of stakeholders in mutual communication with them, the Company will contribute to the enhancement of the level of social safety and health management.

July 1, 2022

Nobuo Hayasaka, President and Chief Executive Officer,
KIOXIA Corporation

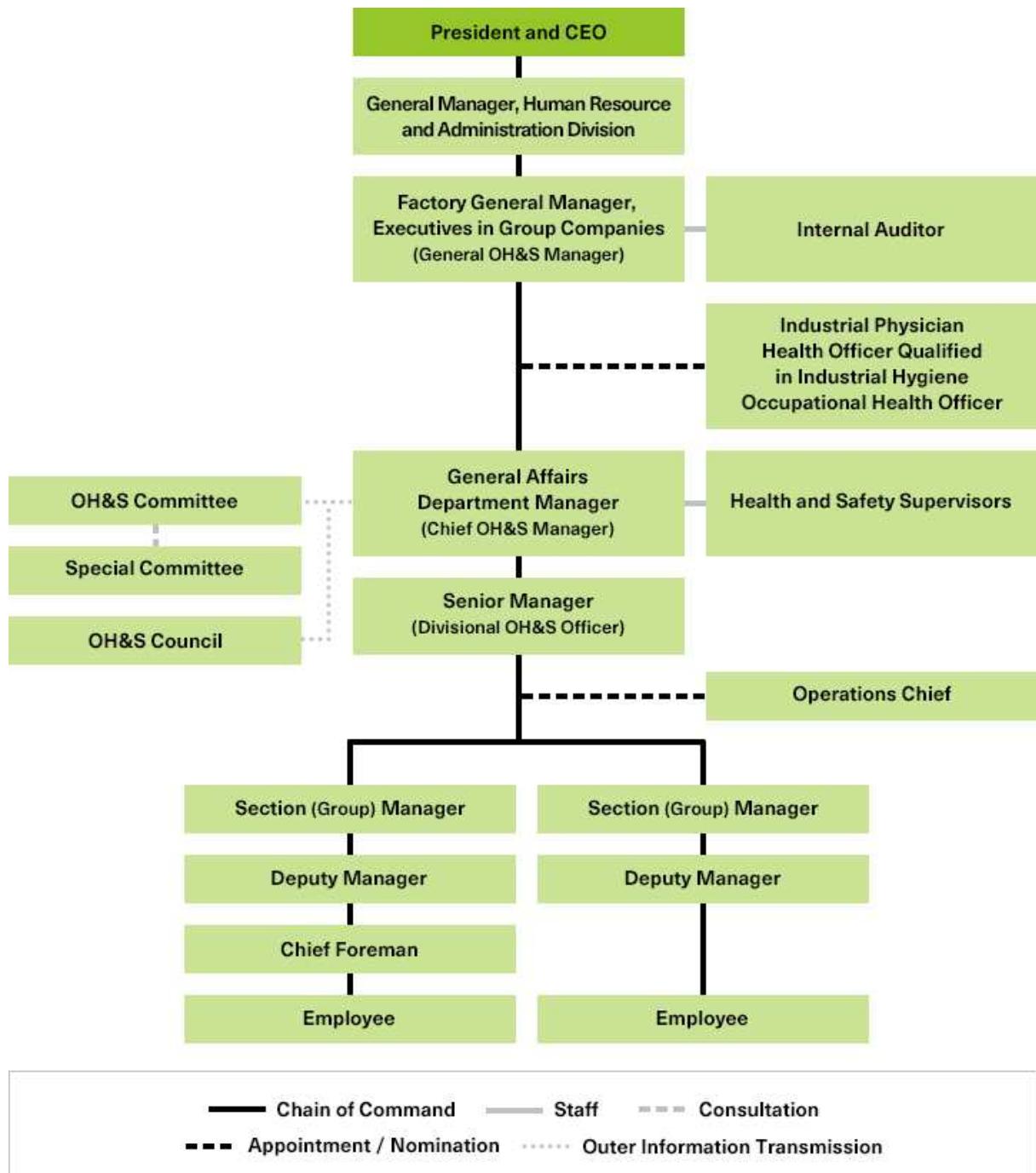
*1 The scope of this policy covers the KIOXIA Group in Japan.

*2 "each worker" includes all those, regardless of role, involved in all aspects of KIOXIA's business; this includes contract employees, subcontractors, suppliers and business partners.

Promotion of OHS

KIOXIA Group in Japan has deployed health and safety supervisors within the Human Resources and Administration Division of each group company to support OHS activities among employees. Periodical reports on the health and safety of employees are also made to the President and CEO and Executive Officer in charge of human resources.

OHS Management Structure of KIOXIA Group in Japan



OHS Management System

KIOXIA Group acquired occupational health and safety management systems certification (ISO 45001:2018) in January 2021. This system provides a framework for the identification and assessment of organizational health and safety issues; it also raises the profile of these, and ensures continuous improvements are made in order to reduce the risk of non-compliance with any relevant legislation.

KIOXIA Group is also committed to ensuring safety management throughout the day-to-day activities of our organization and our employees.

Our efforts include the creation of small workplace groups which undertake a variety of activities on an ongoing basis; these encompass workplace improvement programs, education and training to increase risk awareness among employees, and monitoring to ensure that appropriate practices are being followed.

Acquisition of ISO 45001:2018 certification

Name of company	Certified body	Certificate expiry date	Approval certificate No.
Kioxia Corporation Kioxia Systems Corporation Kioxia Iwate Corporation	JACO: Japan Audit and Certification Organization for Environment and Quality	March 28, 2025	WC18J0004
Solid State Storage Technology Corporation	DNV	November 23, 2024	183447-2015-ASA-RGC-RvA

Health and Safety-Related Initiatives (FY2021)

Category	Details
Health and Safety	<ul style="list-style-type: none">• Planning and implementation of promotional plan based on OHS Policy• Health and safety awards• Business site OHS committees, workplace OHS meetings• Internal audits and external certifications• Periodical reports to the President and CEO
Safety only	<ul style="list-style-type: none">• Risk assessment to identify sources of danger and steps that can be taken to mitigate those risks• Safety reviews when installing or modifying equipment• Operation of specialist internal safety committees• Sharing of information and holding discussions with labor unions and on-site subcontractors
Health only	<ul style="list-style-type: none">• Thorough implementation of health measures in full compliance with relevant legislation• Promotion of measures to prevent health problems caused by passive smoking• Measures to combat brain, heart and lifestyle-related diseases• Measures to improve mental health• Health management for those posted overseas or on business trips• Promotion of activities to support workplace engagement^{*3} and workplace energization• Measures to prevent the spread of diseases

*3 Workplace engagement: having a positive and fulfilling attitude toward work.

OHS Awareness Raising and Education

OHS Education

KIOXIA Group in Japan endeavors to enhance our employees' OHS understanding and skills. On top of the training specified by the Industrial Safety and Health Act, we implement education

programs for employees who are newly appointed to OHS-related posts, as well as for mid-career employees in OHS-related positions. We also run practical training programs devised by each operational site.

Key OHS Training Results (FY2021)

Type of Training	Ratio of participation: No. of Participants/ No. of Eligible Employees
Training related to job promotion (OHS)	100% (234/234)
Mental health training	100% (14,075/14,075)
Post-recruitment training (OHS, road safety, etc.)	100% (2,546/2,546)
Various types of training based on the Industrial Health and Safety Act (for workplace managers, health supervisors, covering the use of industrial robots, safety equipment, etc.)	100% (2,413/2,413)
Competence training (OHS promotion committee members, risk assessors, internal auditors, etc.)	100% (741/741)

Each work site also conducts its own training in addition to the activities listed here.

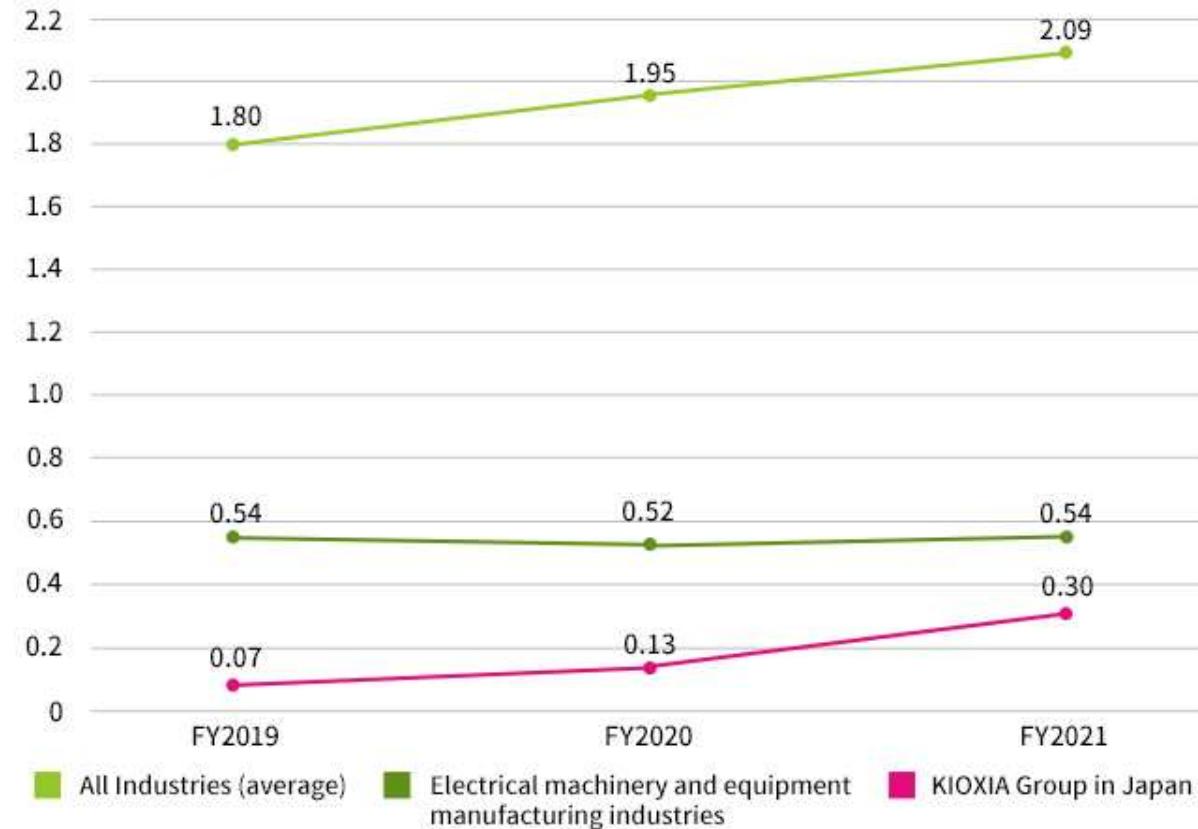
Workplace Accidents

KIOXIA Group in Japan strives to minimize the number of workplace accidents and monitor any occurrences. We use the “frequency of injuries resulting in lost working days” as an indicator for

these efforts. In FY2021, the frequency rate was 0.30, which was below the average rate of 0.52 in the electric machinery and equipment manufacturing industries.

KIOXIA Group in Japan will continue to implement further measures to prevent workplace accidents. In particular, we will prioritize the reduction of hazardous risks that could lead to illness or serious injury and conduct risk assessments of all workplaces and tasks. Leveraging the results of these assessments, we identify current and potential risks, review work methods, and systematically deploy any necessary measures to minimize and eliminate such risks. Furthermore, we are improving facilities and provide comprehensive OHS training for all employees.

Frequency of Injuries Resulting in Lost Working Time^{*4} at KIOXIA Group in Japan



*4 Frequency at business sites of KIOXIA Group in Japan (manufacturing, non-manufacturing, R&D).

Frequency = number of casualties due to work-related accidents / total actual working hours x 1 million.

Figures for all industries and the electrical machinery and equipment manufacturing industries collated from the respective "Survey of Industrial Accidents" conducted each year by the Ministry of Health, Labor and Welfare.

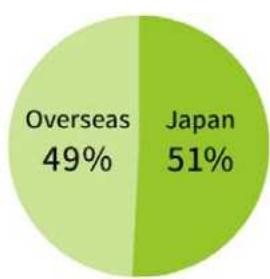
Sustainable Supply Chain

Stakeholder interest in corporate social responsibility in the supply chain is growing year by year. KIOXIA Group has committed to ensuring fair business practices in its Standards of Conduct, and has designated sustainable supply chains as priority areas of focus in terms of ensuring the Group's medium- to long-term growth (sustainability materiality).

By collaborating with suppliers, we conduct business with due consideration of supply chain issues, such as the human rights of workers, occupational health and safety, and the environment, with the aim of reducing business risks and achieving sustainable procurement.

KIOXIA Group's Supply Chain

Procurement Ratio by Region (FY2021)



KIOXIA Group procures a variety of raw materials and resources from suppliers in different countries and regions. In FY2021, we had relationships with approximately 700 suppliers, and overseas suppliers^{*1} accounted for 49% of our total procurement.

*1 The category of "overseas suppliers" includes procurement from the Japanese subsidiaries of foreign-owned companies

KIOXIA Group Procurement Policy

KIOXIA Group strives to manage our supply chains and promote sustainable procurement activities throughout these by complying with the procurement-related laws and regulations of each country or region and with social norms, as well as by building sound relationships with suppliers based on mutual understanding and trust.

We require our suppliers to comply with and implement the KIOXIA Group Procurement Policy, and we call for responsible business practices throughout our supply chain. In our efforts to manage our supply chains appropriately, where necessary we review procurement policies in response to changes in the social environment and in business conditions. We revised the KIOXIA Group Procurement Policy and published a new KIOXIA Group Supply Chain Code of

Conduct in August 2021, which sets forth our requirements for companies in our supply chain. Furthermore, we have formulated KIOXIA Group Green Procurement Guidelines that are applicable to environmental issues, and the KIOXIA Group Responsible Minerals Sourcing Policy governing the sourcing of minerals, and have made all relevant suppliers aware of these.

[KIOXIA Group Procurement Policy](#)

[KIOXIA Group Supply Chain Code of Conduct](#)

[KIOXIA Group Responsible Minerals Sourcing Policy](#)

[Kioxia Group Standards of Conduct 2. Fair Business Operations](#)

Promotion of Supply Chain Management

KIOXIA Group has set up a dedicated planning organization within the procurement department at KIOXIA's Head Office. It promotes appropriate transactions with all our suppliers and is responsible for management of our supply chains. To this end, it coordinates with related divisions within KIOXIA such as the Sustainability Division, the Environment group, and the Human Resources and Administration Division.

Participation in Industry Groups and Initiatives

KIOXIA Group joined the Responsible Business Alliance (RBA) in 2021 to fulfill our social responsibilities across our global supply chains in such areas as labor practices, occupational health and safety, environmental protection, and ethics. As a regular member of the Alliance, we carry out business responsibly in accordance with the RBA Code of Conduct by implementing our own sustainability initiatives and requiring our suppliers to do the same.

[RBA](#)

In addition, KIOXIA Group promotes the responsible procurement of minerals under the umbrella of the RBA through our participation in the Responsible Minerals Initiative (RMI) and the Responsible Mineral Procurement Study Group of the Japan Electronics and Information Technology Industries Association (JEITA).

Assessment and Monitoring of Suppliers

New Supplier Assessment

When commencing business with a new supplier, we make them aware of our policies governing sustainable procurement, including our Group's overall procurement policies and our Supply

Chain Code of Conduct. We first confirm whether the supplier's occupational health and safety measures, environmental and process management structures, legal compliance standards, management standards, etc., meet the transaction standards of KIOXIA Group before we conduct any business with them.

Supply Chain Monitoring

Prior to continuing business with an existing supplier, we use references such as the current scale of our business with them, and ask suppliers to conduct a self-assessment survey using a format provided by the RBA (RBA-SAQ).^{*2} This enables us to confirm the status of the supplier's compliance with the RBA Code of Conduct and facilitates rigorous management of our supply chain. Interviews by procurement managers are conducted with suppliers determined by the RBA-SAQ to be of high risk, and where necessary, suppliers are required to implement corrective measures, such as undergoing an RBA third-party audit. In addition, we check the management status of suppliers' manufacturing sites by means of quality audits, requesting improvements and providing support for the implementation of these where necessary.

*2 Self-Assessment Questionnaire (SAQ) provided by RBA: This contains questions about labor practices, occupational health and safety measures, the environment, ethics, and management systems. We use two types of SAQ: Corporate, which covers companies in their entirety; and Facility, which focuses on individual factories.

Supply Chain Monitoring Results (FY2021, KIOXIA Group)

	No. of surveyed companies	No. of responses	Results of risk assessment (No. of cases)			Requests for corrective measures (No. of cases)
			Low risk (No. of responses)	Medium risk (No. of responses)	High risk (No. of responses)	
RBA-SAQ ^{*3} (Corporate)	48	48	40	8	None	None
RBA-SAQ ^{*3} (Facility)	45	110	107	3	None	None

*3 RBA-SAQ responses from RBA Online

Responsible Minerals Sourcing

Given KIOXIA Group's role in the supply chain of companies listed on U.S. stock exchanges, following the enactment of Section 1502 of the U.S. Dodd-Frank Wall Street Reform and Consumer Protection Act (the Dodd-Frank Act) in 2010, we ensured smelters in our own supply chain were investigated by our suppliers to confirm that proceeds from the sales of tin, tantalum, tungsten, and gold (commonly known as 3TG) from the Democratic Republic of the Congo or neighboring countries are not being used as a source of funds for anti-social forces.

Since March 2021 KIOXIA Group has been promoting the responsible procurement of minerals from other countries and regions as well; our KIOXIA Group Responsible Minerals Sourcing Policy stipulates that KIOXIA will not use as raw materials 3TG or cobalt obtained from other conflict-afflicted and high-risk areas (commonly known as CAHRAs) where inhumane acts such as human trafficking, slavery, forced labor, child labor, abuse, or war crimes are suspected.

[KIOXIA Group Responsible Minerals Sourcing Policy](#)

KIOXIA Group's Promotion of Minerals Sourcing

Our Responsible Minerals Sourcing Working Group, which consists of members from relevant corporate divisions such as the Head Office Procurement, and Sales, Technology, and IT groups, promotes activities on behalf of KIOXIA Group in accordance with the KIOXIA Group Responsible Minerals Sourcing Policy, and reports as necessary to the Sustainability Committee.

Minerals Sourcing Survey

KIOXIA Group investigates the use by mineral smelters in our supply chain of minerals they deliver to our company, such as 3TG and cobalt. We require that suppliers procure all materials from Responsible Minerals Assurance Process (RMAP) smelters certified by the RMI, and also request that suppliers identify applicable smelters in the supply chain if 3TG mineral procurement is conducted in the Democratic Republic of Congo, neighboring areas or other conflict-or high-risk areas.

In FY2021, we requested the 75 suppliers that may have used 3TG minerals to conduct a smelter survey using the Conflict Minerals Reporting Template (CMRT) produced by the RMI. However, in FY2021, a large number of RMAP-certified smelters were excluded from RMI accreditation at the end of the annual survey during February 2022. Due to this, the percentage of minerals procured from smelters that were RMAP-certified or currently under audit temporarily fell below

100% (to 78% as of the end of March 2022, recovering to 93% at the end of May^{*4}). We continue to work towards the achievement of our goal of 100% procurement from RMAP-certified smelters.

Following requests from our stakeholders, we added cobalt to the list of minerals surveyed, and conducted smelter surveys at 30 suppliers using the RMI Extended Minerals Reporting Template (EMRT) for FY2021.

^{*4} Includes RMAP-compliant smelters and smelters currently undergoing an RMI audit.

Minerals Procurement Monitoring Results (FY2021, KIOXIA Group)

	No. of survey ed companies	No. of respon ses	Survey results (No. of cases)/Ratio of conformance (Percentage)				
			End of March 2022		End of May 2022		
			Corrective measures completed	Corrective measures completed ^{*5}	Survey continued ^{*5}	Failure of corrective measures	Suspension of business, etc.
CMRT surveys (3TG)	75	121	93	18	9	0	1
			78%	93%			
EMRT surveys (cobalt)	30	34	31	0	3	0	0
			91%	91%			

^{*5} Request for due diligence by suppliers that procured minerals from smelters that are not RMAP-compliant

Green Procurement

As stated in the KIOXIA Group Environmental Policy, we have established a Green Procurement Working Group under the auspices of our Environment, Quality Control, and Procurement divisions, to work on green procurement, with the aim of contributing to the realization of a sustainable society. We have also formulated Green Procurement Guidelines, which outline our

management standards and contain specific requirements for suppliers regarding the selection of materials with a low environmental impact and the management of chemical substances. We periodically update the guidelines to reflect issues such as changes in the laws and regulations of individual countries or regions, or customer requests.

We also conduct a thorough assessment of the environmental impact of chemical substances from the design and development stage, and use materials with a low environmental impact as part of our efforts to reduce our environmental footprint.

Through these initiatives, we will continue to share issues and collaborate with our suppliers on issues affecting environmental conservation, aiming to contribute to the realization of a better global environment.

Green Procurement Monitoring Results (FY2021, KIOXIA Group)

	No. of surveyed companies	No. of responses	No. of requests for corrective measures	No. of corrective measures completed	Suspension of business, etc.
Environmental Survey^{*6}	14	14	None	None	None
Green procurement^{*7} (Others)	145	113	0	0	0

*6 RBA Environmental Survey

*7 Requirement to improve accuracy when registering chemical substances in our green procurement system (pCORE)

Employee Sustainable Procurement Training

In FY2021, training sessions covering social trends, KIOXIA's approach to sustainable procurement, and the RBA Code of Conduct were conducted primarily for employees in our Procurement, Sales, the Human Resources and Administration Division. These sessions took place online and all members of the Procurement division participated.

Response to Supply Chain Risk

KIOXIA Group requires suppliers to make improvements if they are found to have violated our procurement policies or Supply Chain Code of Conduct, or if sustainability-related risks are identified in the operations of a supplier or supply chain, or if there is a new law or regulation or social requirement necessitating a response, or if there is some other reason. In such cases we will require suppliers to respond, for example by making improvements to the processes in question, and we will offer corrective guidance and support. However, in cases where corrective measures are judged to be difficult to implement, we will suspend business with them.

In FY2021, there were no cases where business with a supplier was suspended due to risks related to sustainability.

Securing Supply from the Supply Chain in the Business Continuity Plan

KIOXIA Group strives to engage multiple suppliers and works closely with them in order to avoid interruptions to business in the event of emergencies such as earthquakes, other natural disasters, accidents, or pandemics. Specifically, under our business continuity plan (BCP) policy, ensuring we are fully aware of the status of our supply chains during normal times will allow us to swiftly grasp any impact in the event of an emergency. We have also established a framework for cooperation aimed at achieving the early recovery of services. Additionally, we will strive to cultivate our business continuity plan through BCP assessments at major suppliers.

[Risk Management through Business Continuity Plan \(BCP\)](#)

Quality Control

KIOXIA Group considers that our most important mission is to provide our customers with safe and reliable products, and we are always striving to manage and improve product quality from our customers' perspective. In addition, we ensure our products are safe to use and secure, and disclose information regarding product quality to customers.

KIOXIA Group Comprehensive Quality Assurance Policy

KIOXIA Group has set out our fundamental approach to quality control within our Quality Control Policy, aiming to provide products and services that exceed the expectations and demand of customers and society.

[Quality Control Policy](#)

[KIOXIA's Quality Guidelines \(PDF: 2.1MB\)](#)

Standards of Conduct during Quality Assurance

1. We engage in quality assurance from our customers' point of view.
2. We observe relevant laws and contracts and respect the rights of customers and third parties.
3. We deploy quality control systems aimed at achieving 100% quality.
4. We ensure that all of our departments and employees follow our quality control policies.
5. We aim for constant improvement by investigating the root causes of process failures and conduct through risk analysis in order to prevent any re-occurrence.
6. We collect, analyze and appropriately disclose information with the aim of preventing quality issues.

Standards of Conduct regarding Product Safety and Product Security

1. We observe both Japanese and overseas laws and regulations governing product safety and product security.
2. We collect, and proactively disclose, a wide range of information about any product issues that arise.
3. We immediately report any product issues to the authorities concerned in accordance with relevant laws and regulations.

4. We promptly inform customers when the need to recall and repair products arises.
5. We educate our customers and provide alerts and warnings in order to help them use our products in a safe manner.
6. If an accident should occur, we carry out a thorough analysis of the causes and take necessary measures to prevent it from recurring. We also strive to prevent accidents by predicting risk at the design stage.
7. We strive to eliminate vulnerabilities from products prior to shipment.
8. We collect a wide range of information on product vulnerabilities in order to reduce risk.
9. We implement product security measures on a broad scale in cooperation with the relevant organizations.

Promoting Quality Control

KIOXIA Group has implemented a structure aimed at strengthening our quality-control activities. Chaired by our President and CEO, a quality control meeting is held twice a year in which our quality officers, vice presidents, technology executives, general managers, and senior managers participate and where they discuss and decide on key quality policy issues. The participants also evaluate the appropriateness and validity of quality management and risk measures. We communicate decisions made during these meetings to business divisions and ensure that these are actioned.

Quality Control Process & Responsibilities



Formulating Responses to Product Issues

Information on issues involving KIOXIA products in the market is collated by the KIOXIA President and CEO, who is also the Chief Quality Executive Officer, or the Executive Officer in charge of Quality, through what we call the CPL*1 Incident Response Desk, and are referred to

our Quality & Safety Risk Committee for any necessary action.

No serious quality incidents occurred in FY2021.

*1 CPL is an abbreviation combining CL (contractual liability) and PL (product liability).



Improving the Quality Management System (QMS)

KIOXIA Group has obtained ISO9001 certification, the basis of all quality management systems, and ISO/TS16949, a more advanced certification. Rather than merely assessing whether our products meet the requirements of these standards, we also endeavor to improve their overall effectiveness. To this end, we continuously implement company-wide improvements based on the seven QMS principles.

[ISO/IATF Certification Information \(PDF: 78KB\)](#)

Improving Design Quality

In order to enhance our ability to ensure product quality at the design stage, KIOXIA Group conducts Failure Mode and Effects Analysis (FMEA) in order to prevent defects from reaching upstream. The aim of this activity is to enhance quality by anticipating the risks and effects of failures or defects, known as failure modes, targeting product design and processes in the later stages of development. We strive to improve the reliability and safety of our products and services by implementing practical training to broaden the base of FMEA activities.

Improving Manufacturing Quality

FMEA is used to identify the risk of quality issues and determine those which need to be managed as a priority; the capacity of each manufacturing process is analyzed and

improvements are implemented on areas found to have low process capabilities. A method known as statistical process control (SPC) is deployed during efforts to stabilize or improve manufacturing quality.

Disclosure of Information on Quality

KIOXIA Group discloses information regarding product quality on its website.

Products: Reliability Information

- Quality Guidelines
- Reliability Handbook
- Handling Precautions and Requests
- List of Abbreviations

Personal Products (Japanese)

- Customer Support

Quality Education

KIOXIA Group has created its own in-house curriculum and conducts education and training for engineers in order to improve design and manufacturing quality. Basic training is conducted throughout the year, including an introduction to quality assurance, contract liability and product liability (including the Product Liability Act), statistical quality control, and quality management systems, along with special training on topics such as “QC7” tools, FMEA/DRBFM^{*2}, failure studies, and why-why analysis.

*2 DRBFM (Design Review Based on Failure Mode) is a method of preventing quality defects by prioritizing design changes and modifications when conducting risk analyses.

Supporting Local Community Development

Basic Philosophy

KIOXIA Group regards coexistence with local communities as part of our responsibility as a “good corporate citizen.” Aiming to help realize a better society through “memory” technology, while engaging in dialogue with local communities, governments and public bodies, NPOs/NGOs, and academic organizations, we leverage our technologies, products, services, the expertise of our employees, and other means to address community issues. We focus in particular on energizing local communities in the areas where we conduct business, and on fostering human resources in the science and engineering fields.

Implementation Structure

At KIOXIA Group, the Human Resources and Administration Division oversees community engagement activities for our business units. We partner with local communities and conduct community engagement activities wherever we operate. We also encourage employee participation in social activities.

Local Recruitment and Business Support

KIOXIA Group helps to revitalize local communities by recruiting locally and conducting business with local companies.

Leave System Enabling Volunteer Activities

KIOXIA has introduced a long-term leave system to make it easier for employees take part in community engagement activities. They can use accumulated leave (a maximum of 25 days) for such purposes.

Main Activities (FY2021)

Fostering Scientists and Engineers of the Future

KIOXIA Group sponsors opportunities for young people who will lead the future to develop an interest in science, technology and manufacturing, as we believe in supporting those aspiring to

become outstanding scientists or engineers. In FY2021, our community science lectures and workshops were attended by some 1,500 students from elementary school through to university.

Yokkaichi Science Seminar for Children

In August 2021, KIOXIA took part in the Yokkaichi Science Seminar for Children at the Yokkaichi City Cultural Center, which was held with the aim of raising children's interest in science.

In the seminar entitled "Science Experience – Yokkaichi, a City of Monozukuri" (the art, science and craft of making things), we offered a presentation called "What is Memory?" for roughly 60 visitors. Explaining how semiconductor memories work, we held a quiz about human memory.

The excitement mounted as children enthusiastically answered the questions. Children particularly enjoyed the virtual reality (VR) simulation of a cleanroom in manufacturing facility. Many of them seemed genuinely curious, turning their bodies here and there with the VR goggles.



A scene from the Yokkaichi Science Seminar for Children.

Outreach Classes at Yokkaichi Municipal Junior High School

Since FY2008, KIOXIA has been collaborating with Yokkaichi City to provide outreach classes as a part of students' career education. In FY2021, classes were held at Akatsuki and Nishi-Sasagawa Junior High Schools under the theme of "Working at KIOXIA." Students were taught about manufacturing processes and the types of work done in plants, and shown wafers and SD cards, which contain semiconductors. A few students tried on a cleanroom suits and experienced the cleanroom environment in virtual reality. Aiming to provide an opportunity for students to think about their own career options, we also held workshops covering issues our engineers tackle in practice.



Outreach Class

Please click the link for more information about community engagement activities in the Yokkaichi Plant area.

[Yokkaichi Plant \(CSR and Cooperation with the Local Community\)](#)

Participation and Career Counseling for Science and Engineering Pathways in Summer School for Girls in Junior and Senior High School

As part of our efforts to promote women's active participation in the workplace, since 2018 KIOXIA has taken part in a Summer School for Girls in Junior and Senior High Schools (*Natsugaku*),^{*1} one of Japan's largest events promoting science and engineering careers. In 2021, KIOXIA participated online in a "Poster and Career Consultation" event. Building on the concept of "The World is Filled with Memory," we gave a presentation about how flash memory works and the many ways it is used in our daily lives. KIOXIA female engineers also spoke about their own careers. The students asked questions such as, "I don't like mathematics; can I still choose science as my career?" and "Does the size of flash memories increase as their capacity increases?" along with other career counseling and memory questions.

We additionally received comments such as "The event helped people choose their career path, because now we know what subjects female engineers in advanced research and development excelled at when they were in high school, the reasons they chose their current job, and details about their work" and "It is interesting how memory products are used in so many different situations."

We will continue to give students the chance to experience the joy of science, engineering, and manufacturing, supporting the development of future scientists and engineers.



An engineer providing career counselling to junior high and high school girls online

*1 Summer School for Girls in Junior and Senior High Schools (*Natsugaku*) is an event that aims to motivate girls to pursue science and engineering careers. It was sponsored by the Natsugaku Executive Committee (in 2018), the National Women's Education Center (in 2018, 2019), and since 2019 has been sponsored by the NPO STEM Career Path Project for Girls.

Educational Collaboration of KIOXIA Iwate Corporation with Iwate University

KIOXIA Iwate Corporation, the second manufacturing site of the KIOXIA Group, has been pursuing educational collaboration with Iwate University since 2019. In FY2021, the topics covered previously in public lectures were further developed, and lectures on semiconductors were held in multiple engineering departments. These lectures covered the history of the semiconductor industry, miniaturization technologies for logic devices and three-dimensional memory technologies, which are drivers of semiconductor technology.*² The number of students taking these lectures has been increasing year by year, and the sessions feature lively discussions and questions.

We are considering expanding this initiative to other universities, KOSEN (colleges of technology) and high schools in the Tohoku region, to support the mutual development of industry and academia.



Semiconductor Lecture at Iwate University

*² Advanced processes and production technologies that are the driving force of next-generation devices and manufacturing technologies.

Educational Collaboration with Graduate Schools

KIOXIA hosts classes at graduate schools and other institutions to foster young scientists and engineers.

We have had a Comprehensive Collaboration Agreement with the University of Electro-Communications since FY2019, under which engineers are fostered through personnel exchange, and we collaborate on research activities. This initiative aims to promote semiconductor memory development and manufacturing technologies. In FY2021, one of our engineers conducted a lecture titled “Information Media System (Data Mining)” for approximately 100 Masters and PhD students at the University’s Graduate School of Informatics and Engineering. We also held a lecture titled “Semiconductor Memories—Supporting Society (Evolution of Nonvolatile Memories)” at Nagoya University.

We aim to continuously nurture talented engineers, develop engineering as an academic discipline, and boost the semiconductor and other industries.

Creating Opportunities for Academic Interaction

Since FY2020 KIOXIA has participated in AI and the Advanced Programming Consortium (AIC) at the Keio University Global Research Institute.

A workshop (Ideathon^{*3}) called “AI Application Idea Contest” was held in FY2021. Participating students competed by using familiar issues as subjects for their AI issues using “AI Map”,^{*4} combining and applying AI technologies to resolve issues. Additionally, students learned how AI is applied in actual work by using the image generation software that is actually used at our company. A wide range of students participated, from undergraduates to those in doctoral programs; many of them commented that the workshop have provided them with a better understanding of AI technology and its application.

We provided a forum where participants could gain new experience and interact with each other to learn how AI can solve problems and create new value.

*3 Ideathon: An event where groups compete with each other to come up with ideas and solutions based on various themes.

*4 The Japanese Society for Artificial Intelligence “AI Map Beta 2.0” <https://www.ai-gakkai.or.jp/resource/aimap/>

Donations through Charity Walks: KIOXIA Europe

KIOXIA Europe organized two charity walks for employees in 2022, activities combining community engagement with health promotion. They started off at our office in Düsseldorf, in Germany, and walked along the Rhine, the country’s longest river. Our employees really enjoyed the walk; it was a great opportunity to meet colleagues following a long period of home working. 43 of them joined the event and walked a total distance of 472 km. But enjoyment and health promotion were not the only purpose of the walk: Kioxia Europe sponsored each employee to the tune of two euros per kilometer and made a donation of 944 euros to “Action Medeor” for medical support in Ukraine.^{*5}



KIOXIA Europe’s Charity Walk

*5 Action Medeor is a German non-governmental medical aid organization. It supports crisis areas in the world with medicines and medical equipment. Visit the link below for further details.

[Aktion Medeor \(English/ Deutch\)](#)

Helping to Feed the Community: KIOXIA America LeadHERs

In 2018 KIOXIA America established an internal organization called LeadHERs, whose goal is the education, enrichment and empowerment of women. LeadHERs also supports corporate community engagement events in partnership with Kioxia America's Community Relations team. In 2022 to date, KIOXIA America has held several community outreach events under the initiative of LeadHERs. In the first in-person LeadHERs event since the pandemic, members were able to get out into the community to help those in need. The group volunteered at Second Harvest Solutions Farm in Irvine, in the south of Los Angeles, picking and packaging cabbages. The nutritious food they picked helped feed those in need in the Orange County area. Second Harvest is currently providing around 600,000 meals to the needy every month.



KIOXIA America's LeadHERs volunteer activities at a farm

Charity events at SSSTC's 2nd Anniversary: Solid State Storage Technology Corporation (Taiwan)

Solid State Storage Technology Corporation (SSSTC) held another charity fair in the 2021 Christmas season, following on from the previous year's event. SSSTC joined hands with eleven NPOs supporting disadvantaged groups, including the Children Are Us Foundation and Eden Social Welfare. Some 900 employees took part in this event. About 20 representatives of 170 elementary school students from three elementary schools in remote districts facing educational disparities were invited to SSSTC. Charlie Tseng, SSSTC Chairman & CEO, awarded scholarships to the children; the children showed off their singing talents and interacted with employees.

In addition, employees regularly purchase food and crafts made at these welfare facilities, and total donations this time amounted to about 5,400 US dollars; this sum was distributed among the NPOs to support disadvantaged groups such as children and the disabled.



SSSTC 2nd Anniversary & Christmas Charity Fair

Corporate Governance

KIOXIA Group is reinforcing our governance processes in order to increase our corporate value.

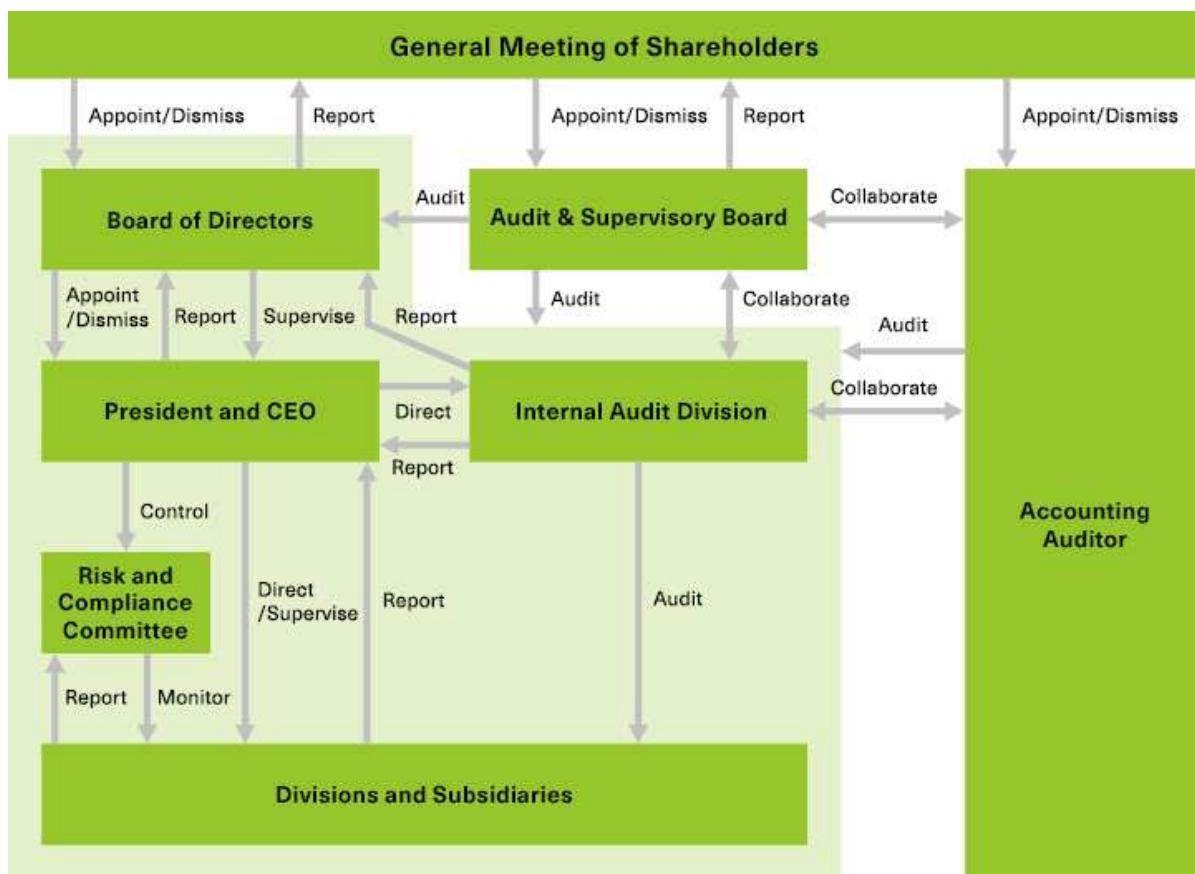
Corporate Governance Policy and Structure (as of March 2022)

KIOXIA Holdings is a company with Board of Statutory Auditors. We have developed a group governance structure in which the performance by directors of their duties is audited by our statutory auditors. We have appointed three statutory auditors.

The core of the KIOXIA Group governance is our Board of Directors, consisting of six persons, including the President and CEO. Furthermore, to clarify the separation of the supervisory functions and executive functions of management, the latter is carried out by executive officers assigned by the Board of Directors and by departments that assist directors.

As KIOXIA Holding's Chief Executive Officer, the President and CEO is responsible to shareholders when making decisions on important company matters. The President and CEO also steers KIOXIA Group's business by broadly and optimally managing the resources of KIOXIA Holdings and its group companies and maximizing their synergies.

Corporate Governance Process & Responsibilities (as of March 2022)



Risk and Compliance

KIOXIA Group enforces global compliance with relevant laws and regulations, social and ethical norms, and internal rules, and carries out risk and compliance activities.

Risk and Compliance Policy and Structure

At KIOXIA Group, we strive to ensure thorough compliance with all relevant laws and regulations based on the Kioxia Group Standards of Conduct, in order to ensure fair and honest competition.

At KIOXIA, the President and CEO is assigned lead responsibility for ensuring risk compliance; the Human Resources & Administration Director and the Legal Affairs Director have joint second-level responsibility. KIOXIA has established a process whereby our Risk and Compliance Committee has complete authority and responsibility with regard to all risk and compliance-related issues across the entire Group. Our statutory auditors attend meetings of this Committee as “observers.”

In line with our Risk Compliance Management Regulations, KIOXIA Group collects, analyzes and assesses all relevant risk-related information, including compliance risks, before formulating priority measures and implementing them. Furthermore, we have constructed a framework that allows swift and organization-wide response to risks across the entire Group when required.

We classify risks into a number of categories, including compliance-related risks, finance/accounting-related risks, and business risks, and have established committees and review groups for each category to enable agile management of these. Each committee and review group reports on activities and status to the Risk and Compliance Committee on a timely basis. The Risk and Compliance Committee, which meets every six months, determines risks that may cause a crisis, or “crisis risks,”*1 and discusses all matters related to Group-wide risks and compliance activities. Furthermore, the Committee formulates, implements and supports risk and compliance management measures (priority measures), monitors the activities of each committee, and reports on these to the Board of Directors, which reviews them as appropriate.

When a crisis risk or an event that may develop into one occurs, the Officer Responsible for Risk Compliance immediately contacts the Risk and Compliance Secretariat of KIOXIA Holdings, and receives direction from them on how to respond to the situation and prevent recurrences.

*1 Crisis risk is serious and immediate risk that cannot be addressed through usual decision-making channels and is at a level that has the potential to significantly endanger the value of the company.

Risk & Compliance Committee Structure

Officer Responsible for Risk Compliance: President and CEO

Vice-Officers Responsible for Risk Compliance:

Officer in charge of Human Resources and Administration, Officer in charge of Legal Affairs

Risk and Compliance Committee

Chair: Officer Responsible for Risk Compliance

Vice Chair: Vice Officer Responsible for Risk Compliance

Members: Executive Officers and heads of relevant organizations

Observers: Statutory Auditors

Related Committees and Review Groups

[Kioxia Group Standards of Conduct](#)

Whistleblower System

Whistleblower "Risk Hotline" for Employees

In order to create an open work environment and reduce risk, in addition to encouraging day-to-day communication within each workplace, KIOXIA Group operates a whistleblower system. All employees are informed about this system through internal websites, emails and other means. The system is designed to protect the anonymity of whistleblowers and ensure that they are not treated disadvantageously. The number of reports received and consultations undertaken through the whistleblower system in FY2021 was 158. Of the reports received, those referencing inappropriate situations or concerns about inappropriate situations were reported to the relevant division so that instructions for improvement could be provided or alerts issued. In cases involving consultations and questions about the duties of the informants themselves, we gave advice on how to deal with each situation. For reports other than those that were anonymously submitted, in principle we explained the status of our responses to the informants. Except in cases where prior consent is obtained from the employees concerned, the names or contact details of informants are never disclosed.

Business Partner Hotline

KIOXIA Group has established a Business Partner Hotline to assist business partners such as suppliers to report to us any violations or suspected violations of laws and regulations, Kioxia Group Standards of Conduct, the KIOXIA Group Procurement Policy, business agreements, corporate ethics, or other applicable rules, standards and norms established by KIOXIA Group in connection with procurement and other business transactions, and to help KIOXIA Group rectify these.

We investigate and confirm the facts and in principle notify the results of our investigation to the whistleblower. The personal details of the person who made the allegation are not disclosed to anyone outside the Business Partner Hotline Secretariat without their consent. Moreover, we ensure there is no unfair treatment of the whistleblower or their company arising from their allegation.

The number of reports received and consultations undertaken through the Business Partner Hotline in FY2021 was one. The alleged situation was investigated, and the results of the investigation were shared and confirmed with the whistleblower.

[Business Partner Hotline \(PDF: 136KB\)](#)

Risk and Compliance Training

KIOXIA Group provides various compliance training programs and thoroughly disseminates details of the Kioxia Group Standards of Conduct to all directors and employees in order to reinforce risk and compliance awareness.

Anti-Corruption Efforts

KIOXIA Group defines risks related to compliance as priority risk management issues that have the potential to severely impact our business; we strive to prevent such risks and to respond swiftly in the event of an occurrence. The basic policy for behavior are defined in the “Kioxia Group Standards of Conduct 1. Sound Business Management and 2. Fair Business Operations.” Initiatives include the establishment of internal rules and operational frameworks aimed at ensuring compliance with anti-trust laws and regulations and with those related to the prevention of bribery or insider trading, or potential third-party risks such as political donations and funding.

Compliance with Anti-Trust Laws and Anti-Bribery Measures

KIOXIA Group enforces compliance with anti-trust laws and is strengthening measures to tackle bribery globally.

In the light of recent global regulatory trends, KIOXIA Group has been making rigorous efforts to prevent cartelization and bribery. In FY2020 specifically, these included core KIOXIA Group companies worldwide performing self-audits to verify their observance of internal anti-trust and anti-bribery guidelines, which allowed us to establish compliance levels at those companies and provide thorough compliance training.

KIOXIA Group promotes rigorous compliance with business-related laws and regulations by providing training, making effective use of relevant databases, and performing periodic self-audits. We implement improvements aimed at mitigating any risks identified by those third parties in order to continue to enhance our compliance structure.

As a part of our anti-bribery initiatives, we perform due diligence on our outsourcing partners and other business partners that may have relationships with public officials, in order to identify potential bribery risks and any other risks before commencing business with them. In addition to incorporating provisions that prohibit bribery in our contracts with the aforementioned parties, we also notify them about our anti-bribery policy, among other activities.

Furthermore, KIOXIA Group is taking steps to raise compliance awareness among our staff based on our own Standards of Conduct. KIOXIA Group in Japan provided their directors and employees with e-learning training on sales-related risks from December 2021 to January 2022, to raise the level of our sales-related legal risk management.

Prevention of Insider Trading

To prevent insider trading and ensure proper management of all information, KIOXIA Group has formulated its “Insider Trading Prevention Regulations” and developed processes designed to manage the flow of insider information centered around prevention manager stipulated under this regulations. In September 2020, e-learning designed to prevent insider trading was conducted for all employees of our Group, including those of overseas subsidiaries. This initiative aimed to ensure that the contents and objectives of the “Insider Trading Prevention Regulations were thoroughly understood.

Political Contributions

The Kioxia Group Standards of Conduct stipulate that KIOXIA Group shall not provide inappropriate benefits or favors to any politician or political organization.

As part of its contribution to society, and when deemed to be necessary, KIOXIA Group does make transparent donations to political parties, in order to encourage the adoption of policies that will support our business and aid the healthy development of parliamentary democracy. Where we make donations to political parties, procedures in accordance with internal rules are followed and, in the case of donations made in Japan, we ensure we are compliant with Japan's Political Funds Control Law.

Donations and Provision of Funds

While the KIOXIA Group forbids the incurring of inappropriate expenses, we do stipulate that appropriate donations may be made to appropriate organizations. We therefore donate to a number of different organizations, taking into consideration factors such as the contribution made by the organization to society, its causes, and the community aspects of its activities.

Continued Severing of Relationships with Antisocial Groups

All KIOXIA Group companies in Japan have taken various measures to ensure that all links with antisocial groups are severed. In particular, we have developed and implemented "Basic Public Relations Management Rules" and appointed public relations management officers in each department. When conducting transactions with a new customer, the public relations management officers of that department confirm that the customer has no relations with any antisocial groups. If during those background checks the need arises for further investigation, our Human Resources and Administration Division will verify whether there is any evidence of a relationship between the customer and any antisocial groups.

We also periodically conduct surveys on customers that we already have business relations with. Transaction contracts normally include a clause regarding the exclusion of organized crime syndicates, which enables a contract to be cancelled without notice when a business partner is identified as being part of an antisocial group.

We also continuously ensure that employees understand the importance of excluding antisocial groups from the business activities they conduct.

Information Security Management

Information Security Management Policy

The utilization of data and cloud services and the use of AI have advanced in line with digital transformation, and we are also seeing changes in working styles, such as the rise in telecommuting. With cyber-attacks becoming increasingly sophisticated and potentially able to cause more serious damage to companies' businesses, cyber security measures have become more important each year.

Information security is a key management issue for the KIOXIA Group, and recognizes the value of all information handled during the course of our business activities, including personal information, customer and business partner information, management information, and technical and production information. Our basic policy is to manage this information in a confidential manner in order to protect it and prevent inappropriate disclosures, leaks, or improper use. KIOXIA Group has drawn up this basic policy of information security management.

[Privacy Policy](#)

[Kioxia Group Standards of Conduct 2. Fair Business Operations](#)

Structure of Information Security Management

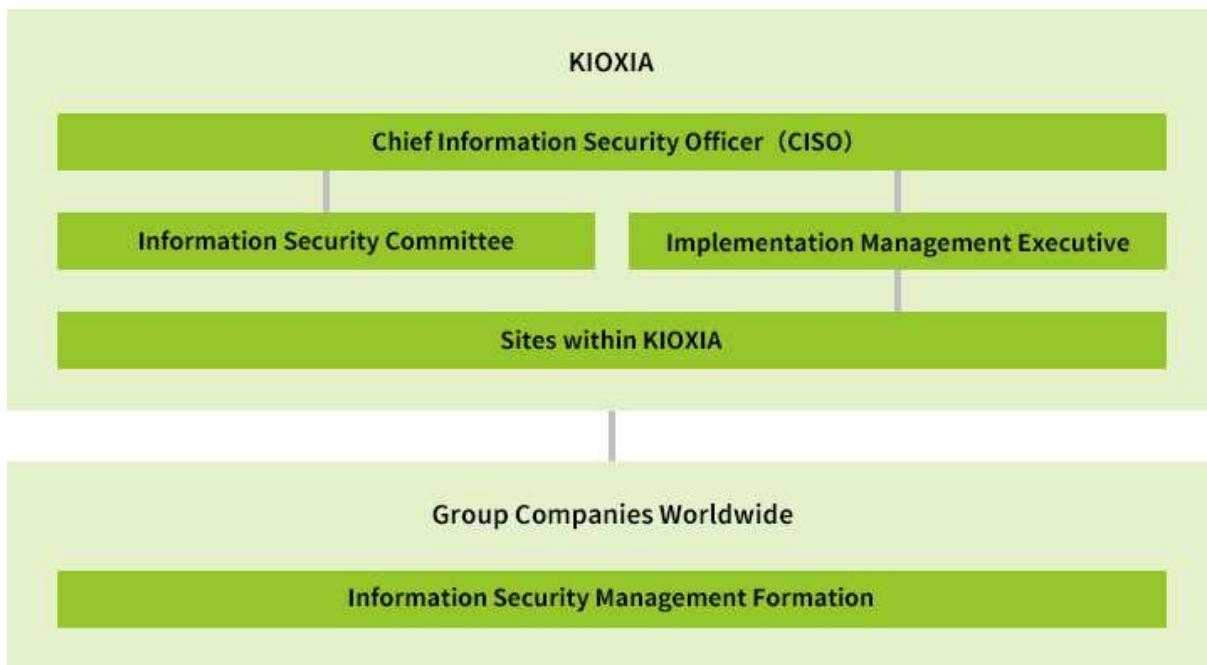
KIOXIA Group has established the role of Chief Information Security Officer, whose responsibility it is to oversee and ensure compliance with our Information Security Management Policy.

Information security management processes incorporating the protection of personal information have been implemented at each business site and organization, including all Group companies.

The Information Security Committee deliberates matters that are deemed key to ensuring information security throughout the Group.

In addition, the implementation status of relevant measures and specific issues arising in any of our Group companies are reported to the company's directors every six months in order to standardize and improve the level of information security throughout the KIOXIA Group.

Information Security Management Structure



Information Security Measures

In FY2021, KIOXIA Group implemented information security measures that included the reinforcement of networks and internal system monitoring from four perspectives.

Implementation of Information Security Measures

Category	Description
(1) Organizational measures: Establishing organizational structure and rules	<ul style="list-style-type: none">Periodic reviews of information security-related regulationsDevelopment and maintenance of information security management structurePerforming of audits.
(2) Human resource and legal measures: Ensuring adherence to rules	<ul style="list-style-type: none">Regulation of information protection duties and disciplinary measures in the case of any breach of rules of employmentProvision of periodic employee education and trainingContractor information security evaluation and conclusion of confidentiality agreements

Category	Description
(3) Physical measures: Supporting implementation of rules in terms of physical security	<ul style="list-style-type: none"> • Carry-in/carry-out control of devices holding information • Facility access control, room/building entry control • Locking of highly important information
(4) Technical measures: Supporting implementation of rules in terms of technology	<ul style="list-style-type: none"> • Encryption of hard disks and measures to combat malware • Assessment of the vulnerability of devices such as servers that are accessible to the public and enhancement of relevant protective measures • Implementation of a system to detect unauthorized external access or data breaches

Education, Inspection and Audit of Information Security Management

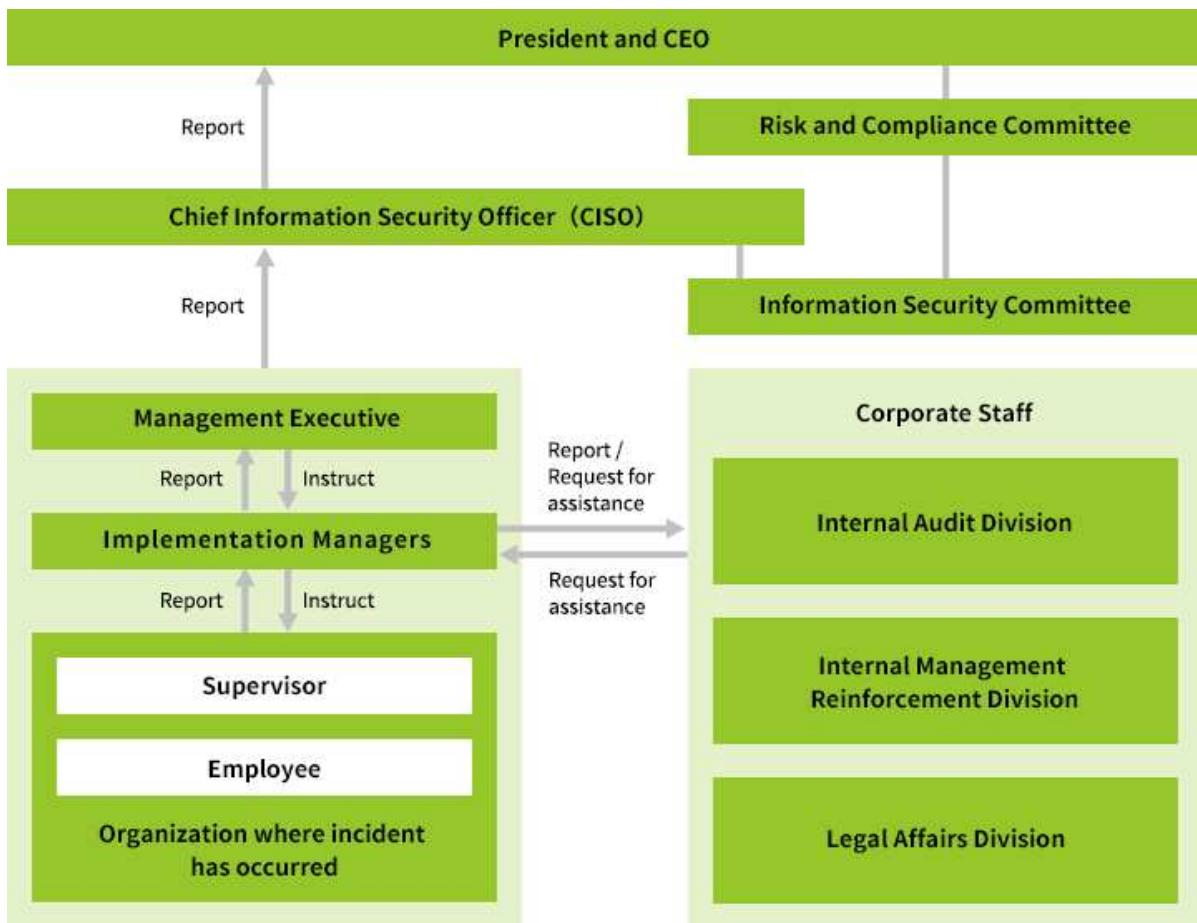
All KIOXIA Group divisions and organizations conduct annual self-inspections and self-audits of their compliance with information security policies and internal rules; they identify any issues and seek to address these in an effort to improve the level of information security within each of them. KIOXIA Group conducts annual training for all officers and employees and communicates relevant messages regarding information security from the management to all employees in order to ensure strict compliance with all in-house regulations. We also ask our business partners and subcontractors to provide a similar level of training for their employees.

Responding to Incidents such as Leakage of Confidential Information

In the event an information security incident such as a leakage of confidential information occurs, KIOXIA Group responds promptly in accordance with its information security incident reporting processes.

When we become aware of the occurrence or potential occurrence of an incident involving a serious leakage of confidential information that may entail a violation of any laws or ordinances, we strive to respond promptly based on our risk and compliance management processes.

Information Security Incident Reporting Process



Status of Incidents such as Leakage of Confidential Information

In FY2021, there were no incidents of sensitive information held by KIOXIA Group companies being leaked, nor were there any complaints from relevant external individuals or regulatory bodies concerning personal information. We will continue to work to prevent information security incidents and to be fully prepared for any situation that might arise.

Product Security Management

Product Security Management Policy

KIOXIA Group is required to respond promptly to any cyber-security risks emerging in society at large, and to requests from business partners and other stakeholders related to product security. KIOXIA Group defines “Product Security” as the prevention of any malicious information leaks, falsification, or unforeseeable faults in the products and services we sell or provide to customers. Our basic policy is to provide safe and secure products, by establishing a product security

management framework and aiming to minimize any cyber-security risks associated with them.

We have drawn up this basic policy of product security and ensure all employees and officers of the company are aware of it.

[Kioxia Group Standards of Conduct 3. Quality and Publications](#)

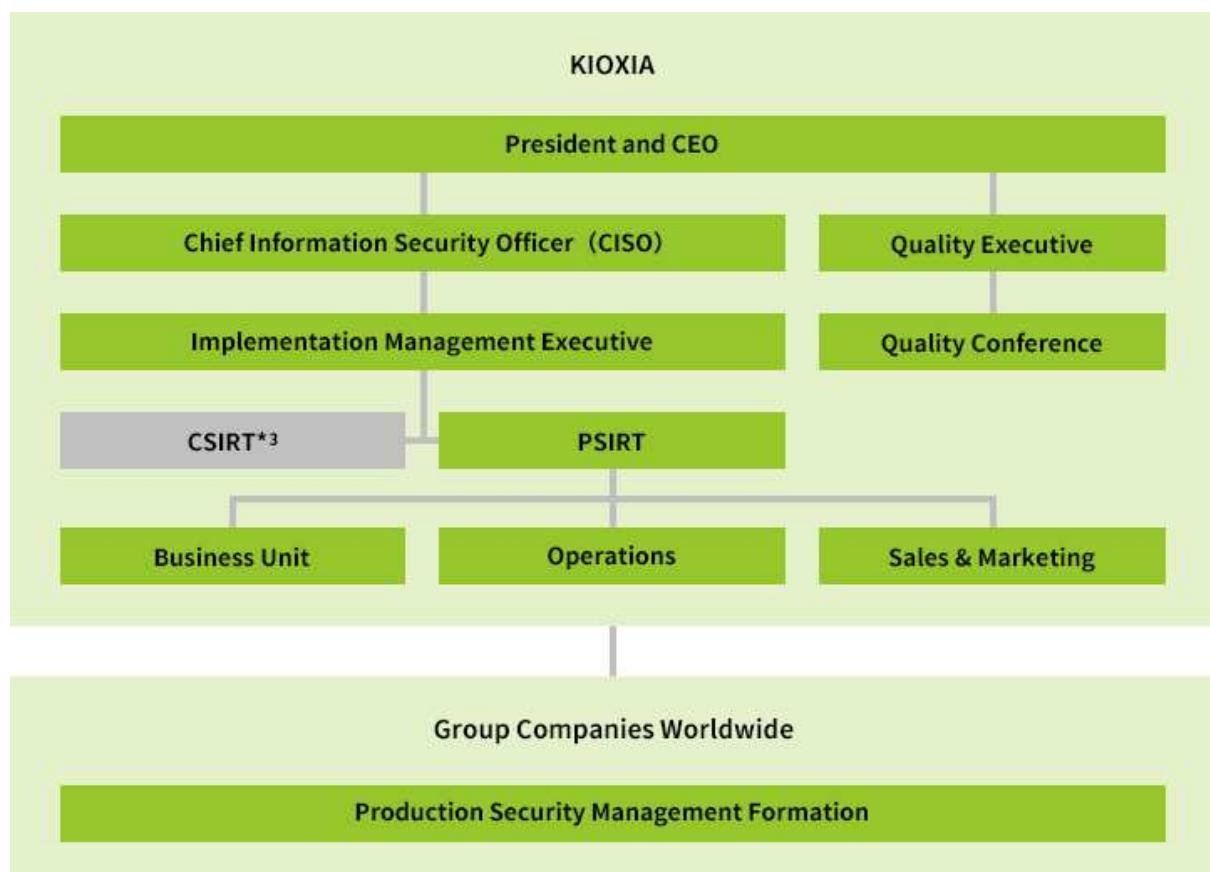
[Kioxia Group Standards of Conduct 7. Risk Management](#)

Structure of Product Security Management

The Group has appointed a Chief Information Security Officer to oversee compliance with our Product Security Policy. In each business division we have formulated product security processes that are strongly integrated with our quality management system. We have also established a special support service we call PSIRT*² which enables us to respond promptly to inquiries and to address any security vulnerabilities in our products.

*2 PSIRT: Product Security Incident Response Team – a team that responds to product security issues

Structure of Product Security Management



*3 CSIRT (Computer Security Incident Response Team): team that responds to information security issues

Product Security Measures

In addition to the aforementioned organizational measures and human process and legal measures, the following have been established as internal rules and regulations in order to implement security measures for our products.

Category	Description
(1) Legal and regulatory compliance	<ul style="list-style-type: none">• Investigation of and response to security regulations and laws related to our products
(2) Secure development: establishing processes to ensure we provide secure products	<ul style="list-style-type: none">• Consistent maintenance and enhancement of security measures throughout product lifecycles• Maintenance and enhancement of security measures in product supply chains
(3) Incident system development: dealing with product vulnerabilities, inquiries, etc.	<ul style="list-style-type: none">• Establishment of PSIRT• Addressing security requirements and responding to inquiries from stakeholders

Response to Security Incidents related to Products

In the event of a security incident caused by a cyber-attack, for example one targeting product vulnerabilities, KIOXIA Group will strive to respond promptly, with PSIRT and management executives assessing the situation based on our product security management processes and on our formulated responses to product incidents.

Structure of Response to Product Issues

Status of Product Vulnerabilities and Responses

There were no serious incidents associated with vulnerabilities in any of our products in FY2021. We will continue to strive to prevent the risk of product vulnerabilities, and will ensure the swift detection of any, and a prompt response.

Ensuring Appropriate Tax Reporting

The basic policy of the KIOXIA Group is to fulfill our obligations to pay all due taxes through business activities conducted based on the principles of fairness, integrity, and transparency. Our tax policy stipulates that KIOXIA Group must (a) comply with the guidelines of the Organization for Economic Cooperation and Development (OECD) and with the applicable laws and regulations of each country and region; (b) contribute to the tax administration of local communities through sales, profits, and payment of taxes in accordance with the purpose and reality of our business activities; (c) develop our business while ensuring tax transparency; and (d) appropriately manage and reduce any tax risks. These activities are carried out in accordance with the following:

1. Tax Governance (Structure)

Our Chief Financial Officer has official responsibility for ensuring that the KIOXIA Group complies with all relevant tax regulations and reports to the Board of Directors on its compliance with these, on its implementation of relevant initiatives, and on any key issues. The KIOXIA Holdings Group Tax Office periodically arranges internal training on tax policies in order to cultivate human resources who are familiar with the tax system of each country and region; it also identifies any potential tax issues, collects information, and shares knowledge. Group companies are required to report on any potential tax risks or other tax issues to the Chief Financial Officer.

2. Compliance

KIOXIA complies with the OECD Transfer Pricing Guidelines and with the laws and regulations of each country and region, and undertakes proper tax reporting and payment.

3. Tax Risk Management

KIOXIA recognizes the possibility of tax risks arising in situations where laws and regulations differ or are interpreted differently in different countries and regions. When a potentially significant risk is identified, we strive to minimize it by means of thorough scrutiny and analysis, by obtaining advice from tax specialists, by making prior referral to tax authorities or by means of a process of advance pricing agreement.

4. Transfer Pricing

Transfer prices between Group companies are decided according to the arm's length principle. The functions and risks of all Group companies are analyzed and periodically monitored to ensure profits are allocated on the basis of the contributions of each company.

5. Tax Incentives and Tax Havens

Tax deductions and incentives in each country and region are utilized in a manner that accords with our business objectives, and we strive to pay all appropriate levels of tax. Business activities are conducted in accordance with appropriate tax structures in line with our business objectives; we do not specifically conduct transactions or other activities in low tax countries or tax havens. In addition, we strive to eliminate double taxation by utilizing the prevailing relief systems and tax treaties in each country and region. Situations where the tax position is uncertain are documented in accordance with proper accounting standards.

6. Ensuring tax transparency

KIOXIA Group supports the reform of international taxation proposed by the OECD and the G20. Furthermore, in accordance with the process by which information is exchanged between tax authorities in regions where Group companies are situated, we submit country by country reports and master files according to regulations in each country or region. We strive to ensure tax transparency by providing the information required for tax reporting and payment in a timely and appropriate manner.

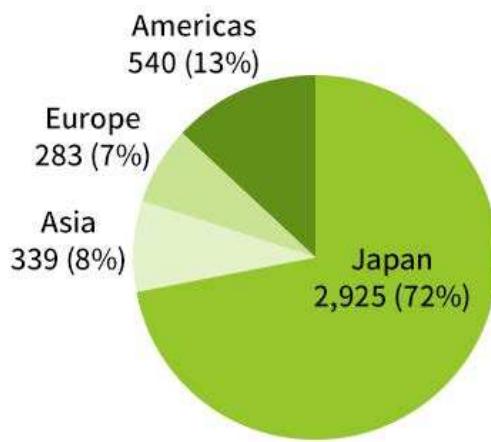
7. Relationships with Tax Authorities

KIOXIA seeks to maintain good relationships based on mutual trust with the tax authorities overseeing each country and region. We respond to requests from tax authorities with honest and accurate representations of the facts.

Tax Governance (Structure)



Corporate Tax Paid by Region (millions of yen, FY2021)



Risk Management through Business Continuity Planning (BCP)

KIOXIA Group identifies, analyzes and assesses business risks and strengthens risk management across all areas of its business in order to prevent interruptions to our operations in times of emergency, such as earthquakes or other natural disasters, accidents, or pandemics. The Group has stipulated business continuity planning regulations in accordance with our BCP Policy, and implemented measures to ensure the safety of employees and their families and ensure disaster readiness at our business sites and factories. We conduct practical training and prepare for emergencies so that we can continue or quickly resume delivering products and services in the event of damage or loss.

We have initiated business continuity planning at KIOXIA Group manufacturing, sales, and technical bases as well as at administrative bases. However, in response to various changes in the social environment, we are further reinforcing our supply chain management and strengthening ties between other committees, including the Information Security Committee and Quality Conference Committee, in order to promote business continuity planning that spans companies throughout the entire KIOXIA Group.

[Securing Supply from the Supply Chain in the Business Continuity Plan](#)

GRI Content Index

This material references the GRI Standards: Core option.

General Disclosures

GRI Content Index		Disclosure	Location in CSR report
GRI 102 : General Disclosures 2016	1. Organizational profile		
	102-1	Name of the organization	Company information
	102-2	Activities, brands, products, and services	Company information
	102-3	Location of headquarters	Company information
	102-4	Location of operations	Company information
	102-5	Ownership and legal form	Company information
	102-6	Markets served	Company information Stakeholder Engagement
	102-7	Scale of the organization	Company information
	102-8	Information on employees and other workers	Company information Diversity Promotion
	102-9	Supply chain	Major sustainability issues and initiatives in the value chain Sustainable Supply Chain
	102-10	Significant changes to the organization and its supply chain	—

	102-11	Precautionary Principle or approach	Risk and Compliance Environmental Management
	102-12	External initiatives	Messages to Stakeholders Sustainability Management Environmental Management Climate Change Respect for Human Rights
	102-13	Membership of associations	Sustainability Management Sustainable Supply Chain
2. Strategy			
	102-14	Statement from senior decision-maker	Message from the Management Messages to Stakeholders
	102-15	Key impacts, risks, and opportunities	Sustainability Materiality Climate Change Risk and Compliance
3. Ethics and integrity			
	102-16	Values, principles, standards, and norms of behavior	Mission & Vision Standards of Conduct for KIOXIA Group
	102-17	Mechanisms for advice and concerns about ethics	Risk and Compliance Respect for Human Rights
4. Governance			
	102-18	Governance structure	Sustainability Management Corporate Governance
	102-19	Delegating authority	Sustainability Management Risk and Compliance
	102-20	Executive-level responsibility for economic, environmental, and social topics	Sustainability Management

	102-21	Consulting stakeholders on economic, environmental, and social topics	<u>Sustainability Management Stakeholder Engagement</u>
	102-22	Composition of the highest governance body and its committees	<u>Corporate Governance</u>
	102-23	Chair of the highest governance body	—
	102-24	Nominating and selecting the highest governance body	—
	102-25	Conflicts of interest	<u>Standards of Conduct for KIOXIA Group</u>
	102-26	Role of highest governance body in setting purpose, values, and strategy	<u>Corporate Governance</u>
	102-27	Collective knowledge of highest governance body	<u>Sustainability Management</u> <u>Corporate Governance</u>
	102-28	Evaluating the highest governance body's performance	—
	102-29	Identifying and managing economic, environmental, and social impacts	<u>Sustainability Management</u> <u>Corporate Governance</u>
	102-30	Effectiveness of risk management processes	<u>Corporate Governance</u> <u>Risk and Compliance</u>
	102-31	Review of economic, environmental, and social topics	<u>Corporate Governance</u> <u>Sustainability Management</u>
	102-32	Highest governance body's role in sustainability reporting	<u>Corporate Governance</u> <u>Sustainability Management</u> <u>Environmental Management</u>
	102-33	Communicating critical concerns	<u>Sustainability Management</u> <u>Corporate Governance</u> <u>Risk and Compliance</u>

	102-34	Nature and total number of critical concerns	Risk and Compliance
	102-35	Remuneration policies	—
	102-36	Process for determining remuneration	—
	102-37	Stakeholders' involvement in remuneration	—
	102-38	Annual total compensation ratio	—
	102-39	Percentage increase in annual total compensation ratio	—
5. Stakeholder engagement			
	102-40	List of stakeholder groups	Stakeholder Engagement
	102-41	Collective bargaining agreements	Stakeholder Engagement
	102-42	Identifying and selecting stakeholders	Stakeholder Engagement
	102-43	Approach to stakeholder engagement	Stakeholder Engagement
	102-44	Key topics and concerns raised	Sustainability Materiality Stakeholder Engagement
6. Reporting practice			
	102-45	Entities included in the consolidated financial statements	Company information
	102-46	Defining report content and topic Boundaries	Sustainability Reporting Policy

	102-47	List of material topics	Sustainability Materiality
	102-48	Restatements of information	N/A
	102-49	Changes in reporting	N/A
	102-50	Reporting period	Sustainability Reporting Policy
	102-51	Date of most recent report	Sustainability Reporting Policy
	102-52	Reporting cycle	Sustainability Reporting Policy
	102-53	Contact point for questions regarding the report	Company information
	102-54	Claims of reporting in accordance with the GRI Standards	Sustainability Reporting Policy
	102-55	GRI content index	GRI Content Index SASB Content Index
	102-56	External assurance	Third-party Verification
GRI 103 : Management Approach 2016	103-1	Explanation of the material topic and its Boundary	Messages to Stakeholders Sustainability Materiality
	103-2	The management approach and its components	Sustainability Materiality
	103-3	Evaluation of the management approach	Sustainability Management

Material topics

Economic

GRI Content Index	Disclosure	Location in CSR report
GRI 201 : Economic Performance 2016		
201-1	Direct economic value generated and distributed	—
201-2	Financial implications and other risks and opportunities due to climate change	Climate Change
201-3	Defined benefit plan obligations and other retirement plans	Diversity Promotion
201-4	Financial assistance received from government	—
GRI 202 : Market Presence 2016		
202-1	Ratios of standard entry level wage by gender compared to local minimum wage	—
202-2	Proportion of senior management hired from the local community	—
GRI 203 : Indirect Economic Impacts 2016		
203-1	Infrastructure investments and services supported	Supporting Local Community Development
203-2	Significant indirect economic impacts	—

GRI 204 : Procurement Practices 2016		
204-1	Proportion of spending on local suppliers	Sustainable Supply Chain
GRI 205 : Anti-corruption 2016		
205-1	Operations assessed for risks related to corruption	Risk and Compliance
205-2	Communication and training about anti-corruption policies and procedures	Risk and Compliance
205-3	Confirmed incidents of corruption and actions taken	Risk and Compliance
GRI 206 : Anti-competitive Behavior 2016		
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Risk and Compliance

Environmental

GRI Content Index	Disclosure	Location in CSR report
GRI 301 : Materials 2016		
301-1	Materials used by weight or volume	—
301-2	Recycled input materials used	Water Risk Management Current Status of Environmental Impact and Environmental Targets and Outcomes
301-3	Reclaimed products and their packaging materials	Current Status of Environmental Impact and Environmental Targets and Outcomes

GRI 302 : Energy 2016		
302-1	Energy consumption within the organization	<u>Climate Change</u>
302-2	Energy consumption outside of the organization	<u>Climate Change</u>
302-3	Energy intensity	<u>Climate Change</u>
302-4	Reduction of energy consumption	<u>Climate Change</u>
302-5	Reductions in energy requirements of products and services	<u>Contributing to the Environment through Our Products</u>
GRI 303 : Water 2016		
303-1	Water withdrawal by source	<u>Current Status of Environmental Impact and Environmental Targets and Outcomes</u>
303-2	Water sources significantly affected by withdrawal of water	<u>Water Risk Management</u>
303-3	Water recycled and reused	<u>Current Status of Environmental Impact and Environmental Targets and Outcomes</u> <u>Water Risk Management</u>
GRI 304 : Biodiversity 2016		
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	<u>Biodiversity Preservation</u>

	304-2	Significant impacts of activities, products, and services on biodiversity	—
	304-3	Habitats protected or restored	Biodiversity Preservation
	304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	—
GRI 305 : Emissions 2016			
	305-1	Direct (Scope 1) GHG emissions	Climate Change
	305-2	Energy indirect (Scope 2) GHG emissions	Climate Change
	305-3	Other indirect (Scope 3) GHG emissions	Climate Change
	305-4	GHG emissions intensity	Climate Change
	305-5	Reduction of GHG emissions	Current Status of Environmental Impact and Environmental Targets and Outcomes
	305-6	Emissions of ozone-depleting substances (ODS)	—
	305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	Current Status of Environmental Impact and Environmental Targets and Outcomes
GRI 306 : Effluents and Waste 2016			

	306-1	Water discharge by quality and destination	Current Status of Environmental Impact and Environmental Targets and Outcomes Water Risk Management
	306-2	Waste by type and disposal method	Current Status of Environmental Impact and Environmental Targets and Outcomes
	306-3	Significant spills	Environmental Protection System
	306-4	Transport of hazardous waste	—
	306-5	Water bodies affected by water discharges and/or runoff	Water Risk Management
GRI 307 : Environmental Compliance 2016			
	307-1	Non-compliance with environmental laws and regulations	Environmental Protection System
GRI 308 : Supplier Environmental Assessment 2016			
	308-1	New suppliers that were screened using environmental criteria	Sustainable Supply Chain
	308-2	Negative environmental impacts in the supply chain and actions taken	Sustainable Supply Chain

Social

	GRI Content Index	Disclosure	Location in CSR report
		GRI 401 : Employment 2016	
Material topics	401-1	New employee hires and employee turnover	Diversity Promotion

	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	—
	401-3	Parental leave	Diversity Promotion
GRI 402 : Labor/Management Relations 2016			
	402-1	Minimum notice periods regarding operational changes	—
GRI 403 : Occupational Health and Safety 2016			
	403-1	Workers representation in formal joint management-worker health and safety committees	Occupational Health and Safety
	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	Occupational Health and Safety
	403-3	Workers with high incidence or high risk of diseases related to their occupation	Occupational Health and Safety
	403-4	Health and safety topics covered in formal agreements with trade unions	Occupational Health and Safety
GRI 404 : Training and Education 2016			
	404-1	Average hours of training per year per employee	Talent Development
	404-2	Programs for upgrading employee skills and	Talent Development

	transition assistance programs	
404-3	Percentage of employees receiving regular performance and career development reviews	Talent Development
GRI 405 : Diversity and Equal Opportunity 2016		
405-1	Diversity of governance bodies and employees	Management Diversity Promotion
405-2	Ratio of basic salary and remuneration of women to men	—
GRI 406 : Non-discrimination 2016		
406-1	Incidents of discrimination and corrective actions taken	Risk and Compliance Respect for Human Rights
GRI 407 : Freedom of Association and Collective		
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Stakeholder Engagement Sustainable Supply Chain
GRI 408 : Child Labor 2016		
408-1	Operations and suppliers at significant risk for incidents of child labor	Respect for Human Rights Sustainable Supply Chain
GRI 409 : Forced or Compulsory Labor 2016		
409-1	Operations and suppliers at significant risk for	Respect for Human Rights Sustainable Supply Chain

	incidents of forced or compulsory labor	
GRI 410 : Security Practices 2016		
410-1	Security personnel trained in human rights policies or procedures	Respect for Human Rights
GRI 411 : Rights of Indigenous Peoples 2016		
411-1	Incidents of violations involving rights of indigenous peoples	N/A
GRI 412 : Human Rights Assessment 2016		
412-1	Operations that have been subject to human rights reviews or impact assessments	Sustainability Materiality Respect for Human Rights
412-2	Employee training on human rights policies or procedures	Respect for Human Rights
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	N/A
GRI 413 : Local Communities 2016		
413-1	Operations with local community engagement, impact assessments, and development programs	Supporting Local Community Development
413-2	Operations with significant actual and potential negative impacts on local communities	N/A

GRI 414 : Supplier Social Assessment 2016		
414-1	New suppliers that were screened using social criteria	<u>Sustainable Supply Chain</u>
414-2	Negative social impacts in the supply chain and actions taken	<u>Sustainable Supply Chain</u>
GRI 415 : Public Policy 2016		
415-1	Political contributions	<u>Risk and Compliance</u>
GRI 416 : Customer Health and Safety 2016		
416-1	Assessment of the health and safety impacts of product and service categories	<u>Quality Control</u>
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	<u>Quality Control</u>
GRI 417 : Marketing and Labeling 2016		
417-1	Requirements for product and service information and labeling	<u>Current Status of Environmental Impact and Environmental Targets and Outcomes Contributing to the Environment through Our Products</u>
417-2	Incidents of non-compliance concerning product and service information and labeling	—
417-3	Incidents of non-compliance concerning	—

		marketing communications	
GRI 418 : Customer Privacy 2016			
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	<u>Risk and Compliance</u>	
GRI 419 : Socioeconomic Compliance 2016			
419-1	Non-compliance with laws and regulations in the social and economic area	N/A	

SASB Content Index

Greenhouse Gas Emissions

Accounting Metric	(1) Gross global Scope1 emissions (2) amount of total emissions from perfluorinated compounds
Code	TC-SC-110a.1
KIOXIA Metric/Qualitative Disclosure	(1) Scope1 (Direct emissions) :694,000tCO ₂ -e (2) 619,000tCO ₂ -e
Location	Greenhouse gases emissions from our entire value chain
Accounting Metric	Discussion of long-term and short-term strategy or plan to manage Scope1 emissions, emissions reduction targets, and an analysis of performance against those targets
Code	TC-SC-110a.2
KIOXIA Metric/Qualitative Disclosure	<p>KIOXIA Group's manufacturing sites implement energy-saving measures aimed at reducing energy consumption and aim every year to reduce by 1% the previous year's total energy consumption (SCOPE2), based on Japan's Energy Saving Act.</p> <p>In FY2021 we achieved our goal of reducing energy use through various energy-saving activities, recording an actual reduction of 29,652 tons of CO₂ emissions per year against a target reduction of at least 23,313 tons of CO₂ emissions. Over the past 11 years, the result of our energy conservation programs was a cumulative reduction of approximately 210,000 tons of CO₂ emissions.</p> <p>Moreover, we have set the long-term goal of using 100% renewable energy by FY2040. By considering the creation of an energy portfolio that includes energy conservation activities and non-fossil certificates,⁴ we will work to secure the optimal and stable procurement of renewable energy in line with our business expansion. We plan to install facilities that will allow the use of renewable energy in our factories, and to use carbon-neutral city gas in facilities.</p> <p>As for greenhouse gases (SCOPE1) from direct emissions from our company, we are proactive in the installation of abatement</p>

	equipment to deal with PFCs – greenhouse gases with high global warming potential. The installation of 160 items of PFCs abatement equipment in FY2021 led to a reduction of 610,000 tons of CO ₂ emissions. From FY2011 onwards, we installed PFCs abatement equipment on 100% of the target facilities and reduced CO ₂ emissions by 3,770,000 tons over the four years between FY2017 and FY2021.
Location	Climate Change

Energy Management in Manufacturing

Accounting Metric	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable
Code	TC-SC-130a.1
KIOXIA Metric/Qualitative Disclosure	(1) 4,600,700MWh (2) 96.9% (3) 0.02%
Location	Result of energy consumption and greenhouse gases emissions from business operations

Water Management

Accounting Metric	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress
Code	TC-SC-140a.1
KIOXIA Metric/Qualitative Disclosure	(1) 24,417 thousand m ³ (Industrial water) (2) 5,972 thousand m ³ KIOXIA Group has commissioned outside experts to evaluate

	<p>water-related risks from the perspective of water supply and demand risks.</p> <p>The outcome of the assessment of our manufacturing operations was confirmation that these are not exposed to any water risk likely to have any practical financial or strategic impact prior to the year 2040.</p> <p>This assessment was based on investigations into such matters as the water supply and demand risk (based on the status of seasonal changes, drought frequency, water storage capacity and water source protection), water disaster risk (such as flooding or landslide sediment damage) and regional vulnerability to water pollution that might endanger public health or ecosystems.</p>
Location	Current Status of Environmental Impact

Waste Management

Accounting Metric	Amount of hazardous waste from manufacturing, percentage recycled
Code	TC-SC-150a.1
KIOXIA Metric/Qualitative Disclosure	<p>(1) Wastes generated amount: 13,400t</p> <p>(2) Recycled rate: 91%</p> <p>The above hazardous wastes are aggregated as “specially-controlled industrial wastes” under the Waste Management and Public Cleansing Act in Japan.</p>
Location	Current Status of Environmental Impact

Employee Health & Safety

Accounting Metric	Description of efforts to assess, monitor, and reduce exposure of employees to human health hazards
Code	TC-SC-320a.1
KIOXIA Metric/Qualitative Disclosure	KIOXIA Group acquired occupational health and safety management systems certification (ISO 45001:2018) in 2021.
Location	Occupational Health and Safety
Accounting Metric	Total amount of monetary losses as a result of legal proceedings associated with employee health and safety violations
Code	TC-SC-320a.2
KIOXIA Metric/Qualitative Disclosure	None.
Location	-

Recruiting & Managing a Global & Skilled Workforce

Accounting Metric	Percentage of employees that are (1) foreign nationals and (2) located offshore
Code	TC-SC-330a.1

KIOXIA Metric/Qualitative Disclosure	KIOXIA Group does not disclose the percentage of foreign nationals. We embed a respect for diversity in our Standards of Conduct and fosters a culture that enables a diverse range of employees to play active roles irrespective of race, religion, gender, nationality, disability, age or sexual orientation. KIOXIA Group seeks to advance diversity as an effort of the entire group. To implement this, we have assigned the Executive Officer in charge of personnel as the promotion personnel and KIOXIA Holdings' Human Resources & Administration Division as the promotion organization.
Location	Diversity Promotion Policy and Management Structure
Accounting Metric	Percentage of employee engagement
Code	TC-SI-330a.2
KIOXIA Metric/Qualitative Disclosure	KIOXIA Group regularly conducts surveys aimed at soliciting the opinions of employees. Each department is given feedback on the results, which are also closely examined by Executive Officers, including the President and the head of every department, and used as a basis for the discussion of measures to enhance engagement. In FY2021, we conducted an anonymous survey targeting about 13,000 employees, and received responses from approximately 92% of them.
Location	Employee Engagement Survey

Product Lifecycle Management

Accounting Metric	Percentage of products by revenue that contain IEC 62474 declarable substances
Code	TC-SC-410a.1

KIOXIA Metric/Qualitative Disclosure	KIOXIA Group does not disclose the percentage defined by this metric.
Location	None.
Accounting Metric	Processor energy efficiency at a system-level for: (1) servers, (2) desktops, and (3) laptops
Code	TC-SC-410a.2
KIOXIA Metric/Qualitative Disclosure	Not applicable.
Location	-

Materials Sourcing

Accounting Metric	Description of the management of risks associated with the use of critical materials
Code	TC-SC-440a.1
KIOXIA Metric/Qualitative Disclosure	<p>KIOXIA Group has been promoting the responsible minerals sourcing based on the KIOXIA Group Responsible Minerals Procurement Policy.</p> <p>Our policy stipulates that KIOXIA Group will not use as raw materials 3TG or cobalt obtained from other conflict-afflicted and high-risk areas (commonly known as CAHRAs) where inhumane acts such as human trafficking, slavery, forced labor, child labor, abuse, or war crimes are suspected.</p>
Location	KIOXIA Group Responsible Minerals Sourcing Policy

Intellectual Property Protection & Competitive Behavior

Accounting Metric	Total amount of monetary losses as a result of legal proceedings associated with anticompetitive behavior regulations
Code	TC-SC-520a.1
KIOXIA Metric/Qualitative Disclosure	None.
Location	-

Third-party Verification

In order to improve the reliability of the environmental performance data, KIOXIA Group requested Japan Audit and Certification Organization for Environment and Quality to provide third-party verification, and the details are as follows.

1. Scope of the verification :

GHG (greenhouse gas) emissions generated in four sites of KIOXIA in Japan
(Scopes 1, 2 and 3)

2. Scope period :

FY2020 (April 1, 2020 to March 31, 2021)

3. Verified greenhouse gas emissions :

Scope1 652 kt-CO₂, Scope2 1,713 kt-CO₂, Scope3 14 kt-CO₂



[Third-party assurance report by Japan Audit Certification Organization for Environment and Quality \(PDF: 374KB\)](#)

KIOXIA

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KIOXIA Holdings Corporation

1-21, Shibaura 3-Chome, Minato-ku, Tokyo 108-0023, Japan
+81-(0)3-6478-2500 (Main phone number)
www.kioxia-holdings.com