Sustainability Data Book 2022

Panasonic Group

Panasonic Group

Sustainability Data Book 2022

About the Sustainability Data Book 2022

Panasonic Group reports on sustainability through our Sustainability page on our website and this Sustainability Data Book. Regarding environmental activities, we select main topics for this report from the contents on the website such as policy, our approach, and performance data. For themes that have been omitted, for specific examples of initiatives, and more details generally, please refer to the Panasonic Sustainability website. Also, top management insights about sustainability is disclosed on Annual Report (an integrated report).

WEB **Sustainability Site:**
https://holdings.panasonic/global/corporate/sustainability.html

WEB **Annual Report:**
https://holdings.panasonic/global/corporate/investors/library/annual-report.html

Scope of Reporting

Except when noted otherwise, results are calculated based on the following:

■ **Period:** Fiscal 2022 (April 1, 2021 to March 31, 2022)

■ **Organization:** Panasonic Group (former Panasonic Corporation and its consolidated subsidiaries), not included: Ficosa International S.A., a consolidated subsidiary since April 2017 and its consolidated subsidiaries.

■ **Data:**

- Data concerning manufacturing business sites cover all the manufacturing business sites (totaling 238) that constitute the Panasonic Group's environmental management system
- Data for which the fiscal year and region are not expressly stated are global results for fiscal 2022

Assurances

Main data relating to the environment have been assured by LRQA Limited. For details on the indicators covered by the assurance, please refer to the Independent Assurance Report on P130
Assured indicators are marked with ★.

Reference Guidelines

- Reporting requirements of the GRI Standards
- Japanese Ministry of the Environment, "Environmental Reporting Guidelines 2018"

Structure of Reporting on Sustainability Initiatives

Panasonic Group site

WEB **Group CEO's Message**
https://holdings.panasonic/global/corporate/about/message.html

WEB **The Basic Business Philosophy of the Panasonic Group**
https://holdings.panasonic/global/corporate/about/philosophy.html

WEB **Panasonic Group Code of Ethics & Compliance**
https://holdings.panasonic/global/corporate/about/code-of-conduct.html

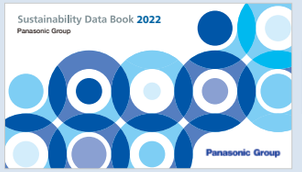
WEB **Corporate Governance**
https://holdings.panasonic/jp/corporate/about/group-companies/phd/corporate-governance.html

Sustainability Site

Provides comprehensive reports on information about the company's initiatives, attitudes and annual activities concerning Environmental, Social and Governance.

Sustainability Databook

Primarily reports on themes and data of particularly high interest to stakeholders.



ESG themes (Excerpts, links, etc.)

Sustainability Site

Mainly intended for investors. Releases information on business strategy, ¬financial situation, and non-financial information.

Annual Report
(an integrated report)

Annual Report

Basics

Sustainability Data Book 2022

Sustainability Data Book 2022 Contents

Sustainability Data Book 2022

Corporate Profile

as of March 31, 2022

Company Name: Panasonic Corporation

Company Headquarters:
1006 Oaza Kadoma, Kadoma City,
Osaka 571-8501, Japan
Tel: +81-6-6908-1121

Incorporated: December 15, 1935

Founded: March 7, 1918

President: Yuki Kusumi

Common Stock: 259.2 billion yen

FY2022 Financial Result

Net sales 7,388.8 billion yen

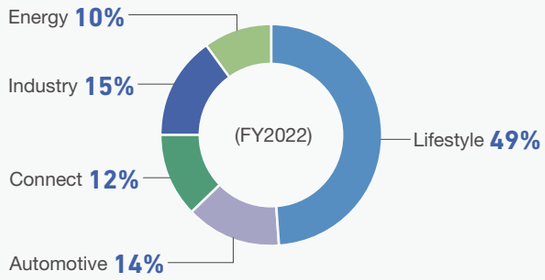
Operating profit 357.5 billion yen

Profit before income taxes 360.4billion yen

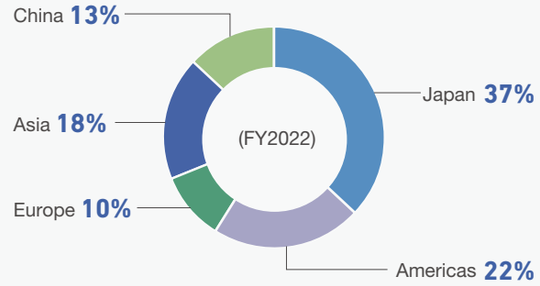
Net profit attributable to Panasonic Corporation stockholders 255.3 billion yen

Number of Employees 240,198

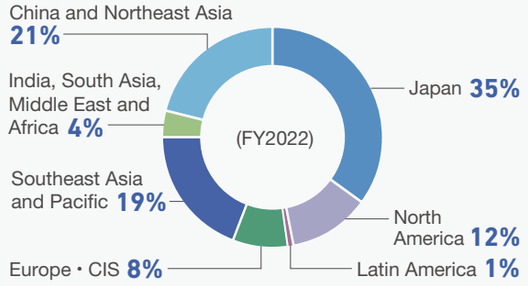
Sales by Segment



Sales by Region



Employees by Region



Main Products and Services

The Panasonic Group's major products and services, by segment, are as follows:

Lifestyle

Refrigerators, microwave ovens, rice cookers, washing machines, vacuum cleaners, personalcare products, air-conditioners for residential, and commercial use, air to water heat pump system, ventilation, perflation and airconditioning equipment, air purifiers, air purifier/sterilizers, freezing or refrigerating showcases, lighting fixtures, lamps, wiring devices, solar photovoltaic systems, fuel cells, compressors, bicycles, nursing care services

Connect

Aircraft in-flight entertainment systems and communications services, electroniccomponents-mounting machines, welding equipment, projectors, professional AV systems, PCs and tablets, solutions for various industries, installation/operation/maintenance services, supply chain management software

Energy

Cylindrical lithium-ion batteries for in-vehicle use, dry batteries, primary/secondary lithium batteries, nickel-metal hydride batteries, lithium-ion batteries, storage battery modules/systems

Automotive

Automotive-use infotainment systems, head-up displays, automotive speakers, automotive switches, advanced driver assistance systems (ADAS) and related devices, systems and devices for xEVs, Interior rearview mirrors

Industry

Relays, switches, power supplies, touch panels, motors, sensors, laser markers, capacitors, inductors, resistors, circuit board materials, semiconductor device materials, molding compounds, LCD panels

Other (businesses not included in reportable segments)

TV, digital camera, video equipment, audio equipment, telephone, intercom, kitchen & bath, interior furnishing materials, exterior furnishing materials

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Philosophy

Our Approach to Sustainability Management

Our mission is contributing to advances in world culture by improving society through the products we make and sell. Panasonic Group's Basic Management Objective articulates the purposes of our business activities and our existence.

At Panasonic Group, we hold the idea that "the corporation is a public entity of society" as foundational. All corporate management resources—including the people, money, and commodities—come from society. Since companies engage in business using the resources society has entrusted to them, they must develop in step with society, and corporate activities must be transparent, fair, and just.

The entire Panasonic Group meticulously ensures that our management and business activities are becoming of a "public entity of society." We aim to build an ideal society with affluence both in matter and mind through our business. Moreover, the Panasonic Group's sustainability management means that we operate by our Basic Business Philosophy, the very core we need to achieve our mission. As we stand at historical turning points in many areas today—society, the economy, and the global environment—the Panasonic Group is committed to promoting sustainability management globally and contributing to the world's future with suggestions for tomorrow's lifestyles.

Basic Management Objective

Recognizing our responsibilities as industrialists, we will devote ourselves to the progress and development of society and the well-being of people through our business activities, thereby enhancing the quality of life throughout the world.

Konosuke Matsushita "Practical Management Philosophy"

Published in June 1978

"The definition of 'corporate social responsibility' may differ widely depending on the social situation at the time it is being defined, but there is a fundamental social responsibility that we all share, which is to contribute to the improvement of people's lives through our business activities. It is of vital importance that all business activities are conducted with this mission statement in mind."

Founder
Konosuke Matsushita

The Promotion of Sustainability Management

The Panasonic Group has established the Basic Business Philosophy, which serves as its basic approach, and conducts its business based on this policy.

Unraveling the Basic Business Philosophy from an ESG perspective, it stipulates from the perspective of the environment and society that we make unparalleled contributions to solving global environmental problems, including climate change, and to the physical and spiritual health and well-being of people. Additionally, we will return the profits we obtain to the society and invest in further contributions. From the perspective of governance that sustains such contribution to the environment and society, the BBP also stipulates autonomous responsible management, the practice of each employee's entrepreneurship, maximizing human resources and management based on collective wisdom, and the principle of "Fairness and Honesty" including the compliance.

We will maintain and expand our contribution to the Earth and society through the actions of each and every employee, and we will strive to expand our contributions even further. This is what the Basic Business Philosophy aims for, and we believe that this is also the key to sustainability in management itself.

The Advancement of Sustainability Management

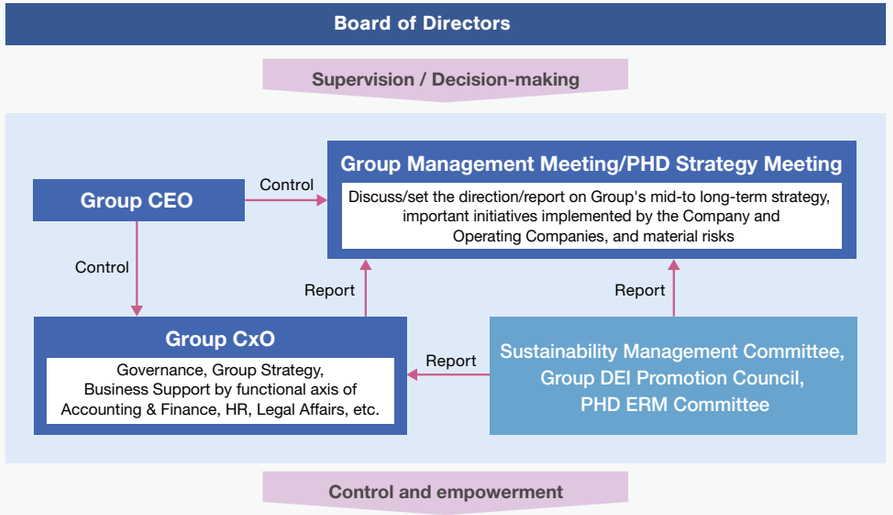
In April 2022, the Panasonic Group transitioned to an operational company system (holding company system) in order to thoroughly implement autonomous responsible management and strengthen the competitiveness of our business from a medium- to long-term perspective.

Each Operating Company, which will be spun off as a result of the transition to an operating company system, will be able to make decisions quickly in response to changes in the external environment and flexibly design systems according to business characteristics, etc., with greatly expanded authority and responsibilities, thus significantly strengthen our competitiveness.

The holding company monitors non-financial indicators, or competitiveness KPIs, to enhance the competitiveness of each Operational Company.

In addition, various committees were set up to deal with the group's major issues, and in these committees, we openly discuss and set the direction for specific measures, actively support the strengthening of the competitiveness of each Operational Company, and develop growth strategies from a Group-wide perspective. Through those activities, we strive to improve corporate value as a group.

The Promotion Structure of Sustainability Management (as of Aug. 2022)



- Group Management Meeting: Chaired by Group CEO, consisting of about 20 Executive members including the presidents of Operating Companies, heads of each function (held monthly in principle)
- PHD Strategy Meeting: chaired by Group CEO, consisting of ca. 10 Executive members, including the head of functions such as HR, accounting, legal, and others (held twice a month in principle)
- PHD: Panasonic Holdings Corporation
- ERM: Enterprise Risk Management

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Respecting Global Standards, Norms, Guidelines, and Initiatives

Panasonic Group conducts its business based on global standards, specifications, norms, guidelines, and various initiatives. The Panasonic Group signed the ten principles of United Nations Global Compact.

These concepts are reflected in the Basic Business Philosophy and the Panasonic Group Code of Ethics & Compliance that form the guidelines for the company's business activities.

Global Standards, Norms, Guidelines and Initiatives

Universal Declaration of Human Rights	United Nations Global Compact	Industry specifi¬c codes of conduct, such as the Responsible Business Alliance (RBA), and others
OECD (Organisation for Economic Co-operation and Development) Guidelines for Multinational Enterprises	ISO26000	Japan Business Federation (Keidanren) Charter of Corporate Behavior
ILO Fundamental Labour Standards	Guiding Principles on Business and Human Rights	Global Reporting Initiative (GRI)

In addition, Panasonic Holdings Co., Ltd. has joined the Responsible Business Alliance (RBA) as the Panasonic Group in order to strengthen CSR procurement initiatives in the supply chain.

Promoting Initiatives Based on Dialogues with Stakeholders

Panasonic Group conducts dialogues with its wide range of stakeholders around the world—including customers, investors, suppliers, governments, industry bodies, NPOs, NGOs, local communities, and employees—on various aspects of its business. The company incorporates the opinions it receives into its business activities and product creation.

Sustainability Data Book 2022

Environment

Policy

Contributing to society has been the management philosophy for the Panasonic Group ever since its founding, and we have been taking measures against pollution since the 1970s. We announced the Environmental management basic policy in 1991, and the Environmental Statement in 1993, clarifying our approaches to address global environmental issues as a public entity of society. Since then we have been carrying out initiatives including matters on global warming prevention and resources recycling corporate-wide, aiming to attain a sustainable, safe, and secure society.

After the completion of the Green Plan 2010 which was established in 2001, the Green Plan 2018 was established in 2010 to clarify our targets for fiscal 2019 (from April 1, 2018 to March 31, 2019) as well as an action plan for all employees in order to achieve the targets. The Green Plan 2018 will continue our initiatives in five areas: CO_2 reduction, resources recycling, water, chemical substances, and biodiversity.

In 2013, we introduced a new brand slogan, “A Better Life, A Better World,” aiming to realize a better life for all its customers, and is promoting environmental initiatives as an important element in achieving that goal. Based on this, the Green Plan 2018 was revised in 2013, followed by the newly-established Environmental Action Guideline.

Furthermore, in response to rising demand by the society for CO_2 reductions following the 21st session of the Conference of the Parties (COP21) of the United Nations Conference on Climate Change, and to the need to make changes to our business structure, including growth in the automotive and B2B businesses, the Plan was revised again in 2016.

Additionally, we formulated the Environment Vision 2050 in 2017 to achieve “a better life” and “a sustainable global environment,” aiming for a society with clean energy and a more comfortable lifestyle. Under the Vision, through the development of products, technologies, and solutions relating to energy creation, storage, saving, and management, we will work towards creation and more efficient utilization of energy which exceeds the amount of energy used.

Environment

We announced Green Plan 2021 in 2019, following completion of Green Plan 2018, with a focus on key issues for achieving the Panasonic Environment Vision 2050, and we have been working on the issues. On January 2022, we announced Panasonic GREEN IMPACT founded based on Panasonic Group's belief that the top priority action for the entire Group should be focused on global environment issues including climate change, which is a pressing task for the entire world.

The Panasonic GREEN IMPACT is the result of a shift from the Panasonic Environment Vision 2050, with the aim of achieving carbon neutrality together with creating impacts from actions (ACT) that reduce CO_2 emissions from Panasonic Group as well as from various sectors of the society. To achieve Panasonic GREEN IMPACT, we are working on initiatives under our newly developed GREEN IMPACT PLAN 2024.

Environmental Policy

Environmental Statement

Fully aware that humankind has a special responsibility to respect and preserve the delicate balance of nature, we at Panasonic acknowledge our obligation to maintain and nurture the ecology of this planet. Accordingly, we pledge ourselves to the prudent, sustainable use of the earth's resources and the protection of the natural environment while we strive to fulfill our corporate mission of contributing to enhanced prosperity for all.

Environmental Action Guideline

Toward achieving a sustainable society, we will strive to develop our business through the creation of environmental value. For this purpose, we will address environmental challenges through our business activities and will expand our environmental initiatives based on collaboration with stakeholders.

(1) Initiatives to address environmental challenges
- We will reduce CO_2 emissions through production activities and products/services.
- We will work to efficiently use resources by pursuing Recycling-oriented Manufacturing.
- We will conserve water resources through efficient use of water and prevention of contamination.
- We will reduce the impact of chemical substances on human health and the environment.
- We will consider and conserve biodiversity.

(2) Initiatives based on collaboration with stakeholders
- We will provide products and services that create environmental value for customers with our technical strengths.
- We will expand our environmental contributions with our partner companies.
- We will deepen communications with local communities and work as a team to address environmental challenges.

Environmental Action Plan

Green Plan 2021 (see pages 12-13)
GREEN IMPACT PLAN 2024 (see pages 10-11)

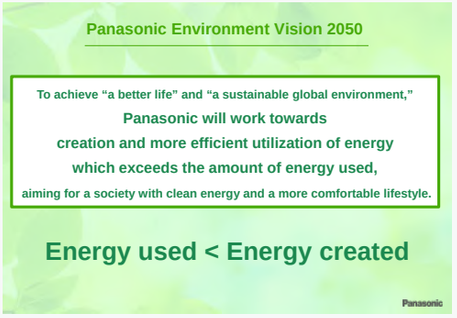
We strive to grow and develop our business through the creation of environmental value for customers with our technical strengths while each and every employee follows the Environmental Policy to address environmental challenges. Therefore, collaboration with stakeholders including our partners is essential. We will continue to sincerely work on environmental sustainability management through further collaboration with stakeholders.

Mid-term to Long-term Environmental Vision

From Panasonic Environment Vision 2050 to Panasonic GREEN IMPACT

Panasonic Group's "Environment Vision 2050" formulated in 2017 was to promote reductions in the amount of energy used, and at the same time to generate and utilize clean energy in amounts greater than the amount of energy used, with the aim to build a society in which residents can use clean energy and live a more comfortable and 'a better life' that coexists with 'a sustainable global environment'.

To be specific, we aimed to reduce the amount of 'energy used' by developing technologies that would improve the energy-saving performance of our products, and to introduce innovations to our manufacturing processes. At the same time, by expanding our energy-generation and storage businesses, we aimed to increase the amount of 'energy created' and provide more opportunities to utilize clean energy. We have challenged to ensure that the energy created exceeds the energy used by the year 2050.

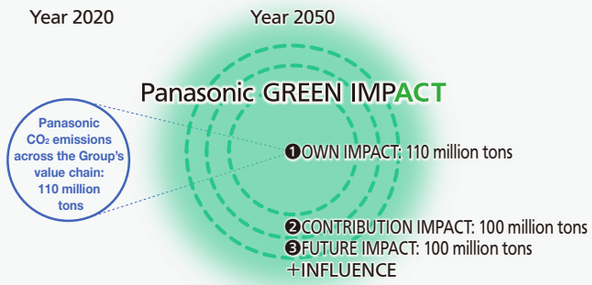


We believe that resolving global environmental issues including climate change is a top priority issue for our far-reaching mission to achieve an ideal society that 'satisfies both individual material life and mental health'. In January 2022, Panasonic Group published a long-term vision, "Panasonic GREEN IMPACT" regarding environment.

Facing our responsibilities to resolve environmental issues particularly on climate change, we have transformed "the Panasonic Environment Vision 2050" to "Panasonic GREEN IMPACT", i.e., transformed the activities for energy efficiency to activities in wider scope to reduce CO_2 emissions from Panasonic Group and societies with the aim of achieving carbon neutrality, in which the impacts of accumulation of each of our actions (ACT) reduce both our own CO_2 emissions and the emissions of various fields of society.

Panasonic GREEN IMPACT

To realize 'a better life' and 'a more sustainable global environment', the Panasonic Group will strive to achieve carbon neutrality together with society, by increasing impacts from various actions that will contribute to reduce CO_2 emissions of our own and of various fields of society.



By 2050, Panasonic Group aims to reduce CO_2 emissions by more than 300 million tons[*1], or 'about 1%' of the current total global emissions of 33.6 billion tons[*2] through our group business activities.

Our reduction of 300 million tons can be split into three types of impact.

1. OWN IMPACT: Moving faster to reduce CO_2 emissions by 110 million tons[*3] across Panasonic Group value chain. At the same time, achieving net zero CO_2 emissions in the Group together with a decarbonization effect on the whole of society by 2050.
2. CONTRIBUTION IMPACT: Contributing to a reduction of 100 million tons through customers energy reduction such as through expansion of sales of eco-conscious vehicles using automotive batteries, businesses of supply chain software, air quality and air conditioning, etc.
3. FUTURE IMPACT: Contributing to a reduction of 100 million tons in social energy transformation by creating new technologies and businesses in hydrogen energy and other fields.

Furthermore, we refer to the ripple effect of Panasonic Group's proactive initiatives on energy transformation in society through the three aforementioned impacts as "INFLUENCE", although we are not including its calculation results in our direct CO_2 reduction results as of now.

*1 33.6 billion tons of energy-related CO_2 emissions in 2019 (Source: IEA)
*2 Factors for calculating CO_2 emission are the 2020 factors.
*3 FY2021 result

Environment

Environmental Action Plan "GREEN IMPACT PLAN 2024"

We set specific target values such as for own CO_2 emissions reduction and contribution to society-wide CO_2 avoided emissions in "GREEN IMPACT PLAN 2024 (GIP2024) that is a three-year environmental action plan covering fiscal 2023 to fiscal 2025 as a milestone toward 2050 targets set in "the Panasonic GREEN IMPACT" which is Panasonic Group's long-term environmental vision.

The OWN IMPACT in the GIP2024 refers to the targets in Scopes 1, 2, and 3. We aim at a reduction of 16.34 million tons CO_2 emissions by fiscal 2025 from our current emissions of 110 million tons, while retaining business growth. We are particularly focusing on increasing the number of zero-CO_2 factories, where we aim at net zero CO_2 emissions from processes in manufacturing products, increasing the number of net zero CO_2 factories from nine in fiscal 2022 to 37 in fiscal 2025. In addition, the CONTRIBUTION IMPACT in the GIP2024 we aim to increase to 38.3 million tons by fiscal 2025 for the contribution to society-wide CO_2 avoided emissions.

Furthermore, we will reinforce our efforts to establish a Circular Economy (CE). One is for recycling ratio of factory wastes. In this area, we aim to normalize more than 99% of the recycling ratio across the world, through reviewing and modifying product designs, sorting recyclable materials without fail, etc., although some countries and regions still do not have an established waste handling method. For expansion of use of recycled plastics, we will increase their use amount in 3 years up to 90,000 tons which is more than double of the previous mid-term's (FY2020 to FY2022). We will also direct our efforts to create CE business models based on the relation map between existing businesses and a Circular Economy that we completed in the previous medium-term. As of fiscal 2022, we have six CE businesses, for example, business development of mixed cellulose plastics. We plan to increase these businesses to at least 13 by fiscal 2025, including subscription services for home appliances and sharing services for electrically assisted bicycles.

We also set the fiscal 2031 targets at the same time as the GIP2024. In addition to the activities to achieve net zero of the emissions from our offices and factories specified in Scope 1 and 2 as we published our commitment in May 2021, we will reduce emissions specified in Scope 3, by thorough energy saving in the area of Lifestyle Updates Businesses, aiming at 31.45 million ton reduction in the OWN IMPACT. Further, we aim to achieve 93 million tons of the contribution to CO_2 avoided emissions in the CONTRIBUTION IMPACT by fiscal 2031 by increasing competitiveness of our businesses focusing on' electrification', 'energy efficiency', and 'hydrogen' areas.

Although we have been making these efforts, there is no common method to calculate the contribution to CO_2 avoided emissions. In 10 years, a standard formula that uses a calculation method different from our own may have been established. In such case, we will review our method of the calculation and correct it if necessary to achieve the set targets in order, using the new formula and continue to build a carbon-neutral society as early as possible.

For the issues that we need to continue, we set targets taking account of the scale of such issues and empathy in society, to suit the characteristics and needs of our operating companies and communities.

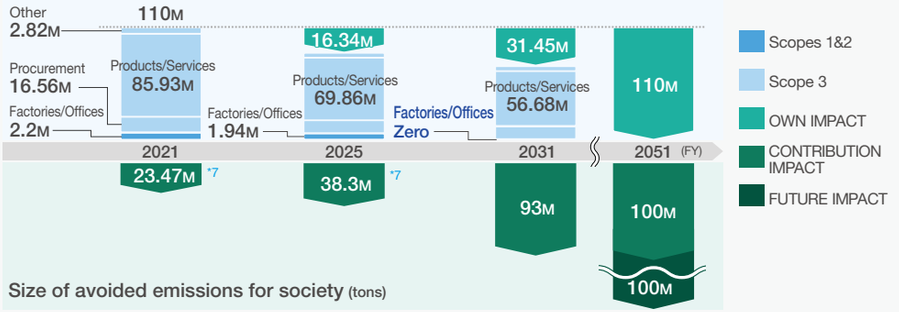
Environment

GREEN IMPACT PLAN 2024 and Fiscal 2031 Targets

	Item			Fiscal 2025 targets	Fiscal 2031 targets
Material issues	CO_2/ Energy	**OWN IMPACT** Emissions reduction in our own Value Chain		16.34 Mt*2	31.45 Mt*2
		Scope 1,2*1	Zero-CO_2 factories	37 factories	
			CO_2 reduction	260 kt*2	
		Scope 3*1	CO_2 reductions in customer product use	16.08 Mt*2	
		CONTRIBUTION IMPACT "Avoided emissions" (contribution to reducing CO_2 emissions for society) through existing businesses*3		38.3 Mt*3	
		Electrification: Use of non-fossil fuels and promoting environmentally friendly vehicles Energy efficiency: Efficiency and optimization of energy use Hydrogen: Dissemination of decarbonized energy Product replacement: Decarbonization effect of product replacement etc.		Electrification: 25.1 Energy efficiency: 6.3 Hydrogen: 0.6 Product replacement : 6.3 *3	93 Mt*3
	Resources /CE* *Circular Economy	Factory waste recycling ratio*4		99%	
		Recycled resin used*5 (fiscal 2023 to 2025 total)		90 kt	
		Circular economy business models and products		13 businesses*6	
Continuing challenge	Biodiversity	Reducing and restoring the impact of business activities on the ecosystem to become nature positive			
		Procurement of sustainable raw materials, businesses that contribute to biodiversity green spaces, and products and services that contribute to biodiversity			
	Water	Reduce Water consumption in business activities and products/services			
	Chemical substances	Reducing the environmental impact of chemical substance's business activities and products			
	Local communities	Promote environmental initiatives to contribute to local communities and educate the next generation			
	Compliance	Ensure compliance with environmental laws and regulations			

*1 Classification according to the GHG protocol (standards for calculating and reporting emissions).
*2 CO_2 amount of reduction based on fiscal 2021.
*3 CO_2 Avoided emissions is the amount calculated by subtracting the lifetime CO_2 emissions after introduction from the lifetime CO_2 emissions assuming that the Group's products and services do not exist and calculated using 2020 emission factor.
*4 Amount of resources recycled/(Amount of resources recycled + Amount of landfill).
*5 Mass of recycled materials contained in the recycled resin used in our products.
*6 Cumulative up to 2024

Size of CO_2 emissions & reductions in our own value chain (tons)



Size of avoided emissions for society (tons)

*7 Includes avoided emissions through replacement purchase of products, etc. (10.99 Mt in FY2021 & 6.3 Mt in FY2025)

Environment

Environmental Action Plan "Green Plan 2021"

Having achieved the targets we set out in Green Plan 2018, we have created a new Green Plan 2021 for the period from fiscal 2020 to 2022 to move us forward towards Panasonic Environment Vision 2050, which aims for building societies based on clean energy and more comfortable lifestyles that will bring "A better life" and "Sustainable global environment" compatibly.

Green Plan 2021 sets targets that focus on "energy" and "resources," which are the materiality to address to realize Environment Vision 2050. We also set out integrated and simplified targets as our continuing efforts for issues other than the above material issues, based on the Environmental Action Guidelines while taking account of environmental challenges and understanding society. We have worked to make "energy created" exceed "energy used" towards the year 2050, or even earlier.

To this end, in terms of "energy", we have worked to "increase amount of energy created" and "increase the size of contribution toward energy savings" in the area of products and services. The size of contribution toward energy savings through our products and services is an index to indicate the amount of our efforts toward energy savings when products and services of Panasonic Group are used by customers. We have focused on increasing the value of this index. The initiative to increase this index is similar to our aims concerning the size of contribution in reducing CO_2 emissions through our products and services, which indicates the amount of our efforts to reduce CO_2 emissions in order to bring forward the peak of total CO_2 emissions in whole society. When the size of contribution in reducing energy consumption is converted to CO_2 emissions, it can be transferred to the size of contribution in reducing such emissions.

As a means of "energy," our factories have implemented activities such as "promoting zero-CO_2 model factories," "increasing the use of renewable energy," and "promoting energy efficiency in production."

In our production activities, we have worked to further reduce energy consumption and CO_2 emissions by employing thorough energy-saving measures in all factories across the globe.

In terms of "resource," we have worked to "create circular economy business models," "reduce resources consumption and increase the use of sustainable materials," and "achieve Zero Waste Emissions from factories globally."

As other environmental sustainability goals, we have implemented activities in solving issues concerning water, chemical substances, and biodiversity, as well as in promotion of community contributions and education for the next-generation, and to prevent pollution in factories and thoroughly comply with product-related laws and regulations.

To spread a positive influence across society, we have implemented our environmental activities by rolling them out beyond the Panasonic Group across the entire supply chain through close collaboration with a variety of partners.

We have steadily put this environmental action plan into practice to achieve the set targets by fiscal 2022.

Environmental Action Plan "Green Plan 2021"

Category		2022 targets			FY2022	page
Material Issues	Energy	Increase the ratio of total energy created to total energy used	Total energy created[*1] : total energy used[*2] = 1 : 8.5		1: 16.1	P13
		Products & Services	Increase amount of energy created	Amount of energy created[*2]: 30 TWh or more	★13 TWh	P13
			Increase the size of contribution toward energy savings through products and services	Size of contribution toward energy savings through products and services[*3]: Direct[*4]: 25 TWh or more Indirect[*5]: 2 TWh or more	Direct: 32 TWh Indirect: 2.4 TWh	P13
			Expand energy creation businesses		—	P13
			Expand energy efficient products and services business, focusing on products and services utilizing IoT/AI		—	P13
		Factories	Promote zero-CO_2 model factories - Establish model factory using advanced hydrogen technology - Establish at least one zero-CO_2 model factory in each region[*6]		—	P33-34
			Increase the use of renewable energy through the generation of renewable energy on-site and procurement of renewable energy	Renewable energy generated on our sites[*7]: 40 GWh or more	43 GWh	P34
			Promote energy efficiency in production - Reduce energy loss through IoT - Improve productivity through manufacturing innovation		—	P34-35
	Resources	Create circular economy business models		Analysis of the development of circular economy options for existing businesses: 100%	—	P38-39
		Reduce resource consumption and increase the use of sustainable materials		Recycled resin usage[*8]: 42 kt or more (2019 to 2021 total)	43 kt (2019 to 2021 total)	P39-40
		Achieve Zero Waste Emissions from factories globally		Factory waste recycling rate[*9]: 99 % or more	99.0%	P39-43
Other environmental sustainability goals	Water	Reduce water consumption in production activities				P47-48
	Chemical substances	Minimize the environmental impact of chemical substances usage in production activities and products				P49-55
	Biodiversity	Promote procurement of sustainable materials				P56-60
	Local communities	Promote environmental initiatives to contribute to local communities and educate the next generation				Web[*10]
	Compliance	Ensure compliance with environmental laws and regulations				P16

Environment

*1 Clean energy that is created/efficiently utilized in business activities as well as for products/services made through such activities.
*2 Energy that is used in business activities as well as for products/services made through such activities.
*3 The amount of energy achieved by deducting the actual emissions from the amount that would have been emitted without the improvements by the energy-saving performance of our products.
*4 Size of contribution by major products of Panasonic Group.
*5 Size of contribution by our solutions, or materials and components built into products of other companies.
*6 Five areas, covering: Japan; China & Northeast Asia; Southeast Asia & Oceania, India & South Asia, and Middle East & Africa; North America and Latin America; and Europe & CIS.
*7 Usage in our sites of renewable energy (solar, wind, biomass, etc.) generated by renewable power generating facilities in our sites.
*8 Mass of recycled materials contained in the recycled resin used in products of Panasonic Group.
*9 Amount of resources recycled/(Amount of resources recycled + Amount of landfill).
*10 WEB **Contribution to local communities**
https://holdings.panasonic/global/corporate/sustainability/environment/community.html
WEB **Education the next generation**
https://holdings.panasonic/global/corporate/sustainability/environment/human-resources.html

The Amount of the Energy Created by Products and Services

"The amount of the energy created" by our products and services is composed of "creation" of the power generated by products of Panasonic Group at customer sites, and "utilization" of the power stored by products of Panasonic Group at customer sites. In concrete terms, we regard the amount of the power generated by our solar photovoltaic systems and fuel cells as "creation," and the used amount of the power stored in our automotive batteries and on-site storage batteries as "utilization." "The amount of the energy created" from our products and services refers to the sum of the "created" and "utilized" power. Using this "amount of the energy created" as an index to represent our continuous efforts to increase the energy to be created and utilized by products and services of Panasonic Group in customers' premises, we set numerical targets.

The fiscal 2022 result was 13 TWh.

Although our solar battery sales continue, termination of solar battery production at our factories in Malaysia and Shimane, Japan affected the Group and fell short of the target for the amount of energy created.

For the same reason, the ratio of total energy created to total energy used also fell below the target.

The Size of the Contribution in Reducing the Energy Used by Products and Services

Panasonic Group define the "energy used by our products and services" as the amount of the energy used by products of Panasonic products at consumer sites. We plan to continue reducing the amount of the energy used by our products and services by further improving their energy-saving performance.

In order to promote reduction of the amount of the energy used by our products and services, we introduced the concept of "size of the contribution in reducing the amount of the energy used." We define the "size of the contribution in reducing the amount of the energy used" as the amount of the estimated energy used by our products after subtracting the amount of the energy actually used, assuming no improvement in their energy energy-saving performance since fiscal 2014. Using this "size of the contribution in reducing the amount of the energy used" as an index to represent our continuous efforts to reduce our energy consumption, we set numerical targets.

Within the "size of the contribution in reducing the amount of the energy used," we classify the contribution into two; 1) the contribution by finished products of Panasonic Products, as "direct contributions"*11 and 2) the contribution by products and services except finished products of Panasonic Products, as "indirect contributions."*12 "The indirect contributions" means energy reduction effects of finished products of other companies that are supported by products and services of Panasonic Group. The "size of the contribution in reducing the amount of the energy used" in fiscal 2022 was 35 TWh. Of this, the direct contribution was 32 TWh and the indirect contribution was 2.4 TWh.

*11 Scope of the direct contribution: Household air conditioners, commercial air conditioners, lighting equipment and lamps, household refrigerators, commercial refrigerators, LCD TVs, washing and drying machines, fully-automatic washing machines, dish washer and dryers, IH cooking heaters, EcoCute, bathroom ventilation dryers, humidifiers, dehumidifiers, air purifiers, ventilation fans, electric fans, electronic rice cookers, microwave ovens, electric bidet toilet seats, irons, hair dryers, electric showers, electric water heaters, under-rug heaters, vacuum cleaners, electric water boilers, range hoods, projectors, mounting machines, etc.
*12 Scope of the indirect contribution: Motors, heat exchangers.

Reduction of the amount of the energy used is also reduction in GHG emissions. The size of the contribution in reducing CO_2 emissions converted*13 from the size of the contribution in reducing the amount of the energy used was 18 Mt.

*13 CO_2 emission factors (kg-CO_2/kWh) used by region: 0.487 (Japan); 0.277 (Europe); 0.383 (North America); 0.623 (China & Northeast Asia); 0.723 (India & South Asia); 0.386 (Southeast Asia & Oceania); 0.252 (Latin America); and 0.616 (Middle East & Africa).

Expanding energy creation and energy-saving businesses

Miyako Island, Japan aims to achieve a 48.9% energy self-sufficiency rate by 2050. Since 2011, the island has been conducting Island-and-Islet Type Smart Community Islands Verification project, introducing energy management systems that cover houses, business sites, and agricultural lands.

Since 2016, the project has been shifted to development of a cloud-based energy management system. Utilizing the standard protocol, ECHONET Lite,*14 verification of the system controls and operations of EcoCute, energy storage equipment installed in Eco Park Miyako verification site has been conducted under a multi-vendor environment*15. Products of Panasonic Group are contributing to this project.

Thanks to the increased number of adoptions of automotive lithium-ion batteries with high capacity, and operation of their new production lines in North America, sales volume in FY2022 became 145% versus last year.

*14 Standard for communications by Home Energy Management Systems (HEMS) that comprise smart houses recommended by the Ministry of Economy, Trade and Industry (METI).
*15 An environment where equipment of different manufacturers are installed.

Examples of our products for Energy-saving/creating/storing energy are also on the following website.

WEB https://www.panasonic.com/global/corporate/sustainability/eco/co2/product.html

Environmental Governance

Promoting Group-wide Environmental Sustainability Management Centering on PDCA

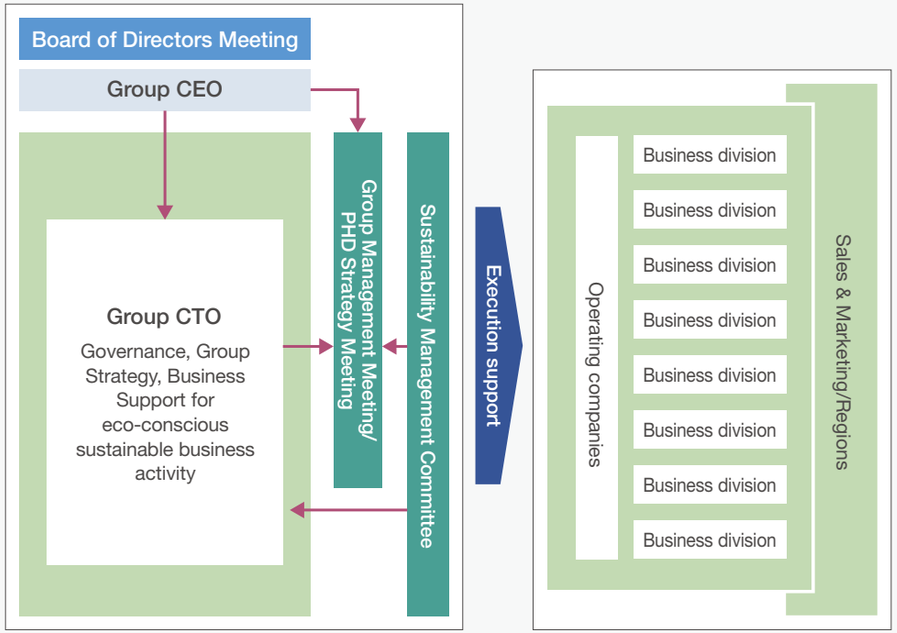
Striving for the creation of a sustainable society, we are following our initiative under the Group Chief Technology Officer (CTO) (Tatsuo Ogawa Executive Officer, as of April 2022) and working to fulfill our corporate social responsibility through eco-conscious business activities as well as resolve environmental issues such as climate change, resources, water, etc. through our products and services. Panasonic Group formulates its annual environmental management policy in accordance with the Group management policy, the Environment Vision 2050, the Environmental Action Guidelines, and the Environmental Action plan (Green Plan). The annual environmental policy is shared across the entire organization through the Operation Policy Meeting led by the Group CTO, whose authority is delegated by the Group CEO.

Operating companies and business divisions establish their own environmental policies and targets based on this Group policy, and plan and promote their activities accordingly. The progress and results of activities for the key environmental targets we pledged to society to achieve under the Environmental Action Plan Green Plan 2021 are examined and determined on the directions, issues, and particularly key measures in the Group Management Meeting where top management such as the Group CEO and presidents of the operating companies participate. Matters of special importance are deliberated on by the Board of Directors Meeting.

Panasonic GREEN IMPACT, our Group's new long-term environmental vision, was put through this process and was released in April 2022. In promoting our environmental sustainability management activities in Panasonic Group, we have built a structure to promote implementation of such activities collaborating other departments in the entire Group through determination by the Sustainability Management Committee (established in December 2021) led by the Group CEO. For activities organized by theme, we have set up committees specifically for dissemination of our environmental policy and targets to all members of the Group without fail, deliberation on how to respond to issues, and chemical substances management used in our products.

In principle, results of activities relevant to environmental targets are gathered and assessed on a monthly basis as environmental performance data, to identify the achievements, and additional measures are taken as needed. Feedback of annual performance data is given internally and disclosed externally after review, onsite audits, and independent assurance by a third-party. Moreover, reviews and feedback from stakeholders are utilized in subsequent measures to ensure further continuous improvement.

Promotion System of Environmental Sustainability Management in Fiscal 2023



* See page 5 for more details on Promotion System of Sustainability Management

Environmental Management Systems

Implementation of Environmental Sustainability Management Based on Environmental Management Systems (EMSs)

As the foundation of environmental sustainability management, Panasonic Group set up EMS at all of our manufacturing sites across the world in fiscal 1999, and has continued to have the respective sites ISO14001 certified since then.

Moreover, in order to further strengthen the environment management world-wide, we set up EMS also at all of our nonmanufacturing sites; in principle, the respective sites also have obtained ISO 14001 certification. In October 2011, we published the Environmental Management System Establishment Guidelines that summarizes the EMS concepts for different business forms such as manufacturing, sales and services, and head office administration, aiming to build the EMS in accordance with the Basic Rules for Environmental Affairs on a global scale. Based on the Guidelines, we are implementing Environmental Sustainability Management to achieve the targets set in the Green Impact Plan 2024.

Panasonic Automotive System Co., Ltd. and Panasonic Industry Co., Ltd. provide seminars for their members to learn the basics of the EMS, and training for auditors to work at different levels, such as internal and chief auditors. Because of the COVID-19 pandemic, training programs that took a group-based format in the past have held remotely since fiscal 2021. The remote training scheme has enabled employees who could not find sufficient time to attend the program to participate actively, resulting in highly effective training. Internal audits held by operating companies have been also conducting remotely, both preventing COVID-19 infection and improving site management.

Acquired status of the ISO 14001 Certification (as of March 31, 2022)

Region	Number of certifications obtained*1		Total
	Manufacturing	Non-manufacturing	
Japan	15	10	25
North America & Latin America	14	0	14
Europe & CIS	7	1	8
Southeast Asia, & Oceania	40	9	49
China & Northeast Asia	48	1	49
India, South Asia, Middle East & Africa	6	1	7
Total	130	22	152

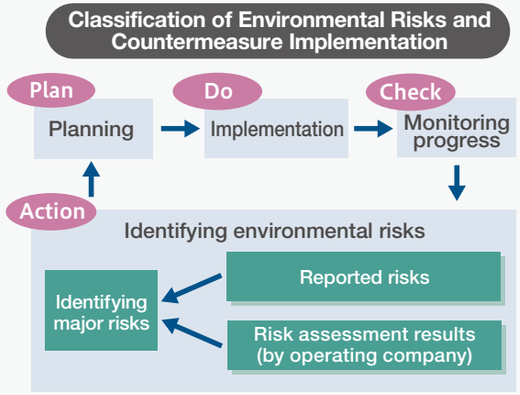
*1 The above number includes the one for integrated certification. The number of acquired status varies every year depending on the situation such as reorganization or closure of BDs, or promotion to acquire integrated certification.

Obtaining of ISO 14001 Certification
https://holdings.panasonic/jp/corporate/sustainability/pdf/eco_isolist2021.pdf

Environmental Risk Management

Group-wide Systems to Manage Environmental Risks

As a tool to continuously reduce environmental risks, Panasonic Group has established an Environmental Risk Management System specific to each operating company. In accordance with the basic risk management policy for all Panasonic group operating companies (see pages 115-116), we promote (1) identification of environmental risks and group-wide risk management each year, and (2) ensuring quick responses to reported environmental risks.



To identify environmental risks and implement the management system, environmental risks are identified for each operating company and for each region in the world each year. From these risks, environmental risks on a Panasonic group-wide level are selected. The risks that show a high level of frequency or seriously impact business management are designated as major risks and prioritized in planning and executing risk reducing measures. These measures are implemented for each major risk, and progress is monitored and followed up on a quarterly basis in the PDCA cycle.

When an environmental risk is found, the relevant operating company, related job functions, and local companies collaborate to promptly implement emergency measures and recurrence prevention measures adapted to the risk level. Also, the management flow in case of risk discovery is standardized to prevent the occurrence of secondary risks as a result of confusion.

Environmental Compliance Management at Factories

Panasonic Group manages environmental systems in full compliance with laws and regulations. We regularly measure emissions of gas, wastewater, noise, odor, etc., and introduce preventative measures for cases that may lead to serious violations. Furthermore, key human resources are developed for information sharing among the operating companies/business divisions, environment-related job functions, and local companies, to ensure exhaustive compliance with legislation related to factory environment management in respective countries where our manufacturing sites are located. Specifically, activities to share information as well as specialized training are conducted for factory management officers in charge of the management of chemical substances, waste, wastewater, and exhaust gas, either by country or by region in Japan, Europe, China, and Southeast Asia. Field surveys on laws and regulations using checklists were conducted on a global scale to confirm comprehensive implementation of environmental compliance, and we also conducted verification of the effectiveness of various measures.

As a result of these measures, there was one violation of environment-related regulations across the world in fiscal 2022. In response to the violation, we promptly reported the violation to the authority, and at the same time, implemented measures against the causes to fulfill the criteria. We continue our efforts for thorough legal compliance and the prevention of any recurrence.

Case of Violations of Laws and Ordinances (e.g. excess of the standard legal level) in Fiscal 2021

Region	Environmental pollution					Other	Total
	Air	Water quality	Noise	Odor	Waste	Permission / Approval	
Global (including Japan)	1	0	0	0	0	0	1
(Japan)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Compliance with Environmental Regulations Relating to Products

We manage compliance with regulations relating to our products through a quality management system. Compliance with regulations is ensured with our Products Assessment System, a mechanism which incorporates environmental performance targets such as customer demands for environmental performance, the energy efficiency labeling program, and third-party certification systems, as well as evaluation of compliance with regulations on chemical substance management, energy efficiency, 3R, and recycling, to (1) set up overview for achieving targets at the product planning stage, (2) define concrete targets at the design planning stage and confirm compliance at the design stage, (3) conduct interim assessment at the design completion stage, and (4) conduct final assessment at the mass production decision-making stage. Additionally, incoming inspections are being conducted on a regular basis for purchased components to ensure compliance with the RoHS Regulations which regulates the contents of 10 hazardous substances (see page 50).

However, in fiscal 2021, 5 regulatory violations related to chemical substance management occurred in Japan and overseas. We will tighten the criteria to judge potential inclusion of regulated substances to ensure thorough compliance with the laws and regulations.

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Measures Against Soil and Groundwater Contamination and Air Pollution

In the latter half of the 1980s, soil and groundwater contamination due to chlorinated organic solvents was detected at some Panasonic group sites. In response, we have conducted anti-contamination activities across the Group. Specifically in 1991 we created the Manual for Preventing Contamination of Soil and Groundwater and began conducting necessary surveys and measures. In 1995 we discontinued the use of chlorinated organic solvents, and in 1999 created Guidelines on the Prevention of Environmental Pollution to ensure there would be no recurrence of similar problems at our sites. In fiscal 2003 we began enhancing our surveys and measures to comply with relevant laws and regulations, including the Soil Contamination Countermeasures Act, which was enforced in Japan in 2003, and in fiscal 2004 started implementing measures to place all our bases across the globe under management supervision with regard to soil and groundwater.

Specifically, we conduct onsite inspections and interviews at the bases, in addition to surveying their use of volatile organic compounds (VOCs) and heavy metals. Furthermore, we implement surface soil surveys within the premises. For the sites where contamination was detected beyond the regulatory pollution standards, we conduct detailed borehole surveys to identify the boundaries of the contaminated areas and take remedial measures.

As a result of these efforts, we were able to place all our bases under management supervision in 2008. Furthermore, in fiscal 2011, the management supervision scheme was purpose-specifically reorganized and reinforced to establish a new management supervision scheme. With the highest priority given to preventing dispersion of pollution beyond our premises, this new scheme is implemented across all operating sites to further improve the level of measures against contamination.

Soil and Groundwater Risk Management Policy

Conditions subject to management supervision	Procedure
Pollution dispersion prevention beyond Panasonic premises	1. Conduct historical surveys 2. Determine and install monitoring wells at the premises' borders 3. Analyze groundwater at the borders 4. Check possibility of pollution from external sources 5. Report to management department 6. Determine the external pollution dispersion prevention methods 7. Install the external pollution dispersion prevention methods 8. Install assessment wells 9. Begin assessments (monitoring)
Thorough pollution source elimination	10. Conduct brief status check 11-1. Horizontal direction detailed analysis 11-2. Vertical direction detailed analysis 12. Determine the magnitude of pollution 13. Discuss the areas and methods of purification 14. Conduct purification and install pollution dispersion prevention measures 15. Monitor pollution source (groundwater) after purification 16. Report purification completion to management department

Soil and Groundwater Pollution Surveys and Remedial Measures for Fiscal 2022

Region	Number of sites that completed remedial measures	Number of sites currently taking remedial measures
Global (including Japan)	2	40
Japan	(2)	(35)

In addition to the above, Panasonic Group is implement measures for air pollution. The efforts made in factories are as matters of course, we are working as a company to comply with the Act Concerning Special Measures for Total Emission Reduction of Nitrogen Oxides and Particulate Matter from Automobiles in Specified Areas (Act No. 70 of 1992), which regulates nitrogen oxides and particulate matter emitted from company cars owned and/or managed by Panasonic Group.

The company cars owned and/or managed by Panasonic Group business sites in Japan are centrally managed on the group-wide vehicle management system. Annually required reports are submitted through the vehicle management system. Also each business site undertakes thorough regular vehicle checkup and fuel economy management on these cars, as well as taking the initiative in reducing air pollution, such as by advising employees on eco-driving techniques and hosting related workshops, and promoting introducing hybrid cars.

Initiatives for PCB Pollution

Our initiatives for PCB pollution are introduced on the following website.

WEB https://www.panasonic.com/global/corporate/sustainability/eco/governance/risk.html

Response to TCFD

Panasonic Group endorsed the TCFD recommendations*1 in May 2019. As Panasonic Group recognizes risks and opportunities concerning climate change as a critical management issue, we identify our business risks and opportunities and verify business resilience and strategy by thoroughly analyzing the scenarios, considering the TCFD's recommendation. We also disclose information on thematic areas recommended by TCFD, i.e. 'governance', 'strategy', 'risk management', and 'indices and targets', assuming future engagement with investors, etc.

*1 TCFD: an abbreviation of Task Force on Climate-related Financial Disclosures. The task force was set up by the Financial Stability Board (FSB) in response to a request by the G20 Finance Ministers and Central Bank Governors. TCFD published its recommendations in 2017.

Governance

Panasonic Group system to promote group-wide environmental sustainability management is headed by board of directors, so that information on group-wide environmental sustainability management from all of the operating companies are reported to the board of directors. Also, the progress and results of activities for the key environmental targets we promised to society to achieve under the Green Plan 2021 are examined and determined on the directions, issues, and particularly key measures in the Group Management Meeting where Group CEO, presidents of operating companies, and senior managers participate. Matters of special importance are deliberated on by the Board of Directors Meeting.

"Panasonic GREEN IMPACT", our new long-term environmental vision, was put through this process and was released in April 2022. In promoting our environmental sustainability management, we have built a system with which all operating companies and business sites members effectively collaborate and promote group-wide activities through determination by the Sustainability Management Committee (established in December 2021) led by the Group CEO. For activities organized by theme, there are specific committees for disseminating our environmental policy and targets to all members in the Group, for deliberating on how to respond to issues, and for managing the chemical substances used in our products.

See page 14 for more details.

Strategy

We analyzed impacts on certain items of Panasonic Group Businesses that are likely to affect climate change, based on our assessment of the risks and opportunities in Panasonic Group business operations. The results were used to develop a social scenario for the year 2030, focusing on matters with the greatest impact. We then used the scenario as the basis for examining strategies, and verified the business resilience in our strategy.

See pages 21-24 for more details.

We set up following targets in our Group's drive to support the social transition to a low-carbon economy.

- Make our total CO_2 emissions (Scope 1 and Scope 2) net-zero by 2030.
- Reduce CO_2 emissions from use of our products that Panasonic Group sold by 30% compared with the 2019 level by the year 2030.

We would like to introduce specific examples as our contribution to energy reduction and energy transformation in society.

The first is an example of our energy reduction activities for product use in Scope 3; that is, action on lighting equipment that emit large volumes of CO_2. In addition to the conventional lighting that is designed to "light up a plane" such as a floor or desktop, by using an index for 'feeling of brightness in space' and knowhows of "optical control technology" and "spatial presentation with proper lighting at a right place" that are developed based on our accumulated research results on comfortability, we will achieve energy reductions of up to 30% without compromising comfort.

The next is an example of our contribution to energy transformation in society through electrification. To speed up energy transformation in society, the demand side must itself push for electrification by replacing fossil fuel-fired equipment with electric devices. For instance, the heat pump water heater is capable of warming up water by using a heat pump to collect heat from the air efficiently, minimizing the electric power consumption. The heat pump can be used not only in new houses, but also in existing houses that use oil or gas-fired boilers without replacing the pipework. Electrification increases opportunities to make effective use of electric power derived from renewable energy sources. In addition to that frequency of utilizing opportunity to use energy derived from renewable energy sources increases thanks to the electrification, storing unstable supply of renewable energy as the warm water enables energy time shift and mitigates the load on the power grid, thus contributing to wider use of renewable energy resources.

PDF **Panasonic's Sustainable Management (Group CEO Briefing, January 2022)**
https://holdings.panasonic/global/corporate/investors/pdf/20220106_sustainability_e.pdf

See pages 33-36 for initiatives for Scope 1 and Scope 2,

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Risk Management

As a tool to continuously reduce environmental risks, Panasonic Group is working to establish operating company-specific Environmental Risk Management Systems, in accordance with the basic risk management policy for all Group companies (see pages 115-116). The management policy includes (1) identification of environmental risks and group-wide risk management each year, and (2) ensuring quick responses to reported environmental risks. In addition, Panasonic Group is promoting risk management in 3 levels, i.e., Panasonic Holdings Corporation (PHD), Operating Company (OC), and Business site (BS). Significant risks determined by each OC are reported to PHD Enterprise Risk Management Committee; Panasonic Group's significant risks are ultimately determined judging from the assessment results by PHD functions and OCs in a comprehensive manner. As strategic risks in Panasonic Group's significant risks in response to climate change in FY2022, damages caused by earthquakes, tsunami, flood and landslides have been addressed.

See pages 16-17 for more details.

Metrics and Targets

Panasonic Group announced the Environment Vision 2050 (see page 9) , placing "energy" on the axis, and set up the Green Plan 2021 towards realizing Environment Vision 2050 with short-term targets based on the amount of energy as metrics. In addition to these energy indices, we also set the medium- and long-term targets for the reduction of Green House Gas (GHG) emissions. These targets were accredited as Science Based Targets (SBTs)*2 in October 2017. See page 12 for more details on indicators for energy.

*2 SBT: an abbreviation of Science Based Target. It is a target to reduce GHG emissions in consistent with scientific knowledge toward the goals to limit the increase of global temperature to less than 2°C above pre-industrial levels.

GHG emissions reduction targets (SBT accreditation)

	Targets	Progress rate
Emissions from Panasonic Group business activities (Scope 1 and 2)	Reduce by 30% (compared to FY2014)	137%
	Zero by 2050	41%
Emissions from use of Panasonic Group products (Scope 3)	Reduce by 30% (compared to FY2014)	27%

In addition, in May 2021, we announced a target to make our total GHG emission (Scope 1 and 2) of all operating companies and business divisions of Panasonic Group net-zero by 2030 as a milestone toward making the Environmental Vision 2050 real.

WEB **Direction that the Panasonic Group is heading for: To become a top runner in the fields of 'Environment' and 'High usability in business.'**
https://news.panasonic.com/global/stories/2021/90376.html

Moreover, regarding indices related to climate change, we are discussing to set targets for following each item.

• Transition risk

Although impact of the introduction of carbon pricing near future on our businesses is expected, we have endorsed the GX League*3 Basic Concept published by the Ministry of Economy, Trade and Industry and have been participating in the development of a voluntary emissions trading scheme.

*3 GX League has been set up as a platform where group of companies that are actively engaged in GX (Green Transformation) can work with players in the government, academia, and financial sectors to tackle challenges in GX, for deliberations on transformation of the whole economic and social system and for creation of new markets.

• Physical risk

Each operating company assesses and monitors natural disaster risks, as well as their emergency responses to those risks. Each operating company also established financial assessment standards on the scale of the impact of the potential risks, rating the risk as high when the impact is more than 10 billion yen and as medium or low according to the impact risk.

• Climate-related business opportunities

The third impact of reducing CO_2 emissions in our GREEN IMPACT published in April 2022, refers to the creation of new technologies, such as in the area of hydrogen energy, to cut down emissions by 100 million tons and impact on energy transformation, which is roughly equivalent to our total sales through our future business activities.

In April, 2022, we have also started operation of "H2 KIBOU FIELD", a demonstration facility for the "RE100 solution" initiative located at our Kusatsu Factory in Shiga Prefecture, aimed at using renewable energy generated independently through a combination of pure hydrogen fuel cells and photovoltaic cells to supply 100% of the energy consumed by our business activities. This step has been taken as part of our plan to build an RE100 solutions business. *4

• Capital allocation

Panasonic Group will invest 400 billion yen in growth areas and 200 billion yen in our technological infrastructure as part of our medium- and long-term business strategies for 3

Environment

years from 2022 to 2024. Growth areas, for example, include automotive battery, supply chain software, and air quality and air conditioning businesses. In the automotive battery business, we will be able to contribute to building a decarbonized society that does not depend on fossil fuels by achieving cost and safety levels for electric vehicles exceeding those for gasoline-engine vehicles. In supply chain software business, we will be able to contribute to mitigate environmental impact by avoiding all kinds of waste and materials and components on hold in the supply chain by the use of autonomous operations solutions. In the area of air quality and air conditioning business, significant contributions are possible in reducing the large amounts of electric power consumed by air conditioners that are large energy consumers in the world. Environmental technologies are one target for investment in the technological infrastructure. Our activities for hydrogen energy is one of examples of the environmental technologies. We plan to expand hydrogen production and its use and thus contribute to transformation to clean energy in societies.

• Internal carbon pricing

Panasonic Group introduced internal carbon pricing in March 2022 for capital investment, with a setting the price of CO_2 emissions at 6000 yen per ton.*5 We plan to increase the installation of energy-saving facilities and renewable energy-fueled equipment, including photovoltaic power generation, while maintaining economic rationality that is consistent in the future, by considering the impact of future carbon taxation and the like. As for further expansion in the scope of our activities and price setting, we will determine in line with our business decisions.

• Remuneration

Since April 2022, we have adopted a new performance evaluation system for executive remuneration of directors and executive officers of the holding company and of the presidents of the operating companies. The evaluation items for performance-based remuneration include those related to sustainability viewpoint such as environmental contributions.

*4 See WEB https://news.panasonic.com/global/press/en220427-1

*5 Subject to change because of market conditions

Strategic Resilience through Scenario Analysis

To verify the strategic resilience of our business, Panasonic Group initially analyzed their impacts of climate change risks and conducted a scenario analysis based on the result of the impact analysis.

In the course of the impact analysis, we listed every possible impact on our business from climate change or measures against climate change, and then identified the risks and opportunities brought by such impacts by Panasonic Group's major businesses. The following table lists risks and opportunities by business, and integrated results of the different impacts of climate change (Table 1).

Table 1 Extracted Risks and Opportunities

			Risks	Opportunities
Transitional risks	Policies/laws and regulations	Acceleration of carbon pricing	- Energy procurement costs increase. - Competition from low-carbon businesses intensifies toward carbon neutrality.	- Energy procurement costs stabilize because of increased demand for renewable energy. - Businesses related to fuel cells, energy-saving products, solution services, and energy management expand.
		Accelerated shift to electric vehicles	- As more firms enter the automotive business, competition intensifies. - Increased demand for automotive batteries intensifies material procurement competition. - Higher cost of automotive batteries production reduces car business profitability and pressurize costs of components.	- Electric vehicle-related markets expand.
	Reputation	Increased environmental awareness among consumers	- Insufficient environmental efforts and promotion lead to unsupported by consumers. - Value shift from purchasing to leasing decreases sales.	- Recognition as a sustainable company and of sustainable products attracts more customers. - Businesses related to low-carbon products, eco materials, and energy management expand.
		Increased risk to reputation	- Insufficient efforts in decarbonization reduce business opportunities.	- Recognition of environmental technologies and products increases business opportunities.
	Technologies	Expansion of renewable energy usage	- Investment in facilities with renewable energy increases.	- Highly efficient solar cells open new markets.
		Expansion of carbon-free power generation	- Production energy procurement costs increase. - Regional disparity of carbon-free power generation lead to review the strategies of production sites.	- CO_2 emissions reduction throughout product lifecycles encourages shift to electric vehicles leading to related market expansion.
		Spread of ZEH/ ZEB	- Low-carbon products in housing equipment become mere commodities.	- Increased opportunities to provide energy management & total solution services through housing equipment and home appliances. - Demand for heat insulation materials increases.
		Replacement with low-carbon products	- Increases development costs of lightweight and robust materials for competitive low-carbon products.	- Increases demand for materials that contribute to reduction of energy consumption.
		Streamlining of supply chain	- Expanded capital investment puts stress on balance sheet.	- Demand for energy management systems increase. - Lowered prices from reduced production costs increase sales.
	Markets	Conversion to a circular economy	- Delay in recycling and reuse technologies increases costs. - Resource recycling does not suit consumers' tastes.	- Business models change to circular economy- based models. - Demand for recycled resources increases.
Physical risks	Chronic	Constant temperature rise	- Poor health of employees reduces productivity. - High energy consumption from excess usage of air conditioners puts off consumers.	- Businesses related to healthcare, air conditioning and ventilation, energy management, housing, and cold chain expand.
	Acute	Physical risk management related to climate change	- Suspension of operations at our factories. - Negative impact on supply chain.	- Demand for needs of resilient infrastructure increases. - Fuel cell business with resilience expands. - Disaster-resilient manufacturing by managing risks with BCPs.

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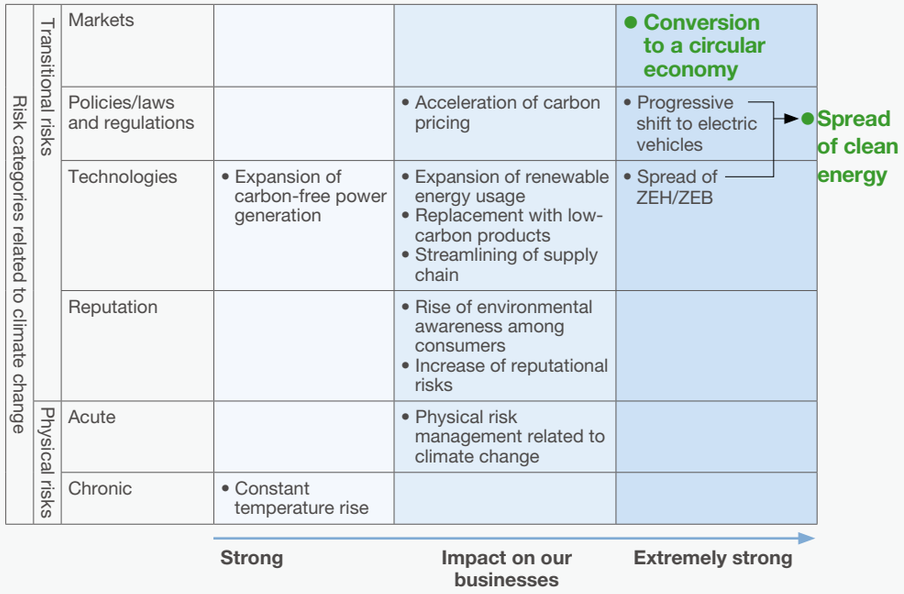
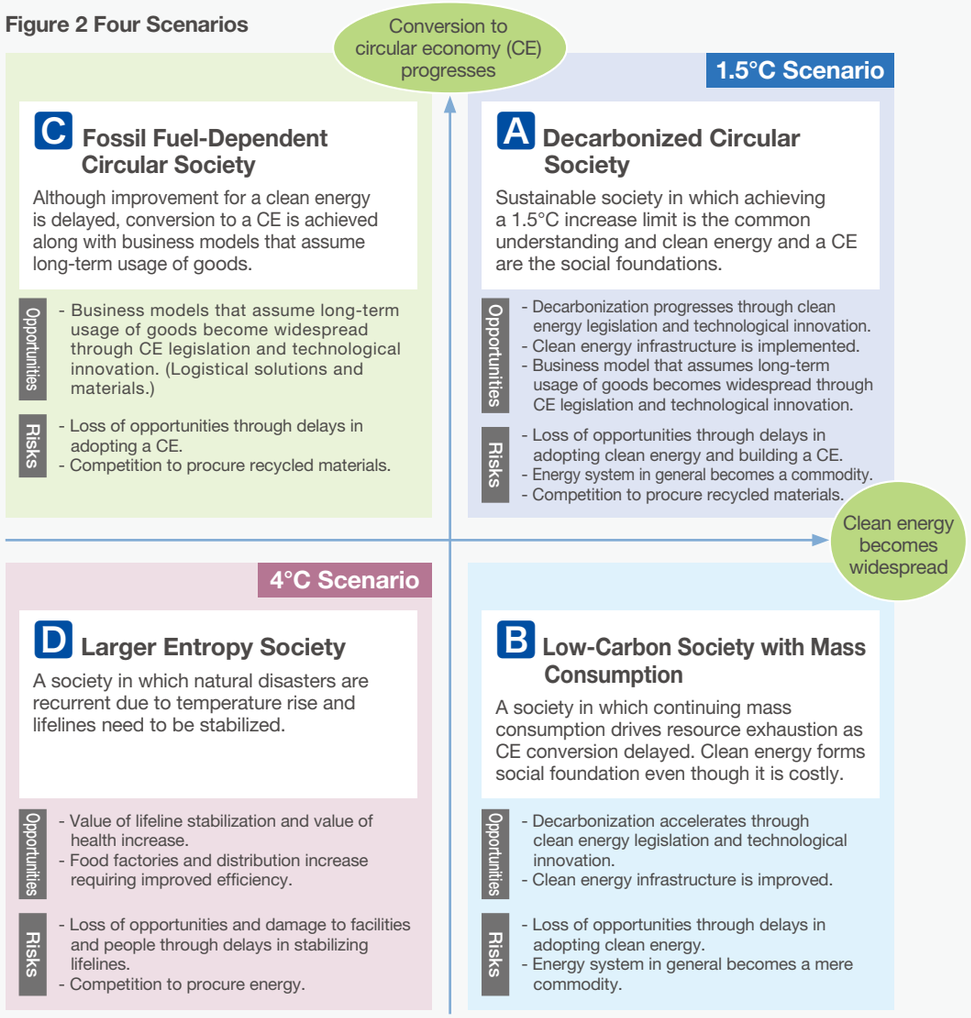
The following figure shows the impact analysis results of climate change risks (Figure 1) regarding the results of analyzed factors based on the identified risks and opportunities and analyzed impact on our businesses.

Figure 1 Impact Analysis of Climate Change Risks



Regarding factors that have an extremely high impact on our business from the climate change viewpoint, we extracted “spread of clean energy” and “conversion to a circular economy.” Setting these two factors as the axes of a matrix, we created four scenarios toward 2030 over the quadrants as shown below (Figure 2). We defined a society in which clean energy is in wide use and the shift to a circular economy is progressing as the 1.5 C scenario, and a society that does not shift to a circular economy and relies on fossil fuel as the 4 C scenario.

Figure 2 Four Scenarios



Environment

The society named as A Decarbonized Circular Society is equivalent to the 1.5°C world. If scenario A lacks a circular economy, the society becomes B Low-Carbon Society with Mass Consumption. If scenario A lacks clean energy, the society becomes C Fossil Fuel-Dependent Circular Society. Scenario D Larger Entropy Society is equivalent to the 4°C world.

Fuller descriptions of each society are given below.

A Decarbonized Circular Society

● **Impact on industries**

Concurrent progress of legislation and technological innovation related to clean energy and the circular economy help form a related infrastructure. This encourages investment in decarbonization in the automotive and housing industries, and advances the shift to business models that assume long-term use of goods in industries involved in the supply chain. It is also expected that not only products but also the construction of sustainable towns that utilize clean energy and a circular economy will attract investment.

● **Changes in customer value**

Consumers: Eco-consciousness, cost reduction, ethical, on-demand usage, etc.
Corporations: Eco-consciousness, cost reduction (energy saving, asset-light approach, better fuel efficiency, etc.), effect and efficiency enhancement (maximization of customer value, i.e. better experience value, etc.).

B Low-Carbon Society with Mass Consumption

● **Impact on industries**

Progress in carbon-related legislation (NEV/ZEV laws and ZEH/ZEB subsidy policies, etc.) and technological innovation (cost reduction of renewable energy and accumulator batteries, etc.) encourages standardization related to decarbonization in the automotive and real estate industries, as well as attracting investment. This helps the shift to electrification and a clean energy infrastructure. Adoption of clean energy (renewable energy, hydrogen, etc.) also expands.

● **Changes in customer value**

Consumers: Eco-consciousness, cost reduction (energy saving, better fuel efficiency, etc.).
Corporations: Eco-consciousness, energy saving and better fuel efficiency (downsizing, weight reduction, high density and capacity, high efficiency, etc.).

C Fossil Fuel-Dependent Circular Society

● **Impact on industries**

Progress in technological innovation of waste plastic and for a circular economy (data linkage, material recycling, etc.) and their related legislation eliminate waste in the supply chain and encourage a shift to a circular economy. Corporations involved in the supply chain (manufacturers, distributors, etc.) change their business models from sales and consumption-based models to those that assume long-term usage of goods, including leasing, sharing, and repair. Products made of recycled resources become mainstream backed up by the formation of waste collection networks and material recycling systems.

● **Changes in customer value**

Consumers: Eco-consciousness, ethical, on-demand usage, etc.
Corporations: Effect and efficiency enhancement (maximization of customer value, i.e. better experience value, etc.), cost reduction (energy saving, asset-light approach, etc.).

D Larger Entropy Society

● **Impact on industries**

Changes in rainfall amounts and patterns make it difficult to control the yield and quality of agricultural products. This encourages a shift to demand and supply matching consumption, which eliminates waste in distribution. Deterioration of living and working environment and increases in illness due to constant temperature rises expand demand for companies related to indoor environments and health (building, home appliances, healthcare, etc.). In response to the increase in natural disasters, investment in infrastructure resilience to maintain the supply chain will increase.

● **Changes in customer value**

Consumers: Lifeline stabilization and resilience enhancement, health.
Corporations: Productivity enhancement, demand and supply matching, supply chain resilience.

We can address the risks and opportunities corresponding to the above scenarios through any of our seven main operating companies shown below.

1. Panasonic Corporation
   (Home appliance business, Air quality and air conditioning business, Food distribution business, Smart Energy System business, Electrical facility materials business)
2. Panasonic Automotive Systems Co., Ltd. (Automotive device business)
3. Panasonic Entertainment & Communication Co., Ltd. (Video, audio, and communication business)
4. Panasonic Housing Solutions Co., Ltd. (Housing equipment and building material business)
5. Panasonic Connect Co., Ltd. (Gemba process innovation business)
6. Panasonic Industry Co., Ltd. (System device business)
7. Panasonic Energy Co., Ltd. (Automotive battery business)

Environment

For each type of society, we have formulated strategies for our seven operating companies from the viewpoint of climate change. Some of the strategies are listed below, with the applicable society type indicated by the corresponding scenario from A to D.

1. Panasonic Corporation

1-1 Living Appliances and Solutions Company

• Achieve an energy conservation performance for our products that surpasses that of our competitors, and utilize IoT/AI to offer energy-saving value for customers' daily lives.	A B
• Product manufacturing anticipating a longer product life and a circular economy.	A C

1-2 Heating & Ventilation A/C Company

• Create safe, secure, clean and comfortable spaces with our exclusive clean technologies (e.g., with active air purification) in homes, shops, workplaces, transportation, public areas and many other locations.	A B C D
• Expand and improve eco-friendly products such as a hot-water heating with heat pump (A2W) that contributes to decarbonization and improve air quality, and optimization control connecting with air quality equipment and air-conditioning equipment.	A B C D

1-3 Cold Chain Solutions Company

• Promote energy conservation offering comprehensive support for our energy monitoring system covering from system installation to operations and maintenance. Our equipment refurbishing service prolongs system usage while contributing to a circular economy.	A B C
• Accelerate development of natural refrigerants with lower environmental impact through wider use of CO_2 refrigeration equipment.	A B

1-4 Electric Works Company

• Implement demonstration experiment of RE100 solutions utilizing hydrogen and develop hydrogen businesses.	A B D
• Reduce energy consumption by producing more energy-efficient equipment and installing energy management systems in houses and buildings.	A B C D

2. Panasonic Automotive System Co., Ltd.

• Contribute to electrification of vehicles through power chargers with high output using power electronics technology and devices that improve vehicle's weight saving and rate of electricity consumption.	A B C D
• Promote to make own products more energy efficient and expand the range of products that use recycled resin materials.	A B C

3. Panasonic Connect Co., Ltd.

• Reduce waste energy and waste goods by supply chain orchestration, including streamlining corporate customers' logistics and responsive tuning of demand and supply.	A B
• Offer solutions to improve energy efficiency and automation at corporate customers.	A B

4. Panasonic Industry Co., Ltd.

• Supply products that contribute to vehicle electrification and improved power economy.	A B
• Reduce environmental impact from products through efforts to reduce size, weight and loss and to extend product life.	A B C

5. Panasonic Energy Co., Ltd.

• Contribute to the shift to electric vehicles through improving competitiveness of automotive batteries and expanding their production capabilities.	A B C
• Promote clean energy use for power equipment and home storage through application systems for industrial batteries.	A B
• Reduce CO_2 emissions through achieving carbon neutrality in factories and material development and establishment of supply chain for a low carbon footprint.	A B C

6. Panasonic Entertainment & Communication Co., Ltd.

• Introduce devices and components with high energy efficiency such as new TV panels, and develop energy efficient products by improving control methods.	A B
• Promote eco-conscious design through designs considering recycling, use of recycled resin, and reduction of use of plastic packaging.	A C

7. Panasonic Housing Solution Co., Ltd.

• Contribute to the environment throughout the value chain, from procurement of materials (recycled materials, etc.), design/development (reduction of materials, technology development, etc.), distribution (weight saving, reduction of frequencies, etc.) , to product use (energy efficiency, water savings, etc.)	A B C D

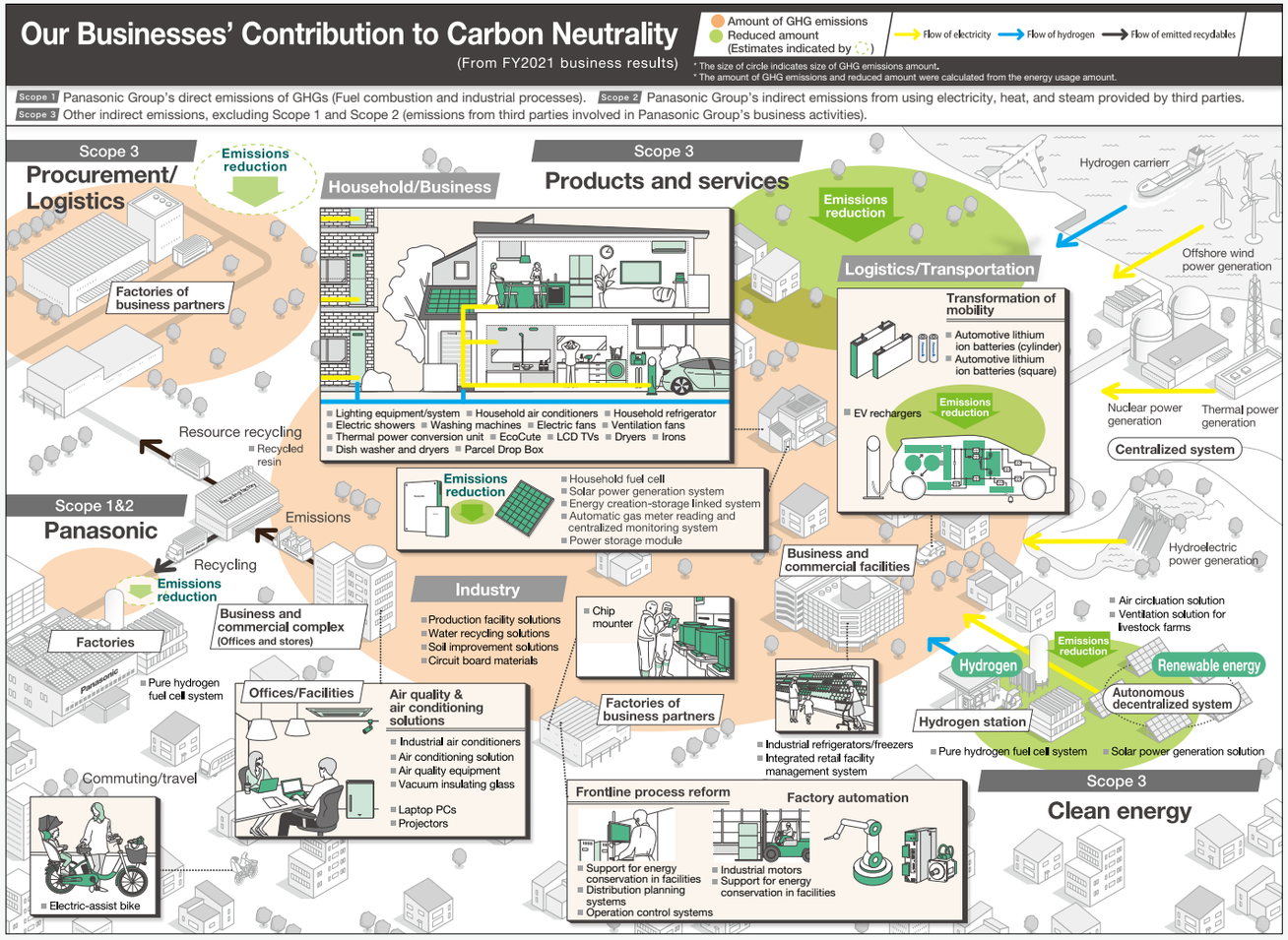
The scenario analysis found that we could always focus on one or more of our businesses in each of the four scenarios. In other words, the analysis successfully verified the resilience of our business strategies. The analysis also helped us understand that we can contribute to building a sustainable society through our businesses. We continue our efforts to build the 1.5°C world, represented by our society A.

Responsibilities and Contribution through Business Activities to Mitigate Climate Change

Since its foundation, Panasonic Group's mission has been to contribute to make better life style choices and advancing society through its electrical appliances and related services. Electrical products and services are continuously expanding and employing new technologies, such as IH and heat pumps. As a result, electricity usage across the whole of society is growing and so traditional thermal power generation continues to rise. The latter in turn pushes up CO_2 emissions, causing acute and prolonged climate change. It is an imminent task for human beings to stop this climate change. We estimate our CO_2 emissions from our entire supply chain is 100 million tons per year (total of figures in orange circles in the illustration shown here). Out of this total, 81 million tons are CO_2 emissions (Category 11, Scope 3) that are generated from the energy usage from our products and services while in use at our customers in society. Panasonic Group is aware that our greatest social responsibility for mitigating climate change lies in this area.

We are tackling the challenges to reduce CO_2 emissions throughout our Group's value chain to extremely low level, and at the same time contributing to cutting down CO_2 emitted from our customers and society. For households and business sectors, we plan to contribute to reducing CO_2 emissions through energy solutions that optimize operation by a combination of devices and equipment, and the like. In the transportation and industrial sectors, fossil fuel makes up a major part of the thermal and power resources. For this reason, greater electrification is essential in creating a society that offers comfort living with clean energy.

Panasonic Group contributes to reducing CO_2 emissions in the transportation and industry through supporting electrification and efficiency enhancement by electrification of mobilities including automotive batteries, and by devices, systems and services that promote transformation of production and distribution processes. On the other hand, increases in electrified areas, products and services will push up electric power consumption for society as a whole. This leads a rise in the importance of energy conservation. Panasonic Group plans to engage in a wide range of initiatives directed toward social transformation where our energy and power needs can be covered by renewable energy resources.



* The business areas selected here are the areas where effects of climate change are significant in both positive and negative ways, and the names of these areas may differ from the business names and business segments used in TCFD-related reports.

Environmental Information Systems

Integrated Management of Corporate Environmental Information

In order to implement the PDCA cycle for environmental sustainability management, it is essential to collect a significant amount of data, such as amounts of used energy, waste, valuables, discharged and transferred chemical substances, and used water, etc. at each business site in a prompt and accurate manner.

Panasonic Group has built and introduced an environmental performance system, the Eco System (Factory), to globally collect and manage environmental data from all of own business sites. With this system, monthly CO_2 emissions are managed in particular, allowing checking the progress of initiatives and identifying issues. The system plays an important role in achieving the reduction of CO_2 emissions by sharing the information and taking measures.

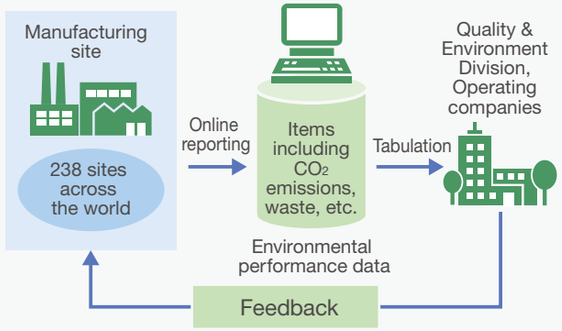
The Eco System (Factory) is also functioning as a scheme for sharing information on the status of compliance among sites across the world. In the event of complaints from local community residents or when a specific value exceeds ordinance regulated levels, as soon as the person in charge at the business site inputs the data on the system, information of the data is instantaneously e-mailed to relevant persons at the operating companies and the Quality & Environment Division of Panasonic Operational Excellence Co., Ltd. Thereby, the system enables rapid information-sharing and appropriate actions.

As for products, legislation relating to chemical substances in products is becoming more stringent, and communication and disclosure of chemical information in the EU supply chain are mandatory under the REACH Regulations. Panasonic Group has developed own management system for chemical substances in products based on industry-standard information handling methods in order to respond to a wide range of regulations and requirements.

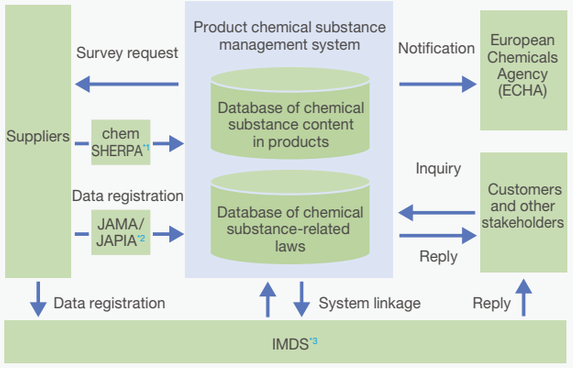
In January 2017, we renewed the system to adopt chemSHERPA,[*1] the new format for information handling of chemical substances in products led by the Ministry of Economy, Trade and Industry (METI). With the expansion of Panasonic Group's automotive business, we also adopted the JAMA/JAPIA sheet,[*2] the standard material data format for the Japanese automotive industry, in order to respond to increasingly complex and diverse regulations covering chemical substances used in products. In addition, to strengthen the response to laws and regulations on chemical substances in products relevant to our automotive businesses, in October 2020 we enhanced the function to operate in conjunction with IMDS[*3], the standard system for the global automobile industry.

Furthermore, under the EU Waste Framework Directive, the requirements for information disclosure on substances of very high concern (SVHC[*4]) to waste disposal companies and consumers have been enhanced, and registration of SVHCs with the SCIP[*5] database of the European Chemicals Agency (ECHA) has become compulsory (starting on January 5, 2021). For handling registration with the SCIP database, we have strengthened the system-based coordination of information and started registration via the system.

Mechanism of the Eco System (Factory)



Mechanism of the Product chemical substance management system



*1 New chemical information format led by METI and recommended by the Joint Article Management Promotion-Consortium (JAMP).
*2 A standardized survey datasheet for contained chemical compounds in Japan's automotive industry.
*3 International Material Data System: Material data system for the automobile industry that are operated on a global scale.
*4 Substances of Very High Concern
*5 Substances of Concern In articles as such or in complex objects (Products)

Overview of Environmental Impact and Environmental Accounting

Overview of Environmental Impact from Business Operation

In order to mainly manufacture and market electrical and electronic products, Panasonic Group consumes petroleum and electricity as energy sources and resources as raw materials of parts and components. As a result, we emit CO_2 and wastes into the environment. This diagram maps the environmental impact from Panasonic Group business operation from a procurement stage to recycling activities. Also, GHG throughout the entire supply chain is classified into Scope 1, Scope 2, and Scope 3 and assessed according to the GHG Protocol, the international calculation standard.

Overview of Environmental Impact from Business Operation

INPUT		OUTPUT
Suppliers		
Energy: ★4.9 TWh Purchased electricity 3.35TWh Electricity(100% renewable energy) ★0.24TWh*1 Town gas 70.3million m³ LNG 9.9kt LPG 6.4kt Heavy oil 7.7Ml Light oil 2.4Ml Kerosene 1.9Ml Volatile oil 0.1Ml Steam 49GJ Hot water 6GJ Resources Recycled resin: 14.7 kt Recycled iron: 93 kt Water: 17.24 million m³ Chemical substances: 209.9 kt*2*13		CO_2: 1.95 Mt*3 GHGs other than CO_2 from energy use (CO_2-equivalent): 105 kt*13 Total wastes including revenue-generating waste: 314 kt / Landfill: 2.9 kt Water discharged: 13.39 million m³ Release and transfer of chemical substances: 3.691 kt*4*13
Production		
Energy: 1.75 MWh*5 Biodiesel fuel: 4.98 kl*6		CO_2: global 953 kt ★domestic 116 kt
Logistics		
Electricity: 160.7 TWh		CO_2: 81.49 Mt
Product use		
Collected products: 167 kt*6*7*8 CRT TVs: 6 kt Plasma/LCD TVs: 12 kt Air conditioners: 34 kt Refrigerators/freezers: 63 kt Washing machines/clothes dryers: 52 kt		Recycled products: 124 kt*6*7 Metals: 90 kt / Glass: 2 kt / Other: 32 kt Generated waste: 43 kt*6
Recycling		

Environment

Production: 238 manufacturing sites
Logistics: Logistics stage of procurement, production, marketing and waste by partner companies and Panasonic.
Product use: Lifetime power consumption (a) of major products*9 with large amounts of energy use and CO_2 emissions (b) associated therewith.
a = Annual power consumption of a model sold*10 x Sales quantity x product life*11
b = Annual power consumption of a model sold*10 x Sales quantity x product life*11 x CO_2 emission factor*12
Recycling: Recycling of products means to use by oneself or to make into a state available for sale or free of charge the components and materialsof a separated product.

*1 Figures from photovoltaic, wind, and biomass sources including the amount of renewable energy adopted to manufacturing and non-manufacturing sites of own group . Heat pumps not included.
*2 Target substances include all substances in the Panasonic Group Chemical Substances Management Rank Guidelines (For Factories).
*3 The factors related to fuels are based on “the Guidelines for Calculation of Greenhouse Gas Emissions (version 4.7)” published by the Japanese Ministry of the Environment.
The latest figures from the “CO_2 Emissions from Fuel Combustion” 2021 issued by the International Energy Agency (IEA) is used for the CO_2 emission factors for electricity purchased from different countries use.
*4 Release amount: Includes emissions to air, public water areas, and soil.
Transfer amount: Includes transfer as waste and discharge into the sewage system. Recycling that is free of charge or recycling where we pay a fee for treatment under the Waste Management and Public Cleaning Law is included in “Transfer.” (Different from the transferred amount reported under the PRTR Law.)
*5 Intra-region outside Japan not included.
*6 Figures for Japan.
*7 Air conditioners, TVs, refrigerators/freezers, and washing machines/clothes dryers
*8 As for personal computers, PC 3R Promotion Association collects and recycles PCs under the joint scheme with member companies.
*9 Household air conditioners, commercial air conditioners, lighting equipments and lamps, household refrigerators, commercial refrigerators, LCD TVs, washing and drying machines, fully-automatic washing machines, dish washer and dryers, IH cooking heaters, EcoCute, bathroom ventilation dryers, humidifiers, dehumidifiers, air purifiers, ventilation fans, electric fans, electronic rice cookers, microwave ovens, electric bidet toilet seats, irons, hair dryers, electric showers, electric water heaters, under-rug heaters, vacuum cleaners, electric water boilers, range hoods, projectors, mounting machines, etc.
*10 For each product category, the model that was sold in the largest quantity in the region was selected.
*11 Number of years during which spare parts for the product are available (defined by the Panasonic Group).
*12 Regional CO_2 emission factors (kg-CO_2/kWh) used: 0.487 (Japan); 0.277 (Europe); 0.383 (North America); 0.623 (China & Northeast Asia); 0.723 (India & South Asia); 0.386 (Southeast Asia & Oceania); 0.252 (Latin America); and 0.616 (Middle East & Africa).
*13 Hussmann Parent Inc. and its consolidated subsidiaries not included.

GHGs from the Whole Supply Chain (by Scope)

Category		Emissions (10 kt)	
		FY2021	FY2022
Scope 1*14		33	33
Scope 2*15		187	173
Scope 3*16	1. Purchased goods and services	1,656	1,411
	2. Capital goods	64	69
	3. Fuel- and energy-related activities	23	23
	4. Upstream transportation and distribution	82	96
	5. Waste generated in operations	1.5	0.1*17
	6. Business travel	1.2*18	1.6*18
	7. Employee commuting	2.0*18	2.0*18
	8. Upstream leased assets	2.4*18	1.8*18
	9. Downstream transportation and distribution	1.7*18	1.7*18
	10. Processing of sold products	–	–
	11. Use of sold products	8,593	★8,149
	12. End-of-life treatment of sold products	105	50*17
	13. Downstream leased assets	–	–
	14. Franchises	–	–
	15. Investments	–	–
	total	10,531	9,805

*14 Direct emissions from facilities owned and controlled by the Panasonic Group (e.g., emissions from use of town gas or heavy fuel oil).
*15 Emissions from production of energy consumed at facilities owned and controlled by the Panasonic Group.
*16 Other indirect emissions, excluding Scope 1 and Scope 2.
*17 The decrease from FY2021 are mainly due to the revision of the calculation method and emission factors. Emissions based on the previous method are as follows; category 5: 1.6 (10kt), category 12: 115 (10kt)
*18 Figures for Japan.

Environmental Accounting

Panasonic Group globally collects data on its environmental conservation costs and economic benefits obtained through its environmental activities in relation to generated/controlled environmental impact. This data is internally utilized as basic information for our continuing environmental sustainability management.

Environmental Accounting for Fiscal 2022

Environmental conservation in factories	
Investments*19	2,006 million yen
Expenses*19*20	58 million yen
Economic benefit	889 million yen

*19 Includes all investments relating to environmental conservation. The difference or appropriate portions (divided proportionally) are not calculated.
*20 Expenses include a cost of capital investment depreciation. For example, if latest energy-saving facilities were installed, the value includes depreciation for the first year but not for the second year and later.

Environmental Conservation Benefits for Fiscal 2022 (in physical terms)

Categories	Emission reduction	Reference indicator: environmental impact	
		Fiscal 2021	Fiscal 2022
CO_2 emissions from production activities	165 kt	2.11 Mt	1.95 Mt
Human Environmental Impact	14 kcount	430 kcount	416 kcount
Landfill of waste	0.5 kt	3.4 kt	2.9 kt
Water consumption	1.95 million m^3	19.19 million m^3	17.24 million m^3

Fiscal 2022 data on the reduced amount of electricity and effect of reduced electricity costs through our energy-saving products are as shown in the chart below.

Economic Effects for Customers for Fiscal 2022

Electricity cost reduction from product usage (global)	
Reduced amount of electricity*21	32.8 TWh
Reduced electricity costs*22	596.2 billion yen

*21 Calculated under the same conditions as when determining the size of contribution in reducing CO_2 emissions through energy-saving products (see page 13).
*22 Electricity costs were set for each region based on IEA Statistics.

Panasonic Group published a new vision “Panasonic GREEN IMPACT” in January 2022, with the intention to realize the vision linking with our business activities. Therefore, approximately 420 billion yen for the group-wide total R&D expenses in fiscal 2022 will be invested mostly for promoting “Panasonic GREEN IMPACT”.

Eco-conscious Products and Factories

Initiatives for Eco-conscious Products (Green Products)

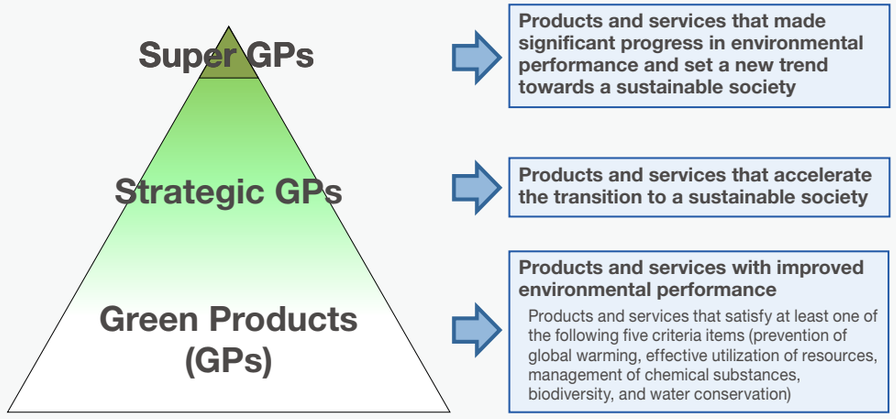
Based on the product assessment system where the environmental impacts of products and services area assessed from the planning and the design stages, Panasonic Group defines own products and services that achieved high environmental performance as Green Products (GPs).

In the GP accreditation criteria, we assess the performance of our products in terms of prevention of global warming, effective utilization of resources, and management of chemical substances by comparing them not only with our own products but also with competitors' products. Since fiscal 2012, we have conducted various activities to further enhance our accreditation criteria by adding biodiversity and water conservation to existing items. This has in turn enabled the creation of a wider range of GPs. The products and services which have been developed from the conventional superb Green Products*1 starting from fiscal 2014, and which can accelerate the transition to a sustainable society, are newly defined as Strategic GPs.

Among these products, those that particularly create new trends are certified as Super GPs.

*1 Products and services that showed superb environmental performance to products in the same category in the industry.

Green Product Structure



Definition of Strategic GPs

Products and services that accelerate the transition to a sustainable society:

(1) Products and services that reduce environmental impact with top-level environmental performance in the industry
(Energy-/Resources-/Water-saving products, etc.)

(2) Products and services whose promotion and dissemination lead to reducing environmental impact
(Recyclable or energy-creating products, energy-storing products, energy management systems, smart houses and smart cities, smart meters, products/services that support next-generation vehicles and environmental performances of stores, LED lighting, etc.)

(3) Products and services that reduce environmental impact on a specific region, or support measures to address environmental impact
(Air filtration devices, water filters, environmental engineering service, etc.)

Environment

Products Assessment System

Product Environmental Assessment		
Items for assessment		**Assessment criteria**
(1) Products	Prevention of global warming	CO_2 emissions and energy saving
	Effective utilization of resources	Resource saving, light weight/downsizing, number of reused parts, durability, amount of recycled resources used, structure of easiness for removing batteries, structure to recovery/recycling, etc.
	Water and biodiversity conservation	Water saving, consideration for biodiversity
	Comparison with competitors' products	
(2) Production process (of relevant products)	Prevention of global warming	CO_2 emissions and energy saving
	Effective utilization of resources	Resource saving, mass of packaging materials to be wasted, amount of resources used, amount of waste from factories, etc.
(3) Packaging	Effective utilization of resources	Resource saving, light weight/downsizing, amount of foamed plastic used, amount of recycled resources used, etc.
(4) Instruction manual	Effective utilization of resources	Resource saving, light weight/downsizing, amount of recycled resources used
(1) (2) (3) (4)	Management of chemical substances	Panasonic Group Chemical Substances Management Rank Guidelines (for products and factories)
LCA*2		Global warming
Information management		Green procurement, information provision across the supply chain, etc.

Laws/regulations and criteria, guidelines, and environmental action plan of Panasonic Group

*2 Life Cycle Assessment: Method of quantitatively assessing the environmental impact of products at each life cycle stage.

Increase in sales volume of Strategic GPs

In fiscal 2014, Panasonic Group newly defined "Strategic GP" in order not only to pursue the environmental performance of consumer products, but also to commit ourselves to further increase sales volume of various products and services which lead to mitigation of environmental impact in the course of structural reform of business such as expansion of B2B business. Based on the definition, we have worked to create such products and services. In addition to reducing environmental load on a global scale with top-level environmental performance, we aim to accelerate a shift to a sustainable society through various business operations, including products or services whose contribution to reduce environmental load can be expected by promoting diffusion of them, as well as whose contribution to reduce environmental load directly in specific regions can be expected.

Initiatives for Eco-conscious Factories (Green Factories)

Panasonic Group We are leading Green Factories (GF) activities in its efforts to cut down the environmental load caused by manufacturing. On the assumption of compliance of laws and regulations in each factory, concretely we formulate a plan to reduce environmental loads in manufacturing activities, such as amounts of CO_2 emission, generated wastes and valuables, water consumption, and discharged and transferred chemical substances, conduct Progress management for total reduction amount with basic unit of discharged amount and the like, and improve the activities. Thereby, we intend to achieve reduction of environmental loads and increase of our business at the same time. In fiscal 2011, we started the GF assessment system*3 aiming to further improve GF activities by visualizing the progress status in each factory.

In addition, Panasonic Group shares information on global activities for reducing environmental loads, relevant laws and regulations, and social trends through the Manufacturing Environmental Information Sharing Group. In Europe, Southeast Asia, China, and Latin America, we hold information exchanges and competitions on best practices by region to reduce environmental impact (presentation of awards for best practices and roll-out of good examples to other regions). By doing so, we promote GF activities suited to the issues in each region to expand and accelerate the activities.

As measures to strengthen the group-wide foundation aiming at improving the structures with energy efficiency, we have developed a BA (Before/After) chart search system to share and spread knowhow across the world on the Internet. With the system, each factory can register and share their best practices concerning managing CO_2, waste, chemical substances, water, etc.

Environment


cross-company compliance assessment (CCCA)

In addition to the above, in response to environmental regulations, as a new activity to further ensure regulatory compliance in our sites, particularly those in China and Southeast Asia where we have numerous productions sites, we conduct a Cross-Company Mutual Environmental Audit that is carried out by our factories located in the same region, crossing the operating company's boundary. During pandemic, we were able to reduce risks and improve interactive skills without stopping our activities, combining online meetings considering COVID-19 infectious status in various region. We aim to further enhance the environmental activities by accelerating to carry out the mutual audits worldwide, and encouraging mutual learning among members through ensuring compliance with relevant laws and regulations, as well as utilizing expertise accumulated in our Group companies.

*3 The GF assessment system enables factories to evaluate themselves on a five-point scale across 19 environmental activity items, classified into six basic groups: emissions reduction; environmental performance enhancement; reduction activities; risk reduction; human resource development; and management. Factories then compare their self-assessment results with the results from other factories to obtain a relative assessment to identify issues to be addressed and determine corrective measures. The system was improved in fiscal 2014, in the way that items to assess could be added to the standard 19 items as required by each operating company. For example, a Company may implement tasks concerning compliance with environmental laws and compliance management to strengthen risk management in its factories. Then, in the assessment questionnaire, they can set questions with their own standard values stricter than the legal requirements, for example, for their ventilation systems or other facilities that control air and water quality.

Reducing CO_2 Emissions in Factories

Reducing the Amount of the Energy Used and CO_2 Emissions in Production Activities

To achieve Panasonic GREEN IMPACT, Panasonic Group has been working on toward making zero-CO_2 factories[*1] by promoting our efforts internally and externally to realize net zero CO_2 emissions at own sites in all our operating companies by 2030.[*2] For this medium term, we created Green Plan 2021; specifying “energy” as one of the key issues. In factories, our focus will be on “promoting zero-CO_2 model factories,” “increasing the use of renewable energy,” and “promoting production with minimum energy.” At the same time, we set up the Zero-CO_2 Factory Promotion Taskforce in September 2021. The taskforce aims to further accelerate making zero-CO_2 factories by discussing and providing measures common to whole Panasonic Group, and the like. The taskforce consists of Energy Saving Working Group for discussing and promoting energy-saving measures, Renewable Energy Utilization Working Group for discussing expansion of renewable energy use in each site, and Renewable Energy Procurement Working Group for promoting procurement of renewable energy. We will support such activities in all operating companies with members participated from relevant departments, collaborating with relevant job functions such as those of manufacturing, procurement and environment. In November 2021, we held an online seminar for Panasonic Group members with 470 participants whose number is 3 times of the average number of the participants in conventional seminars.

Panasonic Group also participate in Keidanren Carbon Neutrality Action Plan that is a voluntary action plan to alleviate global warming promoted by the entire electric and electronics industry. We have been working steadily to save energy more in factories, and the like, targeting at the industry’s “improvement of 1% for the annual average in energy intensity in factories and large offices per basic unit toward 2030”

*1 Direction that Panasonic is heading for: To become a top runner in the fields of ‘Environment’ and ‘High usability in business.’

WEB https://news.panasonic.com/global/stories/2021/90376.html

*2 Panasonic Group’s making zero-CO_2 factories means realization of net zero CO_2 emissions from factory production across the world. To do so, we promote our conventional energy saving activities (e.g., switching to LED lighting), advanced energy saving technologies such as Factory Energy Management System (FEMS), productivity improvement, and innovative manufacturing. Other means include a combination of the following efforts: promoting use of renewable energy such as by adopting photovoltaic power systems, energy storage equipment, and hydrogen fuel cells; by procuring electricity derived from 100% renewable energy sources; and by obtaining environmental values. Panasonic Group published both internally and externally our efforts toward reaching our goal of net zero CO_2 emissions at the sites of each of all our operating companies by 2030.

Promotion of Zero-CO_2 Model Factories[*3]

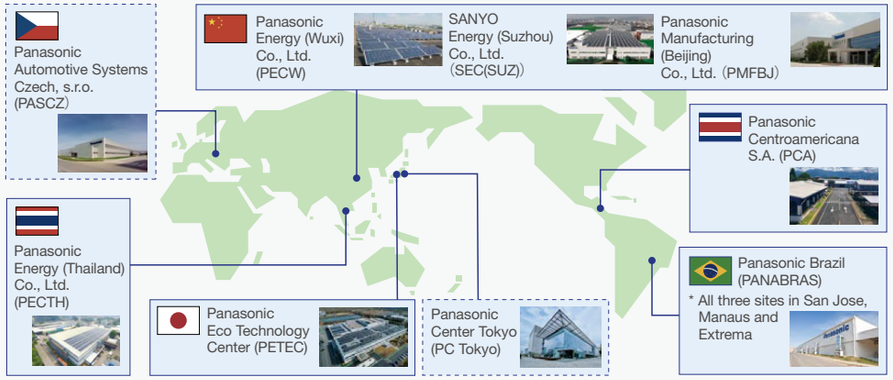
Panasonic Group realized our first two zero-CO_2 factories in fiscal 2019, i.e., a home appliance recycling factory in Japan and a consumer battery factory in Europe. Since then, more and more zero-CO_2 factories have been realized in the world. The succeeding zero-CO_2 factories were all 3 sites of Panasonic Brazil (Co., Ltd.), i.e., Extrema, San Jose, and Manaus, and one in Panasonic Centroamericana S.A. (Corp.) in Latin America. These were followed by Panasonic Energy (Wuxi) Co. Ltd., SANYO Energy (Suzhou) Co., Ltd., and Panasonic Manufacturing (Beijing) Co., Ltd. in China. In fiscal 2022, Panasonic Energy (Thailand) Co., Ltd. became the Group’s first zero-CO_2 factory in the Southeast Asian region. These efforts have steadily spread worldwide, and we now have zero-CO_2 model factories in all five regions[*4] across the globe.


Panasonic Energy (Thailand) Co., Ltd. (PECTH)

The factory of Panasonic Energy (Thailand) Co., Ltd. (PECTH), which achieved zero CO_2 emissions in fiscal 2022, manufactures primary batteries such as alkaline/manganese batteries. After investigating and analyzing the overall energy consumption of the entire premises, PECTH established a system to visualize and analyze the energy consumption of the production facilities that consume a lot of energy in order to improve their utilization ratio and reduce quality loss. For other power generation facilities and the like, PECTH promoted energy saving by reducing operational losses and replacing equipment with more efficient equipment, while utilizing electricity generated by own solar power generation system, procuring I-REC (International Renewable Energy Certificate) certified electricity, and furthermore, utilizing credit to offset CO_2 emissions from fossil fuels, and the like. As a result, PECTH achieved a reduction of approximately 16 kt CO_2 emissions in fiscal 2022. PECTH has been working to install additional photovoltaic power generation systems with larger capacities to the existing systems.

Environment

Zero-CO_2 Factories across the Globe*5



*3 "Promoting zero-CO_2 model factories" means implementing advance activities to realize zero-CO_2 model factories in each region in the world through obtaining knowhows.

*4 Five regions are: Japan; China & Northeast Asia; Southeast Asia, Pan Pacific, India, South Asia, Middle East and Africa; North & Latin America; Europe & CIS.

*5 ★As of now, 9 factories have realized zero-CO_2 factories: h PETEC, PANABRAS (three factories), PCA, PECW, SEC (SUZ), PMFBJ, PECTH.PASCZ concluded its contract in January 2022 (counted only as model factories in fiscal 2022). PC Tokyo is a non-manufacturing site.

Activities for Increasing the Amount of Renewable Energy Use

To increase the amount of renewable energy in our business use, Panasonic Group has been actively promoting installation of renewable energy facilities in our own sites and renewable energy procurement from external suppliers.

The amount of renewable energy adopted at our sites*6 in fiscal 2022 marked 43 GWh and successfully achieved the fiscal 2022 target of "renewable energy generated at our sites of 40 GWh".


Photovoltaic power generation systems at PEDJM

Installation of renewable energy facilities has been actively encouraged in our own sites across the world in a way to suite to the regional characteristics. Particularly, photovoltaic power generation systems are recommended for installation wherever possible. The major achievement in fiscal 2022 was installation of photovoltaic power generation systems in China. Panasonic Electronic Devices (Jiangmen) Co., Ltd. (PEDJM) respectively installed a 3.36 MW system on the roof of its factory and a 0.58 MW system as a solar carport. These systems are now in operation and generate electricity in total 3.94 MW, which is the largest in a single site in Panasonic Group's history.

For further examples of our renewable energy usage, see the following website:
WEB https://holdings.panasonic/global/corporate/sustainability/environment/carbon-neutral/site.html

Procurement of renewable energy from external sources has been also promoted across the globe. In Japan, at our own site, we are an electricity user, and at the same time, an electricity retailer (registration number: A0136). Since 2005, we have been supplying power to our own sites, factories, and offices. Utilizing our knowhows and experience of electricity procurement and trading that we have accumulated to date, we procure 100% renewable electricity generated from wind, etc., as well as electricity with environmental value such as those with non-fossil fuel certificates and credits to offset CO_2 emissions from fossil fuel. This effort contributed to converting factories in Japan, China, and Southeast Asia to zero-CO_2 factories. We have also determined to develop our own photovoltaic power station with an 18,000 kW capacity for use at own sites in fiscal 2022 and aimed to commence operations by the end of 2022. As described above, we continue to contribute to expanding use of electricity from new renewable energy sources. We also started selling to Panasonic Group employees in Japan, electricity derived from practically 100% renewable energy in fiscal 2021.

In August 2019, Panasonic Group joined "RE100"*7, an international initiative that brings together companies committed to sourcing 100% renewable electricity for their global business operations. We aim to switch all the electricity used in our sites across the world to that sourced from 100% renewable energy by 2050. Progress in fiscal 2022 was 6.7%.

*6 The total amount of the adoption is subject to the amount of photovoltaic energy, wind power, and so on including the amount of the renewable energy adopted at our non-manufacturing sites, excluding the amount of energy from heat pumps.

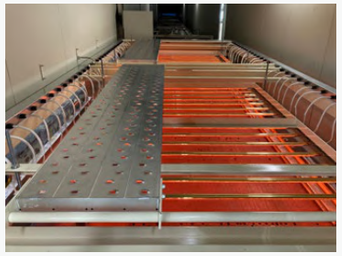
*7 Press release on August 30, 2019.
Panasonic Joins RE100 Aiming for Business Operations with 100% Renewable Energy
WEB https://news.panasonic.com/global/press/data/2019/08/en190830-2/en190830-2.html

Promotion of manufacturing using minimum energy

To ensure steady progress in reducing the amount of energy used and CO_2 emissions , it is important to visualize trend of the energy consumption of each facility in factory and the effects of the measures for specific emissions reduction for promoting manufacturing with minimum energy. To date, we have been working on CO_2 reduction by adopting more than 40,000 measurement devices and Factory Energy Management System (FEMS) at all of our global manufacturing sites, promoting METAGEJI (Meter and Gauge)*8, which visualizes and analyzes energy consumption.

See an example of factory energy-saving support service on the following website.
WEB https://www.panasonic.com/global/corporate/sustainability/eco/co2/service.html

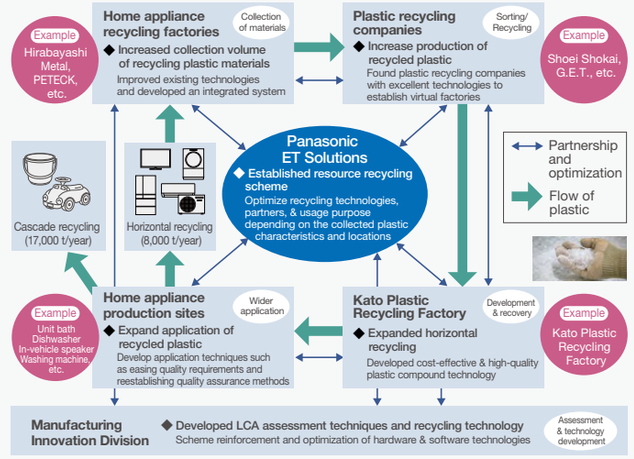
Environment


Direct heating production line at PAPARS

Panasonic Group has been working on to reduce production loss utilizing IoT and to improve productivity in production with innovative manufacturing methods. Panasonic Appliances Air-Conditioning and Refrigeration Systems Co. Ltd. (PAPARS) has minimized energy usage in the preheating process in manufacturing cold chain products. This was achieved by accurately understanding the heating conditions through steady temperature measurements in the production lines and use of simulations. This led to the adoption of a direct heating method using a near-infrared heater, changing from the conventional indirect heating method for filling a large space with heated air. These activities also eliminated the necessity for the steam required for indirect heating in the production process. The new heating method has been adopted to mass production facilities from fiscal 2023. We are now expanding efforts in energy usage minimization to other production processes.

Moreover, Panasonic Environmental Technology Solutions Co., Ltd., the Kitchen Appliances Business Division of Living Appliances Solutions Company, Kato Plastic Recycling Factory, and the Manufacturing Innovation Division of Panasonic Corporation jointly established a nationwide recycling supply chain that significantly reduces GHG emissions from production processes and expands resource recycling of recycled plastic. The companies liaised with a number of partners, including home appliance recycling factories and plastic recycling companies, through a scheme called a “virtual factory under a partnership with excellent recycled plastic companies.” The scheme was supported by “improved material collection efficiency by optimizing the sorting system together with other technologies”, “Development of technologies for analyzing materials and for physical property recovery, which achieves both cost reduction and good quality”, and “Development of technologies how to effectively use recycled plastic”. We also revised the quality standard to allow black spots in product parts that are not seen by users to expand the usage of recycled plastics. These efforts reduced the waste to be incinerated and the new material to be used, achieving a GHG reduction of approximately 95,000 t. The partnerships built in this scheme can be a platform not only applicable for plastic recycled from discarded home appliances but also for other types of plastic recycling, and expandable to other industries. We plan to widen the scope of the scheme towards realizing a circular economy. (Received the Minister’s Award under the FY2021 Awards for Resources Recirculation Technologies and Systems hosted by the Ministry of Economy, Trade and Industry, Japan.)*9

Overview: Recycling Supply Chain for Home Appliance Recycled Plastic



*8 METAGEJI is a coined word created by Panasonic Group which refers to visualizing energy consumption and implementing measurable reduction measures by adopting measurement instruments such as meters and gauges.
*9 Panasonic’s project, “Establishment of Circular Supply Chain of Plastic Recycled from Home Appliances” received the Minister’s Award under the FY2021 Awards for Resources Recirculation Technologies and Systems hosted by METI, Japan.

Activities at Factories

Panasonic Energy (Wuxi) Co. Ltd. (PECW) in China achieved zero CO_2 emissions in fiscal 2021. SANYO Energy (Suzhou) Co., Ltd. (SEC (SUZ)), which is under the management of PECW, achieved zero CO_2 emissions and at the same time, obtained the carbon neutrality certificate issued by the Chinese government.


SEC (SUZ)


Carbon neutrality certificate obtained by SEC (SUZ)

To achieve this status, SEC (SUZ) identified issues specific to the Suzhou Factory while referring to precedent cases in Panasonic Group and implemented 12 different activities, including switching the production heat source from natural gas to steam. This led to 1,288 t of CO_2 emissions reduction per year, as well as achieving zero CO_2 emissions and obtaining carbon neutrality certification in a short period of time through the use of environmental values.

Environment

Collaborative plans in response to China's carbon peak out and carbon neutrality long-term policy

The Chinese government published its long-term policy for carbon peak out and carbon neutrality, more focusing on reduction of CO_2 emissions . As Panasonic Group has a number of business sites within China, we will clarify specific environmental issues in China that Panasonic Group should tackle and our contribution values . To address any identified issues, we will proactively establish collaborative plans optimized for the local site in China utilizing our accumulated expertise of CO_2 emissions reduction in production processes. While following the development of the CO_2 emissions trading scheme targeted at the electricity industry throughout China, we became aware that the total power generation capacity from non-fossil power stations in China exceeded that of coal power stations for the first time in 2021. In line with this, we will continue to explore ways of replacing the power we consume with renewable energy-sourced electricity from the viewpoint of establishing collaborative plans with local stakeholders. Although we are not in the eight sectors that must follow the Chinese CO_2 emissions trading scheme, we will actively look for business partners to collaborate for the scheme.

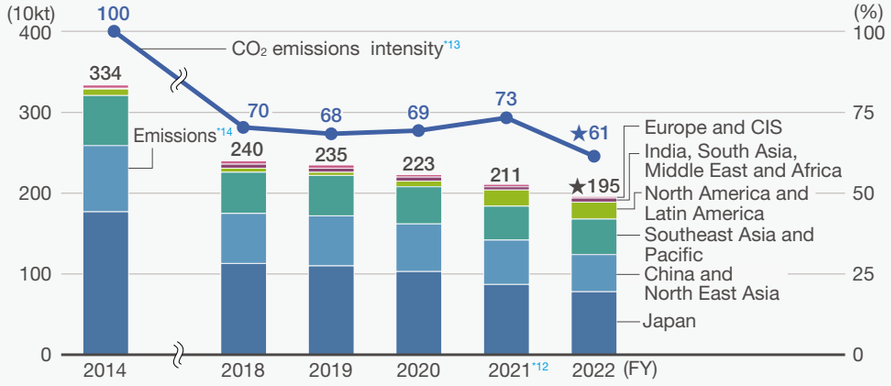
Fiscal 2022 Results

These efforts in fiscal 2022 resulted in 4.9 TWh[*10] of the energy used in factories, and the amount of CO_2 emissions was 1.95 Mt. The fiscal 2022 investment to reduce the amount of energy used and CO_2 emissions by the efforts was 1.9 billion yen.[*11]

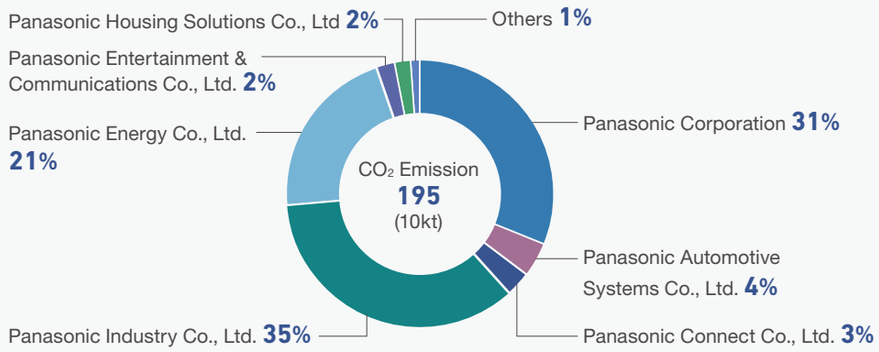
*10 In fiscal 2021, the unit used to measure the energy consumed in a factory was changed from TJ to TWh. The consumed power is measured in kWh and the consumed fuel is measured using its calorific value and then converted to electrical power units at 3.6 MJ/kWh. These two values are then totaled.

*11 The total amount includes all investments concerning reduction of the amount of the energy used and CO_2 emissions. Note that differences or proportions of the investment are not calculated.

CO_2 Emission in Production Activities and CO_2 Emission (by region) Per Basic Unit



CO_2 Emission in Production Activities (by operating company)



*12 Includes emissions of Panasonic Corporation of North America after FY2021

*13 We calculated the improvement rate of the 'CO_2 emissions per basic unit' versus that of fiscal 2014', which was obtained by dividing CO_2 emissions by the revenue of all Panasonic Group companies.

*14 The CO_2 emission relevant to fuels was obtained by calculating with the factors stated in the "Guidelines for Calculation of Greenhouse Gas Emissions/Report Manual" published by Japan's Ministry of Environment. The factors for purchased electricity by country per fiscal year set by Panasonic Group based on the factors stated in "CO_2 emissions from fuel consumption" by International Energy Agency (IEA). The FY2014 factors in the Book 2017 were used for FY2014. The FY2017 factors in the Book 2018 were used for FY2017. The FY2018 factors in the Book were used for from FY2018 to FY2021. The FY2022 factors in the IEA Emissions factors 2021 were used for FY2022.

Breakdown of Total GHG Emissions (CO_2-equivalent) in Production Activities (by category)[*15]

[Unit: kt]

			FY2020	FY2021	FY2022
Scope 2 Energy sources			1,927	1,862	★1,723
Scope 1	CO_2 from energy sources		295	246	★232
	CO_2 from non-energy		91	82	★106
	(non-Energy Sources)	*CO_2*	*1*	*1*	*1*
		HFC	*80*	*73*	*101*
		PFC	*6*	*4*	*1*
		SF_6	*3*	*3*	*3*
		NF_3 and others	*1*	*1*	*1*
Carbon offset by credit					-12
Total			2,312	2,189	2,048

*15 The emissions of GHG other than CO_2 from energy sources by Hussmann Parent Inc. and its consolidated subsidiaries, and Panasonic Corporation of North America are not included.

Resources

Promotion of Circular Economy

Alongside changes in customer lifestyles, there is now a growing global trend for customers to use only specific functions of a product, rather than using or owning the whole product. In Europe, building a circular economy for sustainable economic growth has become a major economic strategy, in a move away from continuous resource consumption. This trend is spreading around the world along with the change in customers' sense of values. Amid this development, the Panasonic Group is introducing the idea of circular economy and moving forward in efforts to promote effective utilization of resources and maximization of customer value.

The circular economy activities we promote have two aspects: 1) creation of circular economy businesses, and 2) evolution of recycling-oriented manufacturing.

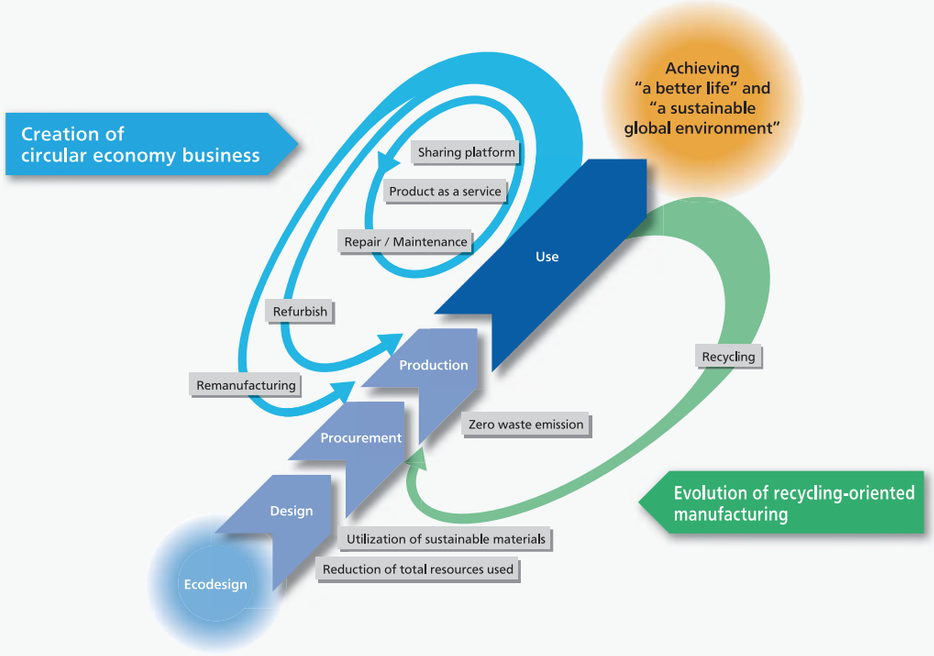
In order to realize the new value of using only product functionalities instead of using or owning the whole product, we will strive to create circular economy businesses. These include a "Sharing service", where multiple users use the same individual product, a "Product as a service" where services are fulfilled based on functions, and "Repair and Maintenance, Refurbish and Remanufacturing", where functions, values, and the lifecycle of a product are utilized in the most efficient manner by recycling or reusing the product itself or the components used in the products.

Alongside this, we continue to implement recycling-oriented manufacturing by reducing the total amount of resources used, utilizing sustainable resources, and striving towards zero waste emissions. Furthermore, we will develop recycling-oriented manufacturing to a higher level by using innovative materials and the latest digital technologies.

With all these activities, we aim to realize both "A better life" and a "Sustainable global environment" towards Panasonic GREEN IMPACT PLAN, based on an ecodesign concept which maximizes customer value in use by increasing resource efficiency at each process in design, procurement, and production.

[Concept for the Actions toward Circular Economy]

We will promote effective utilization of resources and maximization of customer value by creating circular economy business and evolving recycling-oriented manufacturing.



As specific activities, we took actions to meet our targets regarding resources in Green Plan 2021. In order to create our own circular economy businesses, we assessed our entire existing product and solution portfolio to identify items that correspond to the circular economy concept. The assessments cover how the product is used, the product life cycle, and more than 10 items concerning the product's market. We have completed mapping of the relationships between our existing businesses and the circular economy. Now, we will step by step shift the current businesses to circular economy related businesses based on the mapping.

We accomplished to use at least 42 kt of recycled resin (cumulative from FY2020-2022), and we have also achieved the target of 99% or more for factory waste recycling rate.

Environment

We continue to work towards achieving the resource-related targets listed in GREEN IMPACT PLAN (GIP) 2024. We plan to adjust our existing businesses along the circular economy aspects as outlined in our concept above. We are also using the same mapping with future new businesses, and aim to establish at least seven new circular economy business models by 2024.

We plan to improve materials to meet both the characteristics requirements and environmental safety, ensure stable supplies, advance production technology to use new materials, and improve recycling technology, through which we aim to achieve a total of more than 90k tons of recycled resin (cumulative from FY2023-2025). Addtionally, zero waste emissions are important for us as a part of efficient usage of resources and we will continue our efforts to achieve a factory waste recycling rate of 99%.

To accelerate these activities, we started the 'Global Circular Economy Project' in April 2020 with Panasonic Europe as the project lead. As one of the project related activities, we are promoting recycling activities in various regions across the world.

Creation of Circular Economy Business


IoT-linked electrically-assisted bicycles

In our drive to promote the efficient use of resources and to maximize customer value, we are working to create businesses based on a circular economy model. Our first business model is our "sharing service." In January 2022, we started a two-year trial of an IoT-linked electrically-assisted bicycle sharing service for residents of apartments in Japan[*1]. Demand for electrically-assisted bicycles has recently increased due to their convenience and comfort for short-distance trips. However, owning an electrically-assisted bicycle is sometimes difficult for those living in an apartment with a small parking space or because use of the bicycle is infrequent. For this reason, we decided to conduct a field trial of a closed bicycle sharing service where the IoT-linked electrically-assisted bicycles are shared among residents of the same apartments, to assess the feasibility of the service and identify potential issues in service operations. In this trial, six households in "noiful base Komagome"[*2], a rental property managed by our group company, share three IoT-linked electrically-assisted bicycles stationed in the apartment. Residents can reserve and unlock the bicycles using a dedicated application. The property manager monitors the usage of the IoT-linked electrically-assisted bicycles through a customized management software. When a bicycle's battery becomes low, the manager replaces it with a fully charged one stored in the charging locker. We are seeking to add value to properties that are further away from the nearest train station and also utilize the batteries in the charging locker for emergencies, such as a power blackout. Based on the results from this trial, we aim to develop a new and highly convenient transportation service.

Moreover, as a model for "products as a service," we have implemented a scheme to provide display cases with refrigerators/freezers, combined with a refurbishment service for those refrigerators and freezers: Instead of selling refrigeration equipment to supermarkets, convenience stores or other food retailers, the service offers "food refrigeration" as a value. The refurbishment scheme focuses on inspecting and repairing display cases that have been used at retail chain stores for reuse at other retail stores. These services are expected to reduce maintenance and energy costs, and at the same time it will facilitate cheaper, low-budget store renovations by making business management more efficient.


Air Conditioner Cleaning Service

We plan to improve our group's Air Conditioner Cleaning Service in Japan[*3] in early November 2022 by newly setting up a website dedicated for cleaning orders and a cleaning notice service (free of charge) for models covered by the service. To date, the timing for cleaning air conditioners has been left to the discretion of customers. This new service helps customers know the appropriate timing to order cleaning. For conventional air conditioners subject to cleaning, the notice is submitted according to the number of years since purchase. For IoT-linked air conditioners, the number of years since purchase and operational hours etc. are used to determine the cleaning timing. The cleaning order (chargeable) website under development will improve customer convenience by offering easy access to our cleaning service. The technician disassembles the indoor unit into its components—the louver, fan, filter, etc.—and cleans each part by hand. Also, the heat exchanger is cleaned with high-pressure water. We provide the service so that customers can enjoy their air conditioners over many years.

In addition, we are also promoting the following activities based on a circular economy concept. One example is building renovation: A building that we had used as a showroom and for other purposes for nearly 20 years was renovated through a joint effort with our partners. It has been transformed into a business and commercial complex named TENNOZ Rim[*4] which includes a co-working space, studio, laboratory, lounge and café. We consider renovation projects enabling more effective use of existing structures with additional performance features to be better than activities related to new buildings, as a circular economy business.

Environment


Co-working space in TENNOZ Rim

As a result of the application for the grant of the Subscription-Based Air Conditioner Promotion Model Project solicited by the Japanese Ministry of the Environment in January 2022, our project was successfully adopted*5. Death from heatstroke is a growing social concern, and 80% of those dying from heatstroke across Japan are the elderly aged 65 and above. In Tokyo's 23 wards, more than 80% of heatstroke deaths in 2021 were of the elderly aged 65 and above. Most of them were found dead indoors and some 90% of cases were not using an air conditioner. Among the cases not using an air conditioner, 20% did not actually have one installed. To prevent heatstroke, installing an air conditioner and promoting appropriate usage are important. However, the initial cost of installing an air conditioner can be an obstacle. To contribute to preventing cases of heatstroke, now a social issue, we are promoting our subscription-based business model targeted at households with elderly members and children. In this model, we are collaborating with local authorities (Kumagaya City, Saitama Prefecture, and Kanuma City, Tochigi Prefecture) and installers through our group's sales and support schemes and structures. We are also gathering statistical data that helps the Ministry of the Environment to establish heatstroke countermeasures, as well as to assess our business feasibility.

*1 See WEB https://news.panasonic.com/jp/topics/204533.html

*2 The first property rented under the "noiful LIFE" property renovation and management service, operated by Living Appliances and Solutions Company. The service is designed to increase the property value and ensure stable renting operations by refurbishing existing properties in a tasteful style and with matching electrical appliances installed. Location: Nakazato 2-21-5, Kita City, Tokyo, Japan

*3 See WEB https://news.panasonic.com/jp/press/data/2021/09/jn210921-5/jn210921-5.html

*4 See WEB https://www.tennoz-rim.tokyo/

*5 See WEB https://news.panasonic.com/jp/press/data/2022/03/jn220329-1/jn220329-1.html

Evolution of Recycling-Oriented Manufacturing

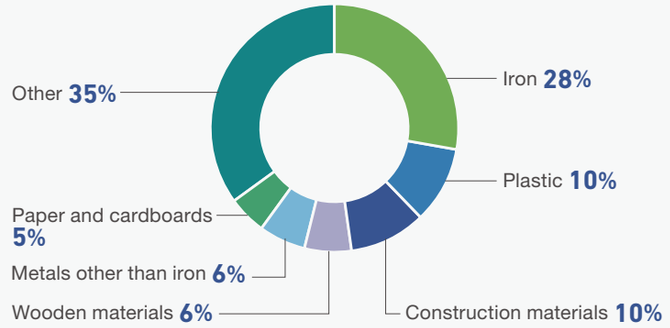
We use many kinds of resources, including iron (28 % of total resources used) and plastic (10 % of total resources used), because of our wide range of products and businesses, from home appliances, components such as semiconductors and batteries, housing, and B2B solutions. In recycling-oriented manufacturing, we are further working on reducing the input of virgin resources, while increasing the amount of recycled resources. And in that context, we are working to establish a circular system according to resource type and features.

Furthermore, we are clarifying recycled resource use by identifying the volume of each type of resource used across the Panasonic Group. For example, in the case of recycled resin, we used approx. 14.7 kt of recycled resin in our products in fiscal 2022. We worked on responding to the characteristic required for components, ensuring a stable supply, devising ways to use at the manufacturing site, and developing recycling technologies. As stated above, we used 43.3 kt of recycled resin (cumulative from FY2020) and achieved the goals of Green Plan 2021. In addition, we will continue to develope materials with less environmental impact, such as resins developed from plant-derived materials, and incorporate them in products.

As for the factory waste recycling rate*6, we had traditionally set different targets for Japan and countries outside Japan according to the relevant local infrastructures. However, given increased awareness of the importance of zero waste emission activities, we have set a globally standardized target since fiscal 2011 and are taking steps to improve the standard level of waste recycling across the entire Group.

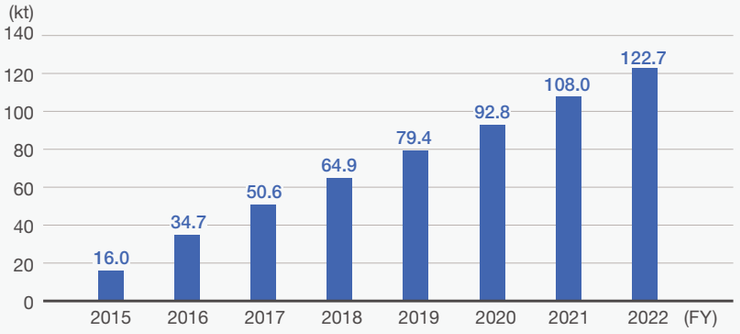
*6 Factory waste recycling rate = Amount of resources recycled/(Amount of resources recycled + Amount of landfill)

Breakdown of Input Virgin Resources Used in Fiscal 2021 (by category)



Environment

Results of Recycled Resin Usage (Cumulative total from fiscal 2015)



Reduction in Resources Used

To minimize the use of resources for production, we continuously look to reduce the weight of our products. Through the Product Environmental Assessment (see page 31), we have been promoting resource saving from the product planning and design stage, such as using less resources, making our products lighter and smaller, and using less components. We also implement various measures from the standpoint of resource recycling throughout the product life cycle, such as component reuse, longer durability, use of recycled resources, easier battery removal, and labels necessary for collection/recycling.

Examples of weight reduction and recyclable product design are also introduced in the following website.

WEB https://www.panasonic.com/global/corporate/sustainability/eco/resource/recycling_oriented_manufacturing.html

Use of Sustainable Materials

Under the concept of “product-to-product”, we are enhancing our initiatives of utilizing

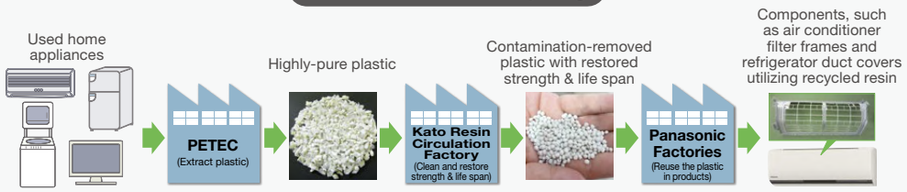
resources recovered from used products. As for resin, we promote the reuse of resin recovered from our used home appliances (refrigerators, air conditioners, washing machines, and TVs) for our products. We also started recycling scrap iron recovered from used home appliances in our products in 2013.

WEB Our approaches to Resources Recycling
https://www.panasonic.com/global/corporate/sustainability/eco/resource_sp.html

Enhanced Use of Recycled Resin

To efficiently utilize resin recovered from used home appliances in addition to metals such as iron, copper, and aluminum, our recycling factory, Panasonic Eco Technology Center Co., Ltd. (PETEC), and Kato Plastic Recycling Factory of the Appliances Company work together for resin recycling.

Process of Resin Recycling



Near-infrared sorting machine that can sort three types of resin simultaneously

Using technologies such as our original near-infrared identification technology, PETEC is capable of sorting shredder residue of waste home appliances into three major types of resins with different purposes and properties—polypropylene (PP), acrylonitrile butadiene styrene (ABS), and polystyrene (PS)—at a material purity of over 99%.

The recycled single resins sorted and recovered at PETEC are then transferred to the adjacent Kato Plastic Recycling Factory to be further purified and processed to recover their chemical properties. Kato Plastic Recycling Factory is a manufacturing and development site that demonstrates promotion of use of recycled resin at our Living Appliances and Solutions Company, a home appliance manufacturer and seller. The factory plays an important role in enhancing recycled resin utilization by developing recycling technologies, such as a more efficient method that improves the performance of recycled resin. Generally, the strength and lifespan of resin deteriorate over time. This is why its chemical properties have to be recovered to the level of new resin to make them usable as materials and components in new products. Because of the differences in the physical properties required by different products, we have been examining the properties of recycled polypropylene and polystyrene and have developed technologies to create new formulas for resin components, adding our own proprietary antioxidant and mixing recycled resin with new resin.

Development and Use of New Sustainable Materials

Cellulose fiber can be derived from various natural resources, such as wood residues from forest thinning, and other organic wastes, and it is now drawing attention as a resource with

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low environmental impact. In fiscal 2019, we developed a composite polypropylene (PP) resin containing plant-derived cellulose fiber as an additive. Also, we developed a molding material mixed with plant-derived cellulose fiber. This new eco-conscious material is used in the frame parts of our cordless stick-type vacuum cleaner and contributes to its reduced weight, one of the most important features of the product. In fiscal 2020, the content of the cellulose fiber could even be increased to more than 55% while maintaining the whiteness of the material thanks to our special processing technology.

We have completed the prototype testing of a composition material with a 55% density cellulose fiber, called kinari, with the prospect of 10 tons/month production. In January 2022, we commenced sample sales of kinari. We aim to contribute to environmental protection through increasing usage of kinari in a variety of consumer products. We also provide production goods and services (e.g. molds and molding processes) at the request of customers. We have already started development and sales of actual kinari products, such as buttons for apparel companies and soap dispensers, in collaboration with companies who endorse our environmental efforts. We will continue to increase the product lineup as a part of our environmental contributions.

In fiscal 2021, we further advanced the technology to increase the amount of cellulose fiber, and established a process that enables 70% cellulose fiber composition, along with a technology that can smoothly mold the material into products. These technologies increase the plasticity of the material despite the high content of cellulose fiber, enabling product designs intended to feature the natural feel of the material. (The product received the MEXT Minister's Prize under the FY2021 50th Japan Industrial Grand Prize held by Nikkan Kogyo Shimbun, Ltd.)

We successfully established a commercial level of technology to mix a high density plant-based cellulose fiber into resin. We then applied the same technology to mix cellulose fiber into plant-based resin (bio-polyethylene) and successfully developed 90% high density cellulose fiber composition materials. Mixing a high density cellulose fiber into soft bio-polyethylene enabled us to achieve the same strength as our conventional kinari, but in a white color.


Cellulose fiber composition materials with a biomass content of 90% or more

In the area of housing materials, we exclusively developed an eco-conscious wood-based flooring substrate that utilizes 100% recycled wooden materials (excluding glue) made from construction waste. Thanks to our wide-ranging processing technologies, we successfully created a substrate with high density with superior solidity compared with general plywood and which offers excellent scratch and dent resistance. The starch in wooden materials can attract insects (lyctus), however, our product is insect resistant as it has a low starch content. This is because the wooden materials used in the product are mainly derived from conifers and old broadleaf trees are only used sparingly. The product is also waterproof due to our exclusive technology. This product can reduce the consumption of natural materials and also contributes to preserving biodiversity (see pages 56-60).

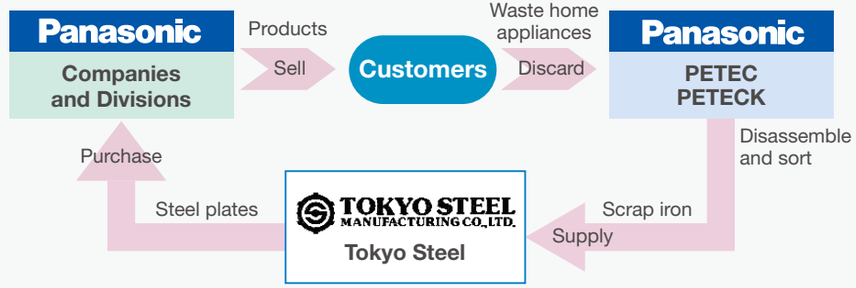
We intend to develop more new products with this technology, focusing also on developing new recyclable resources.

WEB **Technology contributing to the circular economy: Environment-friendly housing materials**
https://news.panasonic.com/jp/stories/2020/83913.html
WEB **Developed a high-density cellulose fiber composition material which has flexibility in design**
https://news.panasonic.com/jp/press/data/2019/07/jn190708-1/jn190708-1.html
WEB **Commenced sales of samples of kinari, high density cellulose fiber composition materials**
https://news.panasonic.com/jp/press/data/2021/12/jn211201-2/jn211201-2.html
WEB **Jointly developed ECOALF, the sustainable fashion brand of Sanyo Shokai Ltd.**
https://news.panasonic.com/jp/press/data/2022/03/jn220330-2/jn220330-2.html
WEB **Jointly developed the K-WORLD ism products with Panasonic Production Engineering Co., Ltd.**
https://news.panasonic.com/jp/press/data/2022/04/jn220419-3/jn220419-3.html
WEB **Developed 70% high density cellulose fiber composition materials**
https://news.panasonic.com/jp/press/data/2021/02/jn210204-1/jn210204-1.html
WEB **Developed 90% high density cellulose fiber composition materials.**
https://news.panasonic.com/jp/press/data/2022/03/jn220318-2/jn220318-2.html

Building a Recycling Scheme for Scrap Iron

Jointly with Tokyo Steel Co., Ltd., we started a recycling scheme for scrap iron in July 2013. In this scheme, we recover the scrap iron from used home appliances and Tokyo Steel makes it into steel sheets. We then purchase the sheets back as a material for our products. Supplying scrap iron for recycling and repurchasing the recycled iron is the first scheme of its kind in the Japanese electrical manufacturing industry.

Self-recycling Scheme for Electric Steel Plates



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Specifically, scrap iron from home appliances collected and treated at PETEC and Panasonic Eco Technology Kanto Co., Ltd. is supplied to Tokyo Steel, where the scrap iron is processed into electrical steel plates.*7 The Panasonic Group procures the recycled steel plates and utilizes them in products. Discussions with Tokyo Steel commenced in 2010, and we have worked together since then to improve the quality of recycled iron to a level sufficient for production use, as well as developing the technology to improve the applicability of the recycled iron. From this we identified the optimum application of the electrical steel plates, and refined its specific features (e.g. shape, strength, and weldability) to meet application-specific requirements. Use of thin electrical steel plates in our products was first made possible in 2011. Through this close collaboration, we materialized this recycling scheme in 2013, a scheme where a home appliance recycling company that we own supplies scrap iron to be used to make electrical steel plates.

The amount of scrap iron we initially supplied to Tokyo Steel was about 50 t per month. In fiscal 2022, it reached over 2.4 kt per year, and the recycled steel is being used in our products, including washing machines and ceiling materials for housing.

Self-recycling Scheme Process

PETEC・PETECK

Supply high quality scrap iron recovered from home appliances

Tokyo Steel

Add supplied scrap iron to the electric steel plate manufacturing process

Completed electric steel plates

Panasonic

Processing electric steel plates

(Photos: Lightweight ceiling materials by Panasonic Homes)

The increase in electrical steel plate usage leads to an increase in the usage of scrap iron, which is one of the most important resources in Japan. In addition, producing steel plates from scrap iron emits much less CO_2 compared with producing steel plates from scratch. This scheme also stabilizes the procurement price, because the price of scrap iron supplied from PETEC and the price of electric steel plates procured from Tokyo Steel are determined by the scrap iron fluctuation rate agreed between the two companies. We will further expand this recycling scheme for more efficient resource utilization, CO_2 emissions reduction, and stabilization of procurement prices.

*7 Steel produced from scrap iron melted and refined in an electric arc furnace.

Zero Waste Emissions—Improving Factory Waste Recycling Rate

From the viewpoint of effective usage of resources, we believe that generation of waste and revenue-generating waste at factories must be minimized, even if such waste could be sold as valuable commodities. Based on this belief, we identify the amount of generated waste (including both revenue-generating waste and factory generated waste) and classify it into: (1) recyclable waste (including those that can be sold and those which can be transferred free of charge or by paying a fee), (2) waste that can be reduced by incineration or dehydration, and (3) landfill (waste with no option other than being sent to landfills).

We reduce the emission of waste by boosting yield in our production process and increasing the recycling rate of our waste materials. Accordingly, we strive globally toward achieving our Zero Waste Emissions from Factories*8 goal by reducing the amount of landfill to nearly zero. We have reinforced such efforts particularly in China and other Asian countries, where many of our factories are located.

With the waste plastic import control introduced in China, the volume of material being recycled has dropped, leading to an increase in landfill waste disposal. As a result, the factory waste recycling rate in fiscal 2022 was 99.0 %, achieving the 99% target in our Green Plan 2021. We will introduce more activities which aim to maintain and improve the factory waste recycling rate.

As a means to reduce the generation of waste, we are fostering resource-saving product design. In our production activities, we are engaging in resource loss reduction, employing our own unique material flow analysis methods. We consider materials that do not become products and excessive use of consumables as resource losses, and make the material flow and lost values for each process visible in order to resolve the issues in close collaboration with the design, manufacturing, and other relevant business divisions. In the future, we will promote further reductions in resource losses through the Resource Loss Navigation, our original system developed to automatically display information to help reduce resource losses.

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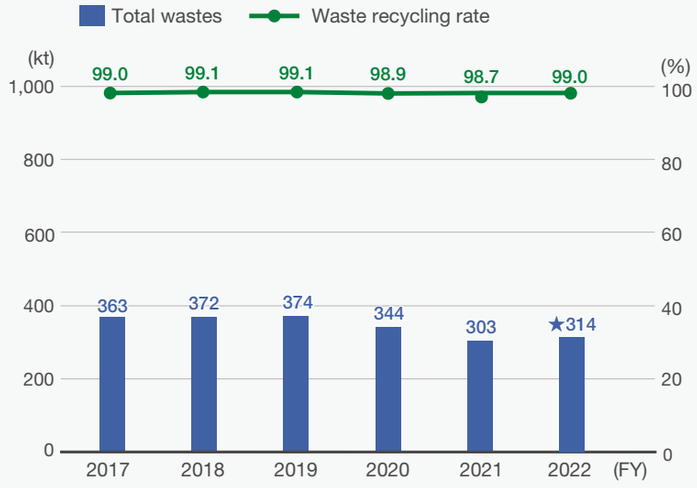
As measures to reduce the amount of landfill of waste and revenue-generating waste, we constrain the amount of waste materials that are particularly difficult to recycle, such as thermosetting resin. We are also strictly adhering to waste sorting practices in production processes to further expand the reuse of resources.

Because waste recycling rates in our overseas factories lag behind those in Japan, we have worked to improve the average level of recycling activities by sharing information within and between regions outside Japan. Specifically, in addition to accelerating the information sharing on waste recycling issues between our local factories and group companies in Japan, we also promote the sharing of excellent examples and know-how among our factories across regions by utilizing BA Charts*9 prepared by each region, following our long-standing approach toward CO_2 reduction activities.

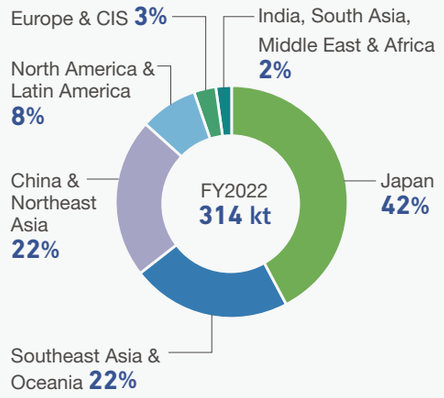
*8 Definition by the Panasonic Group: Recycling rate of 99% or higher. Recycling rate = Amount of resources recycled/(amount of resources recycled +amount of landfill).

*9 A chart-format summary of comparisons between "before and after" implementation of waste reduction and recycling measures.

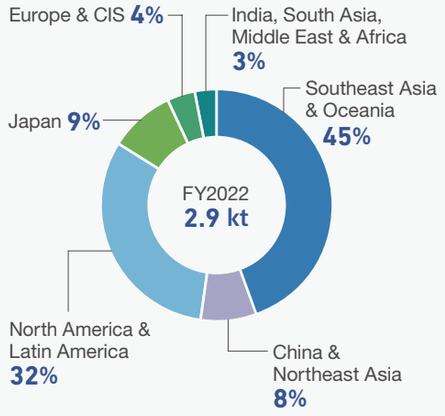
Amount and Recycling Rate of Total Wastes Including Revenue-generating Waste



Breakdown of Total Wastes Including Revenue-generating Waste (by region)



Breakdown of Landfill (by region)



Breakdown of Total Wastes Including Revenue-generating Waste for Fiscal 2021 (by category)

(kt)

Items	Total wastes	Recycled	Landfill
Metal scrap	137	136	0.8
Paper scrap	33	33	0.04
Plastics	37	35	1
Acids	22	15	0.1
Sludge	10	8	0.3
Wood	25	23	0.01
Glass/ceramics	3	3	0.1
Oil	14	13	0.05
Alkalis	19	18	0.004
Other *10	14	12	0.6
Total	314	295	2.9

*10 Combustion residue, fiber scraps, animal residue, rubber scraps, debris, ash particles, items treated for disposal, slag, infectious waste, polychlorinated biphenyls (PCBs), waste asbestos.

Global Initiatives for Used Product Recycling

For the purpose of efficient use of natural resources and prevention of environmental pollution, many countries around the world have been enacting recycling laws and developing their recycling systems. Examples include: the Law for Recycling of Specified Kinds of Home Appliances (Home Appliance Recycling Law) and the Act on the Promotion of Effective Utilization of Resources in Japan, the WEEE (Waste Electrical and Electronic Equipment) Directive in the European Union, and recycling-related laws in many states in the United States as well as in China. In addition to complying with the Basel Convention which controls the transfer of hazardous waste to non-OECD countries as well as with related laws in respective countries, the Panasonic Group strives to establish the most efficient recycling system in each country that is in line with its local recycling infrastructure, including the utilization of third parties.

Product recycling results in fiscal 2022 are as shown below. As for the situation outside Japan, with the decrease in the volume of collection and recycling due to recent reforms of business areas in various countries, the weight of collected products is on a flat or downward trend.

FY2022 Results

Japan Processed approx.	166.40 kt of four kinds of used home appliances
Europe Collected approx.	21.87 kt of used electronic products
USA Collected approx.	53 t of used electronic products

Product Recycling Initiatives in Japan

In response to the Home Appliance Recycling Law of 2001, which covers four specified kinds of home appliances[*11], manufacturers were grouped into two groups, Group A and Group B, to collect and recycle the four specified kinds of used home appliances. We belong to Group A, and to work on recycling, we have established Ecology Net Co., Ltd. jointly with Toshiba Corporation to operate and manage a geographically dispersed recycling network through the effective use of existing recycling facilities nationwide. This management company supervises 329 designated collection sites (shared by Group A and Group B) and 30 recycling plants, based on consignment from Group A manufacturers (18 companies including the Panasonic Group). Additionally, we invest in Panasonic Eco Technology Center Co., Ltd. (PETEC), Panasonic Eco Technology Kanto Co., Ltd. (PETECK), and Chubu Eco Technology Co., Ltd. (CETEC)[*12] and exchange information with product manufacturing divisions to develop easy-to-recycle designs, as well as conducts research and development to efficiently recover and supply more resources. In fiscal 2022, we recycled approx. 166.40 kt of the four specified used home appliances.


Machine to turn over air conditioner outdoor units at PETECK

Although the statutory recycling rate[*13] is being raised in phases, our recycling plants have been achieving recycling rates higher than the legal requirement by reviewing and improving recycling equipment and processes in view of the characteristics and materials of respective products as well as higher recycling efficiency.

In the summer of 2019, PETECK automated a part of its air conditioner processing line, using an articulated robot to turn over and transfer air conditioner outdoor units during the dismantling process. The recognition device identifies the position and size of the outdoor unit, and based on the identified information the articulated robot picks up and moves the unit to the standard dismantling process or to the process for dismantling special items such as window-type units. This has enabled safe and efficient air conditioner processing, relieving workers of dangerous work that required physical strength to turn outdoor units (weighing 33 kg in average) upside down.

As for PETEC, it promotes high grade single-plastic recycling using plastic recognition equipment. See page 40 for more details.

*11 Air conditioners, TVs, refrigerators/freezers, and washing machines/clothes dryers.
*12 PETEC is a company fully invested by the Panasonic Group, and PETECK and CETEC are joint ventures between Mitsubishi Materials Corporation and the Panasonic Group.
*13 Statutory recycling rate = Recycling rate specified by law (Valuable resource weight/Total weight of used home appliances).
The statutory recycling rates were raised in 2009 and 2015, and are currently at least: 80% for air conditioners, 55% for CRT TVs, 74% for LCD and plasma TVs, 70% for refrigerators and freezers, and 82% for washing machines and clothes dryers.

WEB **Overview of Recycling of Specified Home Appliances (Japan)**
https://www.panasonic.com/global/corporate/sustainability/eco/resource/recovery/recycling.html
WEB **Panasonic Eco Technology Center Co., Ltd. (PETEC)**
https://panasonic.net/eco/petec/

Efforts in the Europe / CIS Region

In 2021, we collected approx. 21.87 kt[*14] of used products covered by the WEEE Directive across Europe.

Circular Economy as the main trigger for usage of recycled material in products

The EU released its 1st and 2nd ‘Circular Economy Action plan in 2018 and 2020, and in a similar

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way, many EU Member States have published their own national Circular Economy Action Plans. Meanwhile, we see more and more legislative requirements coming up in in Europe that put the usage of recycled material in new products in its focus. As an example, the draft EU Ecodesign for Sustainable Products Regulation (ESPR) has been published – expected to enter into force 2024 or 2025 – will set the legal frame for minimum amounts of recycled material that will be individually defined for different product groups. Accordingly, Panasonic has started considering how to prepare our business for such new recycled material requirements in future. For instance, this includes ensuring stable material supplies with guaranteed quality. In addition, we intensified the internal discussion about the impacts on product design, the enhanced reuse of products and components, or how to further improve and simplify the recyclability of products.

*14 Calculated by multiplying the weight of collected products per collection system by our market share in terms of weight per collection system.

Efforts in North America

The Panasonic Group continues its leadership role in establishing and operating a recycling system for waste batteries and consumer electronic products in North America. Following the startup of a state recycling law in Minnesota in July 2007, we established the Electronic Manufacturers Recycling Management Company, LLC (MRM), jointly with Toshiba Corporation and Sharp Corporation in September of the same year, and began recycling TVs, PCs, and other electronic equipment.

With collaborative ties to several recycling companies, MRM operates collection programs on behalf of numerous companies across 20 states and the District of Columbia. The cumulative total of collection by MRM has exceeded 1.2 billion lbs. (approximately 600 kt) since its inception in 2007. With the changes in our business strategies in the US, our remaining collection obligations are de-minimis, MRM will continue operating its collection programs on behalf of the manufacturers it serves.

As for waste batteries, we established Call2Recycle in 1994 jointly with other battery manufacturers, and now provide recycling programs for rechargeable batteries throughout the US and Canada. Call2Recycle provides collection program and a robust retail collection network for over 300 companies, and collected more than 94.5 kt of primary and rechargeable batteries in the US and Canada since the organization's inception.

Recycling end-of-life products in Canada started in 2004 with the Alberta Government Extended Producer Responsibility (EPR) Regulation. Since then a total of ten provinces and two territories have legislated WEEE, each with their own unique parameters and requirements. In an effort to harmonize these programs, Panasonic Canada takes an active role in the governance of the Electronic Product Recycling Association, a not-for-profit management organization. The currently active provincial EPR programs have proven to be very effective in diverting e-waste as reflected in 2020 totals, where 109.41 kt in Canada were collected.

Efforts in China

In China, we are engaged in activities to clarify the products covered by the Second Catalog (published in February 2015) of the Regulation for the Administration of the Recycling and Treatment of Waste Electrical and Electronic Products, which was published in May 2012 and enforced in July of the same year. In addition, we actively gather information and submit comments on setting unit-based rates for the covered products, toward early disclosure of information by Chinese governmental organizations such as the Ministry of Environmental Protection and the Ministry of Finance.

We are also carrying out an assessment of the development of the Plan on Promoting Extended Producer Responsibility promulgated by the government in January 2017, as well as reviewing our responses toward the expected publication of operational rules to the China Solid Waste Environmental Pollution Prevention Law which was enforced in September 2020.

Efforts in Southeast Asia and Oceania

Vietnam

Since the introduction of recycling law in Vietnam in July 2016, producers and importers are required to establish a take back scheme for their products sold in Vietnam. Panasonic Sales Vietnam has since set up 7 collection points: two in Ho Chi Minh, and one each in Hanoi, Thanh Hoa, Nghe An, Da Nang, and Can Tho. Between January 2021 and December 2021, 29.5 t of e-waste were collected and sent to licensed recyclers for proper treatment.

In November 2020, the National Assembly passed the Law on Environmental Protection 2020 which sets out requirements for a wide range of environmental issues, including the enhancement of e-waste management in Vietnam. In January 2022, the Government issued "Decree 08/2022 Detailing a Number of Articles of the Law on Environmental Protection" and "Circular 02/2022/QD-TTg Detailing the Implementation of a Number of Articles of the Law on Environmental Protection," under which producers/ importers are required to contribute financially for waste treatment of primary batteries on 1 January 2022. Producers/ importers are also required to contribute financially or self-manage e-waste recycling for rechargeable batteries from 1 January 2024 and electronic products from 1 January 2025.

Panasonic Sales Vietnam will work closely with the Vietnamese government to support the implementation of an effective waste treatment and e-waste recycling scheme.

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Australia

The National Television and Computer Recycling Scheme (NTCRS) was established in Australia in 2011. Effective from 1 July 2021, the Recycling and Waste Reduction (Product Stewardship –Televisions and Computers) Rules 2021 made under the Recycling and Waste Reduction Act 2020 will provide a new legislative framework to manage waste, recycling and product stewardship.

Panasonic Australia (PAU) partnered with Ecycle Solutions, a co-regulatory arrangement approved by the Australian government to fulfill its obligation under the national scheme, since May 2021. Between January 2021 and December 2021, 209 t of e-waste were recycled. PAU will confirm the co-regulatory arrangement for the new fiscal year in August.PAU has played an active role in the Battery Stewardship Council (BSC) in designing a voluntary stewardship program for batteries, becoming a formal Member in March 2021. This scheme is intended to manage all types of end-of-life batteries except for automotive lead-acid batteries and batteries that are currently included in a stewardship or recycling scheme. In 2020, BSC was granted authorization to establish and operate this voluntary scheme. PAU looks forward to participating actively in this scheme and contribute towards the efforts of sustainable e-waste management in Australia.

Singapore

The Resource Sustainability Act introduced in Singapore in 2020 requires producers of regulated consumer products to join the licensed Producer Responsibility Scheme (PRS), which started in July 2021. For Compliance Year 2021 (July 2021 – June 2022), a Collection Target of 60% (of weight supplied) was set for regulated Large Household Appliances (LHAs) and 20% for Portable Batteries. Panasonic Singapore is working closely with the authorities and PRS operator to ensure the smooth implementation of the PRS. Between July 2021 to Dec 2021, a total of 2,897 tons of regulated e-waste was collected by the PRS operator, of which LHAs comprised of a total of 92.7% by weight.

Other Countries in Southeast Asia and Oceania

Regulators in Malaysia, Thailand, the Philippines, and New Zealand are also gearing towards the global trend of mandating end-of-life product recycling. Discussions with regulators and industry bodies are in progress. We hope to contribute to the formulation of sustainable e-waste management policy in each country through engagement with local governments and industry associations and participation in pilot recycling projects.

Efforts in India

In India, the new e-waste recycling law has been implemented by the Ministry of Environment, Forests and Climate Change (MoEFCC) from the 1st of October 2017, with Extended Producer Responsibility (EPR) targets based on end-of-life (EoL) defined in the e-waste (Management) rules 2016. To fulfill the compliance, we will collect and recycle waste home appliances through the “I Recycle” program already established by Panasonic India (PI).

We have also been taking part in the Consumer Electronics and Appliances Manufacturers Association (CEAMA), which promotes an analysis of current recycling activities in India as well as a long-term plan for waste problem solutions.

We are having various dialogues with the Indian government, jointly with CEAMA, about the EPR target and EoL definition for recycling management.

We are also actively engaged in different active associations including the Federation of Indian Chambers of Commerce and Industry (FICCI) and Confederation of Indian Industry (CII) to establish an even more efficient and robust recycling system and to submit industry comments to the Indian government for a better governance system.

Efforts in Latin America

In response to a growing trend in stricter environmental laws in Latin American countries, discussions on the establishment of recycling laws and actual enforcement are being conducted.

In Brazil, a sectoral agreement on home appliances was concluded in October 2019, and a Federal Decree specifying a system to collect and recycle household electrical and electronic equipment was enforced in January 2021. As one of the main members of a waste home appliance management body (ABREE), we collaborated in the establishment of a reverse logistics system (a system to collect used products), and promotes efficient collection and treatment of used products.

In Peru, under the recycling law that came into force in 2016, we joined a nonprofit waste management organization (ASPAGER) as a leading member, and started a used-product recovery program.

In Colombia, a framework law for home appliance recycling was enacted in 2018. We have been a member of a used-product collection program (Red Verde/Lumina) conducted by an industry group (ANDI) since 2014, prior to the enactment of operational rules.

In Mexico, a collection program is implemented under the government-approved recycling management plan.

In Chile, the legislation is being considered, and preparations for setting up a collection program are underway through continuous discussions with the government.

Water Resource Conservation

Way of Thinking about Water Resource Conservation

It is said that available fresh water is only about 0.01% of the Earth's total water resources. We understand that the water crisis is one of the global risks, considering further increase in water consumption because of economic growth and population increases in near future.

As risks of extreme water shortages is becoming higher as one of social issues, Panasonic Group has been working to conserve water resources both in its products and production activities, in order to fulfill its social responsibility and to reduce risks in the management. Our Environmental Policy (Refer to page 8) sets that we make efforts to conserve water resources by using water efficiently and preventing water pollution. In accordance with Panasonic Group's environmental action plan "Green Plan 2021" and the new environmental action plan "Green Impact Plan 2024," we have been continuously working on reducing the water used in our production operations. As for risk management, we had conducted water conservation activities, aiming to complete our water risk assessment at all our production sites by fiscal 2019, and have completed 100% of the assessments.

Specifically, we evaluated the scale of water risk at all regions where our production sites are located, in order to identify and mitigate effects of water on our business activities. In the evaluation, we utilized evaluation tools such as Aqueduct supplied by the World Resources Institute (WRI) and the Water Risk Filter supplied by the Worldwide Fund for Nature (WWF), which can evaluate risks in various aspects; not only from physical risks such as water shortages, but also from the risks in water-related regulations as well as reputation risks in each region. We also made use of public databases available from respective national governments. In areas with higher water risks, we collected information through public local information as well as through hearings with relevant organizations, etc. By conducting detailed analyses and close examination of the local information and the site data including water use volumes, we, more specifically, identified the effects on our business activities. We steadily proceeded processes of the water risk assessments, and in fiscal 2018, completed water risk assessments at all of our production sites of Panasonic Group. At present, no water risks that could affect Panasonic Group's business activities have been reported. Yet, we will continue to make efforts to reduce water consumption in our production activities in the future under the water risk assessment that had been implemented.

For promoting these activities, Panasonic Group have established a structure for the promotion of environmental management, including water management (see pages 14). We are now conducting environmental activities using PDCA cycle under the structure, and are upgrading the environmental management level. In addition, we have organized an Environmental Risk Management Structure to continuously reduce environmental risks; under the structure, we (1) identify environmental risks and promote risk management in whole Panasonic Group every fiscal year and (2) promptly respond to the risk when it arises (see page 16). Through these activities, we will continue to manage our environmental risks.

Moreover, Panasonic Group have participated in the Water Project, a public-private partnership project aimed at boosting awareness of water conservation, which was launched under the initiative of Japan's Ministry of the Environment in 2014. Objectives of the project are to maintain a sound water cycle and promote its recovery. The project distributes water-related activities conducted by corporations, and water-related information including importance of water. Panasonic Group will work in cooperation with the Japanese government and other companies to conserve water resources.

Water Resource Conservation through Products

By thoroughly analyzing the use of water through our products, we have developed functionalities that allow a considerable amount of water conservation by utilizing water at a maximum level through improvement of water flow control and cyclic use. In fiscal 2012, we enhanced one of the criteria, water conservation, in our Green Product accreditation criteria (see page 30), and has accelerated the development of industry-leading products that contribute to water saving.

Example of water-saving products are introduced in the following website.

WEB https://www.panasonic.com/global/corporate/sustainability/eco/water.html

Initiatives for Water Resource Conservation through Production Activities

By collecting and reusing wastewater from our manufacturing processes and air conditioning systems, Panasonic Group has been reducing the amount of makeup water used and wastewater effluent. Through these activities, we reduce environmental loads on water resources due to the intake and effluent of water in production activities.

As many regions around the world are threatened by water shortages, Panasonic Group has been conducting production activities, balancing water resource conservation in focused regions.

The amount of water used at factories in fiscal 2022 resulted in 17.24 million m^3, which is

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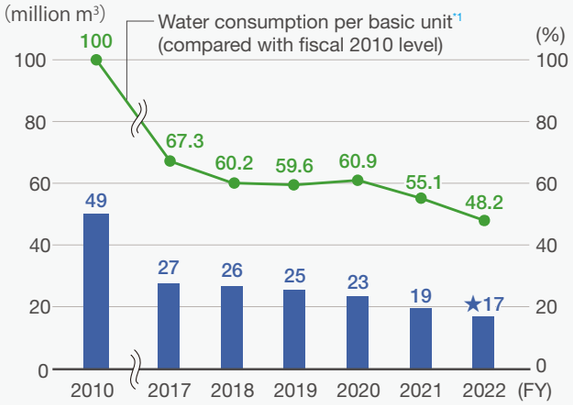
reduced by 10.2% versus the fiscal 2021. The water used at our factories per basic unit of production*1 got better year-on-year thanks to positive effects of the structural reform. Our use of recycled water*2 in fiscal 2021 was 2.54 million m³, accounting for 14.7% of the total amount of water used. The amount of discharged water in fiscal 2020, 2021, and 202 resulted in 18.02 million m³, 14.81million m³, 13.39 million m³, respectively.

*1 Water used at factories per basic unit of production = Water used at factories/Production volume.
*2 The calculation excludes the water circulating for a single purpose (e.g., water in a cooling tower).

Water Consumption in Production Activities and Water Consumption Per Basic Unit



Note: Then-SANYO Electric and Panasonic Liquid Crystal Display not included in fiscal 2010.

FY2022 Breakdown of Water Consumption (by region)

(10 thousand m³)

Region	Consumed	Municipal water/ industrial water	Groundwater	Rivers/lakes	Discharged	Sewer systems	Waterways
Japan	953	413	541	0	798	160	638
China & Northeast Asia	403	401	1	0	280	208	71
South East Asia, & Oceania	305	279	26	0	228	178	50
North America & Latin America	34	21	13	0	17	14	2
Europe & CIS	9	7	2	0	8	8	1
India, South Asia, Middle East & Africa	20	2	19	0	8	8	0
Total	1,724	1,122	602	0	1,339	576	763

Panasonic Industry Co., Ltd. (54 sites), uses the highest amount of water in all operating companies in Panasonic Group. The company managed to achieve a year-on-year decrease of 27.2% in water consumption (7.88 million m³) in fiscal 2022, thanks to their focused efforts and business restructuring. The achievement rate for reducing the amount of water used per basic unit was 157%, showing an improved basic unit because production is recovering from the negative effects from the COVID-19 pandemic in the previous year.

Against the backdrop of the increasing occurrence of natural disasters in recent years, such as earthquake and flood disasters, Panasonic Industry Co., Ltd. Saga site achieved a reduction of environmental risk and environmental impact, considering a possible chemical leakage from the outdoor storage site in the company premises. This was accomplished by replacing their water purification system, which used a chemical-based regeneration method for the ion-exchange resins, to a system that uses an electrical regeneration method.

At the same time, the company installed a wastewater collection system that separates the wastewater generated by the water purification into concentrated wastewater and collection water. The company is now able to reduce the water consumption for the entire factory by 18 thousand m³ per year by reusing the collection water.

Panasonic Group will continue our efforts to conserve water resources.

Device Solutions Business Division Saga, Panasonic Industry Co., Ltd.

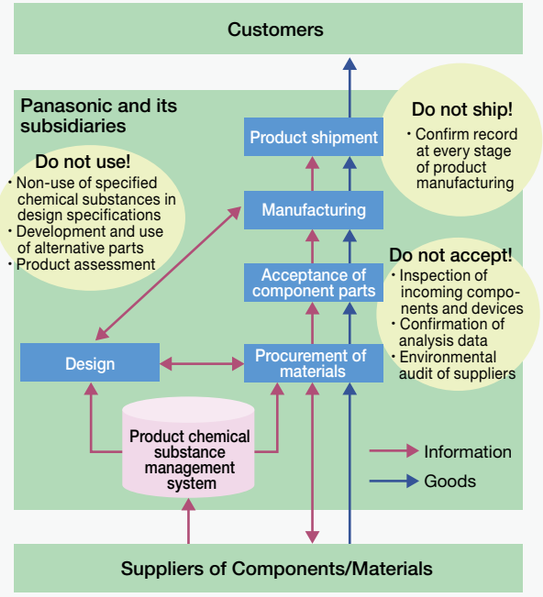

Water purification system with electrical resin regenerator

Chemical Substance Management

Approaches to Reduce the Environmental Impact of Chemical Substances

In order to prevent contents of hazardous substances prohibited under the EU RoHS Directive*1, published in 2002 and revised in 2011, and the like to Panasonic Group's products, it is important not on to pay attention to the contents at the stage of product design, but also to ensure that specified substances are not contained in products to purchase. Therefore, Panasonic Group has rolled out the "Do not accept! Do not use! Do not ship!" campaign throughout the each production process from designing to shipment inspection in production activities at business sites across the world since October 2005. Specifically, as for the stage of inspection for incoming components, we have established a mechanism to check and analyze whether specified chemical substances are included by introducing an analyzer. In addition, we have supported to establish a Product Chemical Substances Management Structure, by periodically conducting environmental audits for suppliers of components/materials which may have high risks of containing specified chemical substances.

Specified chemical substance management system

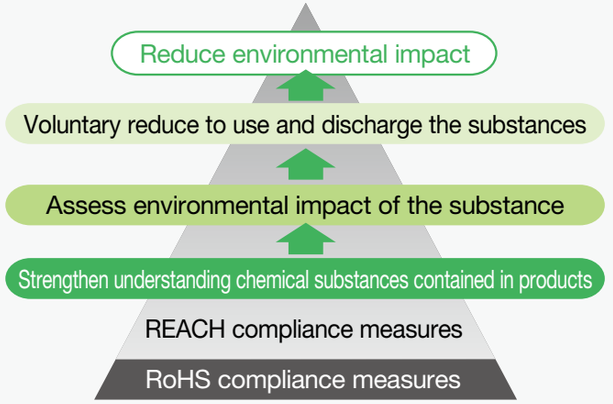


Meanwhile, as represented by the enforcement of the REACH regulation*2 in the European Union, the world implemented measures toward the goals agreed at the World Summit on Sustainable Development (WSSD) held in 2002, which is to produce and use all chemical substances in a manner that minimizes their impact on human health and the environment. It is now at the stage of reviewing and summarizing its efforts to date. In support of the precautionary approach proposed in the Rio Declaration made at the Earth Summit in 1992, Panasonic Group aim at manufacturing products in line with our basic policy of reducing the use of chemical substances that might adversely affect human health and the environment throughout their lifecycles. As for concrete activities, we have worked to comply with relevant regulations such as EU RoHS, as a matter of course. In addition, we have worked to reduce the environmental impact of our products by (1) identifying hazardous substances contained in our products, (2) evaluating these substances on their environmental impact, and (3) voluntarily reducing or discontinuing their use in case of any environmental risks.

*1 Directive on the Restriction of the use of certain Hazardous Substances in electrical and electronic equipment
The RoHS Directive currently restricts use of the following ten substances beyond the specified concentrations shown in parentheses:
lead (0.1%), cadmium (0.01%), mercury (0.1%), hexavalent chromium (0.1%), polybrominated biphenyls and polybrominated diphenyl ethers (0.1%), four types of phthalates (0.1%).
However, the RoHS Directive allows exemptions from its restrictions for a limited time if substitution is technologically or scientifically impossible. Exemptions stipulate specific restrictions on the use, concentration limit, and time frame for each substance.
<Exemption examples>
Lead: Glass, ceramics, and high-temperature soldering used in electronic components.
Mercury: Cold-cathode tubes in LCD backlighting and fluorescent lighting.
Note that vehicles and batteries are not subject to restrictions under the RoHS Directive.
The EU End of Life Vehicles Directive details restrictions for vehicles and the EU Battery Directive details restrictions for batteries.

*2 Regulations on the registration, evaluation, authorization, and restriction of chemical substances.

Process to Reduce the Environmental Impact of Chemical Substances



Environment

In order to definitely implement such activities described above, we issued our Chemical Substances Management Rank Guidelines that specifies prohibited chemical substances and management substances concerning products and activities at factories. We request to take actions to the chemical substances in accordance with the guidelines, not only to Companies in the Panasonic Group, but also to our suppliers. In fiscal 2013, we added Level 3 of prohibited substances to the category of the Chemical Substances Management Rank Guidelines (For Products). We not only consider nonuse of the prohibited substances, or the substances to be prohibited under laws and regulations, but we also consider prohibiting concerned substances that may adversely affect human health and the environment in the future. Further, we are striving to comply with relevant laws and regulations, and mitigate effects of toxic substances on human health and the environment by increasing the number of globally prohibited substances (Level 1) beyond boundaries of countries subject to the applicable laws and regulations from 21 substances/groups in fiscal 2015 to 26 substances/groups in fiscal 2022.

The Chemical Substances Management Rank Guidelines (For Products) and relevant documents, which includes clear description of prohibited substances and management substances, is available for your downloaded from the following website. (Green Procurement).

WEB **Green Procurement (Download of Chemical Substances Management Rank Guidelines (For Products))**
https://holdings.panasonic/global/corporate/about/procurement/green.html

Chemical Substances Management Rank Guidelines (For Products)

Rank		Definition
Prohibit	Level 1	(1) A substance contained in products that is prohibited by existing laws and regulations; or a substance where the upper limit of concentration is specified. (2) A substance that will be prohibited in products by laws and regulations or where the upper limit of concentration will be specified within one year after the revision date of this Guidelines. Note that there is a case that a substance is specified as the Level 1 prohibited substance more than 1 year before the enforcement date, because of the enforcement dates of the law and the Rank Guidelines.
	Level 2	Substances other than those specified as Level 1 and to which either of the following criteria applies: (1) Substances to be prohibited in products after a certain period by a treaty, law, or regulation. (2) Substances that are prohibited in products by the Panasonic Group prior to the effective period specified by a treaty, law, or regulation. (3) Substances whose use is voluntarily restricted by the Panasonic Group.
	Level 3	Any substance other than those specified as a Level 1 or Level 2 Prohibited Substance that is under review for prohibition by laws, regulations, etc., and the clarification of substitution-related issues as well as the timing for prohibition will be reviewed by the Panasonic Group in light of future legislation trends.
Manage		Substances whose actual use in products needs to be understood and for which consideration needs to be given to human health, safety and hygiene, adequate treatment, etc. The intentional use of these substances is not restricted, but their use and contained concentration must be monitored.

Note: The laws, regulations and the substances subject to the above table are chemical substances specified as Class I Specified Chemical Substances under the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.; toxic substances whose manufacture etc. is prohibited by Article 55 of the Industrial Safety and Health Act; EU RoHS Directive; and Annex XVII of the EU REACH Regulation. For more details, see the chapter on Specified Managed Substances in the Chemical Substances Management Rank Guidelines (For Products).

Chemical Substances Management Rank Guidelines (For Factories)

Rank	Definition
Prohibit	Use of the following substances should be immediately discontinued: Carcinogens for humans Ozone depleting substances Substances whose use is prohibited by Panasonic Chemical substances designated as Class I Specified Chemical Substances by the Japanese Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Substances whose manufacture is prohibited by the Japanese Industrial Safety and Health Act Substances whose manufacture and use are prohibited by international treaties
Reduce	Substances whose use, release and transfer should be identified and reduced. Substances other than prohibited substances that might pose risks to human health and the environment.

Note: Covered legislation include: PRTR Act (chemical substances), environmental criteria under the Basic Environment Act; the Industrial Safety and Health Act; and the Stockholm Convention. For more details, see the contents on The Aim of Establishing the Chemical Substances Management Rank Guidelines (For Factories) in the Chemical Substances Management Rank Guidelines (For Factories).

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History of Panasonic Group's Initiatives to Reduce the Environmental Impact of Chemical Substances

Social trends

- 1989: The Montreal Protocol entered into force
- 1992: Earth Summit in Rio de Janeiro—Agenda 21
- 1996: Discontinuance of the use of specified chlorofluorocarbons by industrialized countries
- 2002: WSSD in Johannesburg
- 2006: The RoHS Directive entered into force
- 2007: The REACH Regulation entered into force

Panasonic Group 1990 | 1995 | 2000 | 2005 | 2010 | 2015

All products

- 1992: Discontinued use of PVC resin in packaging materials
- March 2003: Discontinued use of lead in solders globally*3
- October 2005: Discontinued use of six RoHS substances globally*3
- March 2009: Discontinued use of PVC in internal wiring of new products to be sold in Japan*3
- March 2011: Discontinued use of PVC in internal wiring of new products globally*3
- July 2018 Discontinue use of the four phthalates specified by the RoHS Directive in new products globally

Individual products

- 1991: Released mercury-free manganese dry cells
- 1992: Released mercury-free alkali dry cells
- 1995: Discontinued use of CFC refrigerant in refrigerators globally
- 2002: Discontinued use of HCFC refrigerant in air conditioners (Japan)
- 2004: Refrigerators in Japan market became fluorocarbon-free (Japan)
- 2006: Released lead-free plasma display panels
- 2010: Released fluorocarbon-free freezers using CO_2 refrigerant and compatible display cases
- 2013: Released air conditioners using new refrigerant R32 with low Global Warmer Potential (GWP) (Japan)

Chemical substances used at factories

- 1996: Discontinued use of chlorinated organic solvents
- 1997: Began identification work for PRTR
- 1999: Launched the "33/50" reduction activity*4
- 2004 (Japan): Achieved Voluntary Action Plan
  Reduced use by 75%
  Reduced release and transfer amount by 62% compared to fiscal 1999 level
- 2010 (Global): Achieved Voluntary Action Plan
  Reduced release and transfer amount of key-reduction target substances by 46% compared to fiscal 2006 level

*3 Excluding applications where the quality such as safety cannot be ensured, or applications where the material is designated by laws and regulations.
*4 A reduction activity that promotes cutbacks in the use, release, and transfer of chemical substances by 33% in three years and by 50% in six years, compared to the fiscal 1999 level.

Management of Chemical Substances in Products

To minimize the environmental impact of chemical substances contained in products, we endeavor to identify chemical substances used in the components and materials of our products. In addition, for substances that are prohibited in products in major developed countries because of laws and regulations such as the European RoHS Directive, we manage the substances not to be used and/or contained in our products by designating them as prohibited substances except the substance for specific usage which is unavoidable to use its substitution. We will also conduct environmental impact assessments for the managed substances contained in our products. As for a substance whose impact on human health and/or the environment cannot be ignored, we plan to reduce or prohibit use of the substance.

Continuously updating information concerning chemical substance contents

The electrical and electric products Panasonic Group manufactures and sells consist of various raw materials and components supplied through a long supply chain from material manufacturers to many component manufacturers. To contribute to the achievement of the global goals set at the WSSD, it is important for us to disclose and communicate information on the chemical substances used in our products across the supply chain, for which we must promote cross-industrial initiatives to establish and disseminate an effective system.

Panasonic Group is a member of the Joint Article Management Promotion consortium (JAMP). Approximately 440 major companies from various industries, such as chemical, component, and equipment manufacturers are also members of JAMP. We are proactively formulating, utilizing, and disseminating chemical substance management standards and systems through this organization.

Panasonic Group has started up a product chemical substance management system in fiscal 2005. From July, 2009, our 10,000 suppliers of materials and components provided us the data on chemical substances contained in their products, using JAMP's data transmission formats (JAMP_AIS and JAP_MSDSplus).

Meanwhile, in Japan alone, the workload of upstream suppliers increased, as a number of hazardous substance inspections were carried out throughout the supply chain using own company format. Having recognized the issues obtained from the inspections, the Ministry of Economy Trade and Industry proposed a new scheme to introduce "chemSHERPA," for sharing and exchanging information on chemicals contained in components and products. Because the format adopted for chemSHERPA complies with IEC62474, the international standard on material declaration for the electrical and electronic machinery industry and their products, Panasonic Group agreed to use chemSHERPA format, and in January 2018, started full-scale use of chemSHERPA as a data gathering format. With the supply chain expanding to a global scale, it is particularly important for overseas suppliers to deepen their understanding on the handling of hazardous chemical substances. Therefore, we carried out education programs for persons in charge of chemical substance management and suppliers at more than 100 of our business sites in ten countries including China and other Asian countries. At the same time, we completed conversion from JAMP format to chemSHERPA by June, 2018, when the JAMP format became unusable.

WEB **chemSHERPA website:** https://chemsherpa.net/english
(The JAMP website was merged into chemSHERPA on March 15, 2019)

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While the Japanese automotive industry has been using the JAMA/JAPIA sheet*5 to share information on chemicals used in products in the supply chain, IMDS*6 is actually the de-facto standard material data system used by the international automotive industry. With the backdrop of the Japanese automotive industry now shifting to IMDS from JAMA/JAPIA sheets, in October 2020 Panasonic Group undertook a full data migration to IMDS for use in our automotive business. We held seminars to more than 200 suppliers and completed a successful data migration. This means that Panasonic Group can now obtain data for the materials in the components received from our suppliers through IMDS into our management system for the chemical substances in our products, and, at the same time, we can deliver product chemical data to our customers. The system thus makes for easier material data communications throughout the supply chain.

Companies that procure electronic components need to fully understand the information on the substances contained in the components at the point of selection or usage in order to comply with the EU RoHS Directives and REACH regulations. Particularly, as the REACH Substances of Very High Concern (SVHC) List is updated every six months, those companies expect their suppliers to speedily provide information on the latest substance to the Panasonic Group.

In order for the companies procure electric components to speedily and effectively understand information on chemical substance contents, Panasonic Group has published a table of RoHS and REACH compliance status on our website since November 2012. The table covers our RoHS Directive compliance information and the substances designated in the RoHS/REACH Confirmation Report for all our major generic electronic components.

*5 The standard material data format in the Japanese automotive industry (standardized by the Japan Automobile Manufacturers Association and the Japan Auto Parts Industries Association).

*6 International Material Data System: Material data system for automotive industry that is globally used.

WEB **RoHS / REACH Confirmation Report for major generic electronic components**
https://industrial.panasonic.com/ww/downloads/rohs-reach

For products covered by the Act on the Promotion of Effective Utilization of Resources of Japan, Panasonic Group does not manufacture, import, or sell products that contain specified chemical substances which exceeds the limited value in non-exempt parts. For more details, see Information on the Content of specified chemical substances Chemical Substances in Covered Products below.

WEB **Information on the Content of specified chemical substances Chemical Substances (Japanese)**
https://holdings.panasonic/jp/corporate/sustainability/environment/chemical/jmoss.html

In June 2015, the Act on Preventing Environmental Pollution of Mercury was enacted to implement measures agreed in the Minamata Convention on Mercury. The act requires manufacturers of products containing mercury to provide information such as labelling so that such products are appropriately sorted and discharged when being disposed of. In order to communication information concerning the mercury used in our products to customers, Panasonic Group established a new webpage, Information Based on the Act on the Preventing Environmental Pollution of Mercury, in May 2017.

PDF **Act on Preventing Environmental Pollution of Mercury**
https://members.wto.org/crnattachments/2015/TBT/JPN/15_2560_00_e.pdf#search=%27Act+on+Preventing+Environmental+Pollution+of+Mercury%27

WEB **Information Based on the Act on Preventing Environmental Pollution of Mercury (Japanese)**
https://holdings.panasonic/jp/corporate/sustainability/environment/chemical/jmoss.html#mercury

Assessing the Impact of Chemical Substances

Scientifically identifying the impact on human health and the environment of products containing chemical substances is vital to the development of products with low environmental impact. Panasonic Group has been engaging in activities designed to assess the levels to which customers are exposed to substances of very high concern (SVHC), as well as safety during product usage. To date, we have assessed effects of ceramic fibers used in certain models of commercial microwave ovens. As part of our efforts to comply with the EU REACH regulation which requires preparing information for the safe use of products containing a certain amount of SVHC, we have created and publicized the safety assessment document. The exposure was considered to be nominal with little concern for any effects on human health. Furthermore, usage of ceramic fibers in Panasonic Group's products was discontinued in December 2010.

PDF **Product Safety Assessment Report**
https://holdings.panasonic/global/corporate/sustainability/pdf/RCF_Professional_microwave_oven.pdf

Reduction in Use and Discharge of Chemical Substances

Fluorocarbons (CFC) used as refrigerants, insulating materials, and the like for freezers and air conditioners, have properties which are known to cause ozone layer depletion and global warming. Therefore, Panasonic Group had devoted to develop the technology to use CO_2 as a refrigerant which has extremely low effects on ozone depletion and global warming, and has sold a home water heater using the low CO_2 refrigerant since 2001.

Although the low CO_2 refrigerant is suitable for heating to maintain a certain degree of temperature, it was difficult to be used in refrigerators and freezers, especially in large commercial equipment due to insufficient cooling efficiency and size. However, with support from the New Energy and

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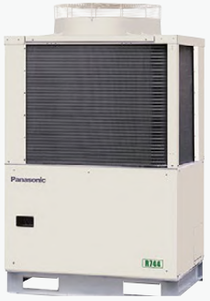
Industrial Technology Development Organization (NEDO), Panasonic Group developed a refrigeration system using CO_2 refrigerant, and has delivered CFC-free freezers and refrigeration showcases to supermarkets and convenience stores with the CO_2 refrigerant in Japan since 2010. We have also commercialized high-power freezers designed for distribution warehouses and food factories, and have been expanding their market opportunities with wider scope of their usability from domestic to international.

For wall-mounted home air-conditioners (AC), we are promoting changing over from non-inverter types of AC, not only to more eco-friendly inverter types of AC with high energy-efficiency, but also to the AC with new refrigerant R32 whose Global Warming Potential (GWP) is low. In fiscal 2020, we introduced into Hong Kong's window air-conditioner market new models with the industry's first inverter system using the new R32 refrigerant, which has contributed to reduce environmental loads.



OCU-CR2001MVF, a fluorocarbon-free freezer using CO_2 refrigerant

FPW-EV085, a display case compatible with a fluorocarbon-free freezer

Window air-conditioner unit with the new R32 refrigerant, CW-HZ180YA

In addition, as measures against ozone depletion caused by HCFCs, a refrigerant called R410 that does not deplete the ozone layer was used in room air conditioners; however, this substance has an issue of its very high very high Global Warming Potential (GWP). Therefore, Panasonic Group developed a model that uses a new refrigerant R32, which has a lower GWP and introduced it launched sales of the model in 2013. Furthermore, PT. Panasonic Manufacturing Indonesia, which owns the factory for manufacturing room air conditioners in Indonesia, redesigned its production facility that used an ozone-depleting HCFC refrigerant R22 to one using R32 in fiscal 2015, and started supplying new R32-based air conditioners. Thereby, we contributed to the Indonesian government's initiative to eliminate the use of HCFCs.

Restriction on Use of PVC Resin

Polyvinyl chloride (PVC) is a material of concerns to the generation of hazardous substances from inappropriate disposal, as well as the harmful effects of certain additive agents (phthalates) used to render PVC more pliable. In light of the significant potential for inappropriate disposal of the PVC resin used in the internal wiring of products, due mainly to difficulties associated with the sorting of this resin from used products, Panasonic Group has switched our new products launched from April 2011 to non-PVC.

List of Our PVC-free Products

https://holdings.panasonic/jp/corporate/sustainability/pdf/eco_pvclist2022.pdf

Restriction on Use of Phthalates

Phthalates are often used in PVC products, and the use of four phthalates[*7] will be restricted under the EU RoHS2 from July 22, 2019. Panasonic Group classified these substances as Level 1 Prohibited Substances in our Chemical Substances Management Rank Guidelines Ver. 11 (for products) issued in July 2018, and delivery of materials and components contain the phthalates will be prohibited from July 22, 2019. We have classified other phthalates as Level 3 Prohibited Substances, and are promoting their substitution. We are currently working on creating an analysis and management structure for the four phthalates to ensure their substitution. Since phthalates have a migration characteristic (where a substance from another article migrates through contact), materials may be contaminated by migration from production facilities as well as process equipment containing the four phthalates, which are specified as Level 1 Prohibited Substances. Accordingly, we are also discussing introducing preventive measures against contamination through contact. To build a structure for incoming inspection for phthalate, we amended the standard for incoming inspection and determined to conduct incoming inspections on supplied components with a high chance of containing phthalates, such as PVCs, elastomers and glues. We have already selected and assessed an analyzer for phthalates to use for these inspections, and installed the analyzer at our business division. The phthalates contained in Panasonic Group's products exported to Europe used to be as high as 10t. However, total elimination of the phthalates has been completed as of March 31, 2019.

*7 Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP), and Diisobutyl phthalate (DIBP).

Activities to Reduce Negative Environmental Impact at Factories

Panasonic Group has been working to minimize environmental impact by identifying the hazardous substances used in our products, assessing the impact of such use, and voluntarily discontinuing the use or reducing the release of such substances. Since 1999, we have been conducting the 33/50 Reduction Activity to materialize reduction by 33% in three years and by 50% in six years. In Japan, we started promoting reduction of amounts to use, release, and transfer specified chemical substances at our factories in fiscal 2000. Against the target in our voluntary

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action plan, a reduction by 50% from the fiscal 1999 level, we achieved a 75% reduction in the chemical substance use and a 62% reduction in the release and transfer in fiscal 2005. Since then, we have been continuing the activity, focusing on substances with particularly large amounts of release and transfer, setting a voluntary action target of reduction by 30% compared to the fiscal 2006 level. As a result, we achieved a 46% reduction in the amounts of release and transfer of specified key reduction-target substances across all factories worldwide in fiscal 2011.

Reflecting international trends in chemical substance management, our reduction measures have focused increasingly on particularly hazardous substances from fiscal 2011. Our Chemical Substances Management Rank Guidelines (for Factories) was established in 1999 as a guideline to help manage the above chemical substance reduction activities. In Version 1, the guidelines specified a list of chemical substances to be managed, mainly focusing on carcinogenic substances. The guidelines were later updated to Version 2 in 2000 to include rules concerning the Japan PRTR Law. Version 3, introduced in 2004, additionally covered a list of substances specified by chemical substances management legislation in Japan. The chemical substances covered by Version 4 and later from 2009 are those specified in legislation on human health and environmental impact in Japan, the U.S., and Europe, as well as those specified under international treaties.

Under our Chemical Substances Management Rank Guidelines (For Factories), we have focused our management on select chemical substances that are hazardous to human health and the environment. Further, Panasonic Group created a unique indicator, the Human Environment Impact,*8 which is used globally in all our factories. Conventionally the chemical substances were managed by “quantity,” such as usage amount or emissions/release. However, such quantity-based management has a problem in that some highly hazardous substances do not become subject to reduction or management if the usage amount was small, and therefore would fall out of the scope of impact assessments. In addition, the toxicity criteria varied according to substance types and regional legislation, which made standardized management across the Group difficult. To address this issue, we worked together with experts from both within and outside the Group, reclassified chemical substances based on an overall assessment of their hazardousness, and specified a hazardousness factor for each classification. Specifically, we set a hazard classification to each substance by utilizing carcinogen risk assessments issued by international organizations, together with publicly available hazard information and lists of ozone depleting substances. For substances that have multiple hazard information items, the item ranked with the highest hazard risk is used for classification. We utilize this Panasonic Group internal indicator as the Human Environmental Impact indicator to promote efforts to ensure reduction of highly hazardous substances with greater environmental impacts, such as carcinogens and ozone depleting substances, according to the risk level. The Panasonic Group Chemical Substances Management Rank Guidelines is also available on the website on Panasonic Group Green Procurement activities to promote collaboration with our suppliers, encouraging them to offer materials that do not contain hazardous substances.

WEB Green Procurement (PDF Download of Chemical Substances Management Rank Guidelines (For Factories))

https://holdings.panasonic/global/corporate/about/procurement/green.html

*8 Human Environmental Impact = Hazardousness factor x Release and transfer amount

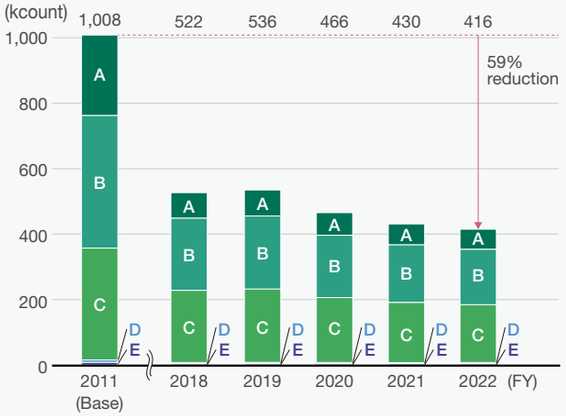
Further, we maintain our compliance in different countries by obtaining the latest information about the various chemical regulations enforced in each country through our regional headquarters and local industrial organizations. As for the VOC regulations amended in China in 2020, we successfully completed compliance confirmation and replacement with compliant components in each business division thanks to cooperation from local suppliers.

Classification of Hazards

Classification	Hazards*9	Hazardousness factor
A	Carcinogenicity/Ozone layer depletion	x 10,000
B	Serious or direct impact	x 1,000
C	Medium impact	x 100
D	Small or indirect impact	x 10
E	Minor impact or not assessed	x 1

*9 In addition to carcinogenicity, hazards to human health include genetic mutation, reproductive toxicity, and acute toxicity. In addition to ozone depleting substances, hazards to/substances with impact on the environment include ecological toxicity, substances that impact global warming, and substances that generate photochemical oxidants.

Human Environmental Impact



Note: Overseas sites of former SANYO Electric not included in fiscal 2011.

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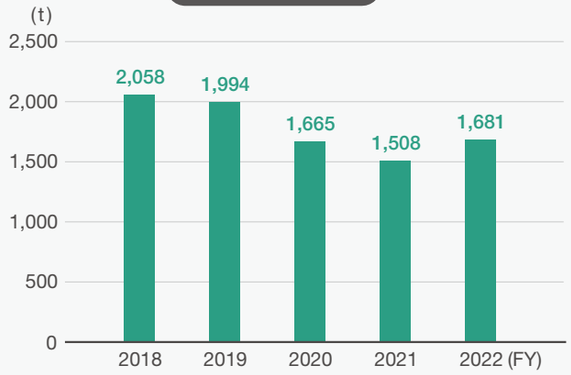
In fiscal 2021, we were able to reduce Human Environmental Impact by 57% compared to fiscal 2011 by substituting highly hazardous substances in paints, improving yields, promoting recycling, introducing substances with low-solvents and hazards, and improving processes, including reviewing the amount of paint or the number of washing cycles, as well as improving the efficiency of removal/deodorization equipment. We will continue our initiatives to minimize the amount of substances with environmental impact released through our production activities.

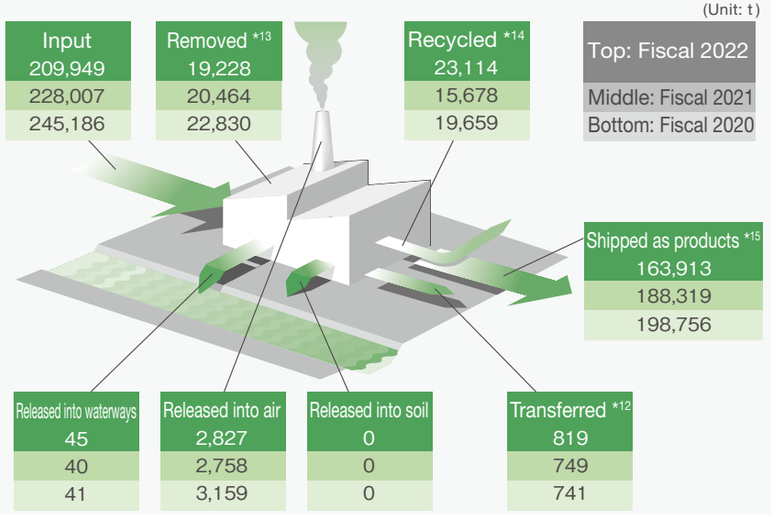
VOC*10 Emissions



*10 Emissions of Volatile Organic Compounds (VOC) into the air caused by use. The calculation covers 100 major VOC substances that Panasonic Group selected from those listed in the Air Pollution Control Act.

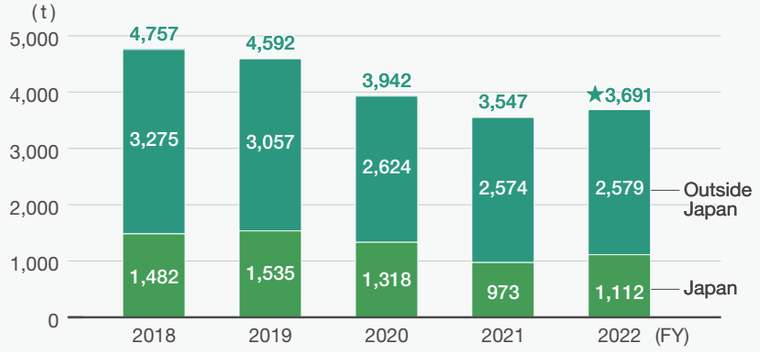
Material Balance of Substances in the Management Rank*11

(Unit: t)



*11 Based on the Chemical Substances Management Rank Guidelines (for factories). Includes all the substances specified in the Pollutant Release and Transfer Register Act.
*12 Includes substances transferred as waste, as well as those discharged into the sewage system. Recycled amount which is free of charge or accompanies treatment cost under the Waste Management Law is included in "Recycled." (Different from the transferred amount reported under the PRTR Law.)
*13 The amount of substances converted into other substances through neutralization, decomposition, or other chemical treatment.
*14 The amount of substances recycled with revenue, as well as those recycled free of charge or with any payment.
*15 The amount of substances that have been changed to other substances as a result of chemical reactions, and/or those that are contained in or accompanied with products and shipped out of factories.

Release/Transfer of Substances Requiring Management*16



*16 Hussmann Parent Inc. and its consolidated subsidiaries not included.

Biodiversity Conservation

Way of Thinking about Biodiversity

Our social lives and business activities are based on various benefit provided by the natural capital (ecosystem services). It has been recognized that conservation of biodiversity is as important as measures for climate change and resource recycling and they are closely linked each other in establishing a society where humans and nature coexist in harmony which is a long-term vision of the Sustainable Development Goals (SDGs) and the United Nations Convention on Biological Diversity.

In accordance with “the Green Plan 2021”started in fiscal 2020, we implemented activities to achieve the following three targets, while considering the aspect of social contribution.

Green Plan 2021 (Continuing efforts): Biodiversity conservation

Targets		SDGs
Sustainable procurement of raw materials	Promote sustainable procurement of wood and paper, etc.	12,13,15,17
Utilization of greenery in business sites (land use)	Utilize greenery in business sites, considering conservation of biodiversity	13,15,17
Products and services	Offer products and services that contribute to conservation of conservation	11,12,15,17

“The Green Impact Plan (GIP) 2024”, which we started this fiscal year, recognizes the recent global trends in biodiversity. This trend can be particularly noted by “the G7 2030 Nature Compact”, which commits to the global mission to hold back further loss of biodiversity and reverse biodiversity loss by 2030, and calls for the world to become ‘nature positive’. Taking the G7 2030 Nature Compact statement, we incorporated the concept of nature positive deeply into our business activities by setting the GIP 2024 targets as ‘Aiming to be nature positive—Reduce and recover impact from our business activities on the ecosystem’, so that we are more aware of environmental efforts to be incorporated with our business activities. We will continue to take actions in the 3 areas of sustainable material procurement, greening business premises, and products and services, taking advantage of our achievements up to now.

Hereafter, we plan to clarify our business dependency and impact on nature in relation to the Taskforce on Nature-related Financial Disclosures (TNFD), Science-Based Targets for Nature (SBTN), and “the post-2020 global biodiversity framework (Post 2020, or Post Aichi Targets)” that will be adopted in COP15 2022, and implement activities to disclose relevant information.

* “The GREEN IMPACT PLAN” that is reviewed and revised every three years is equivalent to the Biodiversity Action Plan (BAP) under the Convention on Biological Diversity

Initiatives for Sustainable Procurement of Raw Materials

Firstly, we plan to include our consideration for biodiversity protection in Procurement Department’s “Green Procurement Standards” to ensure that these practices are carried out across our whole supply chain.

In regard to procurement for wood, we discussed extensively with World Wide Fund for Nature (WWF) Japan over our green procurement; and formulated the “Panasonic Group Green Procurement Guidelines for Wood” aiming for conservation of biodiversity and sustainable use of natural resources in 2010. Based on these guidelines, we conduct an annual survey on wood material procurement among our suppliers.

In fiscal 2022, we exchanged opinions about sustainable material procurement with WWF Japan. In the discussion with WWF Japan, we confirmed growing importance of environmental and social (human rights) considerations, in addition to importance of compliance with laws and regulations for our timber procurement. This discussion also gave us an opportunity to think about future measures.

Exclusion of timbers and wood materials whose regulatory compliance in their logging has not been confirmed (Category 3)

The survey results in fiscal 2022 are as follows.

Green Procurement Guidelines for Wood Consulted and Formulated with WWF

Total procurement of timber and wood materials	249 thousand m^3

Environment

PDF **"Green Procurement Guidelines for Wood"**
https://holdings.panasonic/jp/corporate/about/procurement/green/pdf/green_wood_J.pdf

WEB **"Green Procurement Standard"**
https://holdings.panasonic/global/corporate/about/procurement/green.html

WEB **How to respond to the "Act on Promoting the Distribution and Use of Legally Harvested Wood and Wood Products" (called Clean Wood Law) (Japanese)**
https://www2.panasonic.biz/es/sumai/law/cleanwood/

Activities for Land Use

Once an ecological network that connects greenery in our business divisions, neighboring woodlands and parks is formed, living things such as birds, butterflies, and dragons in each area can move around wider areas for flowers and water through the ecological networks, and their habitats are expanded. Green areas in our business divisions have a lot of potential to contribute to conserving biodiversity in that area. In particular, hardly any natural environments where wild animals can live and breed remain in urban areas. Therefore, even small areas of green in corporate premises can become a precious habitat of a variety of living things if they have indigenous vegetation and a watery environment.

Acquisition of Eco-Certification Based on Quantitative Evaluation from external accredited body

Panasonic Corporation's Living Appliances and Solutions Company's (LAS) Kusatsu site in Shiga Prefecture, obtained an eco-certificate from the Association for Business Innovation in harmony with Nature and Community (ABINC)[*1] in March 2018, as a business site for its contribution to biodiversity. In the course of assessment, we received high ratings for how we are making green corridors to be suited to diversified living creatures by appropriately conserving the natural environment, keeping invasive non-native species under proper management by continuously monitoring to understand their status, and the active use of woodland nearby the factory, in liaison with external eco-related organizations and local people, such as the local public bodies and primary school students.

In the monitoring survey we have conducted since 2011, 840 species of flora and fauna were confirmed. At the same time, the survey result has indicated that the woodland is an important biotope in the area where urbanization is taking place, which contributes to the formation of local ecological networks. In addition, our continuing implementation of the environmental learning program on acorns for elementary school students was highly evaluated; and won an Award of Excellence in the 2nd ABINC award held in January 2020, as an 'activity contributing to the biodiversity mainstreaming'"

<External certifications and awards>
- Acquired three stars under the Shiga Biodiversity Action Certification Program (2018)[*2]
- Acquired ABINC certification (March 2018) and renewed the certification (February 2021)
- Received an Award of Excellence in the 2nd ABINC Awards (January 2020)

ABINC Certification

Three-star rating in Shiga Biodiversity Action Certification Program

*1 ABINC is a certification system by third-party evaluation on greenery improvement and management at business divisions based on the land use score (biodiversity quantitative assessment tool in environmental assessment) and Guidelines for Sustainable Business Sites developed by the Japan Business Initiative for Biodiversity (JBIB).

*2 Shiga Biodiversity Action Certification Program is the first system in Japan for rating wide range of activities conducted by business enterprises in the area of biodiversity conservation with 1 to 3 stars granted by governor.

In March, 2022, LAS joined "Global Ocean Alliance 30by30" initiated by Japan's Ministry of Environment, which is a global initiative to protect at least 30% of the global ocean as Marine Protected Areas (MPAs) and Other Effective area-based Conservation Measures (OECMs)[*3] by 2030, as LAS considered Sustainable Forest can contribute to it. LAS plans to implement activities to have its greenery verified as a contributor to the 30by30 OECMs. LAS also announced its participation in the "Conservation Site for Human-Nature Symbiosis" (tentative name) certification trial program led by the Ministry of the Environment; and will provide support in the trial and verification of the program screening process.

WEB **News release by the Ministry of the Environment on May 27, 2022.**
https://www.env.go.jp/press/111067.html

*3 OECM: Other Effective area-based Conservation Measure
Areas other than national parks and other already protected areas that would contribute to biodiversity protection, such as shrine or temple woodlands, woodlands owned by companies or which form part of company premises, rural village zones, etc. Japan's 30by30 would include national parks and other protected areas to achieve protection of 30%.

The 30by30 Alliance logo mark

LAS's Sustainable Forest

WEB **Biodiversity Conservation: Ecological Network Concepts**
https://www.panasonic.com/jp/about/sustainability/environment/ecology/kusatsu_factory.html

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Initiatives for Products and Services

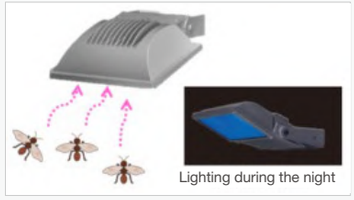
Contributing to Biodiversity Conservation through Lighting

Lighting Business Division of Electric Works Company, Panasonic Corporation develops and sells lighting products that care for the environment and biodiversity.

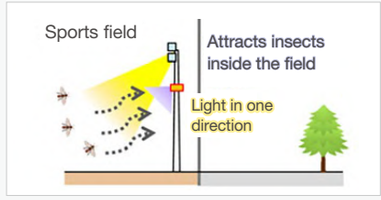
LED Insect Attractor (Product name: Mushi Keeper)

An insect attractor lures insects away from shops, warehouses, and sports fields, where they gather because of the lights, in order to reduce damage and nuisance caused by insects. Conventionally, the device attracted insects with a UV fluorescent lamp and killed them with a high voltage grid. In June 2021, the company launched an LED insect attractor (Mushi keeper). The product's UV and blue LED lights attract and retain insects, enabling reduction of insect damage and without killing them. This helps protect the ecosystem as the insects can return to nature. Conventional insect killers emitted light in all directions, attracting excessive insects. However, this newly adopted LED can emit light in the desired direction only, contributing to protecting biodiversity by its efficient insect attraction. The LED insect attractor has been confirmed to have a higher performance of insect attraction according to the insect attractiveness index.*4

*4 The insect attractiveness index is a theoretical index and does not represent the actual number of insects attracted by the light. (Source: AOKI, S. et al. (2005) Evaluation of Insect Attractiveness by New Index. Proceedings of 2005 Annual Conference of The Illuminating Engineering Institute of Japan, 284.)



LED insect attractor (keep attracting with UV + blue lights)



Emits a directional light to attract insects efficiently

WEB **LED Insect Attractor: Mushi Keeper**
https://www2.panasonic.biz/ls/lighting/outdoor/invites-insects/

Developing IDA-certified LED Light

IDA "Dark Sky Approved"

An LED security light and street light designed by the Lighting Business Division to minimize light pollution were approved as Dark Sky Friendly Lighting by the International Dark-Sky Association (IDA)*5 in February 2020. This was the first such achievement by a Japanese manufacturer*6. One of the approval criteria requires that lighting must have a correlated color temperature of 3,000 kelvin and lower (warm color) not only to reduce light pollution but also to lessen any adverse impact on wildlife.

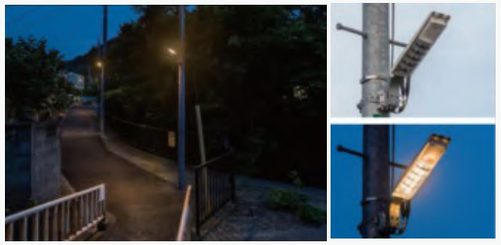
*5 As IDA-certified lighting made by a Japanese manufacturer (according to IDA Tokyo, as of February 20, 2020).
*6 The International Dark-Sky Association: The leading global organization addressing light pollution.

"Guidelines for Countermeasures against Light Pollution" (issued in March, 2021), by Japan's Ministry of Environment. Panasonic Group cooperated to formulate the guidelines.

PDF https://www.env.go.jp/air/hikarigai-gaido-R3.pdf.pdf

Firefly-Friendly Street Lighting

Preceding our IDA-certified LED light, we had already developed an LED light with a spectrum and optical properties that had less impact on fireflies in 2016 and installed the LED lights on streets in different municipalities. According to the study made in Numama, Zushi City, Kanagawa Prefecture, the number of fireflies observed increased from 68 in the previous year to 145*7.


Street lights in Zushi City are replaced with firefly-friendly LED lights

*7 The light was designed purely to minimize disturbance to the firefly habitat and does not guarantee for improving growth of fireflies or increase of the population.

Floor Board Substrate Made of 100% Recycled Wood from Construction Wastes

Panasonic Housing Solutions Co., Ltd. is working to reduce usage of natural resources to conserve the forest. Fit Board is a new eco-conscious product that uses 100% recycled wooden material (excluding glue) made from construction waste in a wood-based flooring substrate.

WEB **Technology to encourage a circular economy: Eco-friendly floor board for a beautiful house**
https://news.panasonic.com/jp/stories/2020/83913.html
WEB **Flooring: Eco-conscious material**
https://sumai.panasonic.jp/interior/floor/concept/detail.php?id=eco_coordination

Environment

Development of World's First Recycled Wood Board Technology for Utilization of Wood Wastes from Oil Palm Trees*8

In March of fiscal 2022, we published the world's first technology to produce recycled board from wood wastes from oil palm trees as 'PALM LOOP'*9 and started market verification in the domestic furniture area.

1. We can contribute to reducing methane gas and other GHG generated from decaying wood wastes from oil palm trees if they are left as they are.
2. We developed a technology to produce recycled wood board from wood wastes from oil palm trees.
3. We can prevent deforestation for creating new farming areas through utilization of recycled wood waste material.

We will contribute to alleviating global warming by reducing 'GHG emissions' and preventing 'deforestation'.

WEB **Development of World's First Recycled Wood Board Technology for Utilization of Wood Wastes from Oil Palm Trees**
https://news.panasonic.com/jp/press/data/2021/11/jn211115-1/jn211115-1.html

WEB **Launching our 'PALM LOOP™' recycled wood board technology for utilization of wood wastes from oil palm trees**
https://news.panasonic.com/jp/press/data/2022/03/jn220317-1/jn220317-1.html

WEB **Special webpage for 'PALM LOOP'**
https://panasonic.co.jp/phs/technology/palmloop/

*8 Based on our research as of March 2022.
*9 'PALM LOOP™' is a trademark of Panasonic Corporation.

Conservation of Biodiversity through Collaboration with and Support for NGOs and NPOs

Introduction of MSC-ASC certified sustainable seafood at employee canteens

Panasonic Group has been involved in marine protection activities*10 for some 20 years through collaboration with WWF Japan. Main activity at present is continual supply of MSC- and ASC-certified*11 sustainable seafood*12 to employees' canteens that started for the first time in Japan at Panasonic headquarters in March 2018. As the same as last fiscal year, the number of employees work in the office decreased due to the COVID-19 pandemic. This led to the temporary closure of canteens and a significant reduction of menu items, as well as suspending the sustainable seafood menu in nearly half of the applicable canteens. As difficulties continued, sustainable seafood was newly introduced to only two of Panasonic Group sites this year, making an accumulated total of 54 sites. Note that as for our continued support for other companies adoption of sustainable seafood into their canteens, the number of adopting companies is steadily increasing. The running total of the canteens of partner companies using sustainable seafood has exceeded 50, making more than 100 when combined with our Group's accumulated total.



Cumulative total of sites offering the menu exceeded 50


Deep fried oysters made in Tokura, South Sanriku; the oysters obtained Japan's first ASC certificate (Panasonic supported the activity.)

In addition to corporate canteens, Yokohama City University COOP has obtained the MSC-ASC certification with Panasonic Group's support and collaboration, towards the first adoption of sustainable seafood to a university canteen in Japan. Sustainable seafood is now creating a new trend and is expanding its market.

Our aim is to encourage behavioral reform in our employees and the public in general to make a sustainable choice in their eating habits through expanding a sustainable seafood menu in corporate canteens and the like, through publicity. In this way, we are contributing to SDG 14 "Conservation of richness of marine life" and helping to make the topic of biodiversity mainstream.

Partners and Canteens That Have Adopted Sustainable Seafood (Accumulated)

	FY2018	FY2019	FY2020	FY2021	FY2022
No. of sites with sustainable seafood menu	2	12	42	52	54
No. of certified catering companies (Partners proposed by the Panasonic Group only)	1	6	11	13	17
No. of adopting companies (Panasonic Group partners only)	0	2	4	4	9
No. of adopting sites under the above companies(Panasonic Group partners only)	0	5	27	38	51

<External awards>
Champion in the Initiative Category of the 1st Japan Sustainable Seafood Awards (November 2019)

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*10 Including supports for the conservation of the tidal flats in Ariake Sea (2001 to 2006) and the Yellow Sea Ecoregion (2007 to 2015).
*11 MSC certification is certified by Marine Stewardship Council for sustainably and properly managed fisheries. ASC certification is certified by Aquaculture Stewardship Council for responsible fish farming to minimize environmental load on the environment and society.
*12 Seafood that has been certified sustainable production with MSC and ASC certification and managed under CoC certification*13
*13 CoC is the acronym for Chain of Custody. Certification on securing management and traceability in processing, distribution, and marketing.

WEB **References on sustainable seafood**
https://news.panasonic.com/jp/topics/204140.html

Promotion of activities for conservation of biodiversity around the world through NGOs and NPOs

Continuing protecting satoyama and rivers through citizen networks

Panasonic Group companies located in Japan, and their labor unions and retiree association conduct a variety of environmental protection activities as Panasonic Eco Relay Japan (PERJ) in a one team.


Wastes at Yodo River


Activities at Yodo River

Since its foundation in October 2010, PERJ has been working with a variety of stakeholders*14 to conserve local environments through efforts such as Hirakata City Hotani Satoyama Conservation Activity; Tanba Sasayama City Unitopia Sasayama Satoyama Revitalization Activity; Kadoma City Eco Network Activity; and Osaka City Yodo River and Johoku Wand*15 Conservation Activity. During these years, we have received the following awards in recognition of our contribution to nurturing the next generation to act for the environment under collaborations with local companies, universities, and citizen groups. These activities are for the purpose of biodiversity conservation, however, the cleaning activities at the rivers reduce marine plastic wastes which are directly flowing into oceans. For this reason, we will continue to promote these activities in the future.

<External awards>
- Hirakata City Environment Award (February 2018)
- Biodiversity Action Grand Prize (December 2018)
- Kadoma City Environment Award (February 2019)

*14 Wand is terrain just like a small pond surrounded by river structures, although Wand is connected to a main stream of the river. Wand provides stable habitats for fish and other aquatic life, and at the same time, it is breeding grounds for a variety of plants.
*15 Collaborating with numerous stakeholders, including NPOs, citizen groups, universities, administrative bodies, local governments, research institutes, corporations, and local farmers.

WEB **Panasonic Eco Relay Japan (PERJ)**
https://www.panasonic.com/jp/corporate/sustainability/citizenship/environment/perj.html

WEB **Unitopia Sasayama Satoyama Revitalization Plan**
https://unitopia-sasayama.pgu.or.jp/ecorelay/

WEB **One of the Panasonic Group's corporate citizen activities (environment-related social contribution activities by Panasonic business sites and employees across the world).**
https://panasonic.co.jp/citizenship/activity/environment/

Participation in Biodiversity Initiatives

Panasonic Group have been participated in biodiversity initiatives and related industry organizations, as shown below. This is to accurately understand biodiversity policies in Japan and global trends concerning biodiversity, such as the Post-2020 Biodiversity Framework of the Convention on Biological Diversity, TNFD, and SBTN through study meetings. We feed these domestic and global policies back into Panasonic Group businesses and assess opportunities and risks. We also make an appeal about activities by Japanese corporations through the Convention on Biological Diversity under the COP.

<Participation>
- Keidanren Committee on Nature Conservation: Keidanren Initiative for Biodiversity Conservation. Panasonic Group also participates in the initiative.
- Japan Business Initiative for Biodiversity (JBIB)
- Biodiversity Conservation Committee of the Japan Association of Industries and Environment
- Biodiversity Working Group of four Electrical and Electronic Industry Associations*16

Keidanren Initiative for Biodiversity logo mark

Additionally, our business divisions are participating in the Clean Ocean Material Alliance (CLOMA) to accelerate innovation in solving marine plastic waste issues.

*16 Four industry associations: The Japan Electrical Manufacturers' Association (JEMA), Japan Electronics and Information Technology Industries Association (JEITA), Communications and Information Network Association of Japan (CIAJ), and Japan Business Machine and Information System Industries Association (JBMIA).

Collaboration Across the Supply Chain

Collaboration with Suppliers and Transportation Partners

As Panasonic Group backed by a number of suppliers, we must consider the environmental impacts of our entire supply chain, and not just of our own operations. Through our coordination efforts with suppliers and transportation partners, who form an integral part of our business operations, Panasonic Group strive to minimize our environmental impact across the entire supply chain, focusing on the reduction of CO_2 emissions, resource recycling, chemical substance management, and biodiversity conservation.

Activities for Green Procurement

Activities for Green Procurement Since the publication of the “Green Procurement Standards” in 1999, Panasonic Group has been promoting the manufacture of eco-conscious products in partnership with our suppliers. In the “Green Procurement Standards”, we set up groups of suppliers who support Panasonic Group’s Environmental Policy in supplying products and goods in order to materialize the targets in supplier collaboration with our Group. In addition to cooperation in ‘reducing environmental loads in supplier’s business operation areas’ and ‘sharing achievements through collaboration with Panasonic Group’, we are asking our suppliers to ‘seek the cooperation of upstream business partners’ to expand the scope of activities of reducing environmental impact throughout the entire supply chain. In September 2019, we revised “the Green Procurement Standards” to deepen and widen their influence throughout the entire supply chain—beyond our Group and across society—following the Panasonic Group’s environmental action plan.

We also published “Panasonic GREEN IMPACT” in 2021, regarding information about our contribution to CO_2 emissions reduction from Panasonic Group’s business activities and from society in general, indicating our determination by setting our own targets to achieve both ‘a better life’ and ‘a sustainable global environment’ at the same time. We plan to expand this effort across the entire supply chain.

In response to more stringent and expanded regulations such as EU RoHS Directive, Panasonic Group has been engaging in continual environmental quality assurance audits of our suppliers since 2005 to improve the management level throughout the entire supply chain. In fiscal 2022, we conducted the audits at some 1,000 suppliers and have supported their efforts to upgrade their management levels.

WEB **Green Procurement Standards**
https://www.panasonic.com/global/corporate/management/procurement/green.html

Estimation of Environmental Impacts in Business Activities by Suppliers

In order to assess greenhouse gas (GHG) emissions across the entire supply chain (scope 3[*1]), Panasonic Group made original calculations based on the Greenhouse Gas Protocol, the international accounting standard for GHG emissions. Since fiscal 2012, Panasonic Group has estimated its overall GHG emissions in the upstream range by multiplying the volume of materials purchased with the resource-specific GHG emissions per basic unit based on the Input-Output Table published by the Japanese government. The estimation results based on fiscal 2021 data is 14.116 Mt, roughly 6 times the GHG emissions of our Panasonic Group’s own production activities.

*1 Other indirect emissions, excluding Scope 1 (direct emissions from facilities owned and controlled by the Panasonic Group) and Scope 2 (emissions from production of energy consumed at facilities owned and controlled by the Panasonic Group).

Sharing Achievements through Collaboration with Panasonic Group

Since fiscal 2010, Panasonic Group has been implementing the ECO-VC Activity[*2] Activity with our suppliers. This program is a collaboration between Panasonic Group and our suppliers, aimed to both reduce environmental impact as well as reinforce product capability and achieve further rationalization for Panasonic Group products and suppliers. In fiscal 2010, the target for reducing environmental impact was limited to energy saving (CO_2 emission reduction). However, this was extended in fiscal 2011 to Recycling-oriented Manufacturing aiming at saving resources and using recycled materials. The geographical range of our activities has also extended. Initially centered in Japan, actions accelerated to China and other parts of Asia in fiscal 2013, and later extended to a global scale in fiscal 2015.

We have stored case examples of ECO-VC Activity in a database for broader and effective use throughout Panasonic Group. At the same time, as for outstanding activities, we provide awards in occasions such as ‘ECO-VC Activity award and information exchange meeting’. Furthermore, Panasonic Group formulated “an Environment Vision 2050” in 2017 to achieve ‘a better life’ and ‘a sustainable global environment’ compatibly, aiming for societies where residents use clean energy and live a more comfortable lifestyle. Under the vision, through the development of products, technologies, and solutions relevant to energy creation, storage, saving, and management, Panasonic Group has worked towards creation and more efficient utilization of energy which exceeds the amount of energy used.

Based on “the Environmental Vision 2050”, we plan to implement these ECO-VC Activities, which

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are aimed at long-term sustainability, through energy conservation (CO_2 emission reduction) and cost reduction, resources conservation and recycled materials, with renewable energy as an additional evaluation item added in fiscal 2019.

*2 ECO-VC Activity: Value Creation Activities

Environmental Achievements Made through Proposals

Items	FY2018	FY2019	FY2020	FY2021	FY2022
Number of proposals	354	820	772	430	332
CO_2 reductions derived from proposals	58.45 kt	30.50 kt	280 kt	110 kt	50 kt
Use of recycled resources derived from proposals	2.67 kt	80 t	100 t	5 t	1500 t
Reduction in resources used derived from proposals	1.09 kt	3.03 kt	19.9 kt	323 kt	255 kt

Collaboration with Environmental NGOs

For exhaustive implementation of CSR throughout our global supply chain, we are implementing activities in collaboration with overseas environmental NGOs.

In China, where Panasonic Group has a large number of suppliers and where commitments by suppliers to environmental issues have been highly demanded by society, we have diligently ensured compliance with China's laws and regulations and conduct responsible procurement throughout the supply chain, working together with environmental NGOs.

In September 2016, Panasonic Group held seminars for about 400 suppliers on our CSR Procurement Policy and Chinese environmental regulations in Guangzhou, Dalian, and Shanghai. In the seminars, we asked suppliers to take necessary actions in response to China's latest environmental regulations, in addition to ensure CSR in supply chain. In such way, we have been working on to understand possible risks and to reduce environmental impact in our supply chain

Since 2018, we have conducted on-site environmental audits which focus on response capabilities and CSR audits at the same time in some 20 suppliers per year since fiscal 2019. To ensure responsible procurement, we have been working on reduction of environmental impact collaborating with suppliers, ensuring from a request for the improvement items pointed out by audits to a confirmation of implementation of such improvements. Through on-site environmental and CSR audit, we will ensure compliance with relevant laws, social norms and corporate ethics.

We will also promote procurement to fulfill social responsibilities such as human rights, labor, safety and health, and global environmental conservation together with suppliers.

In addition, collaborating with the Institute of Public & Environmental Affairs (IPE), a China's environmental NGO, we have been working on to improve suppliers CSR environment, through sharing information on latest laws and regulations in a periodical working group meeting, and requesting for suppliers whose regulatory violation is recorded on a monthly base to improve it. In IPE's Suppliers Green Supply Chain responsibility (CITI Index*3, CATI Index*4), which has been published since fiscal 2015, Panasonic Group has been listed in the top raking companies every year. In fiscal 2022, Panasonic Group was ranked third in the home appliances category of both indexes.

*3 CITI : The Green Supply Chain Corporate Information Transparency Index
*4 CATI : The Corporate Climate Action Transparency Index

History of Environmental Activities

Era	Year	Panasonic Group	World	Japan
~1970s	1967			• Basic Law for Environmental Pollution Control enacted
	1968			• Air Pollution Control Law enacted
	1970	• Pollution Survey Committee established		• Water Pollution Control Law enacted • Waste Disposal and Public Cleansing Law enacted
	1971			• Environment Agency established
	1972	• Environmental Management Office established	• U.N. Conference on Human Environment held in Stockholm (Declaration of Human Environment adopted)	
	1973		• First oil shock occurred	
	1975	• Environmental Management Regulations enacted		
	1979		• Second oil shock occurred	• Energy Conservation Law enacted
1980s	1985		• Vienna Convention for the Protection of the Ozone Layer adopted	
	1987		• Montreal Protocol on Substances that Deplete the Ozone Layer adopted • World Commission on Environment and Development (the Brundtland Commission) advocated the concept of sustainable development	
	1988	• CFC-reduction Committee established		• Ozone Layer Protection Law enacted
	1989	• Environmental Protection Promotion Office established		
1990s	1991	• Matsushita Environmental Charter (Environmental Statement and Code of Conduct) enacted • Matsushita Product Assessment adopted and implemented		• Keidanren Global Environment Charter enacted by Japan Federation of Economic Organizations • Law for Promotion of Effective Utilization of Resources enacted
	1992	• Environmental Policy Committee established	• The Earth Summit held in Rio de Janeiro, Brazil; Agenda21 and Rio Declaration on Environment and Development adopted • United Nations Framework Convention on Climate Change adopted	
	1993	• Matsushita Environmental Voluntary Plan (Year 2000 targets) adopted • Matsushita Group' global environmental internal audits launched		• The Basic Environment Law enacted
	1995	• Acquired Environmental Management System Certification at AV Kadoma Site (first in the Matsushita Group)	• First Conference of Parties to the U.N. Framework Convention on Climate Change (COP1) held in Berlin	• Containers and Packaging Recycling Law enacted
	1996		• ISO 14001 International Standard on Environmental Management Systems launched	
	1997	• Corporate Environmental Affairs Division (CEAD) established • Environmental Conference established (held semi-annually)	• COP3 held in Kyoto and adopted the Kyoto Protocol	• Keidanren Appeal on the Environment announced by Japan Federation of Economic Organization
	1998	• Love the Earth Citizens' Campaign commenced • Recycling Business Promotion Office established • First environmental report (1997) published		• Home Appliance Recycling Law enacted (took effect in 2001) • Law Concerning the Promotion of the Measures to Cope with Global Warming enacted • Energy Conservation Law revised: Top Runner Approach introduced
	1999	• Green Procurement launched • Chemical Substances Management Rank Guidelines established • Acquired ISO14001 Certification in all manufacturing business units		• PRTR (Pollutant Release and Transfer Register) Law enacted
2000s	2000	• Lead-free Solder Project commenced • Held first environmental exhibition for general public in Osaka	• Global Reporting Initiative (GRI) issued The Sustainability Reporting Guidelines	• Basic Law for Establishing the Recycling-based Society enacted • Law for Promotion of Effective Utilization of Resources enacted
	2001	• Environmental Vision and Green Plan 2010 adopted • Held Environmental Forum in Tokyo and Freiburg,Germany • Panasonic Eco Technology Center launched	• Reached final agreement on the actual rules of Kyoto Protocol in COP7 held in Marrakesh	• Reorganized into the Ministry of the Environment • Law Concerning Special Measures against PCBs enacted
	2002	• Panasonic Center Tokyo opened	• Johannesburg Summit (Rio+10) held	• Kyoto Protocol ratified • Vehicle Recycling Law enacted • Law for Countermeasures against Soil Pollution enacted
	2003	• Declared 'Coexistence with the Global Environment' as one of the twin business visions • Factor X advocated as an indicator for Creating Value for a New Lifestyle • Completely introduced lead-free soldering globally • Super GP Accreditation System launched • Achieved zero waste emissions in Japanese manufacturing business sites (ongoing program) • Held Environmental Forum in Tokyo	• EU's WEEE Directive was enacted	
	2004	• Environmental Vision and Green Plan 2010 revised • PCB Management Office established • Superior GP Accreditation System launched		• Prohibited manufacturing and use of products containing asbestos in principle
	2005	• Participated in Expo 2005 Aichi, Japan as an official sponsor • Green Plan 2010 revised • Continued with the nationwide Lights-out Campaign • 3R Eco Project launched • Completed the elimination of specified substances (6 substances) in products • Matsushita Group's Green Logistics Policy established • CF Accreditation System introduced	• Kyoto Protocol entered into force	• Expo 2005 Aichi, Japan held • National campaign against global warming "Team −6%" launched • Marking for the presence of the specified chemical substances for electrical and electronic equipment (J-Moss) established

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Era	Year	Panasonic Group	World	Japan
		• Panasonic Center Osaka opened • Eco & Ud HOUSE opened • Installed the first commercial household fuel cell cogeneration system in the new official residence of the Japanese Prime Minister • Won the first place in Nikkei Environmental Management Survey		
	2006	• Environmental specialist position established • ET Manifest introduced into all manufacturing sites of Panasonic in Japan • Realized lead-free plasma display panels and introduced them to the market • Full-fledge introduction of biodiesel fuel in logistics	• Restriction of Hazardous Substances (RoHS) Directive took effect in EU	• Relief Law for Asbestos Victims enacted • Energy Conservation Law revised: new cargo owner obligations, widened product scope of its application, and top runner standard revision
	2007	• Energy conservation activities at our factories in Malaysia approved as CDM project by the U.N. • A new environmental mark 'eco ideas' introduced • Panasonic Center Beijing opened • Environmental Forum in China held • "Declaration of Becoming an Environmentally Contributing Company in China" announced • Panasonic 'eco ideas' Strategy announced	• The Fourth Assessment Report of the Intergovernment Panel on Climate Change (IPCC) released • Registration, Evaluation, Authorisation and Restriction of Chemicals entered into force in EU • Framework for CO_2 reduction agreed at Heiligendamm Summit (G8) • The Bali Road Map for the post Kyoto Protocol agreed at COP13 • Administration on the Control of Pollution Caused by Electronic Information Products (China RoHS) came into effect	• 'Cool Earth 50' announced by Prime Minister Abe • '21st Century Environment Nation Strategy' formulated • 'The Third National Biodiversity Strategy of Japan' formulated • 'Ministerial ordinance partially amending the Enforcement Regulation of the Waste Management and Public Cleansing Law' promulgated • 'Domestic Emissions Trading Scheme Review Committee' established • 'The Second Fundamental Plan for Establishing a Sound Material-Cycle Society' formulated
	2008	• Established the Corporate CO_2 Reduction Promoting Committee • Held environmental exhibitions, 'eco ideas' World • Home Appliances Company announced environmental statement in which named its Kusatsu site as 'eco ideas' Factory • Announced 'eco ideas' Declaration in Europe • Established Environmental Strategy Research Center	• G20 (conference of key countries' environmental and energy ministers) held • Hokkaido Toyako Summit held	• Cool Earth Promotion Program announced by Prime Minister Fukuda • Mislabeling incident of waste paper pulp percentage • Long-term Energy Demand and Supply Outlook announced • Japan's Voluntary Emission Trading Scheme started
	2009	• Opened the 'eco ideas' House to demonstrate a lifestyle with virtually zero CO_2 emissions throughout the entire house • Announced the Asia Pacific 'eco ideas' Declaration • Announced 'eco ideas' factories (in Czech, Malaysia, Thailand, and Singapore) • Sanyo Electric joined the Panasonic Group	• China WEEE law promulgated • New framework for countermeasures against global warming on and after 2013 (post-Kyoto Protocol), the Cophenhagen Accord, was adopted at the COP15 (Copenhagen conference) • Seeking to emerge from the Lehman collapse, countries throughout the world accelerated actions for the Green New Deal	• Energy Conservation Law amended: Covered area expanded from factories to commercial sector facilities • Flat-panel TV and clothes dryer added as covered products under the Home Appliance Recycling Law • 'Eco point' system started

Era	Year	Panasonic Group	World	Japan
2010s	2010	• Announced "Vision looking to the 100th anniversary of our founding in 2018" • Announced new midterm management plan, "Green Transformation 2012 (GT12)" • Announced 'eco ideas' Declarations (Latin America, Asia Pacific, and Russia) • Established 'eco ideas' Forum 2010 in Ariake, Tokyo • Commenced business of Factory Energy Conservation Support Service • Announcement of Green Plan 2018	• COP10 held in Nagoya—Nagoya agreement made • APEC meeting held in Yokohama • Ruling party lost in US midterm election—changes in anti global warming policy • Cancun agreement made in COP16—Post-Kyoto framework still to be discussed	• Draft legislation of Basic Law of Global Warming Countermeasures submitted but remained in deliberation • Obligatory greenhouse gas emissions reduction started as a part of Tokyo Emissions Trading Scheme • Waste Management and Public Cleansing Law amended: self treatment regulations tightened • Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (CSCL) and Law concerning Pollutant Release and Transfer Register (PRTR) amended
	2011	• Announced North America & Taiwan 'eco ideas' Declarations • Announced establishment of Panasonic Dadi Dowa Summit Recycling Hangzhou Co., Ltd. • Announced the Fujisawa Sustainable Smart Town Project • Established Corporate Electricity Saving Division that bridges functions across the organization	• Rare earth prices soared • Revised RoHS directives enforced in EU • COP17 (Durban Climate Conference): Agreement made on long-term future of the scheme, and the second commitment period for the Kyoto Protocol (Japan announced non-commitment)	• Home appliance eco-point incentive program finished • The Great East Japan Earthquake • Revised Air Pollution Control Act and Water Pollution Control Act enforced • Act on Special Measures Concerning Procurement of Renewable Electric Energy by Operators of Electric Utilities enacted (Feed-in tariff system to be enforced July 2012)
	2012	• Business reorganization due to full acquisition of Panasonic Electric Works and SANYO Electric • Commenced sales of Resources Recycling-oriented Product series • Terminated production of household incandescent light bulbs • Establishment of Environmental Management Group, Environment & Quality Center, Global Manufacturing Division • Communication of 'eco ideas' Declaration (Vietnam)	• United Nations Conference on Sustainable Development (Rio +20) • "Doha Climate Gateway" adopted at COP 18 Doha 2012, to lay down a future legal framework in which all nations can participate by 2020 and onwards • Revised WEEE Directive implemented in Europe	• The Recycle Resource Project, national campaign by Ministry of the Environment, commenced • 2012 Japan Tax Reform Bill enacted (Environment tax came into force in October 2012) • Feed-in tariff for recyclable energy put into effect
	2013	• Announced new midterm management plan Cross-Value Innovation 2015 • Announced new brand slogan "A Better Life, A Better World" • PETEC's home appliance recycling reached a cumulative total of 10 million units • Announced 'eco ideas' factory (Philippines)	• Phase I of the Kyoto Protocol ends. Japan's target expected to be achieved in combination with forest CO_2 absorption and application of the Kyoto Protocol mechanisms. • Minamata Convention on Mercury to internationally regulate import and export of mercury adopted at UN conference • IPCC Fifth Assessment Report (Working Group 1) announced the possibility of human activity being the principal cause of global warming observed since the mid-20th century is "extremely high." Global average surface temperature is expected to rise as high as 4.8°C • COP 19 Warsaw reaffirmed participation of all nations in the future framework of the Convention for 2020 and later. Nations were asked to submit emission pledges well in advance of 2015	• Home Appliance Recycling Law for small household appliances enforced • Basic Plan for Establishing a Recycling-Based Society implemented • Keidanren's "Action Plan Towards Low-Carbon Society" started (until FY 2021) • Amended Law Concerning the Rational Use of Energy and Amended Law Concerning the Promotion of the Measures to Cope with Global Warming established. Amended Act on the Rational Use and Management of Fluorocarbons promulgated (June) • Voluntary Action Plan by the electric and electronics industry terminated. Achieved improvement by 48% in CO_2 emissions per basic unit in average actual production output for fiscal 2009–2013 (compared with fiscal 1991 level) to the target of 35% • Japan announced in November its fiscal 2021 reduction target of 3.8% over fiscal 2006 and registered this with UNFCCC Office (but with a possible review of the tentative target, which does not include possible resumption of nuclear power plant operations)

Environment

Era	Year	Panasonic Group	World	Japan
	2014	• Panasonic DADI DOWA Summit Recycling Hangzhou Co., Ltd., started operation • Opening of Fujisawa Sustainable Smart Town • Announced Eco Declaration (Southeast Asia & Pacific) • Communication of housing & town development at the International Greentech & Eco Products Exhibition & Conference (IGEM) (Malaysia)	• Targets for product environmental regulations in Europe begin to shift from energy saving to resource efficiency and environmental impact • EU Parliament reelection results in the appointment of Mr. Jean-Claude Juncker as President of the European Commission. Review of the circular economy package was decided. • IPCC 5th Assessment Report analyzed that the current multiple ways to achieve control of global temperature rise to less than 2°C cannot be materialized unless the target becomes nearly zero by the end of the century. Attention to "adaptation" is growing. • COP12 Convention on Biodiversity, PyeongChang concluded the interim assessment of the Aichi Biodiversity Targets as "progress has been made but remains inadequate" • COP 20 (Peru) reached agreement on the policy of developing reduction targets based on common rules for publication of "a new legal framework beyond 2020 applicable to all Parties"	• The amended Energy Conservation Act was enforced, incorporating action on power conservation during peak periods into existing qualitative reduction targets • Phase II of the Commitment to a Low Carbon Society, a voluntary program promoted by Keidanren as measures against global warming, was newly established in response to government request, setting the target year to 2030 • Toyota Motor launched fuel-cell vehicle MIRAI into the commercial market
	2015	• Won Zayed Future Energy Prize 2015 • Wonder Japan Solutions (Tokyo) held for the first time • Announced the introduction of indirect contributions through housing, automotive, and B2B solutions in the size of contribution in reducing CO_2 emissions • Announced the Tsunashima Sustainable Smart Town development project, together with Yokohama City and Nomura Real Estate Development Company	• Paris Agreement on the international legal framework for global warming control from 2020 and later was adopted at COP21 (Paris) • 2030 Agenda for Sustainable Development was adopted at the UN Summit, focusing chiefly on sustainable development goals (SDGs)	• Draft proposal to cut greenhouse gases by 26% over 2013 levels as its 2030 greenhouse gas reduction target announced by the Japanese government • COOL CHOICE, a new nationwide movement for greenhouse gas reduction, started
	2016	• Establishment of Environmental Management Department, Quality & Environment Division • Announced R&D 10-Year Vision • Revised Green Plan 2018 • Announced participation in Future Living Berlin, the first Smart City project in Germany • Announced collaboration with Tesla Motors for solar batteries	• G7 Toyama Environment Ministers' Meeting held; ministers representing the G7 nations and the EU discussed policies on seven themes including resource efficiency and 3R, biodiversity, climate change, and related measures • UK decided to leave the EU (Brexit) in a national referendum • GRI announced "GRI Standard," the new guidelines for CSR reports • COP 22 held in Marrakesh, Morocco. Agreement reached on establishing a rulebook to make the Paris Agreement effective by 2018 • Donald Trump won the US presidential election • COP 13, the 13th meeting of the Conference of the Parties on Biological Diversity, held in Cancun, Mexico	• The 2016 Kumamoto Earthquake • The Plan for Global Warming Countermeasures was decided by the Cabinet. Direction of Japan's global warming countermeasures to achieve the Intended Nationally Determined Contributions under COP 21 was clarified. Long-term goal of reducing greenhouse gas emissions by 80% by 2050 was set • Act on Promotion of Global Warming Countermeasures was amended; focuses on promoting the enhancement of Cool Choice, the reinforcement of international cooperation, and regional global warming countermeasures
	2017	• Announcement of Panasonic Environment Vision 2050 • Opening of Tsunashima Sustainable Smart Town	• France, UK, and China announced the prohibition of sales of gas and diesel cars and the conversion to EVs in the future	• Revision of the Charter of Corporate Behavior delivering on the SDGs through the realization of Keidanren Society 5.0
	2018	• Announcement of Monozukuri (Manufacturing) Vision • Achievement of zero-CO_2 factories at Panasonic Eco Technology Center Co., Ltd. (PETEC), Panasonic Energy Belgium N.V. (PECBE), and Panasonic do Brazil (PANABRAS)	• COP24 was held. The policy based on the Paris Agreements to be uniformly applied to all member countries was adopted	• The fifth Basic Environment Plan was decided by the Cabinet. Set up six cross-field strategies utilizing the concepts of SDGs
	2019	• Announcement of Green Plan 2021 • Participation in 'RE100', an international initiative for the use of 100% renewable energy as electricity used in business operations	• UN Climate Action Summit was held. Rising trend of achieving net zero greenhouse gas emissions, with a target of limiting global temperature rise to 1.5°C • COP25 was held in Spain. The statement urging governments to increase the GHG reduction targets was adopted	• G20 Osaka Summit was held. "Osaka Blue Ocean Vision", which aims to further reduce pollution caused by marine plastic wastes, was shared
2020s	2020	• Launched a Global Circular Economy Project to accelerate corporate-wide activities to build a circular economy • Started Sustainable Management Promotion Consortium where internal members who are interested in sustainablity get together to discuss related topics. • Achieved zero-CO_2 factory in PEC (Wuxi) in China.	• Countries accelerated their decarbonization efforts and subsequently announced carbon neutrality statements. • EU released a new battery regulation proposal.	• Announced carbon neutrality by 2050. • Formulated "Green Growth Strategy Through Achieving Carbon Neutrality in 2050."
	2021	• Environment Vision transformed to GREEN IMPACT. • Set up Sustainability Management Committee led by the Group CEO.	• COP26 was held in UK. Countries agreed to aim for 1.5°C target for global warming.	• Announced reduction of GHG emissions by 46% below FY2013 levels by FY2030 and continuing strenuous effort in its challenge toward a 50% reduction as Nationally Determined Contributions (NDCs). • Formulated the Sixth Strategic Energy Plan.

Respect for Human Rights

Management System

The Panasonic Group has defined our Panasonic Group Human Rights and Labor Policy (Human Rights and Labor Policy) with reference to the international standards listed below. In keeping with this policy, we set rules within the Group, set up systems to promote the policy, and promote concrete initiatives toward achieving working environments that both respect human rights and provide meaningful work. The Panasonic Group's Code of Ethics & Compliance (Code of Ethics & Compliance), to be made promises that each employee in the Group must fulfill, also includes "respect for human rights" as a part of "our social responsibilities" and we make effort to enlighten them to all our employees.

■Main international standards used as reference:

- The United Nations' Guiding Principles on Business and Human Rights
- The United Nations' International Bill of Human Rights (Universal Declaration of Human Rights, International Covenant on Civil and Political Rights, and International Covenant on Economic, Social and Cultural Rights)
- ILO Declaration on Fundamental Principles and Rights at Work

Policy

Our Human Rights and Labor Policy is predicated on compliance with international standards set by the United Nations and the International Labor Organization (ILO) and the applicable laws in countries where we do business, and includes our commitment to respecting internationally recognized human rights to identify, prevent, and correct risks related to human rights, to promote remedy to people affected by those risks, to create working environments where people are fulfilled by their work and ways in which we use dialogue related to these topics with all our stakeholders.

We also create and enforce rules within the Group in order to better spread and promote these initiatives globally while continuously improving upon them.

WEB Panasonic Group Human Rights and Labor Policy
https://holdings.panasonic/global/corporate/sustainability/social/human-rights/policy.html

Respect for Human Rights

Responsible Executive and Framework

The executive officer responsible for the Group's initiatives to respect human rights is the Group Chief Human Resources Officer, who is also in charge of the CSR and Corporate Citizenship Activities (as of August 2022). This officer's performance indicators include the items of Sustainability (Respect for Human Rights, Labor, etc.) and are linked to his remuneration in fiscal 2023.

The Strategic Human Resources Department of Panasonic Holdings Corporation is the organization with overall responsibility for initiatives connected to human rights and labor for the Group and works together with the Operating Companies to promote initiatives at business sites across the Group.

When it comes to human rights in our supply chains, procurement divisions are responsible for protecting them, and these divisions gain the understanding and cooperation from our suppliers all around the world in line with our Group-wide human rights initiatives.

For more details, refer to "Responsible Supply Chain" (P87).

Major Initiatives

Prohibiting Forced Labor *Updated on 13th Sep. 2022

Our Human Rights and Labor Policy includes a clear prohibition of "any and all forms of forced labor." The Group promotes initiatives meant to ensure that workplaces operate with no forced labor by following international standards, such as those of the ILO, and all laws and regulations applicable to our business activities or dealings, as well as our own rules established within the Group.

For example, in Malaysia, based on the expert advice, technical support, and training delivered by the International Organization for Migration (IOM), UN Migration Agency, and other experts, management and human resources managers of our group companies in Malaysia formulated policies and standard operating procedures for the ethical recruitment and employment of foreign migrant workers. Through identifying and remediating issues by checking the on-site operational status of policies and manuals, they are working to establish compliance related to human rights and labor.

Additionally, our business divisions establish the mutual understanding for the responsibility of human rights with suppliers and collaborate to promote activities such as implementation of CSR Self-Assessments.

For more details, see "Responsible Supply Chain" (P90).

Prohibiting Child Labor and Protecting Young Workers

Our Human Rights and Labor Policy includes a clear expectation to work toward the effective eradication of child labor.

When we hire employees, in addition to complying with all applicable laws, we also require the staffing firms, suppliers, and other companies we work with to do the same.

We also do not permit any midnight work, heavy labor, or dangerous labor for employees under 18 years old.

Providing Employment Opportunities to Young People

We provide young job seekers with career education, human resource development with industry-academia collaboration, and employment opportunities through internships and other programs. In Japan, we run several internship programs throughout the year through industry-university cooperation. These internships have the following three goals:

- To train human resources through industry-university cooperation
- To provide an opportunity for learning through work experience focused on career education
- To eliminate employment mismatches by verifying work appropriateness

All our Group companies in China also offer internship programs and accept university students at business sites during their long holidays. These programs provide opportunities for students to learn about real business challenges and to propose ideas for solutions.

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Respect for Human Rights

Efforts to Protect the Rights of Children

Through the programs below, we show respect for the human rights of children and supports their healthy growth.

- Programs supporting employees raising children
WEB https://holdings.panasonic/global/corporate/sustainability/diversity-equity-inclusion/support-worklifebalance.html
- Providing products that support people raising children
WEB https://holdings.panasonic/global/corporate/universal-design/products/declining_birth_rate.html
- Safe and secure, child-friendly product design that is conscious of healthy development (Japanese only)
PDF https://www.panasonic.com/jp/corporate/technology-design/ud/pdf/KIDSDESIGN_pamphlet2021.pdf
- Corporate citizenship activities that safeguard and support the rights of children

We are committed to fostering the next generation through corporate citizenship activities, such as funding scholarships and offering career education programs.

Details on corporate citizenship activities
WEB https://holdings.panasonic/global/corporate/sustainability/citizenship.html

Furthermore, with the spread of COVID-19, we are rolling out new initiatives, including support for at-home learning, mental health care and donations to related NPOs to assist children impacted by the state of emergency.

Support for at-home learning: Panasonic Kids' School (Japanese only)
WEB https://holdings.panasonic/jp/corporate/sustainability/citizenship/pks/ouchide.html

Prohibition of Discrimination

Our Human Rights and Labor Policy includes the elimination of discrimination in the field of employment and occupation. We prohibit discrimination on the basis of age, gender, race, skin color, beliefs, religion, social status, citizenship, ethnicity, marital status, sexual orientation, gender identity and expression, pregnancy, medical history, viral infection status, genetic information, disability status, political affiliation or orientation, labor union affiliation, veteran status, or any similar status or characteristic. We have also made it clear in our Code of Ethics and Compliance that discriminatory conduct or language and harassment are prohibited in our workplaces, and we work to make it widely understood. By doing so, we are working on creating workplaces where it is possible for diverse talents to form critical partnerships with mutual respect and work together dynamically.

In Japan, we are engaged in the following efforts to prevent sexual discrimination, including sexual harassment, as well as harassment based on power differentials, and to comply with the Act for Eliminating Discrimination against Persons with Disabilities in order to create a more fair, equal, and pleasant workplace:

- Establishing, publishing, and thoroughly implementing sexual harassment policies
- Distributing leaflets and manuals on sexual harassment
- Holding seminars and training on preventing sexual harassment and harassment based on power differentials, and workplace culture revitalization
- Conducting management-level harassment training
- Running LGBTQ-related training
- Distributing educational materials to help employees understand people with disabilities

About hiring decisions

We work to continuously improve awareness with reference to the laws and guidelines for each country, and we established a Group-wide interview guide and make sure that it is applied consistently based on the appropriateness, ability, and desire of the candidate.

Respect for the Freedom of Association and the Right to Collective Bargaining

Our Human Rights and Labor Policy includes our effective approval of freedom of association and the right to collective bargaining. In each country and region, we makes efforts to establish healthy relations with employees and to solve their issues by active dialogue with them

In Japan

The Panasonic Group and the Panasonic Group Workers Unions Association (PGU) have stipulated in their labor agreement that unions retain the right to organize, collectively bargain, and strike. All workers' unions are under PGU.

Most of workers' unions adopted a "union shop" system wherein individuals automatically become union members upon being hired as a full-time employee and each company has a labor agreement and basic agreement in place, so except for a portion of employees who handle work related to management and those in management positions, all full-time employees are union members. We take a thorough approach to discussing essential management issues with unions, holding Management Committees as a forum for management to brief labor unions on such issues and seek their opinions in advance, as well as Labor-Management Councils held as a forum for management to brief labor unions on particularly important decisions and seek their opinions.

In Europe

Following an EU directive* adopted in 1994, we have set up a voluntary labor agreement to provide a venue for healthy discussion between labor and management. We have also

Respect for Human Rights

established the Panasonic European Employee Congress (PEEC). Employee representatives and company representatives also meet to exchange opinions and discuss business issues including management strategies and living support for employees.

* EU directive: A directive that obliges all companies employing 1,000 or more employees in two or more European Union countries to establish a pan-European labor-management consultation committee.

In China

Nearly all Group-affiliated companies in China have labor unions (gōnghuì). We hold regular opinion exchanges and discussions surrounding compensation, welfare and benefits, training, and the like through initiatives including periodic labor-management dialogues, proactive joint labor-management recreational events, and advance briefings to unions concerning critical management decisions, with a focus on building good relations between labor and management.

Furthermore, even at subsidiaries or offices in countries where the laws or regulations do not permit the formation of labor unions, the Code of Ethics & Compliance stipulates the de facto promotion of issue resolution through labor-management dialogues, which is the goal of the principles of the freedom of association and the right to collective bargaining.

Wage Management

We have established guidelines for compensation system design and aims to achieve competitive compensation levels, wherein we have set guidelines for appropriate wages, allowances, bonuses, and other types of occasional compensation or retirement pay, all based on national laws governing labor, labor-management agreements (such as collective agreements), and the like.

We also establish company regulations for each country in compliance with all wage-related laws and regulations concerning minimum wages, statutory benefits, and overtime. We operate according to these regulations pays employees directly for an agreed-upon period at agreed-upon time and provides employees with notifications of pay through pay statements or electronic data.

Furthermore, in countries and regions where the law permits monetary penalties, we recognize and allows these penalties as an option of disciplinary action. However, this permission is predicated on the penalty procedures and amounts being set within legal limits and within the limits of reasonable impact on the livelihood of those penalized, as well as such measures being codified in internal regulations and made well known to employees.

Managing Working Hours

We have included provisions in our Employee Handbook related to proper management of working hours, break times, overtime work, holidays, leave, and other matters based on labor laws in each country and labor-management agreements (e.g. collective bargaining agreements).

In Japan, the standard working day is set at 7.75 hours per day, and any extra hours worked are eligible for extra pay, going beyond the minimum required by law. We have also established internal working hour management standards that are even stricter than legal standards as part of our efforts to eradicate long working hours for all employees, including managers and supervisors.

We also provide employees with more annual paid leave than legally required, and they may accumulate up to 50 days of leave. Our system has been improved in terms of flexibility to accommodate individual needs for using annual leave, including not only having no restrictions on the purpose of the leave, but also making hourly or half-day leave available to all employees regardless of work style.

On top of these system enhancements, we address the physical and mental health management of employees by allocating human resources in ways optimized for preventing uneven overtime workload distributions among specific employees, and by providing additional medical examinations for employees who have worked long hours.

Diversity, Equity & Inclusion

See the chapter Human Resources Development and Promotion of Diversity (P74).

Human Rights Due Diligence *Updated in March 2023.

We establish a Human Rights Due Diligence system (based on the United Nations Guiding Principles on Business and Human Rights) for identifying, preventing, and reducing negative impacts related to human rights in relation to our business activities or our products, services, or business dealings. Reflecting the issues that have been identified based on the requirements of society and the operation of the system, we continuously implement and improve the system with the advice of outside experts.

As part of these efforts, we conducted a self-assessment related to human rights and labor at group manufacturing companies outside of Japan in fiscal 2022 to gain a bird's eye view of issues. In fiscal 2023, based on the results of the previous year, we conducted a self-assessment focused on the ILO core labor standards with using the questionnaires that we reviewed to more clearly identify issues. The scope of the survey has also been expanded to a total of 127 sites, including some manufacturing sites in Japan in addition to group manufacturing companies outside of Japan.

After analyzing the survey results, if any issues are found that need to be remedied or improved,

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each manufacturing company/site will work together with Panasonic Holdings and operating companies to take corrective action. We will also continuously monitor the progress of our initiatives and their effectiveness.

We will operate the system by building and making continuous improvements through dialogue, discussion, and cooperation with relevant stakeholders both internally and externally. We will also make disclosures about initiatives as appropriate using our official website, relevant reports, and other means of communication.

Access to Remedy

To make it possible for us to respond quickly to remedy any complaints we receive related to human rights violations, we established a global hotline (supporting 32 languages) as a point of contact where our employees or external partners can report any compliance violations, they have become aware of, including those issues involving human rights or labor. This hotline uses an external, independent system that prevents that identity of the person reporting being revealed, and we have internal rules in place such that we are careful to protect the confidentiality of such reports and to make sure that the person reporting the violation does not suffer any acts of retaliation and detrimental treatment.

For more details, see “Whistle-blowing System” in the chapter Fair Operating Practices (P121).

In addition, to encourage wider acceptance of complaints from outside our group, we have also applied to participate in the new industry joint grievance system to be established in October 2022 by the Japan Electronics and Information Technology Industries Association (JEITA) CSR Committee.

> In Japan, we have established an Equal Partnership Consultation Office with dedicated contacts in both the Panasonic Holdings Corporation and employees’ labor union. We have also created contact offices in each Operating Company. This reporting framework allows us to address any concerns from employees, including temporary staff, who report cases of harassment, including sexual harassment (includes LGBTQ-related harassment), harassment based on power differentials, or harassment related to pregnancy, childbirth, or childcare leaves. During consultations, we safeguard employee privacy and carefully handle their concerns while confirming their needs. We also ensure that the employee and any other parties involved in fact-checking the case are protected from retaliation.

Training

We have made opportunities (including when first starting work and upon promotion) to make sure employees know about the topic of respect for human rights included in our Code of Conduct.

In April 2022, we revised the Panasonic Code of Conduct to what is now called the Panasonic Group Code of Ethics & Compliance, adding a separate new chapter, Respecting Human Rights. In addition to ensuring that this is well-known, we are use e-Learning and other means to offer continuous education to all our employees.

We also provide training to individuals who will be dispatched from Japan to posts outside of Japan before their assignment begins to educate them on human rights issues that they should pay attention to while abroad, such as fair treatment and prohibitions on discrimination in hiring.

WEB The Panasonic Group’s Code of Ethics & Compliance Chapter, 5. Our Social Responsibilities, 1. Respecting human rights
https://holdings.panasonic/global/corporate/about/code-of-conduct/chapter-5.html

Participation in International and Industrial Partnerships

In January 2022, the Panasonic Group became a participant in the United Nations Global Compact. In addition to declaring 10 fundamental principles in four different fields, including respect for human rights, we are working to make our efforts related to hujman rights and laborrefer to international standards, and we will fulfill our duty to communicate with the public by disclosing the progress and results of those efforts.

In October 2021, we also joined the Responsible Business Alliance (RBA), an international CSR organization involved in the electronics, ICT, and automotive sectors. We are working to develop a highly reliable management system by their excellent self-assessments tools, the guidance document for solving of issues and participation in their affiliated, Responsible Mineral Initiative for the promotion of responsible mineral procurement.

In Japan, we participate in initiatives undertaken by the CSR Committee of the Japan Electronics and Information Technology Industries Association (JEITA) and the Corporate Behavior and SDG’s Committee of the Japan Business Federation, and in Europe, we participate in initiatives undertaken by the CSR Committee of the Nikkei Business Association in Europe (JBCE).

WEB United Nations Global Compact
https://www.unglobalcompact.org/ what-is-gc/participants/149557-Panasonic-Corporation

WEB Responsible Business Alliance (RBA)
https://www.responsiblebusiness.org/about/members/

Human Resources Development and Promotion of Diversity

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Management System

At the Panasonic Group, providing opportunities for growth and success for the individuals who work with us is at the core of our management, reflecting a maxim left to us by Konosuke Matsushita: a company is its people. To do so, we have declared our vision to create “the best place to work where diverse talents work at their best” as part of creating an ideal society, with both material affluence and mental happiness regardless of their gender, age, nationality, or other categories.

As one of the efforts we have undertaken to put management policies that reflect that approach into action, each manager is responsible for and addresses human resource development including providing education and the like in keeping with a variety of initiatives, including systems and mechanisms planned, created, and operated by the HR divisions. Then we use the annual goal management systems, Employee Opinion Survey, and other tools to measure the skills, level of engagement, motivation, and more for individual employees and apply the results toward improving our efforts.

Further, the overall Group-wide stance and critical measures will be discussed at Group Management meetings, the Group DEI Promotion Council, and Group Talent Management Committee, attended by the presidents of Panasonic Holdings Corporation (PHD), the Operating Companies and will be monitored as well.

Policy

At the Panasonic Group, our entire reason for being is to achieve an ideal society with material and spiritual affluence. In order to continue to serve society as it continues to become more diverse, it is essential for us to be a company where each and every one of our employees is able to make the most of their own individuality.

What that means to us is that we create new value by treating one another with respect, raising the quality of decision-making by listening to diverse opinions. What we need to do, then, is for Group employees to make the most of their individual talents and to practice employee entrepreneurship, and for all leaders in charge of organizations to both create an environment and provide support for Group employees’

Human Resources Development and Promotion of Diversity

entrepreneurship, practicing management through the collective wisdom of all employees.

Given this background, we regard the promotion of our human resource development and Diversity Equity & Inclusion, as a crucial part of our business strategy. We provide a broad range of opportunities to anyone with ability and ambition, and we actively strive to create an environment in which work feels meaningful.

Responsible Executive and Framework

The executive responsible for human resource development measures and the promotion of Diversity, Equity and Inclusion (DEI) for PHD and the entire Group is the Group Team Human Resources Officer (Group CHRO) and the executive officer in charge of DEI promotion. PHD's Strategic Human Resources Department plans and creates Group-wide strategies, and the planning and creation of strategies for each Operating Company as well as responsibility for daily management falls to human resource departments at each Operating Company or other business within the Group. (as of August 2022)

Key Systems and Initiatives for Utilization of Human Resources

Managerial Promotion

Panasonic Group has established its Panasonic Global Competencies (PGC) as common global guidelines for action based on our Basic Business Philosophy. These guidelines clarify the leadership competencies needed from its leaders and the core competencies needed by all employees. In this way, the Group is promoting behavioral change and improved practical initiatives among its leaders worldwide.

The Group has unified its leadership candidate selection criteria, processes and IT platforms globally and makes efforts to discover the most suited candidates, regardless of age, gender, nationality, or other factors, and to provide a systematic approach to career development and promotions. It also plays a particularly important role in defining policies for nurturing executive and other management candidates, as well as developing perspectives for selecting from these candidates. Furthermore, we use assessments from external organizations as well to gain an objective understanding of candidates' aptitudes, abilities, and other distinguishing characteristics. The Group then motivates these candidates by sharing the assessment reports to promote self-driven growth among its senior managers. The Group has established the Group Talent Management Committee as a venue to discuss and examine the best-suited management candidates objectively and from a variety of angles. The Group CEO, Operating Company Presidents, Group CFO, Group CTO, Group CHRO, and other Committee members discuss how to find the best management candidates worldwide, as well as matters related to career development and promotions.

The Group will continue to enhance its processes for discovering, nurturing, and promoting talent regardless of age, gender, nationality, or other factors.

Remuneration System

Panasonic Group has adopted a performance-linked remuneration system that sets the levels of bonuses for the current fiscal year based on the company's performance during the previous fiscal year. The degree to which the performance of the company is reflected in compensation increases as their job rank grows. Personal performance from the previous fiscal year is also taken into account when determining the amount of each individual's bonus for each fiscal year. Thus, by reflecting the company's performance and individual performance within certain limits in compensation, the Group aims to inspire the desire to improve both performances.

The compensation of Directors and Executive Officers of PHD consists of a fixed "basic compensation", a "performance-linked remuneration", which serves as a short-term incentive, and a restricted share-based compensation, which serves as a long-term incentive. Performance-linked remuneration raises the motivation to increase business performance, which is why we have linked it to the annual performance evaluations for both the Group as a whole and for the division they are responsible. The system is designed such that the remuneration grows along with the results an employee is able to produce, with the rate set to be between a minimum of 0% to a maximum of 150% (for standard achievement: 75%). Performance-linked remuneration is evaluated by considering KPIs that must be continuously monitored, including adjusted operating profit*, net income attributable to parent, and operating cash flows for the term. Evaluations are conducted by comparing the employee's results from the previous year eligible for evaluation to the target values for each element of their performance.

* The Panasonic Group's management indexes calculated by subtracting cost of sales, selling expenses, and general management fees.

Furthermore, with the goals of Panasonic Group's new mid- to long-term strategy after the transition to an Operating Companies structure in mind, we have made updates to our system for "performance-linked remuneration," which are reflected in results starting from fiscal 2023. We have added sustainability-related items like environmental contribution, items related to talent, and non-financial items like strengthening operation capabilities that support business competitiveness to our evaluation criteria on top of financial indicators such as cash flow management that looks at cash generation and ROIC/ROE that look at return on investments, including some new areas meant to reflect performance over the medium term rather than only annually. We have also implemented evaluation systems based on the same idea for the presidents of all operating companies under PHD. The objective of Panasonic Group's stock options with

Human Resources Development and Promotion of Diversity

transfer restrictions is to provide stock-based compensation that removes restrictions on the transfer of stock on certain conditions, such as remaining with the company for a given duration. We provide these stock options with the goal of both providing an incentive to work toward the continually raising the Group's corporate value, and to further align recipients' values with those of the shareholders, and we have designed the system so that a greater proportion an individual's compensation overall will be made up of stock options the higher their position, based on their board or executive officers' duties and roles. Individual figures for compensation are set holistically with consideration given factors including the balance between board or executive officers' duties and roles and monetary compensation.

These stock options with restrictions on transfer have been given to the presidents of Operating Companies under PHD and presidents of affiliates of Panasonic Corporation who perform work that is directly tied to the corporate value of the Group beginning in fiscal 2023.

In addition, outside directors receive only "basic remuneration," which is fixed remuneration.

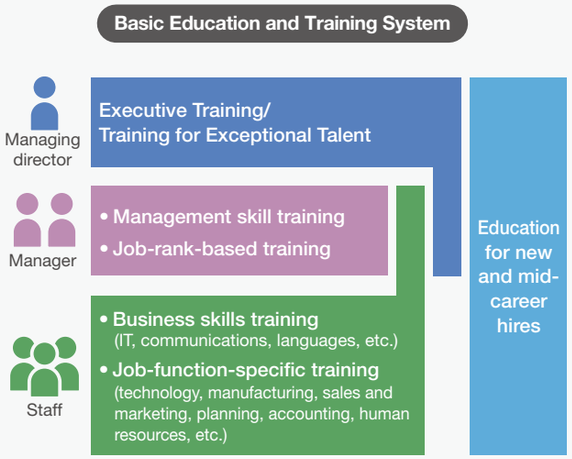
Human Resources Development

Human Resources Development Initiatives and Performance

Basic Education and Training System

Our education and training system offers all levels of group employees a program consisting of global core knowledge, which constitutes the minimum knowledge and skills necessary for all aspects of the Group's global business. The Group strives to develop human resources in all regions and at all levels using this system.

Additionally, with e-Learning that allows employees to study using high-quality materials at any time and from anywhere in the world and a full lineup of other online learning opportunities, the Group has been developing learning programs globally, while planning and providing optimized training for actual needs, including developing individualized training to suit specific business needs.



Starting in fiscal 2020, we have been globally promoting an initiative called "A Better Dialogue", which is a program meant to achieve qualitative and quantitative improvements in interactions between employees and their managers. A Better Dialogue consists of regular dialogues to monitor performance, provide guidance, and strive for career and skills development. The objective is to accelerate the growth and advancement of each employee and to create an organization, a corporate culture, and a workforce that will realize the company's business strategies.

Team & Talent Development Center

Panasonic Group has established the Team & Talent Development Center (T2DC) as an organization that specializes in organizational development and human resources-related development and training for employees of the Group.

The T2DC provides training to new hires (in Japan) so that new employees can quickly become active at the Group. It also offers business skills training that teaches IT, communications, languages, and other skills required to facilitate employee tasks. Job-function-specific training is provided as well so that employees can learn the specialized knowledge and skills needed to accomplish their tasks, whether they be technical, manufacturing, or sales and marketing. In addition, T2DC offers elective management development training for employees who meet certain conditions, management skill training meant to give managers greater management capabilities and the ability to practically implement Panasonic Group's Basic Business Philosophy, and other forms of job rank-based training.

⇒See related "HR Data"

Starting in April 2020, we began offering free educational content in three languages – English, Japanese, and Chinese – that is related to business skills and liberal arts. It is publicly available on our group website, and it seeks to stimulate self-driven study and to make study a daily habit for boosting personal growth and better achieving organizational targets. This is part of Panasonic Group's efforts to further accelerate self-driven professional development on the part of our employees by making it possible for them to learn easily and on a daily basis no matter where they are in the world.

Global Human Resources Development

Panasonic Group has established the Panasonic Global Mobility Policy – regulations for interregional personnel transfers that apply to the whole group – to better nurture leaders who can play a leading role in promoting business that goes beyond national and regional borders, and who can serve as loci for cooperation. To that end, we implement programs for interregional personnel transfers that, for example, bring employees from outside Japan to work in Japan.

In each country and region, the Group conducts and is expanding training programs to increase mutual understanding among people from all nations around the

Human Resources Development and Promotion of Diversity

globe. In Europe, for example, we conduct our 15-month Next Generation Talent Programme (NGTP), which focuses on human resource education. This offers a wide variety of workshops on our Basic Business Philosophy and diversity, launching and promoting actual business projects, and mentoring and coaching programs, that allow employees to find a counterpart at another affiliated company within Europe to learn with in order to improve the overall business knowledge and skills of participants.

In each region, the Group conducts local elective management development training that is linked with the same training held in Japan. Additionally, as a part of its global policy, the Group conducts the Global Onboarding Program for mid-career hires and provides e-Learning services, through which all global employees can obtain the knowledge and skills they need, regardless of time or place, based on the system of global core common knowledge.

Support for the Self-Motivated Endeavors of Employees and Establishing Self-Determined Career Formation (Japan)

Establishing an independent career

In order to help each of our employees actively challenge themselves to serve society and make the most of the strengths each of them has, the Panasonic Group believes it is crucial that we as a corporation offer opportunities to take on challenges and provide maximal support. To do so, we encourage a spirit of volunteerism that makes individuals want to raise their hands, and we also have systems that provide support and encouragement employees who want to challenge themselves, including job transfers within the Group and external working experience (secondment to external start-ups, etc.), as well as in-company multitasking (offering concurrent postings within the Company).

Furthermore, with regard to Group-internal hiring, departments that need new personnel must first formulate a clear statement of their requirements and seek to fill their positions within the company, which we call “e-Challenge.” We also have the e-Appeal Challenge system, which allows employees to offer their skills directly to those departments where they wish to work and to challenge themselves with new types of work.

Career and Life Design Seminars

To foster individuals who are improving their employability and continuing to strive for a better future, the Group recommends career and life design seminars for employees within a target age range in Japan.

Employees take stock of their careers, identify their core values, and make an inventory of their skills. They ask questions about the issues they face in building their careers and engage in other activities designed to promote an understanding of the importance of independent careers. Employees also clarify the promotion actions they can take to achieve their career vision for the next five years. The seminars also offer employees opportunities to brush up on their knowledge of personal finances and health maintenance, thus supporting the realization of fulfilling life plans.

Building Total Rewards Systems That Treat Both Our Organization and Our Ambitious Employees the Way They Deserve

A “Role/Grade System” has been implemented at PHD and some of group companies in Japan, including Panasonic Corporation and other Operating Companies, and at some Japanese affiliates. This system determines work/role grades for employees according to the size of the work or role they currently perform and constitutes the basis for employee benefits. The aim of this system is to treat the wide variety of employees at Panasonic Group based on the scope of their work and responsibilities. This helps to enhance the transparency of our human resources system, and fosters understanding among employees. By setting clear goals for employees to strive for, we encourage them to be bold in achieving their goals. We believe this helps make both our people and our organization bolder, which allows to reap the rewards of ambitions, with the aim of building an organizational culture that is brimming with vitality.

Diversity, Equity & Inclusion (DEI)

Policy

On October 2021, we revised the “Global Diversity Policy” formulated in fiscal 2010 as “Panasonic Group DEI (Diversity, Equity & Inclusion)” and are promoting activities as a group.

WEB Panasonic Group DEI Policy
https://holdings.panasonic/global/corporate/sustainability/diversity-equity-inclusion/policy.html

Organizational structure for DEI

Strategy for the promotion of DEI across the Group is planned and created by PHD’s Strategic Human Resources Department, and executed by the Employee Success Center’s Group HR Strategy Design Office at Panasonic Operational Excellence Co., Ltd. The planning and creation of strategies for each Operating Company as well as responsibility for daily management falls to human resource departments at each Operating Company within the Group. (As of August 2022)

Major DEI Initiatives

Gender Equality

To leverage the knowledge capital of society to the greatest extent possible, Panasonic Group believes that it is crucial to take advantage of all forms of diversity in the workplace whether in terms gender, age, nationality, or any other factor. We have implemented a “Role / Grade System” that determines compensation based on the work or role in which employees are engaged; and there is no gender-based inequalities in this compensation system. However, particularly in Japan, we are aware that there is a need to employ greater numbers of women in upper management and decision-making positions; it is striving to ensure gender

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diversity. Additionally, to accelerate female participation in management, the Group holds study groups for female employees and provides career-advancement seminars for women leaders, creating opportunities for women to encounter role models' values and views on working, as well as further strengthening the management capabilities of supervisors.

Furthermore in 2021, Panasonic Group signed on with 30% Club Japan, a global campaign with the purpose of raising the proportion of women in critical decision-making roles in business. The Group will continue to take diverse opinions into account in our decision-making and will drive these changes forward as we continue to improve their quality.

⇒See related "HR Data"

Case studies of country/region-unique DEI initiatives

■Japan

As we aim to create "the best place to work where diverse talents work at their best" we are working on initiatives from three perspectives: leadership commitment, creating inclusive working environments, and support for all individual employees.

Leadership commitment here means a commitment to promoting DEI on the part of executive leaders themselves. One example of this is the Group DEI Promotion Committee that we have been holding since fiscal 2022. There, the Group CEO, presidents from Operating Companies, and a diverse array of employees take part in discussions that determine actions related to DEI and then promote them. Creating inclusive working environments means respecting the diverse individuality of all the employees in the Group and creating workplace environments that allow them to make the most of their individual attributes. July is DEI Promotion Month each year, during which we hold a DEI forum that helps to connect understanding and empathy about DEI into action, providing many opportunities for dialogue. Additionally, we implement unconscious bias training as part of management education in the Group, while at the same time we have active communities of employees that have sprung up around various elements of their background, including those with disabilities, women, LGBTQ individuals, and those coming to Panasonic midcareer. Supporting all individual, diverse employees means offering the support that each needs to take on new challenges. We are working on initiatives that include the promotion of more diverse ways of working that are less restricted by time and place, as well as the creation or restructuring of a variety of systems and mechanisms.

■In the United States

Over the past two years, with the guidance of our Executive Diversity, Equity and Inclusion (DEI) Council, Employee DEI Council, and Business Impact Groups (BIGs), Panasonic North America (PNA) has established a strong foundation focused on Culture & Belonging, Policy Reviews, Talent Attraction & Mobility and Learning & Development. PNA's DEI efforts are guided by our Basic Business Philosophy and company values. We recognize that diversity improves company performance in every imaginable area — talent attraction and retention, innovation, group performance, reputation, and finance. According to Census data, by 2060, minority groups will comprise 57% of the US population. Census data also reveals that by 2060, immigrants will account for 95% of the future population growth in the US.

Understanding these trends and the importance of fostering a culture of inclusion and belonging, PNA has made progress in advancing its strategic DEI framework. For example, in 2022, PNA developed a DEI Scorecard to track progress on key goal indicators. Specifically, PNA will focus on women in its workforce and management, as well as minorities in its workforce and in management. By monitoring the growth in the percentage of these KGIs closely, PNA will be able to better understand progress on our DEI actions.

In addition, PNA has focused on strengthening its five Business Impact Groups (BIGs) that are instrumental in the recruitment, retention and advancement of a diverse workforce. PNAs BIGs consist of RISE (focused on the career growth and development of women and male allies), Veterans Group (bringing the veteran and military community closer), PRISM (where the LGBTQ+ community are heard and celebrated), Level Up (supports the next generation of Panasonic leaders), and the Black Employee Network (Black, Latino, African American, African and Caribbean employees). Engagement from the BIGs was instrumental in the creation of a new mentorship program that launched this year and will support the professional development and growth of employees. PNA also created a new DE&I Resource Center for employees to access key DEI information and increase their understanding and growth around contributing to a culture of inclusivity for all. Finally, PNA (PEXNA) introduced a floating holiday, an additional paid holiday for celebrating religious and traditional practices outside of the company's standard paid holiday schedule. PNA is committed to this important journey and look forward to enhancing our company culture through this business imperative.

■In Europe

We have been promoting various initiatives in Europe to provide an environment where all people can develop to the maximum of their potential, irrespective of personal characteristics. As part of these, we launched a new development program in 2019 called Women in leadership (WIL). The goal was to provide a platform so our female talent could be more visible, a locus for the discussion of women-specific leadership challenges and a sounding & brainstorming board. In 2021, a new group "Women Connect Network" consisting of female and male volunteers was organized to enhance gender equality and attract talent (not only female talent). Additionally, we have run anew training program called the "Unhelpful Bias Workshop" focusing on awareness raising and development attitudes, values, strategy and skills that underpin a diverse and inclusive culture for all employees from all levels.

Sustainability Data Book 2022

Work-Life Balance (Japan)

Flexible work systems that enable diverse workstyles

Panasonic Group has been promoting a work-from-home system as an efficient way of working that takes advantage of information and communication technologies that allow employees to work in any location. With the impact of COVID-19, there has been a strong push toward utilizing this work-from-home system, and we have realized that new working styles have emerged leveraging IT, digital, and other technological means. We established a new remote work system in April 2021 as a new workstyle option that treats working from home as the default and does not assume that the employee will ever necessarily report to work in person and is used by more than 15,000 employees. At the same time, we have also revised the system so that anyone can use their annual paid leave on a half-day or hourly basis, regardless of the employee's work style or situation. We have also been able to achieve compatibility with more diverse and flexible workstyles, including a new system that enables employees to miss work in the middle of working hours for any personal reasons and to allocate time off for that. We aim to increase productivity and improve the work-life balance of employees through these working styles.

Supporting Work-Life Balance

As part of Panasonic Group's efforts to create an environment that enables everyone to play an active role, the company is implementing initiatives to support a good work-life balance for employees. The effort and adaptability of employees is vital for childcare, nursing care, and work to coexist. However, this effort may not be sufficient by itself, in which case, employees require the understanding and support of their supervisors and workplaces. The Group also creates guidebooks with hints for work-life balance, including explanations of the systems needed for maintaining personal and business responsibilities and information on how supervisors and subordinates can work together. This is another way in which Panasonic helps its employees continue their careers without worry, regardless of the situations they face with childcare or nursing care.

■Examples of Systems Supporting Work-Life Balance (Group companies in Japan)

- **Flex-time work system**
  A flexible work-hour system that does not designate mandatory "core hours" when all employees must be present
- **Work and Life Support Program**
  A flexible work system for those raising children, providing nursing for an elderly person, or long-term care that includes short and flexible working hours; half-days; as well as adjustable, fewer-day working weeks; and other appropriate schedules
- **Family Support Leave**
  A leave system that can be used for a wide range of events, including care or nursing of family members, or attending a child's school events
- **Child Care Leave**
  A non-consecutive total of 730 days of leave that can be taken until the end of the April following the child's start at elementary school.
- **Child-Rearing Support Café Point**
  A system by which Panasonic covers half of the costs for childcare, such as extended daycare, daycare for an ill child and when temporary childcare must be found in the event of the closing of daycare facilities or the like.
- **Nursing Care Support Café Point**
  Half of nursing care fees are covered by the Group
- **Nursing care leave**
  Employees can be approved to take a total of up to 365 days off per person requiring nursing care (for leave of a total of 183 days or less, employees receive 70% of pay and the amount for their individual portion of social insurance premiums).
- **Child Planning Leave**
  System of leave for fertility treatments.

Creating a Workplace Where People with Disabilities Can Take an Active Part (Japan)

In Japan, individual workplaces are working on initiatives including the following in an effort to create workplaces where anyone can work in a way that works for them regardless of whether they have a disability or not.

①Whenever employees with hearing-related disabilities take part in workshops or classes, we make sure that they are able to access the same information through sign language interpretation and voice recognition software, among other methods.
②We are also moving forward with improvements to workplace environments including flat floors without steps, using brighter lighting, and introducing a free desk system in which workstations are not strictly assigned.
③The Group also creates educational content in order to help provide a better understanding of life with a disability and offers opportunities for learning to all employees.
④We also have active communities of employees that have risen up to hold various information exchanges and discussions on themes surrounding disabilities.
⑤The Group established the Disability Work Support Hotline that makes it possible for those with disabilities or anyone else, including their supervisors, colleagues, HR, and the people responsible for DEI promotion to easily ask questions or seek advice. This makes it possible for the supervisors and coworkers of those with disabilities to find out how to accommodate individual disabilities. We promote workplaces that make it possible for anyone, including people with disabilities to work together without worry and be able to take on challenges.
⑥Through cooperation with regional and local governments, the Group has seven special affiliate companies and is actively working to hire individuals with severe disabilities. These special affiliate companies not only provide work environments that distribute components in a way that

Human Resources Development and Promotion of Diversity

accommodates the body of a wheelchair user and adjusting workbenches, while also actively taking on interns and company tours.

As of June 2022, the total proportion of Group employees in the Japan region who have disabilities was 2.41%, which is already above the legally required rate, and we will continue in our efforts to promote independence and participation in the company on the part of people with disabilities.

⇒See related “HR Data”

Employing Workers Post Retirement (Japan)

In 1982, Panasonic Group created the Senior Partner System, allowing workers past retirement age to enter into employment contracts under new conditions. In 2001 we introduced our “Next Stage Program” and we have continued to update these efforts all based on the fundamental approach of fostering independence, renewing our position as an industry leader in formulating policies for the employment of older workers. Most recently, we once again revamped the program and launched a new initiative for mid- to long-term personal development that includes skills and mind-set enhancement for currently active workers, based on the assumption that more people will continue to work into their later years.

Respecting sexual orientation and gender identity (Japan)

Policy

Panasonic Group Code of Ethics & Compliance clearly forbids all discrimination or conduct that may result in discrimination based on characteristics like sexual orientation, gender identity and gender expression, or marital status.

WEB **Panasonic Group Code of Ethic & Compliance Chapter 2 Our Workplace 1. Respecting each other**

https://holdings.panasonic/global/corporate/about/code-of-conduct/chapter-2.html

Treatment of Individuals in the HR Systems

As a part of DEI promotion, which includes accepting, respecting, and working together to make the most of the unique characteristics of individuals, effective April 2016 in Japan, Panasonic Group recognizes same-sex domestic partners as equivalent to legal spouses within its HR systems, except in areas where such recognition cannot be applied due to legal restrictions. The handling of this issue at Group companies in regions globally is premised on the observance of the laws in each respective region.

Advancement in Understanding

In Japan, Panasonic Group has been promoting a better understanding for all employees going beyond basic knowledge about sexual orientation and gender identity concerns but also methods for dealing with discriminatory speech or conduct, as well as methods for responding to the needs of those involved. Information on how to advance understanding and invitations to participate in related events are also sent out via Panasonic Group intranet system. We also have an active community of employees who participate in a variety of talks and discussions on LGBTQ themes.

Support for External Activities

Panasonic Group has been engaged in cooperation with “work with Pride”, a private organization that works on initiatives to create friendlier workplaces that are inclusive of various sexual orientations and gender identities. The Group also supports Pride House Tokyo as a “Rainbow Partner” to raise awareness of LGBTQ issues through hosting events and producing diverse content, while taking advantage of the opportunities available during the Tokyo 2020 Olympics and Paralympics. In 2021, the Group has also agreed to and signed the EqualityActJapan petition (toward establishing an LGBT Equality Act in Japan) that is being advanced in time to coincide with the Olympics and Paralympics. In April 2022, the Group was a sponsor of Pride Center Osaka, with the goal of creating a society where everyone, including members of LGBTQ communities can be fully themselves, which has led to greater knowledge and understanding of LGTBQ issues on the part of employees.

Establishing a Hotline for Complaints and Inquiries

The Panasonic Group has set up hotlines that employees can use to anonymously report any kind of discrimination or harassment they have been subjected to or seen or heard about.

Equal Partnership Hotline (Japan)
- Please see the chapter on Respect for Human Rights (P70) for details.
- Global Hotline
  Please see the chapter on Fair Operating Practices (P121) for details.

Evaluations

In aiming to create “the best place to work where diverse talents work at their best” the Employee Opinion Survey (EOS) has been adopted Group-wide. This initiative is a survey that we give to all Group employees annually in order to measure their awareness (with 149,000 respondents in fiscal 2022), its most particularly critical indicators being the positive response rates to the questions about employee engagement (self-motivated endeavor) and employee environments (the right person for the right job, comfortable working environment). We use the results of this survey as feedback for the workplace and use it for better human resources development and organizational development.

In the FY2022 survey, 66% of employees responded positively about employee engagement. The same year, 64% of employees responded positively about employee environments. These numbers have trended toward improvement each year, but with reaching the top of the global rankings as one of the Group’s goals, we continue to promote initiatives geared toward human resource development and organizational development.

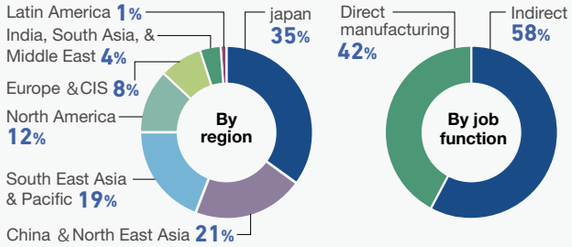
Human Resources Development and Promotion of Diversity

Related HR Data

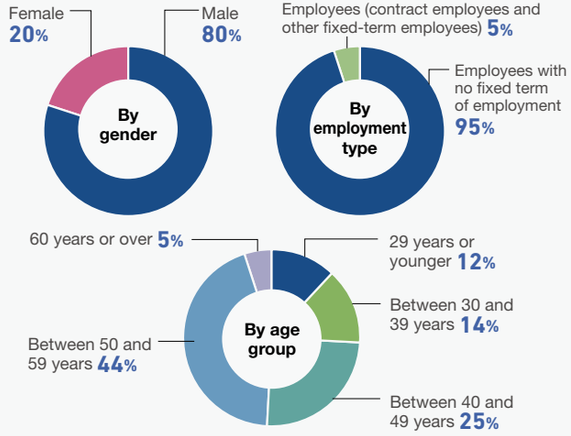
・PHD: Panasonic Holdings Corporation
・PEX: Panasonic Operational Excellence Co., Ltd.
・Panasonic Corporation: Refers to Panasonic Corporation up until March 2022 (prior to the transition to an operating company system).

Number of employees

As of March 31, 2022
Global
Number of Employees **240,198**



PHD/PEX, 7 Operating Companies in Japan region
Number of Employees **63,312**



Number of persons recruited (Japan region)

Reporting timing and boundary	Total	Male	Female
FY2022 Japan region Employees with no fixed term of employment	1175	897	278

Average years of continuous service (Japan region)

Reporting timing and boundary	Total	Male	Female
Apr. 2022 PHD/PEX, 7 Operating Companies in Japan region	23.1	23.6	21.1

*Years of service for non-permanent employees who have been rehired after retirement are calculated including the years prior to their retirement

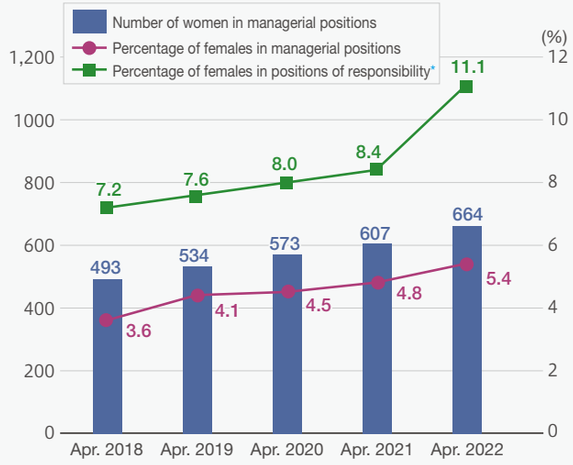
Turnover rate (Japan region)

Reporting timing and boundary	Overall turnover rate	Turnover rate for those leaving the company for reasons other than mandatory retirement
FY2022 Panasonic Corporation	8.5%	5.3%

*Turnover rate: Number of employees who leave the company annually divided by the annual average number of employees registered at the company

Data related to the women positions of responsibility (Japan region)

～Apr. 2021
Panasonic Corporation including member companies
As of Apr. 2022
PHD/PEX, 7 Operating Companies



*persons in managerial positions or chief assistants (typically at the supervisor level)

Gender Pay Gap (Japan region)

Reporting timing and boundary	Male	Female*2
Fiscal 2022 Compensation for management positions*1 at Panasonic Corporation	107	100

*1 monthly salary (including base role pay, allowances for late nights, etc.) and bonuses
*2 The cause of the gap is not the compensation system, but the proportion of management positions.

Percentage of people with disabilities employed (Japan region)

Reporting timing and boundary	Rate
Jun. 2022 PHD/PEX, 8 Operating Companies	2.41%

Number of days and rate of annual paid leave taken (Japan region)

Reporting timing and boundary	Number of days	Rate
Fiscal 2022, Panasonic Corporation	17.2	69%

Rate of childcare leave taken (Japan region)

Reporting timing and boundary	Male	Female
Apr. 2022 PHD/PEX, 7 Operating Companies (Among employees who were qualified to take parental leave in FY 2022)	16.7%	99.6%

*Percentage of those who took childcare leave within the same fiscal year, among those who gave birth themselves or whose spouse/partner gave birth in the same fiscal year. Excluding family support leave, which can be taken in units of days.

Work style (Japan region)

Reporting timing and boundary	Shorter working hours	Flexible working hours	Remote work system
Apr. 2022 PHD/PEX, 7 Operating Companies	1.7%	66.1%	23.1%

*Employees who work from home more than half of the days in each month.

Training result (Japan region)

Reporting timing and boundary	Training results
Fiscal 2022, Human Resources Development Company, excluded training conducted by business divisions or other job functions	184,700 Person-day*

*number of people × number of days

Sustainability Data Book 2022

Occupational Health and Safety

Sustainability Data Book 2022

Management System

The purpose of Panasonic Group's occupational health and safety management is to promote a comfortable and safe workplace based on the most advanced practices. Its aim is to contribute to the welfare of the Group's employees and the development of Panasonic Group's business.

To maintain our occupational health and safety efforts—and to continuously improve them—the Group has established the Panasonic Group Occupational Health and Safety Policy, along with a variety of other rules, and has built systems that include designated people in charge of these at our Operating Companies and business divisions. We have also implemented an Occupational Health and Safety Management System on the global level and are working toward gaining external certification (ISO 45001) at nearly all our manufacturing bases (excluding some currently under construction).

Policy

The Panasonic Group's policy is to ensure the health and safety of employees (including those employed by subcontractors, staffing agencies, and the like) in accordance with the Panasonic Group Code of Ethics & Compliance ("Code of Ethics & Compliance") that was created and is maintained by the Board of Directors of Panasonic Holdings Corporation and the Panasonic Group Occupational Health and Safety Policy communicated by the Group CEO. The Group's Occupational Health and Safety division has also translated these into English and Chinese, and we work to ensure the health and safety of employees by rolling them out at all group companies in the language corresponding to the needs of each workplace.

WEB **Panasonic Group Code of Ethics and Compliance, Chapter 2**
https://holdings.panasonic/global/corporate/about/code-of-conduct/chapter-2.html

WEB **Panasonic Occupational Safety and Health Policy**
https://holdings.panasonic/global/corporate/sustainability/social/health-and-safety/policy.html

To put these policies into practice, we have established Health and Safety Management Rules that apply to health and safety management for the Group, build a foundation for health and safety management

Occupational Health and Safety

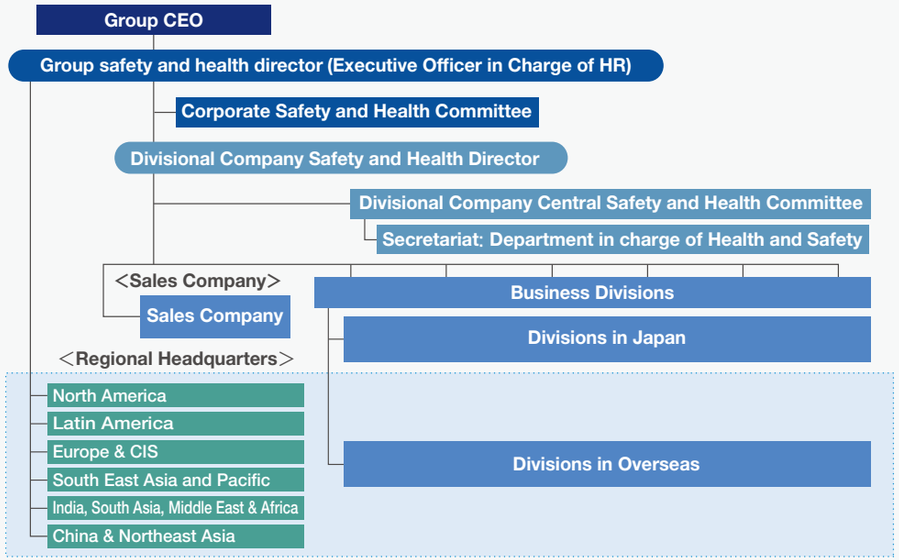
activities with the aim of both preventing workplace accidents and maintaining or improving the health of employees so that they can contribute to business development, and those rules apply to all work performed at business sites within the Panasonic Group.

Responsible Executive and Framework

The executive officer responsible for occupational health and safety is the Group Chief Human Resources Officer (Group CHRO) (as of August 2021).

The promotion system is structured as shown below, based on the Group's Health and Safety Management Rules. Occupational health and safety at each Operating Company is supervised by a general manager of health and safety.

Group Health Safety Promotion Organization Management Organization (Japan) (as of August 2022)



Major Initiatives

Risk assessment initiatives

The Panasonic Group conducts regular risk assessments at least once annually for mechanical equipment, chemical substances, and the like according to the Occupational Health and Safety Act in order to identify hidden risks such as the potential for workplace accidents, injuries or illness and reliably reduce the risks in order of greatest priority. We also share case studies from past incidents within the Group on the Group's intranet, and each Operating Company takes steps toward preventing such accidents from happening again.

Each of our business sites in Japan has a Health and Safety Committee composed of both employees and management and which is charged with investigating measures to prevent danger to workers, measures to prevent the causes and recurrence of workplace accidents, measures to prevent damage to workers' health, measures to promote the maintenance or improvement of workers' health, and other similar topics. To prevent workplace accidents among contractors' employees operating on our premises, we also hold Health and Safety Meetings with those contractors operating on our premises and manage health and safety overall, including facilitating communication between operations and the like.

Promoting external certification

ISO 45001

Workplaces within the Panasonic Group are working to obtain ISO 45001 certification, a process which involves clarifying the roles of all employees using the standard, setting goals and driving health and safety activities forward while also conducting regular reviews by the head of the business site, revising those activities based on those reviews.

As of the end of 2021, 118 out of the Group's 188 manufacturing sites have obtained ISO 45001 certification, and 54 work sites are preparing to transition to ISO 45001 certification from OHSAS 18001 or other standards.

Outstanding Organization for Health and Productivity

In the Japan region, the Group has been working on efforts toward being recognized as an Outstanding Organization for Health and Productivity by the Ministry of Economy, Trade and Industry, and each of the Operating Companies in the region were able to join the tradition of this recognition passed on from the former Panasonic Corporation that was recognized in March into the Operating Companies starting in April. The Panasonic Group views measures crucial to health management in the spirit of a company where everyone has a way to shine, and we promote good mental and physical

健康経営優良法人
Health and productivity

Occupational Health and Safety

fitness and health of our employees and their families while also fostering a culture at the work sites where every employee can do their best. We encourage and support the well-being of our employees, and that is our motivation as we undertake our corporate activities toward the achievement of our ideal society with affluence both in matter and mind.

WEB List of Panasonic Group's certified work sites (Japanese only)
https://phio.panasonic.co.jp/healthy_company/list.htm

WELL Certificatio*

The Panasonic Group has received the following international certifications for our creation of well-being-oriented workplaces where all employees can do their best work.

- Jan 2021: Life Solutions Company, Systems Solutions Development Center (at present time, Panasonic Corporation's Electronic Works in Osaka) awarded WELLv2Pilot Gold Certificate
- Jan 2022: Panasonic Yizhuang Manufacturing (Beijing) WELL Health Safety Rating
- Jan 2022: Matsushita Memorial Museum (Beijing) WELL Health Safety Rating
- Jan 2022: Panasonic System Communication Company (Beijing) WELL Health Safety Rating
- Mar 2022: Panasonic Tokyo Shiodome Building (Tokyo) WELL Health Safety Rating
- July 2022: Panasonic Hiroshima Nakamachi Building (Hiroshima) WELL Health Safety Rating

In addition to continuing to increase the number of certifications held by workplaces within the Group, we also offer consulting services to other companies working to obtain certification.

* An assessment system for office spaces that hope to foster a better cycle of creativity in addition to the perspectives of the impacts of the design, structure, and use of space on peoples' health, established in 2014 by the U.S.-based International WELL Building Institute Public Institute (IWBI), a public institute. There are four certification levels in WELLv2: platinum, gold, silver and bronze. There is also a WELL Health and Safety Rating, which can assess the safety and health in workplace.

Safety

Guidelines for creating and applying Equipment Safety Standards

To prevent the risk of occupational accidents involving equipment, the Panasonic Group reviews safety conditions by evaluating compliance with our Equipment Safety Standards. These precautionary audits take place when Panasonic business sites develop and deploy or purchase production equipment or technologies, or quality evaluation equipment and apparatuses. Our Guidelines on Creating Equipment Safety Standards form the basic outline for the Equipment Safety Standards at each business site. They take into account the laws and regulations of Japan, international standards, our know-how, and real disaster case studies. We publish these Guidelines in multiple languages.

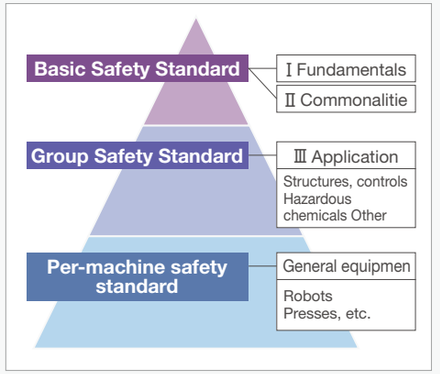
Preparing for Emergencies

We have established policies, systems, and other basics for emergency response in our Group-wide Emergency Response Procedures and related manuals to prepare for all types of emergency situations. We prepare for emergencies by making sure to respond carefully according to the response procedure through regular disaster drills (including practicing evacuation and safety checks) for foreseeable incidents like fires or natural disasters and undertaking activities to spread awareness about preventing secondary disasters. See the Risk Management chapter (P118) for more details.

System for creating and applying Equipment Safety Standards

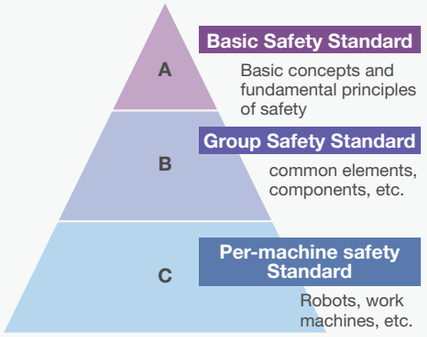
Diagram of the Equipment Safety Stamdards System at Panasonic

- Uses the same system of standards at International Safety Standards 10S/IEC (Guide 51)
- Annually reviewed, updated, and publicized internally



Reference:

International Safety Standards ISO/IEC (Guide 51) JISZ8501



Response to workplace accidents

When a workplace accident occurs, the Panasonic Group follows our Guidelines for when a Workplace Accident Occurs and the general manager of health and safety for the work site where the workplace accident has occurred makes a prompt and accurate report to the general manager of health and safety for the Operating Company.

We have established mechanisms to manage workplace accidents at roughly 340 sites globally, report serious workplace accidents that happen within 24 hours and monitor them for 365 days, and share cases studies and the like on workplace accidents with the entire Group. At work sites where a workplace accident has happened and in addition to investigating the cause

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Occupational Health and Safety

and implementing measures to prevent it from happening again, we also undertake preventive initiatives at each Operating Company with reference to past accidents.

Recent Incident Background and Recurrence Prevention

In 2021, there were four instances of a serious accident that left physical damage in Japan, and six outside Japan. The Panasonic Group recognizes the recent consistently higher trend in this number as a critical issue to be addressed.

According to our analysis, the primary cause of serious accidents is work being performed without stopping the equipment when performing non-standard operations such as adjustments or maintenance on production equipment, leading to fingers and hands being caught in moving parts of equipment. Such accidents account for approximately 70% of the total number of accidents, and we have found that older production equipment in particular requires safety measures.

To prevent the same accidents from happening again, we make sure that employees are well-informed of the message from the Group's CEO and our guidelines for safe work during non-standard operation and disseminate information about the application of the Group's Equipment Safety Standards, and we have even restructured our Equipment Safety Education Systemin order to train up individuals who can develop, practice and establish risk assessments and safety technologies on the production floor.

Specifically, in addition to study sessions on the Group's Equipment Safety Standards, we have also built new educational programs for employees who develop and deploy equipment and for those who use equipment (eLearning and in-person) and since the second half of 2021, we have trained and certified 125 Equipment Safety Promotion Instructors and are currently rolling out educational activities for some 3,200 production engineers across Japan by these certified instructors.

The Panasonic Group will continue to train and educate individuals who will be able to introduce and realize new safety technologies geared toward eradicating workplace accidents.

Equipment Safety Education System

	Learning about international standards		Learning about Group standards
Course title	Seminar on Equipment Safety for Engineers (Makers of equipment)	Seminar on Equipment Safety for Managers (Users of equipment)	Workshop on Equipment Safety Standards
Provide to	Production engineers who primarily design and improve equipment (including those responsible) • Production process engineering • Equipment maintenance • Health and safety, etc.	Those in production engineering, production, or safety who primarily manage the use of equipment • Production process engineering • Equipment maintenance • Health and safety • Production line leaders, etc.	Anyone learning about the Group's policies for drafting, updating, and sharing Equipment Safety Standards • Production process engineering • Equipment maintenance • Health and safety • Production line leaders, etc.
Details	• e-Learning: 24 hours • In-person: 2 days	• e-Learning: 6 hours • In-person: 1 day	• e-Learning: 7 hours • In-person: 1 day
	• Technical theory, relevant laws • Overview of functional safety and safety systems design • Risk assessment and reduction in machine design and production stages, notification of danger • Practice: Equipment design risk assessmen	• Technical theory, relevant laws • Overview of functional safety and safety systems design • Practice: Equipment design risk assessment	• Explaining the standards • Practice: Conduct a safety audit of actual equipment

Occupational Health

Regarding special tasks such as the handling of heavy objects or chemical substances, Panasonic will conduct work reviews work performed by using Safety Data Sheets (SDS) and provides appropriate protective equipment to reduce the necessity of such work as much as possible. Coinciding with the new obligation to conduct chemical substance risk assessments (as of June 2016), we review substances subject to the assessment, conduct additional health checkups in compliance with all laws and regulations, and continually monitor the situation so that there are no negative effects on employees' health.

The Ministry of Health, Labour and Welfare has also revised parts of its regulations aimed at preventing on-the-job accidents involving chemical substances, including regulations on occupational safety and health. These revisions are premised on the national government expanding infrastructure for communicating information about dangers and hazards posed by harmful chemicals as well as standards for upper limits on exposure it has set, including harmful chemical substances that have not as yet become subject to regulations, and requires businesses to take appropriate measures to prevent exposure (self-driven management).
The Panasonic Group established our Chemical Substance Management Standards in April 2022, created a chemical substance management working group, and shares the necessary

Occupational Health and Safety

information across the Group on progress with new initiatives geared toward enabling smooth transition to a new framework created with consideration to the changes to these laws, and are sharing and promoting information about the self-driven management of chemical substances across the Group, including issues, measures, rules, and training that we should consider as a Group.

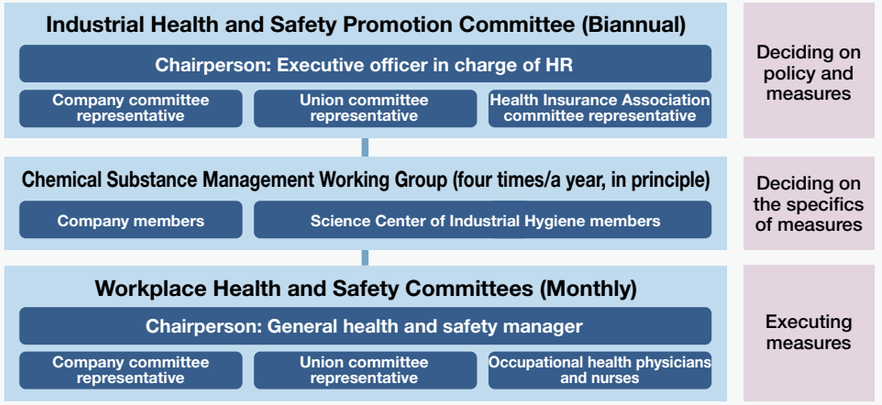
Chemical Substance Management Standards

The Group established these standards in April 2022 to facilitate a smooth transition Group-wide with regard to measures that are required based on changes to the Occupational Health and Safety Act, Fire Service Law, Poisonous and Deleterious Substances Control Law and other relevant laws. The goal of these standards is to enable us to appropriately and effectively work toward eliminating and reducing sources of danger or hazards to prevent work-related illness caused by chemical substances or the like in the workplace, as well as implement health management.

Promoting Organization

The Group CHRO is the executive responsible for promotion (as of August 2022). Decisions regarding Group policies and measures are made by the Industrial Health and Safety Promotion Committee, with the Chemical Substance Management Working Group set under the Committee to determine the specifics of measures, and measures are implemented by a Health and Safety Committee at each workplace.

Organizational Structure for the Promotion and Roles



Employee Health (in Japan)

As Panasonic Group's employees become older, the number of individuals with obesity or other health problems is increasing. With more employees working from home due the COVID-19 pandemic, issues like a lack of exercise and communication are becoming more prevalent as well. We need to raise employees' health literacy and get more employees to adopt healthy practices.

One example of an initiative meant to raise our employees' awareness about health is to have a Group-wide Health Improvement Day (October 1). For FY 2022, each workplace undertook initiatives aimed at educating employees on crucial health practices on the theme of "sleep and recovery from exhaustion," a critical theme in that year's Healthy Panasonic program. We are also working on initiatives for providing health information, viewing diagnostic results, health challenges, and healthcare points using web services, lifestyle habit apps, and the like as part of our efforts to leverage ICT in promoting employee health.

In terms of the environments we provide, in addition to promoting the prohibition of smoking indoors (implemented at 90.6% of workplaces), we have also been working on creating more health-conscious environments for employees in cooperation roughly 40 food service contractors to conduct an annual survey about employee cafeterias at 107 workplaces across Japan. To date, 13 cafeterias have been externally certified (through the Healthy Diet and Food Environment certification system).

Meanwhile, the Group also considers employee safety as necessary by actively offering health guidance and occupational counseling through 160 health management offices across Japan. These counseling efforts are for individuals who are subject to specific health guidance and who are at high risk of facing health problems.

We have also created a Guide to Healthy and Safe Remote Work, providing some cautions when it comes to remote work and simple exercises that individuals can do at home to support our employees in taking care of their own health and wellness.

There is a tendency for individuals who have more proper lifestyle habits in all five areas of lifestyle habits (sleep, diet, exercise, moderation with alcohol, and avoiding tobacco) to be less likely to be obese and have better job performance (based on self-evaluation). One of the goals of the Healthy Panasonic initiative is to increase the proportion of individuals who have four or more of these proper habits by fiscal 2024 to at least 50%. That proportion was 36.5% in fiscal 2022, a 0.3% increase from the previous year.

* "Proper lifestyle habits" as defined by the standards of the Health Scoring Report

Health Maintenance Betterment Standards

Occupational Health and Safety

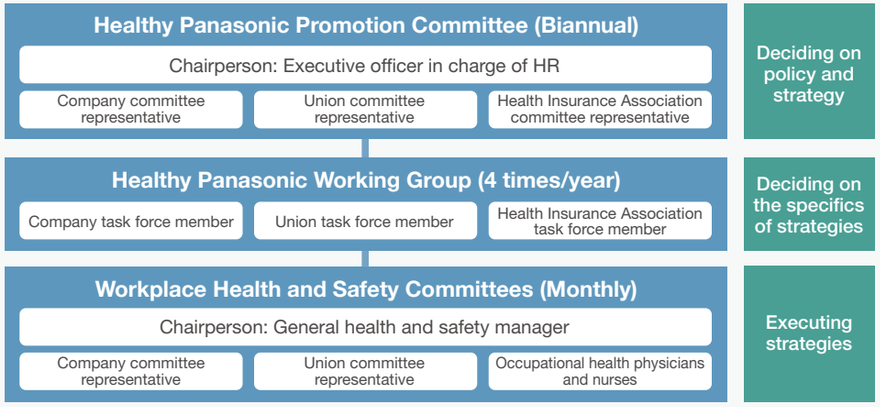
In the interest of appropriately and effectively undertaking measures to maintain both employees' physical and mental health, in these Standards we have laid out procedures for health checks and follow-up measures, procedures for guidance on interviews with individuals working long hours, procedures for tests and the like to measure the level of psychological burdens, procedures for stopping those who are ill from working, and stipulates that Health Maintenance Betterment Plans and mental health promotion plans must be created. The Panasonic Group's Health Maintenance Betterment Measures and the Panasonic Health Insurance Union's healthcare business to create synergy between all their initiatives.

When it comes to the specific promotion of initiatives, members are selected from the company, the labor union, and the health insurance union to promote them as Healthy Panasonic initiatives.

Promotional Framework

The executive in charge of promoting Healthy Panasonic is Executive Officer and Group CHRO (as of August 2021). Panasonic Group has established the Healthy Panasonic Promotion Committee to determine the policies and strategies for Healthy Panasonic. Under this committee, the Healthy Panasonic Working Group decides on the specifics of these strategies, while Health and Safety Committees implement these strategies at each business site.

Organizational structure for the promotion of "Healthy Panasonic"



Stress Check

All Panasonic group companies conduct Stress Checks in June of each year, in order to promote group analyses and workplace improvements on a company organizational unit level in addition to the conventional response for those under high stress. We also provide e-Learning in conjunction with these stress checks and recommend that employees practice self-care in terms of sleep, diet, and exercise as a crucial part of taking care of their health. In addition to providing employees with an opportunity to identify their own stress levels, the Stress Check Test results offer workplace feedback in the form of a diagnostic analysis. This analysis is used to develop measures intended to prevent the occurrence of mental illness and to revitalize the workplace.

Employees who work long hours or whose regular health screening results suggest a need for monitoring their safety receive a consultation from an occupational physician based on Panasonic Group's own criteria. Measures are also taken to prevent damage to the employee's health, including by addressing working conditions and environment.

Furthermore, from the perspective of employee health and statutory compliance, we are striving to address excessive working hours and fundamentally review work processes in a way that goes beyond short-term efforts. This is part of our approach to continuously improve how employees engage in work and downtime.

Pandemic Response

In the interest of the peace of mind of our customers and suppliers, and the safety and health of all of the stakeholders in the Panasonic Group, including all our employees and employees of the companies we work with, as well as their families. The Group's response to the COVID-19 pandemic has included setting up an emergency response headquarters to answer the need to be able to respond urgently and appropriately, and the entire Group is working together, with cooperation between all Operating Companies in Japan and group companies in each region outside of Japan on initiatives to ensure business continuation, all while placing the preservation of the lives and health of our employees and their families above all else.

In addition, in accordance with government policy, we launched a workplace vaccination program for COVID-19 in June 2021, with vaccinations totaling some 104,000 across five key offices in Japan (Osaka, Tokyo, Shiga, Fukuoka, and Kanagawa). The Panasonic Group will continue to do our part to prevent the spread of COVID-19 and bring the pandemic to an end soon.

Training

Panasonic Group educates employees, including dispatched workers, managers, and occupational health and safety personnel based on the Safety and Health Education Guideline and the Mental Health Education Guideline that it has established.

Each of our workplaces learns about good examples of good initiatives related to personal health and occupational health and safety promotion from one another with the Group's Employee

Occupational Health and Safety

Personal Health and Occupational Health and Safety Forum held in September each year where those responsible for Group health and safety come together to recognize workplaces that have achieved zero incidents, those that have undertaken exceptional initiatives, and so on. We work to make this Forum a chance for the Group's CEO to share his vision for activities related to personal health and occupational health and safety with all executives and other relevant individuals, to gain knowledge from outside experts, for workplaces to share success stories about initiatives related to personal health and occupational health and safety promotion activities from one another, and to set a high standard for our health and safety activities.

We also make sure that everyone in the Group is well informed about our initiatives by distributing messages about the year's events from the Group Health and Safety Management division during National Safety Week in July and National Occupational Health Week in October each year.

Group-wide Core Training and Numbers of Trainees (Fiscal 2022)

Group	Name of Training	Period/Time	Number of Trainees
New hires (all types)	All new hire trainees	30 minutes	903
	Career Hires Introductory Training	30 minutes	438
HR roles	Course on Human Resources Basic Roles	2.5 hours	66
Manufacturing-related roles	Lectures on Machinery and Equipment Safety Standards	2 days	20
Executives/ managers	Occupational Health and Safety Seminar for Executives and Plant Managers	2 days	20
Managers of HR	Occupational Health and Safety Seminar for HR Manager	2 days	24
Managers of Manufacturing line	Occupational Health and Safety Seminar for Production Engineering Manager	3 days	128
Total			Roughly 1,600

*All seminars are for employees of Panasonic group companies in Japan.

Support Centers for Occupational Health and Safety

The Panasonic Group has established the following support centers to help employees prevent or deal with mental or physical stress. The following are examples from Japan:

Employee Counselors

Since 1957, the Group has designated highly experienced employees as "counselors," and it has implemented a "Counselor System" whereby other employees may confer with them. The counselors answer any question other employees may have concerning welfare systems, and provide support to help employees resolve individual worries or problems that they face in their work or private lives.

EAP* Consultation Office

The Group has engaged specialist counselors to listen to the personal concerns of employees, who can rest assured that what they have discussed will not be disclosed to the company or to their health insurance organization.

* EAP: Employee Assistance Program

Company Clinic

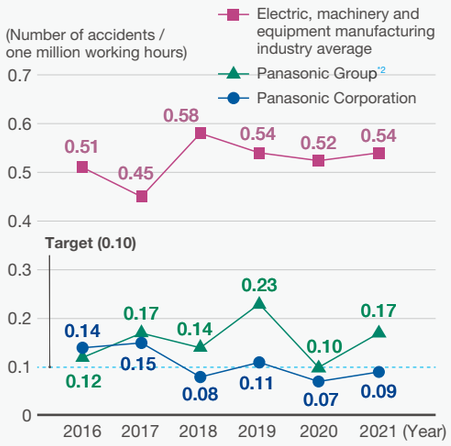
Full-time physicians and occupational health personnel are deployed to company clinics to provide a health support that performs functions such as handling illnesses that manifest during work, consulting on mental and physical health, preventing lifestyle-related diseases, and helping in smoking cessation.

Related Data

Incidence of Occupational Accidents and Responses (in Japan)

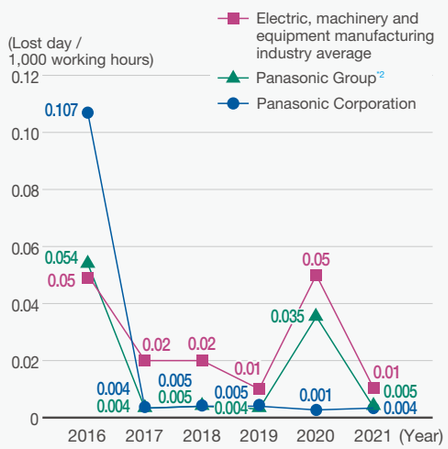
Lost-Time Injury Frequency Rate*1

(Number of accidents that require time off from work per one million working hours)



Intensity Rate*1

(Proportion of day lost per 1,000 hours of total working hours)



Source: Research on Occupational Accident Trends (Ministry of Health, Labour and Welfare)

*1 For the Panasonic Group in Japan, excluding temporary staff and on-site contractors.

*2 For the Panasonic Group in Japan.

Number of Fatal Accidents (Global)

	2017	2018	2019	2020	2021
Target	0	0	0	0	0
Group employee	0	1	0	1	0
Temporary staff / onsite contractor employee	0	0	1	0	0

Number of Serious Accidents (Global)

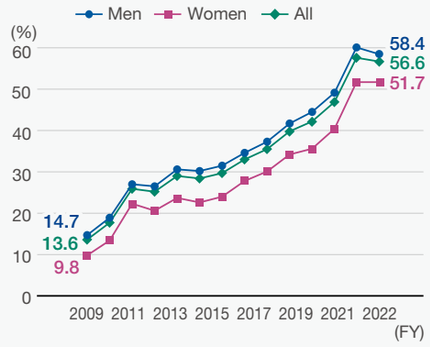
	2017	2018	2019	2020	2021
Japan	0	1	3	5	4
Outside of Japan	4	3	7	4	6

*Serious Accidents: Occupational accidents that cause physical disabilities, such as amputation of limb.

Health Key Performance Indicators (in Japan)

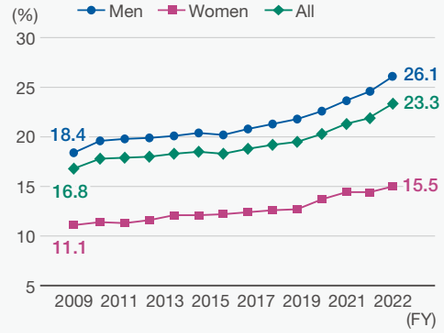
Rate of awareness of steps walked

Rate of awareness of steps walked:
The percentage of people who are generally aware of how many steps they take in a week



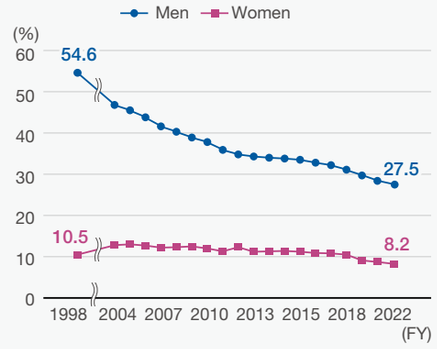
Exercise rate

Exercise rate:
The percentage of people who have exercised for at least 30 minutes, at least twice a week, over at least one year



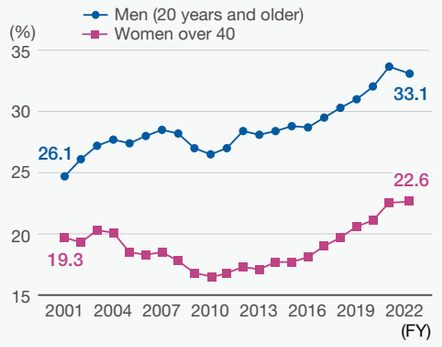
Smoking rate

Smoking rate:
The percentage of people who smoke cigarettes



Obesity rate

Obesity rate:
The percentage of people who have a BMI of 25 or more



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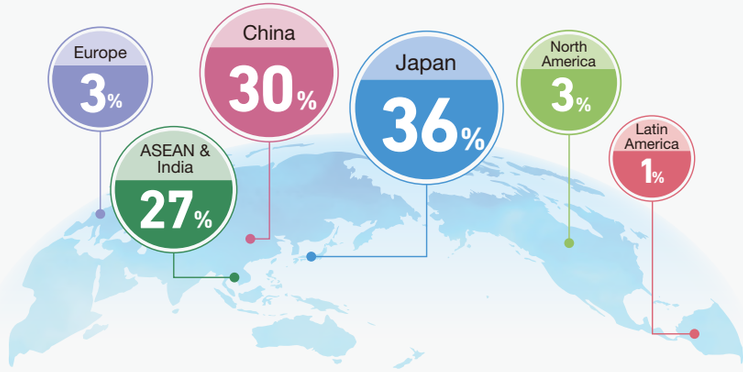
Responsible Supply Chain

Sustainability Data Book 2022

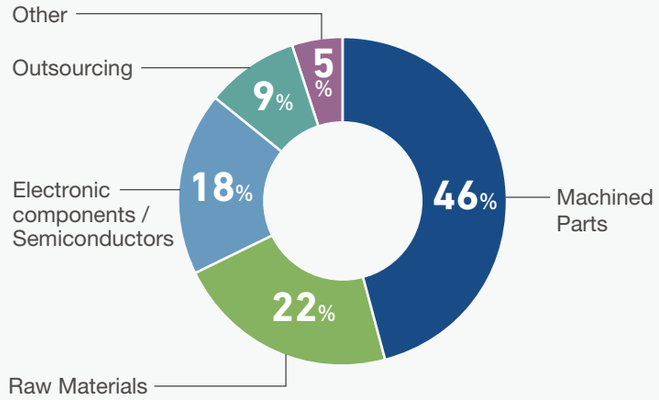
Overview of Supply Chain

Panasonic Group does business with approximately 13,000 suppliers worldwide. The Group promotes activities with its global business partners across its entire supply chain to fulfill its Corporate Social Responsibility.

Breakdown of Transactions by Region (%)



Breakdown of Transactions by Product (%)



Responsible Supply Chain

Management System

With rising global demand for socially responsible procurement—taking into account the environment, human rights, fair labor conditions, and fair trade—we, the Panasonic Group, strive to conduct our business with suppliers in a way that not only provides excellent technology and quality but also fulfills our social responsibility in the areas of human rights and responsible employment, occupational health and safety, green procurement, clean procurement, compliance, and information security. In April 2022, we established the "Rules on Supply Chain Compliance" to strengthen our efforts to promote CSR in the supply chain. This rule stipulates the basic policy regarding supply chain compliance and internal rules for its implementation. In addition to a thorough implementation of procurement operations, management reviews are conducted on a regular basis. Furthermore, in light of society's and stakeholders' increasing expectations, and of trends in legislation, we will revise, as necessary, to continuously improve our efforts.

Before starting a transaction, we present the "Panasonic Supply Chain CSR Promotion Guidelines" (hereinafter referred to as "the CSR Guidelines"), which cover the Group's supply chain compliance policy, to suppliers. Conducting "CSR Self-Assessments" based on the CSR Guidelines is a condition for initiating transactions. The CSR Guidelines are in accordance with international norms and principles regarding human rights, including the United Nations Guiding Principles on Business and Human Rights. We require that suppliers comply with the CSR Guidelines in the Master Global Purchasing Agreement as a contractual obligation.

In addition, even after the start of transactions, we regularly let them submit the results of CSR Self-Assessments, and we conduct audits to confirm compliance status.

Policy *updated in December 2022

Procurement Policy

Panasonic Group has summarized its core thinking on procurement in a 3-item set of Procurement Policy. The fundamental basis of this policy is the concept that, based on relationships of mutual trust, and through diligent study and cooperation, our suppliers are invaluable partners in creating the value our customers demand.

- **Implementation of Global Procurement Activities**
  The Company globally establishes partnerships with suppliers to respond to production activities on a global scale, and works to create the functions and values our customers demand based on relationships of mutual trust and through diligent studies and cooperation.
- **Implementation of CSR Procurement**
  Complying with laws and regulations, international standards, social norms, and corporate ethics, the Company promotes procurement activities, together with suppliers, that fulfill their social responsibilities, such as human rights, labor, safety and health, environmental conservation, and information security.
- **Procurement Activities Working Closely with Suppliers**
  In order to achieve product values expected by customers, the Company serves as the contact point of suppliers with respect to information, such as the market trends of materials and goods, new technologies, new materials, and new processes, and works to ensure and maintain the quality of purchased goods, realize competitive prices, and respond to market changes.

Requirements for Starting Trading

When starting trading with new suppliers, the Panasonic Group makes it a condition of doing business that they practice CSR. We conduct checks to verify suppliers' performance regarding human rights, labor, health and safety, environmental conservation and information security. Since 2015, the Group has required that new suppliers to carry out CSR self-assessments. We conclude Master Global Purchasing Agreements including CSR requirements and then start trading with suppliers that confirmed meeting our standards.

We also ask our existing suppliers to conduct CSR self-assessments regularly and to provide correction guidance for improvement or awareness-raising activities, according to assessment results.

Clean Procurement

Because Panasonic Group believes that "a company is a public entity of society", we engage in fair and equitable transactions with our global suppliers. With a need for "a more stringent sense of moderation and ethics" and to maintain healthy relationships with suppliers, in 2004 we released our Clean Procurement Declaration and have been doing procurement work in accordance with those standards. Throughout the year, we keep all our procurement personnel and departments well informed of clean procurement practices.

Prohibition of receiving money and valuables from suppliers and prohibition of accepting any form of hospitality, entertainment or meals

Panasonic established "Rules on Gift and Hospitality for Anti-Bribery / Corruption" in its internal regulations, applied at the global level. These strict rules apply to the acceptance of gifts, meals, entertainment and travel invitations from our business partners, including suppliers.

They stipulate general rules regarding the rationality and balance in light of the purpose, value and frequency of gifts, meals, entertainment and travel invitations, and local customs, and the absence of improper influence on business judgement. More detailed standards and stricter rules are also set for each region.

WEB **Clean Procurement Declaration**
https://holdings.panasonic/jp/corporate/about/procurement/declaration.html

Sustainability Data Book 2022

Responsible Supply Chain

Whistleblowing System *updated in December 2022

Panasonic Global Hotline

The Panasonic Group has established a Global Hotline that anyone, including Group employees and suppliers, can use to anonymously report any violation or suspected violation of laws, agreements with our suppliers, the Panasonic Group Code of Ethics & Compliance or the like on the part of any Group employee. Whenever there is a report, the Group follows all internal rules and guidelines as well as the laws of the relevant countries with regard to the protection of the individual making the report, and from there it undertakes appropriate investigations and countermeasures.

Meanwhile, with regard to requests for help from suppliers or their employees when they have been affected adversely in terms of human rights in the context of the Group's supply chain, we work on promoting the use of a grievance system, which was newly established by the CSR Committee of the Japan Electronics and Information Technology Industries Association (JEITA), applicable to all the relevant industries. We treat any reports from employees at our suppliers by the same standards we would treat anyone reporting internally with regard to the protection of the individual making the report.

WEB **Global Hotline**
http://panasonic.ethicspoint.com

WEB **Grievance system of Japan Center for Engagement and Remedy on Business and Human Rights (JaCER)**
https://jacer-bhr.org/en/index.html

Training

Our procurement departments at Panasonic Group conduct CSR procurement training for our procurement staff members, who will be able to fulfill our social responsibilities when it comes to procurement activities, by teaching them about the company's approach to CSR, and they create opportunities to gain knowledge about procurement compliance. We also provide training to our procurement personnel outside of Japan (the U.S., China, Asia and part of Europe) and through that training we give them a foundation of basic knowledge about CSR, including compliance related to the environment or preventing corruption, and issues related to human rights, labor and health and safety in our supply chain, as well as the importance of compliance, checking their understanding along the way.

In addition to all this, we also build in basics on CSR procurement in our training curricula for new employees and those transferring from other divisions).

We provide the information procurement personnel our suppliers will need for responsible procurement through a special portal site set up for them. Keeping this portal site up to date helps us make sure that suppliers we can always access latest information on the various procedures that procurement personnel need to follow for CSR procurement, autonomous CSR Self-Assessments that we request of our suppliers, instructions for audits, and more.

Responsible Executive and Framework

*updated in December 2022

The executive vice president of Panasonic Holdings Corporation is the individual with the ultimate responsibility for procurement activities for the Panasonic Group (as of December 2022).

The Panasonic Group launched our Supply Chain Compliance Project to promote responsible sourcing across the entire group by working to build systems on a groupwide basis in cooperation with each Operating Company and regional procurement divisions.

Each of our Operating Companies and all business divisions or other related companies within the Group are responsible for working through PDCA cycles as an independent actor in responsible procurement activities, following the Group's rules, standards, manuals, and the like. Global Procurement Division, Panasonic Operational Excellence (PEX) fills the role of supporting the creation of groupwide measures and supporting promotion at each Operating Company. Issues that arise in this process are addressed and appropriate solutions devised through discussions during Group-wide meetings attended by the heads of procurement in each Operating Company and business division.

Supply Chain Due Diligence

*updated in December 2022

Enforcement of the Panasonic Supply Chain CSR Promotion Guidelines

We, the Panasonic Group, adhere to international norms and principles, such as the United Nations Guiding Principles on Business and Human Rights, and require suppliers to affirm them. To show our approach to CSR procurement and clearly convey the requirements to suppliers, we have established the CSR Guidelines, and we share them at the start of transactions. The contract obligates suppliers to comply with the guidelines. The CSR Guidelines stipulate the following provisions, while taking into account laws, regulations, and principles of international norms:

1) Labor rights: Prohibition of forced labor or child labor, appropriate working hours, decent wages, humane treatment, elimination of discrimination, freedom of association
2) Occupational health and safety: Training to ensure workplace safety and emergency preparedness, safety measures for machinery and equipment, and occupational health and safety rules for facilities
3) Environment: Compliance with the "Panasonic Group's Green Procurement Standards"
4) Ethics: Prohibition of corruption and bribery, and promotion of fair business and responsible mineral procurement
5) Information security: Prevention of information leaks and protection against computer and network threats
6) Product quality and safety: Creation of a product quality management system, provision of accurate product and service data, and maintenance of product safety
7) Contributions to society: Contributions to society and local communities
8) Management systems

The CSR Guidelines are prepared in Japanese, English, and Chinese and we both keep them on our home page

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and endeavor to distribute to our suppliers and notify them of any revisions. We also call supplier workshops to share these guidelines whenever necessary and continue to do everything we can to make sure CSR is accounted for throughout our entire supply chain. In addition, we ask our suppliers to communicate the requirements of the guidelines to their suppliers and subsequent suppliers, and to check their compliance status. In fiscal 2022, we conducted audits of more than 130 suppliers in Malaysia, a region with high human rights risks, and took the opportunity to conduct training on respect for human rights and the importance of CSR initiatives. In the future, we plan to expand target areas and provide training for suppliers, giving priority to high-risk areas and suppliers.

For further details, please visit our “For Suppliers” page regarding procurement activities.

WEB For Suppliers

https://holdings.panasonic/global/corporate/about/procurement/for-suppliers.html

Conducting CSR Self-Assessments and Audit

In an effort to follow the United Nations Guiding Principles on Business and Human Rights and the Panasonic Group’s own policies on human rights and labor, created with reference to those principles, the Group requires our suppliers to perform CSR Self-Assessments so promote due diligence on human rights, including identifying and assessing the impact of human rights in our supply chain. These CSR Self-Assessments are structured around the CSR Guidelines, and we require that all new suppliers conduct one before we begin doing business with them. We also require our existing suppliers to conduct them regularly, every one, two, or three years, depending the assessment results.

We had conventionally requested that our suppliers complete these CSR Self-Assessments by hand, but we began making them available in an online survey format from fiscal 2022, which has successfully reduced the load on both our suppliers and the Group and also improved the efficient collection and accuracy of the self-assessments. In addition, we also began collecting surveys again based on risks. Up until November of this year, we have received CSR Self-Assessments from more than 10,000 companies (more than 85% of our suppliers).

Since fiscal 2023, the Group has begun work on initiatives to build a set of processes (“human rights due diligence”) to look at our supply chain to identify and assess impacts on human rights; prevent, reduce, and remedy any negative impact on human rights; and conduct surveys to track the effectiveness of action taken and distribute information about it. While incorporating guidance from outside experts, the Group has compiled a table to assess human rights risks at our suppliers by using indicators provided by international organizations in order to identify suppliers for which action should be taken on a priority basis. Going forward, we will be conducting assessments using a risk-based approach in addition to the requirements to conduct regular self-assessments based on the results of the previous assessment.

When issues are found in the course of CSR Self-Assessments, we get to work toward making corrective actions. When necessary, we even visit our suppliers’ facilities for audits, including confirming the sites, hearings, and the like. From fiscal 2023, we also started performing audits in collaboration with third-party organizations. From the next fiscal year, using the risk-based approach mentioned above, each Operating Company will narrow down the suppliers to be audited and carry out supplier audits with third-party institutions according to its own supplier audit implementation plan.

Obtaining commitment from the suppliers

We, the Panasonic Group, require that suppliers affirm the Panasonic Group’s Code of Ethics & Compliance and the Panasonic Group’s Human Rights and Labor Policy, and we make it mandatory, at the start of transactions for materials and components for the manufacturing of Panasonic products, to conclude a Master Global Purchasing Agreement that stipulates compliance with the CSR Guidelines. In addition, we stipulate in the CSR Guidelines a respect for human rights as expressed in United Nations norms and principles, an evaluation of the status of suppliers’ human rights initiatives and the implementation of prevention / mitigation / corrective measures, a request for compliance with tier 2 suppliers, and a request for cooperation with the Panasonic Group’s Human Rights Due Diligence.

The template of our Master Global Purchasing Agreement obliges suppliers to comply with the CSR Guidelines. In addition, to obtain commitments from our suppliers in all cases, we will obtain pledges of compliance from existing suppliers in line with the revision of our CSR Guidelines.

Initiatives for a Harmonious Relationship with the Environment

We strive to reduce the burden we place on the environment through cooperation with our suppliers and logistics partners. Please see the Environment section.

WEB Environment: Collaboration across the Supply Chain

https://holdings.panasonic/global/corporate/sustainability/environment/supply-chain.html

Responsible Minerals Procurement

Our Basic Stance on Responsible Minerals Procurement

Panasonic Group recognizes that the procurement of certain minerals (notably tin, tantalum, tungsten, gold and cobalt) carries a risk of funding organizations in states in conflict-affected areas and risks that are involved in human rights abuses such as child labor, harsh working conditions, environmental destruction and corruption in high-risk areas. This is a matter of grave social concern, and to fulfill our corporate social responsibility, Panasonic Group is engaged in the responsible procurement of minerals in its global supply chain.

Of course, there are companies and individuals in those same areas who conduct their business legally at the same time. Therefore, while we remain mindful of our obligation to avoid using minerals associated with illegal or unethical practices, we strive to ensure that this does not hinder the business activities

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Responsible Supply Chain

and livelihoods of legitimate companies and individuals. To this end, it is necessary for us to work in partnership with a wide range of stakeholders including national governments, companies, and NPOs that are working toward creating sound minerals supply chains in the target areas.

We will keep conducting its activities based on the “Due Diligence Guidance” of the OECD (Organization for Economic Co-operation and Development) and build management processes in line with global standards.

The promotion of responsible minerals procurement requires conducting due diligence throughout the entire supply chain, from upstream mining companies to smelters, refineries, and downstream enterprises. We require that all related suppliers provide information on smelters/refineries throughout the supply chain, and we aim to procure from suppliers who don’t present any issues. We also participate in the Responsible Minerals Initiative (RMI) and its Cobalt Workgroup to promote industrywide efforts.

Going forward, we will keep contributing to the international efforts towards responsible minerals procurement while actively considering our future role in such global efforts.

Responsible Minerals Procurement System

With the Executive Vice President in charge of procurement assuming ultimate responsibility, we are working to build a Group-wide management system for responsible minerals procurement in collaboration with each Operating Company.

Due Diligence Efforts

We provide suppliers with our CSR Guidelines before we even begin to do business with them, asking them to cooperate in our promotion of responsible mineral procurement.

Responsible mineral survey requires cooperation from all our suppliers going back to the refineries and smelters. The Group conducts this survey using industry standard survey forms including the Conflict Minerals Reporting Template (CMRT) issued by the Responsible Minerals Initiative (RMI) as survey tools.

Conflict Minerals Surveys

The Panasonic Group conducts surveys regarding conflict minerals on the suppliers of each Operating Company and business site. In fiscal 2022, we have received responses for roughly 90% of the surveys we sent out to a total of roughly 3,500 suppliers (as of the end of March 2022). Based on the data collected from the survey forms, we conducted a risk analysis and assessment and requested further investigations from suppliers, according to the risks that we identified.

In fiscal 2022 roughly 80% of all the Groups’ designated refiners and smelters had Conformant/Active Smelter status (refiners and smelters that have either passed RMI audit or is currently undergoing one). We are also working on industry efforts that will push the remaining 20% of those refiners and smelters toward participation in the Responsible Minerals Assurance Process (RMAP).

In the rare event that we find that minerals that support conflicts in our supply chain, we also ask suppliers to take steps toward no longer using them, including changing their source.

Cobalt Surveys

There are concerns about cobalt, which is used in lithiumion batteries and other products, due to human rights issues such as child labor at mining sites. As part of its efforts to promote responsible minerals procurement, Panasonic Group pursues initiatives in line with the OECD’s “Due Diligence Guidance” to build management processes that meet global standards. Specifically, we continually conduct initiatives such as cobalt supply chain surveys and identification and investigation of refineries and smelters.

In fiscal 2022, we conducted cobalt surveys for about 700 suppliers, and received a response from 90% of those surveyed. The results showed that roughly 80 percent of the designated refiner and smelters had been approved as a Conformant/Active Smelter (as of end of March 2022). We also asked our suppliers to conduct further surveys in response to a risks identified through risk analysis and assessment based on the survey forms collected from our suppliers.

Panasonic Group will keep conducting appropriate cobalt surveys and procurement while watching industry trends through RMI and other industry initiatives.

Participation in Initiatives by International Organizations and Industry Cooperation

Project for the OECD’s Conflict Minerals Due Diligence Guidance*

*Currently, the Forum on Responsible Mineral Supply Chains

From 2011 to 2017, the previous Panasonic Corporation participated in the OECD’s Due Diligence Guidance projects. We attended the forums held in several countries, and we continued discussions with stakeholders in regard to effective approaches to addressing the issue of conflict minerals.

Industry Collaboration Initiatives

The collaboration of all suppliers in our supply chain is essential to promote responsible minerals procurement. For this reason, Panasonic Group is participating in JEITA’s Responsible Minerals Procurement Working Group to raise supply chain awareness and improve the efficiency of surveys through industry collaboration.

More specifically, we have been working with industry groups both inside and outside Japan and holding seminars and surveys briefing sessions to promote best practices regarding responsible minerals. We have also worked on smelters/refiners information scrutiny.

We have been working in JEITA’s Working Group and continue to encourage smelters to participate in the Responsible Mineral Assurance Process (RMAP) with other member companies.

Furthermore, we joined the Responsible Minerals Initiative (RMI) in July 2017, with the aim of learning about the latest industry trends and promoting best practices for procurement activities, and also started participating in the RMI’s Cobalt Workgroup in the same year.

Panasonic Group will continue to conduct responsible minerals surveys while monitoring industry trends.

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Raising Product Quality Levels and Ensuring Product Safety

Management System

Based on the idea promoted by our founder that Panasonic should strive “to contribute to society through its products and services while always placing the customer first,” the Panasonic Group approaches “quality” as something that means more than the quality of the work we do or the products we make. To us, it also means conducting business in a fair and honest at all times, so that we can continue to offer products and services that are better than anyone else’s while upholding our commitment to our customers and society, taking action to ensure the safety and quality of our products and services.

To raise quality levels, we build and operate quality management systems based on the Basic Policy regarding quality for the Group, with each Operating Company being responsible for the quality of its own products. In particular, based on the “compliance with legal and corporate ethics” stipulated in the Panasonic Group Code of Ethics & Compliance, we have made a clear commitment to going beyond observing laws and regulations to uphold industry standards and keep the promises we have made to our customers. We have also been implementing ongoing quality improvements from a customer-first perspective by bolstering checking functions in our development, production and inspection processes through quality monitoring, certification monitoring by third parties, and other means. We optimize all of our manufacturing processes in order to better suit the customer, making sure to ensure product safety and countermeasures against risks during emergencies.

We acknowledge the profound lessons learned from the accidents involving FF-type kerosene heaters, and address ourselves to product safety as a top management priority. Specifically, we apply our unique product safety standards to each product lifecycle phase (from planning and design to service and disposal) for every product to ensure its safety. We also use our group intranet to share information related to the product safety of all Panasonic products in a timely manner to all employees, including persons in charge of quality and design at each Operating Company and in each division.

Reference URL

WEB **Important news about products (for Japan)**
https://holdings.panasonic/jp/corporate/about/products-information.html

Raising Product Quality Levels and Ensuring Product Safety

Quality Management System

To establish self-sufficient quality assurance processes in each Operating Company and business site, Panasonic Group published its Product Quality Management System (P-QMS) Guidelines in 2004. These Guidelines supplement the requirements of the ISO 9001 standard with the Group's own quality assurance methods and expertise to create a quality management system and have been updated to comply with ISO 9001-2015.

Under the new system that took effect in April 2022 operating Companies and business sites work to implement quality management systems that are uniquely tailored to the business characteristics of each all with reference to these Guidelines, conducting regular quality assessments, quality monitoring, and the like at various levels across Operating Companies and business sites to confirm the progress of those initiatives while also formulating plans for corrective action to be taken when deficiencies are found, all in an effort to continuously improve quality.

These Guidelines stipulate that Operating Companies and business sites must conduct quality monitoring based on the Guidelines. When this internal monitoring is conducted, we check for quality compliance in addition to the checks for each process on the quality assessment checksheet used by Operating Companies. Further, by evaluating what each has achieved through fact-based confirmation from the workplace and other evidence, we work to maintain a qualitative understanding of the effectiveness of the quality management systems at each Operating Company and business site.

To properly address our continually diversifying business areas, each Operating Company operates according to the P-QMS Guidelines and industry standards appropriate to its field, from household appliances, in-vehicle accessories, residential, devices, B to B solutions, pharmaceuticals, services, and more.

Policy

Panasonic Group's Groupwide Quality Policy states that the company will "truly serve customers by way of providing products and services that continuously meet and satisfy the needs of customers and society." The Group has also established a Basic Policy regarding the Autonomous Code of Conduct for Product Safety. As per this policy, Panasonic actively strives to ensure the safety of its products, while keeping to its principles of "the customer comes first" and of maintaining a "Fairness and Honesty" attitude.

WEB Basic Policy Regarding the Autonomous Code of Conduct for Product Safety (Japanese only)
https://holdings.panasonic/jp/corporate/about/code-of-conduct/quality-policy.html

The Code of Ethics & Compliance also states Chapter 4: Our Business Relationships that we should honor our commitments to our customers and to society as they relate to our products and services, and that we must act in the interest of ensuring the safety and quality of our products and services.

WEB Panasonic Group Code of Ethics & Compliance, Chapter 4: Our Business Relationships; 2. Meeting our commitments and ensuring safety and quality of our products and services
https://holdings.panasonic/global/corporate/about/code-of-conduct/chapter-4.html#Sec_02

Educational Training

The Panasonic Group conducts training every year for all quality managers at each Operating Company and business site, with the aim of training key quality personnel to promote quality management innovation. In particular, the Group regularly holds a Business Division Director Quality Workshop for business managers responsible for the quality management systems in their respective divisions, as well other activities geared toward learning about results-driven, quality-based management, including guest lectures and training through case studies.

In addition, each Operating Company conducts its own Quality Control (QC) Activities through which individuals can come together to learn problem solving methods to be used in the field as part of our efforts toward bolstering quality on the production floor. In FY202, we held our 29th Group QC Circle World Convention. From a total of 4,262 QC circles withing the Panasonic Group, 32 (Japan: 20, China: 8, Taiwan: 1, India: 2, Malaysia 1) were selected to participate in the Grand Prix.

In FY202, we held our 79th Product Safety Forum, an event that provides a venue for thinking about product safety using examples from the Group and elsewhere. Since FY202, we have introduced an online meeting system that has allowed us to hold the forum even during the COVID-19 pandemic. We also offer eLearning courses on subjects like the basics of product safety to spread a corporate culture of prioritizing product safety to all Group employees.

The Group has also established a Product Safety Learning Square at the Team & Talent Development Center in Hirakata, Osaka, with the aim of conveying lessons based on actual business sites and actual products, and of providing instruction to enhance product safety-related skills. The Product Safety Learning Square offers an opportunity to see actual products that were recalled in the past—such as those recalled after the FF-type kerosene heater accidents—as well as the internal recall announcements and other information on the causes of their problems, the steps taken during the recall, and the measures taken to prevent the critical unsafe phenomena (including tracking or strength degradation). Furthermore, we also launched the Virtual Product Safety Lab in October 2021, making exhibits available online for free viewing. The Product Safety Lab recreates an actual space that was filmed in 360 degrees to allow viewers to move around that space freely, and even read information panels or watch views by simply clicking on an icon.


Product Safety Learning Square

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Raising Product Quality Levels and Ensuring Product Safety

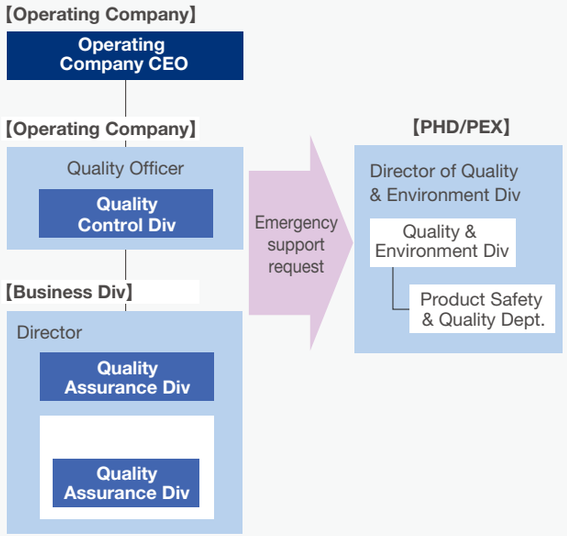
Responsible Executive and Framework

As of August 2022, the executive in charge of quality is the Group Chief Technology Officer (Group CTO).

Each Operating Company has appointed a quality manager and established systems for undertaking its business with independent responsibility and self-sufficiency.

In addition, Panasonic Holdings Corporation (PHD) and Panasonic Operational Excellence Co., Ltd. (PEX) provide support in response to the requests from the Operating Companies as countermeasures against critical risks for the Group, while expanding quality-related assets horizontally over the Group.

Quality Management Structure (as of August 2021)



Committees and Organizations

Activities of Quality Managers Meetings

Panasonic Group investigates and summarizes Groupwide quality improvement efforts and the state of product quality within the Group at its CQO Meetings. Group CQO, CQOs from each Operating Company, and persons involved in relevant job functions such as quality and product regulations attend these meetings. Attendees discuss how we should handle quality over the medium and long terms, and they decide on initiatives meant to further strengthen the foundation of quality for the whole Group. Panasonic Group also holds the Quality Committees—attended by the quality managers of each Operating Company—as a place for more practical discussions on quality policies and measures.

Global Safety Standard Certifications Obtained

1) ISO13482

The international standard relating to the safety of personal care robots issued by the International Organization for Standardization (ISO). Three types of robots are covered: physical assistant robots, mobile servant robots, and person carrier robots.

Panasonic AGE-FREE Co., Ltd. has received this ISO certification for two of our products.

- 2014: Personal care robot Resyone (robotic device for nursing care combining the functionality of a bed and a wheelchair, the first device in the world to receive this ISO certification)
- 2017: Personal care robot Resyone PLUS

WEB https://sumai.panasonic.jp/agefree/products/resyoneplus/ (Japanese only)

2) ISO 26262

An international standard for road vehicle functional safety that was published in 2011. The standard sets out four Automotive Safety Integrity Levels (ASILs): ASIL A through ASIL D.

- Panasonic Automotive Systems Co., Ltd. acquired certification in the ISO 26262 road vehicle functional safety standard from the German third-party organization TÜV SUD. The body recognized that Panasonic is able to comply with the highest level of safety in the standard (ASIL-D) during the process of developing onboard devices and device software

PDF https://www.jeita.or.jp/japanese/exhibit/2015/1111/pdf/02_Functional.pdf (Japanese only)

Internal Company Rules Concerning Product Labeling

Based on the Manufacturing Industrial Standards for Panasonic Corporation, each Operating Company determines its own approach and guidelines to be followed with regard to the way their products are handled as well as installation and services as appropriate for each product. Specifically, warning label related to the safe use of products and information label on legally designated recycling or disposal methods and other information that helps customer safely use our products and services are specified in the design methods of warning labels and instructions for use, care and installation of products in consideration of preventing customers from misusing.

Product Security

Various products implement software and provide the ability to connect to networks for convenient usage. This makes it necessary to ensure the security of our products to prevent leaks or alteration of information and to prevent damages that may result from a malicious third-party attempting to cause products to malfunction.

At Panasonic Group, we have a specialized department for Group-wide product security which develops guidelines

Raising Product Quality Levels and Ensuring Product Safety

to promote security-conscious design, and we ensure the security of our products by streamlining our internal structure and rules, regularly reviewing these so that customers can safely use our products.

Collection and Distribution of Information and Employee Training

Product security issues and how to address them change on a daily basis. At Panasonic Group, we collect the most up to date information on product security by joining various security focused organizations, e.g., FIRST*, a forum to share information on security incidents, and attending various global conferences. This information is shared with any relevant divisions and incorporated into training materials for product security to improve the knowledge and awareness of product security throughout the entire Group.

*FIRST: Forum of Incident Response and Security Teams

Promoting Product Security from Development

During the development phase of a product, we consider what assets and functions that need to be protected, as well as any potential attacks against them. Products are developed while minimizing these risks. In addition, security experts perform tests (that always include up-to-date attack methods) on the product prior to shipment, to ensure that Panasonic products do not contain any "security vulnerabilities" from both a hardware and software standpoint.

Post-shipment Response

As part of the Group's post-shipment monitoring of our products, we have set up a way to contact us in the event that security vulnerabilities are discovered in Panasonic products after purchase.

When we receive information on vulnerabilities, we immediately verify whether they will impact Panasonic products. If we find that our products may have security issues because of those vulnerabilities, we ensure the security of the products through updates or similar means and take action to prevent the issue from recurring by establishing a system for checks and similar other measures. We have systems in place that allow the Product Security Center to monitor progress and provide support until the response of the relevant business divisions are complete.

We also have systems in place that make it possible for Panasonic to take a more active role in obtaining information on vulnerabilities and acting on it (rather than waiting for vulnerabilities to be reported) by continually monitoring the latest threats that might affect our products post sale.

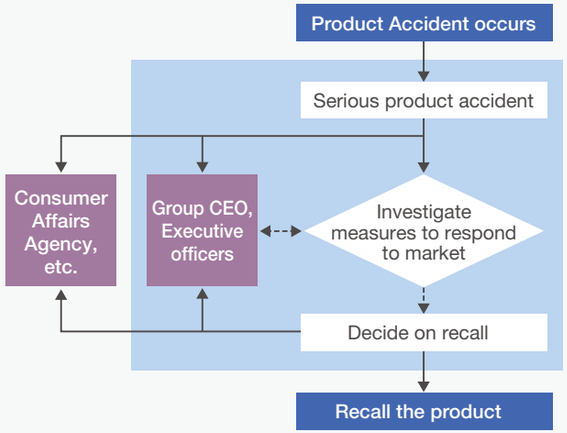
* Panasonic Product Vulnerability Hotline
WEB https://holdings.panasonic/global/corporate/product-security/psirt.html

Major Accidents and Responses

Responding to Product-Related Incidents

In the event that a product-related accident occurs, Panasonic immediately confirms the facts related to the incident, and analyzes and verifies its causes. If the incident is deemed to be serious, a section at PHD/PEX and each of its Operating Companies and business sites work together to take appropriate measures to ensure customers' safety. Specifically, Panasonic Group's first response is to notify relevant government bodies such as the Consumer Affairs Agency, as well as the Operating Company President, Group CEO and senior management, who then consider the response policies.

Product Accident Response Flowchart



Serious Product-Related Accident Information

In Japan, Panasonic Group publicly reports serious product accidents*1, including accidents suspected of being caused by products*2, and accidents for which it has been determined that it is unclear whether a product was the cause*3, based on the Consumer Product Safety Act and the Group's basic policies per its Autonomous Code of Conduct for Product Safety.

*1. "Serious product accidents" refers to the following accidents specified in the Consumer Product Safety Act:
1. Accidents resulting in death;
2. Accidents resulting in serious injury or illness (injury or illness requiring at least 30 days of treatment), or accidents resulting in physical impediment;
3. Carbon monoxide poisoning;
4. Fires (confirmed as such by firefighting authorities).

*2. Any of the following:
- Accidents relating to gas devices or kerosene devices (including accidents in which it has yet to be determined whether the product was the cause);
- Accidents relating to products other than gas or kerosene devices for which it is suspected that the product was the

Raising Product Quality Levels and Ensuring Product Safety

cause. Panasonic promptly releases information on these types of accidents.

*3. Accidents for which Product Safety Group of the Consumer Affairs Council of the Ministry of Economy, Trade and Industry has determined that it remains unclear whether a product was the cause

WEB **List of Information Concerning Serious Product-Related Accidents (Japanese only)**
https://holdings.panasonic/jp/corporate/about/products-information/psc.html

Outside of Japan, Panasonic also identifies and discloses information on product-related accidents based on the laws and guidelines of each country.

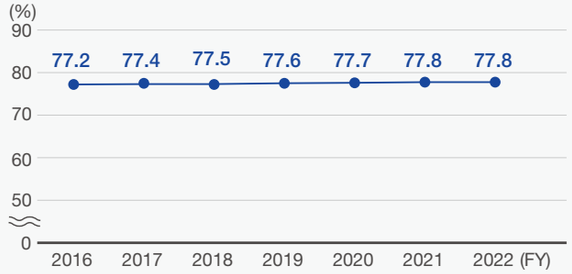
Progress in Response to Incidents Related to FF-Type Kerosene Heaters

In 2005, Panasonic undertook emergency measures as a result of product safety incidents involving FF-type kerosene heaters. Seven years have passed since we began the Group-wide product recall. We continue to work, led by the Corporate FF Customer Support & Management Division staff, to prevent any new incidents.

In fiscal 2022, we conducted a campaign to find yet unidentified target products. As part of these efforts, we visited the homes—mainly in Hokkaido, Tohoku, and Nagano—of our customers who had once owned the recalled products, investigated the nearby supply/exhaust pipes, and conducted surveys of retail customers. We are also continuing all our notification campaigns to promote product recalls among customers who had their units inspected or repaired and to confirm product conditions before the winter arrives.

In fiscal 2022, we added 108 units to our list of products discovered or confirmed to have been discarded. In total, 118,422 units have been recorded, bringing the percentage of units identified to 77.8% of units sold as of March 31, 2022. We were still finding products that our customers had continued using, without realizing the heaters' potential harm, meaning that a high degree of risk remains. We will continue our search. In addition to these market-facing efforts, we are undertaking various internal initiatives. We communicate the progress of these activities through the company intranet in monthly reports. We also pass down the lessons learned from customer safety incidents through lectures given in various training programs and educational materials posted at the Product Safety Learning Square (in Hirakata), the Product Safety Museum (in Kusatsu), and the Learning Center (in Nara), where we educate our employees. We strive to foster a Panasonic Group culture that places product safety first.

Ratio of Identified Units* to Total Units Sold (%)



* Identified units: This figure includes the number of units recalled, the number of units in use after examination and repair, and the number of units we have confirmed that customers have discarded.

List of Awards

1) Product Safety Awards

The awards program was launched by the Ministry of Economy, Trade and Industry in 2007 with the aim of encouraging private enterprises to be more active about improving product safety, as well as to firmly establish the value of product safety in society as a whole.

FY2021
METI Minister's Award, Large Manufacturer and Importer Category: Laundry and Cleaner Division, Appliance Company, Panasonic Group

WEB https://www.meti.go.jp/product_safety/ps-award/3-consumer/h30_award.html#anc-1-1 (Japanese only)

2) AUD Design Award

The awards program was created by the International Association for Universal Design and is meant to recognize groups and individuals who have conducted or proposed particularly noteworthy activities aimed at realizing a UD society in which everyone can live comfortably.

Various products and initiatives of former Panasonic Corporation had received the IAUD Gold Award for seven consecutive years until 2018, in addition to other recognition below:

- FY2022 Panasonic IC Reader with facial recognition, Gold Award, Healthcare and Welfare Design
  Emergency broadcasting equipment, Security and Public Safety
- FY2021 Silver Award: Panasonic LED Torch Light First Shaving Series, Bronze Award
- FY2019 Walking-exercise robot, Gold Award
  Smile Bathtub, Gold Award
  Automated Transport System, Silver Award

WEB https://holdings.panasonic/jp/corporate/universal-design.html

AI Ethics

It has often been pointed out that while new technologies can offer solutions for different kinds of issues and enrich people's lives, the risks those same technologies bring have the potential to lead to human rights issues like violations of privacy, more intense illicit surveillance, and discrimination by algorithms that have been trained on biased data. The Panasonic Group considers our approach to AI ethics as "a promise to the rest of the world to apply AI in ways that are human-centered and that respect human rights" and we work to apply that approach to AI ethics to the ways in which we develop and operate our AI products and services, as well as our AI Utilization.

Policy

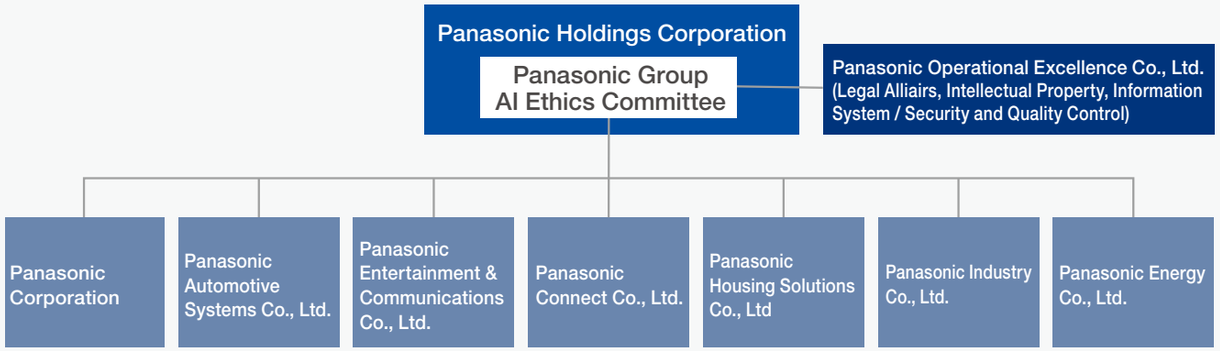
The Panasonic Group's policy with regard to AI is to work to protect the safety and interests of all stakeholders, including any customers involved, and minimize the impact of risks throughout the AI Utilization life cycle from the planning of AI products and services up to their sale and use. By fostering trust in our AI technologies and products in this way over the long term, we will encourage further AI Utilization, through which we can make a greater contribution to society.

In order to do this, we have defined our AI Ethics Principles (which apply to the entire Group) and we conduct AI ethics activities to mitigate and avoid risks that can come with improvements to those technologies and processes by evaluating and managing risks related to AI ethics so that our AI Utilization life cycle will function appropriately with reference to our AI Ethics Principles as well as relevant laws, regulations, and ethical guidelines for each country.

AI Ethics

Promoting Organization

AI Ethics Activities for the Panasonic Group are driven by the Group's CTO (as of August 2022).



The AI Ethics Committee has been established within the Group by the CTO comprises staff members in charge of AI ethics and members from other related departments like legal and information security, and provides the Group with systems and measures to be implemented in relation to AI Ethics Activities and provides Operational Companies with support for their AI Ethics Activities as well as understanding, reviewing, and formulating countermeasures against risks. We have also provided for someone to be responsible for AI Ethics activities at each Operating Company, and these individuals cooperate with the AI Ethics Committee to carry out activities that fit the business and technologies of each company.

Education

The Panasonic Group has created training systems and content to that we provide to our Operating Companies to be used in AI education conducted by AI ethics committees to enable employees across the Group to execute their work in ways that comply with the principles of our AI Ethics Activities.

Major Initiatives

Public announcement of AI Ethics Principles

In recent years, issues concerning AI Ethics including increased discrimination, invasions of privacy, and other safety concerns caused by the misuse of AI technologies have become social issues. The Panasonic Group has defined our AI Ethics Principles and made them public because with the aim of giving customers peace of mind when it comes to using AI products and services from the Group given those issues.

Risk Assessment

The AI Ethics Committee collects data including Group employee survey results and risk assessments results for Operating Companies and analyzes it to understand any risks withing the Group. For matters that have been determined to pose a high level of risk, the Committee sets up review teams to conduct risk reviews and remedies or otherwise addresses them across organizational divisions.

External Cooperation

The AI Ethics Committee also conducts other research and outreach related to AI ethics in a variety of ways, including participation in committee activities at external institutions researching AI ethics and as well as in the community, academic, and public sectors.

Panasonic Group AI Ethics Committee was able to participate in the drafting of the Governance Guidelines for Implementation of AI Principles laid out by Japan's Ministry of Economy, Trade and Industry at the Expert Group on How AI Principles Should be Implemented.

Reporting Mechanisms

The Panasonic Group has created a global hotline that can be used by any employee or business partner of the Group to report anything they have seen or heard that could be cause for concern with respect to AI ethics. We also have systems set up for general inquiries related to personal information in each country, which responds to concerns about protecting customer privacy. See the following for more details.

- Whistleblowing System in Fair Operating Practices (P121)
- Panasonic Holdings Corporation Privacy Policy (for Japan)

WEB https://holdings.panasonic/jp/privacy-policy/request.html

Customer Relations

Management System

We, Panasonic Group have established a set of Basic Rules for Response to Customers (compliant with ISO 10002 and JIS Q 10002) for responding appropriately Group-wide to inquiries and complaints from customers. The implementation of these rules apply to all work relating to customer relations in Japan by Panasonic Group. In those business sites in Japan, the Group has implemented a Management System for Response to Customers as a mechanism for utilizing information in management that is received from customers. These sites conduct periodic self-audits and make other efforts to improve the quality of customer relations. Overseas, we have implemented ISO-compliant management systems based on the Basic Rules for Response to Customers and tailored to the legal system in each country or region.

Policy

Fundamental Stance on Customer Satisfaction (CS)

Since its foundation, Panasonic Group has aimed to contribute to society through its products and services, while always putting the customer first. The Group seeks to improve customer satisfaction, and it offers products, solutions, and services that enrich the lives of people around the world. When providing customer service, the Group strives for sincerity, accuracy, and speed, and it acts with humility and appreciation. This finds its basis in the CS principle of “true service” that the Group’s founder described. Our fundamental stance is thus to provide customers with trust, peace of mind, and satisfaction.

Customer Relations

Service Philosophy (True Service)

The customer's satisfaction is our satisfaction.
True service resides in mutual satisfaction.
Service is an integral part of any business. A business that does not provide service is no business at all. Service, therefore, is the duty and obligation of any business person. But there's nothing more aggravating than service provided only out of a sense of duty. Customers can sense it. Service means satisfying customers, and when we satisfy our customers, we in turn find satisfaction in a job well done. Satisfied customers and satisfied employees: This is what constitutes true service.

Konosuke Matsushita
August 1967
issue of PHP Magazine

The Fundamental Concept of Customer Satisfaction (The Pursuit of Customer Satisfaction)

The only way for those of us engaged in business to earn trust is to have everyone, regardless of whether they are working in the manufacturing division or the sales division, cater completely to the demands of the customers on all points and work strictly under the basic rule of producing or selling not even one product that cannot perform its function well. Perfection can be reached only by paying careful attention not only to the manufacturing details but also to where our products are going and making efforts to completely satisfy the customers and provide flawless service.

Konosuke Matsushita
August 1940
statement calling for a quality products campaign (From Matsushita Electric's 50-Year History)

Responsible Executive and Framework

The Group Chief Technology Officer (Group CTO) is the Executive Officer responsible for the CS of the Group (as of August 2022).

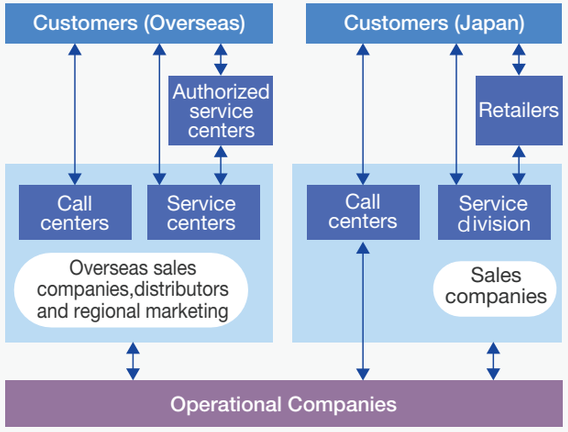
The CS departments at each of the 8 Operating Companies* cooperate to implement the Group's customer satisfaction initiatives. Overseas, the CS departments of Panasonic Group's sales companies around the world collect local information concerning services and quality, as well as customer requests and so forth. This information is used to ensure the quality and safety of products and to help develop products that match the needs of customers in each department.

CS staff in Japan and abroad share the knowledge and experience that they have accumulated to endeavor to provide better customer service around the world.

* Panasonic Corporation, Panasonic Automotive Systems Co., Ltd., Panasonic Entertainment & Communication Co., Ltd., Panasonic Housing Solutions Co., Ltd., Panasonic Connect Co., Ltd., Panasonic Industry Co., Ltd., Panasonic Energy Co., Ltd., and Panasonic Operational Excellence Co., Ltd..

Customer Relations Structure (as of August 2021)

*Example based on home appliance products



Customer Inquiry Response System

In Japan, we deal with inquiries from customers before they purchase products as well as with their concerns about how to use them after purchase through the Customer Care Center. The Customer Care Center is open from 9:00 am to 6:00 pm, Monday through Saturday, excluding national holidays. There are separate phone numbers for each product. Customers rarely spend a long time on hold; the Customer Care Center is organized to provide accurate and rapid service. We accept inquiries for residential equipment and building materials products 365 days a year.

When customers make inquiries on the Panasonic website by typing in a question, the site displays multiple relevant FAQs. Thus, the company strives to provide quick responses to questions.

Regarding the content of its FAQ pages, the company analyzes the search keywords that bring customers to FAQs, as well as the number of times that the questions are viewed, to increase the precision of the FAQs, so that the information that customers require is accurate and displayed quickly.

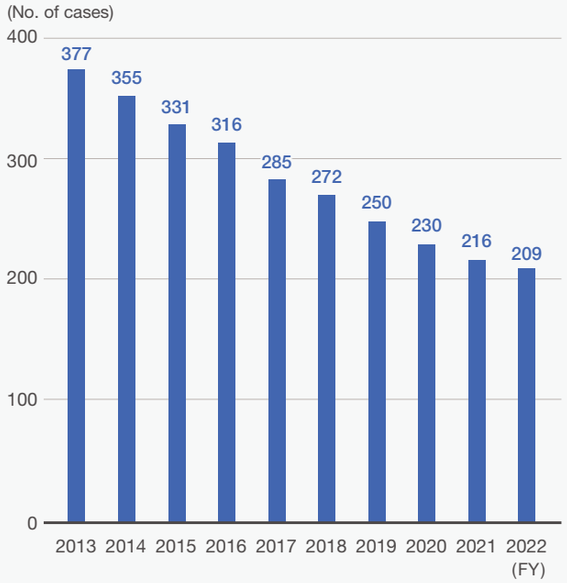
In recent years, the company has also been undertaking initiatives to use Facebook and other social media outlets to post various types of useful information in a timely manner, such as when the seasons change, and to entice customers to visit relevant FAQ pages using LINE's autoreply service.

Because these FAQs are organized so that customer's problems can be solved without the customer needing to contact the Customer Care Center, the number of inquiries at the center is trending downward.

Panasonic group sales companies and sales agencies operate call centers in each country/region outside of Japan as well, handling all types of inquiries as well as intake for repairs. The website for each country also includes FAQs, and we are working on building ways to allow customers to resolve their own issues as they are able to in Japan.

Customer Relations

Number of Inquiries at the Customer Care Center (for Individual Customers) Over Time *In Japan



Repair Service Organization

The CS Company (repairs and spare parts department) of Panasonic Consumer Marketing Co., Ltd. is in charge of repair services for consumer electronics products in Japan. Panasonic Techno Service Co. is in charge of housing facility products.

These service companies constitute a network across Japan and employ full-time customer engineers who have close ties to their local regions as well as advanced technical skills and experience. The network provides swift and reliable on-site repair services in response to customer requests. The repair services system is organized such that repair requests are received 24 hours per day, 365 days per year; Panasonic Group makes particular efforts to provide repair services as quickly as possible for products that are everyday necessities.

Number of Service Locations of the CS Company, Panasonic Consumer Marketing Co., Ltd. and affiliates: 103 locations throughout Japan (as of April 2022)

Number of Service Locations of Panasonic LS Techno Service Co., Ltd.: 43 locations (as of April 2022)

Initiatives for Improving Repair Service Contact Point

For household appliance repairs in Japan, we have made arrangements for receiving requests via websites and for courier services to pick up customers' products before repair and to deliver the repaired products when they are ready with the goal of making it more convenient for customers requesting repairs.

Customers can get a diagnosis from our website before requesting for repairs, allowing them to confidently use our online repair service. To receive a diagnosis, customers enter their product numbers and select the appropriate symptoms, and the system provides useful troubleshooting approaches to solving their problems. If the system deems repairs to be necessary or is unable to resolve their problems, customers can review the estimated costs for repairs and apply for them.

Global Repair Service Centers

Regarding repair services outside Japan, Panasonic sales companies, service centers operated by distributers, and certified service providers provide services that suit the needs of customers and local business conventions. In recent years, we have been strengthening our initiatives in each country toward improving experiential value through the repair services and responses to inquiries we offer our customers. We have also been working to bolster our response in terms of how we communicate with our customer base as it continues to become more diverse, including initiatives involving new methods for communicating with customers on social media.

Number of Repair Service Centers (FY2022)

Region	Number of Repair Service Centers
Japan*	146
North America	384
Latin America	749
Europe & CIS	378
Southeast Asia & Pacific	1,775
India, South Asia, Middle East & Africa	598
China & Northeast Asia	3,358

*Japan: CS Company, Panasonic Consumer Marketing Co., Ltd. and affiliates, Panasonic Techno Service Co.

CS System for Enterprise Business

Housing Facilities-Related Products

Through its corporate customer support window for lighting fixtures, information systems, electrical facility materials, housing facilities and materials and energy-related products such as power generators, power storage facilities etc.—Panasonic Group has created a rapid system that can respond to its corporate customers (partners) with problems regarding construction, installation, and configuration 365 days a year.

Commercial Equipment

In the area of commercial equipment—which includes video, security, information communications, automotive, and commercial air conditioning equipment—Panasonic Group's sales companies in each field provide unified support at every stage, from proposals for devices and systems to their design, construction, customer inquiries, and repair services. By providing total solutions that meet its customers' needs, the Group strives to improve its CS.

Customer Relations

Commercial Solutions

Panasonic group sales companies that are in charge of commercial solutions, as well as Panasonic group sales partners, understand the diverse needs of individual customers and provide total solutions that include everything from system implementation to sales, construction, maintenance, repairs, operations services, and cloud services. These solutions support customers in the implementation of their product strategies and the improvement of their operations. Through its CS-related activities, the Company uses its points of contact with its customers—including support desks, repair services, and maintenance—to build trusting relationships. Panasonic Group has created a responsive system that provides quick, continuous support to its customers when they experience difficulties.

Automotive Equipment

Concerning automotive equipment, the Panasonic group sales company (Panasonic Automotive Electronics Co., Ltd.) cooperates with dealerships to provide after-service for Panasonic-produced car navigation and other equipment in an effort to improve CS. We are also building organizations and systems that allow early detection and early resolution of nonconforming products to provide rapid and thorough services to meet the needs of car manufacturers in the provision of genuine on board equipment.

Initiatives Related to Improving Customer Satisfaction

Promoting the Acquisition of Consumer Affairs Advisor Credentials

Panasonic Group actively promotes the acquisition by its employees in Japan of the “Consumer Affairs Advisor” * credentials with the aim of fostering a customer-oriented corporate culture. Credential holders play an active role as leaders to realize a consumer-oriented management.

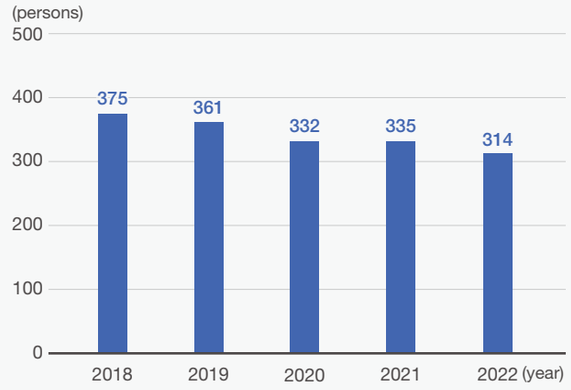
As of April 1, 2022, 314 employees affiliated with the Panasonic Group had acquired this certification.

*Consumer Affairs Advisor System

The Consumer Affairs Advisor System consists of a qualification based on certification under the authority of the Prime Minister and the Minister of Economy, Trade and Industry. (Examination and certification organization: non-profit organization the Japan Industrial Association.) As a bridge between consumers, companies, and the government, the System aims to effectively reflect the ideas and recommendations of consumers to corporate management and government administration. The goals is to foster individuals who can contribute to society in a wide range of fields, including by being able to provide quick and appropriate advice in response to consumer complaints.

(From the Japan Industrial Association website)

Number of Employees Certified over Time (as of April 2022)



Customer Month Initiatives

We believe that a customer-oriented corporate culture will become even more important in serving our customers in the future, so in Japan we have designated May as “Customer Month” to make it easier for all Group employees to get involved. In accordance with the Japanese government’s designation of May as “Consumer Month” *Panasonic Group actively implements the following unique measures every year in May in order to cultivate such culture in all its employees.

1. The Group CEO sends out a message regarding the “Introduction to the Customer Month”, informing all employees of the significance of this special month.
2. The Group within Japan create a unique Customer Month poster (in a digital format) to spread the word about Customer Month by distributing it to all Operating Companies and including it in on digital signage and the like.
3. We strive to promote a consumer-oriented management by holding a “Customer Month Commemorative Symposium,” which involves the participation of those employees responsible for consumer-related activities, as well as all other employees. In fiscal 2023, we held a lecture called “Super Customer-first Principles: Learning from the Voice of the Customer” from a guest lecturer to encourage a deeper understanding among our customer-facing employees on how to treat customers and how crucial customers are.

* Consumer Month
JJapan’s Consumer Protection Fundamental Act (predecessor to the Consumer Basic Act) was enacted in May 1968. On the 20th anniversary of the creation of this law in 1988, May was designated Consumer Month. Every year during this month, consumers, businesses, and government agencies come together to participate in focused work on education and awareness-raising concerning consumer issues.

Fiscal 2022 Customer Month poster

Sustainability Data Book 2022

Customer Relations

Reflecting Voices of Customers in the Products and Services (VOC Activities)

In what we call Voice of Customer (VOC) activities, Panasonic Group uses a variety of methods to analyze customer's voice in order to improve our business activities.

The voices of the company's customers are heard via the opinions received through the Customer Care Center and Panasonic Group's sales persons and partners, showrooms, and service companies.

We use the results of these analyses for product development, functionality, quality, updates to instruction manuals and catalogs, and improvement of sales activities through a collaboration between product planning, design, technology, and quality control departments on one hand, and their marketing and sales departments on the other.

Panasonic Group considers those VOC activities to be practical implementations of its Basic Business Philosophy, which aims to improve customer satisfaction. The company encourages all employees to engage with the voices of the company's customers throughout various aspects of their work.

STEP1 Respond to customer inquiries and issues	STEP2 Analyze the customer's opinion
Our Customer Care Center responds to the inquiries and issues brought up in telephone calls and letters received from customers on a daily basis. Marketing divisions also receive opinions from customers through sales people and partners.	Customer opinions are recorded, entered into a database, and analyzed every day.
STEP3 **Identify areas in need of improvement based on customer opinions**	**STEP4** **Learning from our customers' opinions to improve products, user manuals, etc.**
Customer opinions are analyzed to identify the root of the problem, such as how easy it is to use a product or understand a user manual, and raised as possible areas in need of improvement.	Meetings are held in divisions in charge of product development and user manuals to discuss issues that have been raised and look for ways to improve products and services.

Overseas, Panasonic Group strives to improve its customer relations by using Net Promoter Score (NPS) surveys and post-repair questionnaires to evaluate the performance of authorized service providers and service engineers, who are one of the points of contact with our customers.

Educating Consumers to Use Products Safely

As part of its contribution to society, Panasonic Group works with municipalities and consumer groups throughout Japan to hold consumer education courses. In addition to topics that are of great interest to consumers, such as "Tips for Getting the Most Out of Your Home Appliances," "The Environment," "Saving Energy," "Crime Prevention," "Disaster Measures," and "Caregiving," the company offers educational courses whose themes cover occasional concerns and needs of customers. These courses are well-attended because they are fun and easy to follow.

In particular, in light of the increased awareness about recent social issues including SDGs and the environment, we are working on initiatives involving environmental education provided primarily through environmental sections of local governments and mobile workshops in scientific and general fields through educational sections of the same. We have multiple curricula that focus on themes like saving energy and using energy from natural sources for all of these. The mobile workshops began incorporating online formats in FY 2022, with some 4,400 participants and a total of 90 sessions.

WEB Useful Information on Household Appliances
(link: https://panasonic.jp/support/useful.html)

The Group's domestic Japanese-language site provides information to customers, including basic knowledge about electricity, laws and regulations concerning home appliances and their disposal (recycling), along with precautions related to protecting home appliances from disasters including warnings on what to do during natural disasters.

WEB Using home appliance products safely
(link: https://jpn.faq.panasonic.com/app/answers/detail/a_id/62005)

The Panasonic Group provides information to give our customers a better understanding of safety, from how to correctly use their household appliances for safety and product longevity, illustrated using practical and realistic examples.

Sustainability Data Book 2022

Responsible Publicity and Advertising

Sustainability Data Book 2022

Policy

Providing accurate and honest information and communications to customers and society at large is the starting point for gaining trust from the same and is essential in both protecting and growing the brand's value.

The Panasonic Group Code of Ethics & Compliance stipulates as follows regarding policies for our communications with the society.

- Through our corporate communications, comprising our public relations and advertising activities, we will provide fair and accurate information on our Basic Business Philosophy, as well as on our products, services and technologies, with the aim of better informing our customers and other stakeholders, thereby enhancing the value of our brands. At the same time, we will continually listen to and observe the public and customers, to learn from them and reflect their opinions in our business, marketing and merchandising activities.
- We value diversity, and we conduct all our corporate communications activities based on the principle of truth-based communications. We will not make representations that are deceptive, misleading, fraudulent or unfair. Our advertisements shall not be defamatory or of a political or religious nature.

We have also created various sets of rules and guidelines, such as the Panasonic Group Basic Rules for Brand Matters, Operational Rules for Digital Media, Panasonic Group Social Media Guidelines, Basic Rules for Intellectual Property Matters, and Operational Rules on Information Security. Our policies and guidelines require the Group to respect the intellectual property, identities and privacy of third parties in the execution of our corporate communications activities.

Principles concerning Advertising Activities

We continue to follow Our founder, Konosuke Matsushita's idea that "if manufacturers can make good products, they have an obligation to communicate that quickly, widely, and correctly to their customers, and that is what advertising does." In addition, today we see an important social responsibility in communicating widely, not just about our products but also about the full range of our activities as a corporation.

Responsible Publicity and Advertising

Our efforts to achieve this are informed by the same kind of thinking.

The following basic guidelines are based on the philosophy of our founder and reflect our attitude and approach to the day-to-day production of advertising (creating TV commercials, newspaper ads, digital ads and so on).

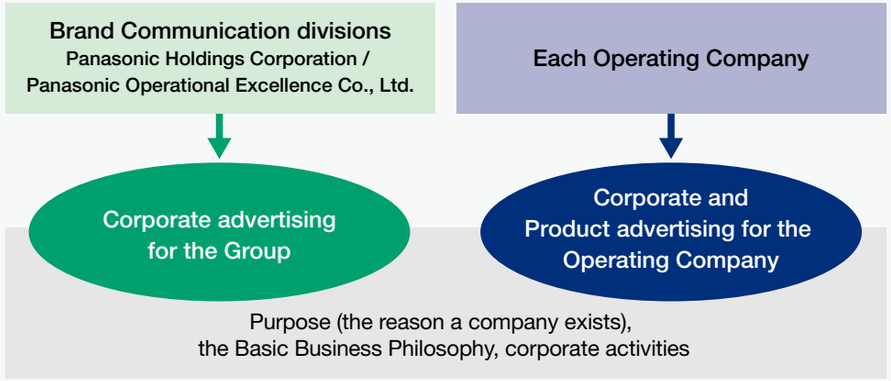
- In the context of our business activities, advertising fulfills an important social mission.
- It is an activity that conveys the "heart" of our enterprise.
- Facts must be told truthfully, in ways that are easy for our customers to understand.
- We do not cause discomfort or annoyance.
- Always use a creative and innovative approach.
- Approach our work with insight, competence and passion.

Additionally, the media to be used in kinds of our mass-communication advertising activities shall be selected based on their broad popularity in their respective regions, their brand familiarity, and their cost-effectiveness.

Responsible Executive and Framework *partially updated in December 2022

The person in charge of publicity and advertising is the Executive Officer responsible for brand strategy and communication strategy (as of December 2022).

The framework consists of the brand communication divisions of Panasonic Holdings Corporation and Panasonic Operational Excellence Co., Ltd., which are responsible for corporate advertising for the whole Panasonic Group, as well as the advertising personnel at each Operating Company, who are responsible for corporate and product advertising for the Operating Company, all of whom work in cooperation with one another.



Promoting Fair and Honest Advertising

We have set up mechanisms that allow us to check all the advertising we produce against the relevant laws and industry regulations in each global region, to avoid misunderstandings or misconceptions on the part of customers.

For example, in Japan we comply with the Act against Unjustifiable Premiums and Misleading Representations and other legal regulations concerning advertising, as well as various self-imposed media guidelines by which companies evaluate their advertisements, including the Japan Advertisers Association's ethics code.

In order to be sure we can maintain this compliance, we will continue to conduct OJT on a day-to-day basis and to hold special training sessions for major revisions to relevant laws to ensure that the persons responsible are fully informed. We will also continue to participate in training and seminars conducted by outside organizations and seek consultations with outside experts when necessary.

By carefully maintaining compliance with laws and regulations through close cooperation with our Legal Department, Panasonic Group in Japan was able to avoid any major legal and regulatory violations in FY 2022.

Intellectual Property

Sustainability Data Book 2022

Management System

Ever since Panasonic was founded, we have always placed an emphasis on intellectual property based on the idea that business is founded on intellectual property. We continue to work toward business growth and corporate value today, but what has changed is that we have begun to take aim at solving some of the social issues through our acquisition, management, and effective use of intellectual property.

The Panasonic Group has codified this basic stance on intellectual property in our Basic Rules for Intellectual Property Matters, which applies to the entire Group, and endeavors to properly execute intellectual property activities and establishing a foundation for those activities.

We respect the intellectual property rights of third parties, including our suppliers and our business partners, and we do our best to avoid infringing on them. This approach is also codified in our Panasonic Group Code of Ethics & Compliance and we conduct regular education to ensure that employees adhere to it.

Policy

The Panasonic Group conducts our intellectual property activities with the goal of ensuring the superiority and safety of our business both now and into the future through strategic proposals for business from an intellectual property perspective; the acquisition, protection, and use of global intellectual property; and prevention and resolution of disputes related to intellectual property.

Furthermore, in recent years we have begun to look at how we can contribute to solutions to social issues, which has led the Group to undertake approaches involving external organizations that include commercialization and valuation for intellectual property as intangible assets, including data.

Intellectual Property

Responsible Executive and Framework

The Group Chief Technology Officer is the executive officer responsible for IP for the Group (as of August 2022).

The Intellectual Property Department at the Group's holding company, Panasonic Holdings, and the Intellectual Property Center at Panasonic Operational Excellence Co., Ltd., which was established as a firm to house our advanced specialist human resources in a wide variety of fields, are in charge of establishing and promoting the Group's intellectual property strategies.

We have also created an intellectual property division within each Operating Company, and each Operating Company establishes and promotes intellectual property strategy within that Operating Company.

We use trust among Persons Belonging to Same Group of Companies as defined in Article 51 of the Trust Business Act to promote a wide array of intellectual property work meant to integrate and commercialize the work related to intellectual property being done within the Group at Panasonic IP Management, Co., Ltd., a wholly owned subsidiary.

Major Approaches

Acquiring Intellectual Property Rights and Reward System

Panasonic Group has been building up a global portfolio of intellectual property in line with our IP strategy, which in turn is based on our business strategies and research and development strategies. The table below shows the number of new applications for patents, utility models, or design rights made by Panasonic Group in fiscal 2022 and the number of patents, utility models, designs, and trademarks held by the Group as of March 2022.

Fiscal 2022 Number of applications	Number of applications for patents, utility models, and designs: roughly 15,000 (including roughly 8,600 outside Japan)
As of March 2022 Number of rights held	Number of patents, utility models, and designs owned: Total roughly 100,000 (including roughly 58,000 outside Japan)
	Number of trademarks held: roughly 16,000 (including roughly 11,000 outside Japan)

The Panasonic Group also has a reward system for inventors designed to increase their motivation and help invigorate their inventions and creative endeavors, and we operate this system in a fair and just manner based on the laws and regulations of each country. For example, the standard for reward is decided through agreements with employees and shared with them, and we also have a system in place to solicit feedback from inventors about the reward system.

Contributions to Building Relationships for Joint Innovation

The Panasonic Group aims to contribute to solutions to the social issues through our business activities, and in our intellectual property activities as well, it is crucial that we contribute to solutions to social issues by building friendly relationships for joint innovation with our customers and different types of other partners we work with, and we are promoting new intellectual property strategies in the interest of achieving that aim.

To take the field of electric vehicle batteries as a specific example, the Group has been able to speed up collaborations and build out supply chains geared toward solving climate issues by combining our strength in having developed technologies that balance high quality and high reliability with low cost and the intellectual property pertaining to the same with the strengths of our partner companies. We are also working to build optimal relationships for joint innovation in fields like energy management and materials through approaches that combine a variety of intellectual property activities, including a search for partner companies with the use of intellectual property information, the creation of an intellectual property portfolio that is mindful of how it will be used by the joint innovation partner, and the establishment of detailed relationships for joint innovation with contracts.

Participation in WIPO Green

WIPO GREEN, established by the World Intellectual Property Organization (WIPO) supports global-scale approaches against climate change through connecting key stakeholders when it comes to environmentally-conscious innovations using its database and networks. The Panasonic Group agrees with this mission and has registered environmentally-friendly underwater plasma technologies, artificial photosynthesis technologies, and gas sensor technologies.

Anti-counterfeit activities

Unauthorized use of brands, designs, and other intellectual property have a negative impact not only on companies (brand owners) but also on society. Counterfeit products undermine a company's reputation, which damages its credibility in the eye of its customers. The counterfeit products lead to defective quality concerns, and they can cause accidents and injuries to our customers. Therefore, imitations hinder the creation of a healthy society, such as through:

- Economic losses: decreasing tax revenues, less business incentives to develop new products and innovation.
- Security issues: potential sources of funds for criminal/terrorist organizations, increasing threats to national security.
- Environmental problems: disposal of seized counterfeit goods

Intellectual Property

Thus, aiming to eliminate counterfeit goods should be considered a Corporate Social Responsibility. Our policy of anti-counterfeit activities is to protect customers' safety and intellectual property, including brands, as well as to solve the social issues caused by counterfeit products. In 2019, measures against counterfeit products were added to the Japanese government's SDGs Action Plan, thanks in part to advocacy from the Panasonic Group. At present, we are working in partnership with the Japanese government, other companies, and the governments of other countries at the International Intellectual Property Protection Forum (IIPPF) to take action based on the idea that eliminating counterfeit products will contribute to achieving SDGs. The IIPPF is an industry organization that aims to resolve the counterfeit issue, and it consists of 288 members (companies and organizations).

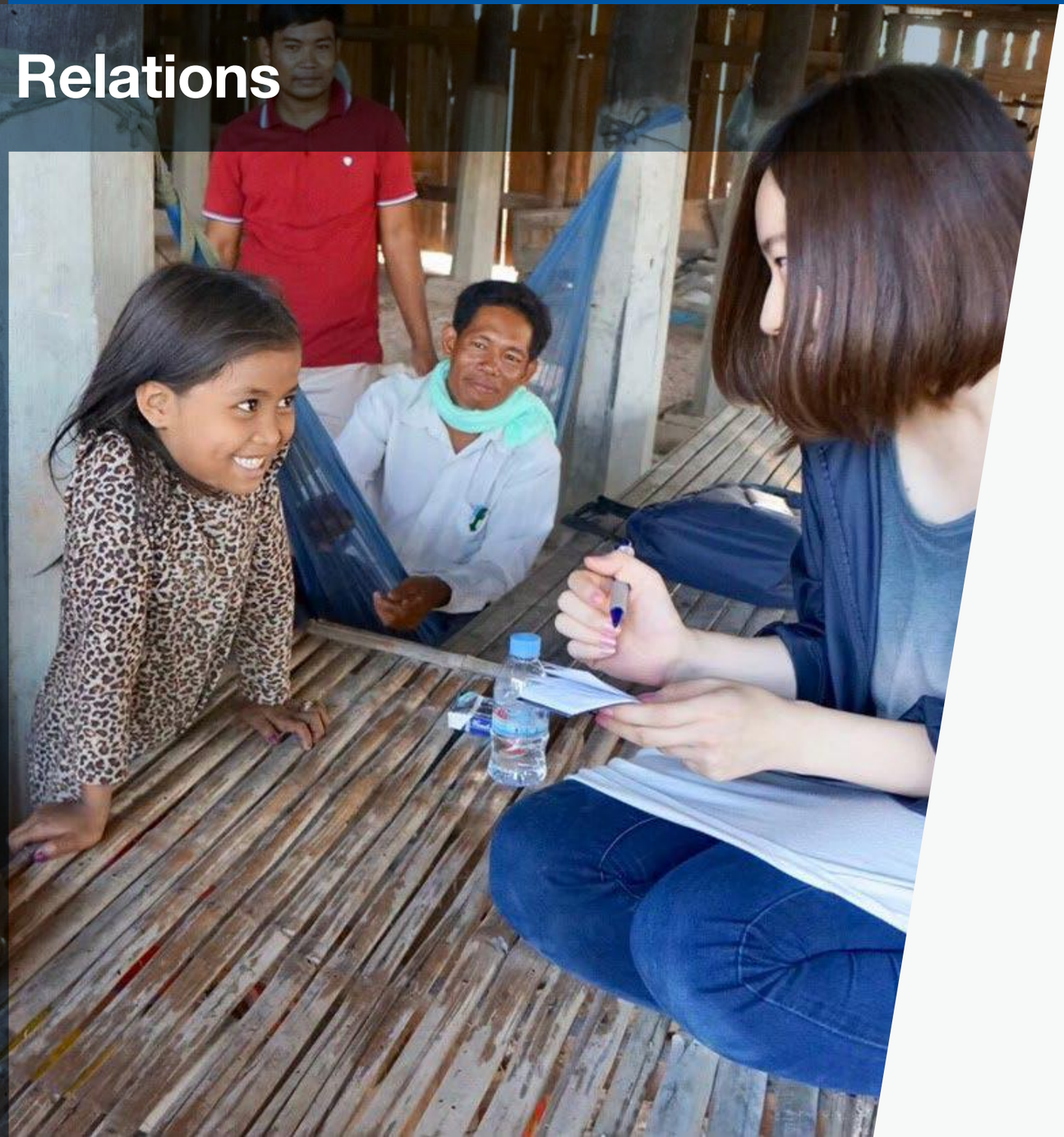
Recent trends show a rapid increase in the number of counterfeit goods sold online, in addition to those sold in actual markets. Online sales make selling counterfeit products easier globally than conventional retail methods—transactions are made easily and carried out before the buyer ever sees the actual product, meaning that there is an increasing risk that consumers could purchase them by mistake. Panasonic Group believes that it is more critical than ever that rights holders work together with consumers to eliminate counterfeit goods and work aiming to create a better world.

Evaluations

Panasonic Group has been recognized as a Clarivate Top 100 Global Innovator 2022 chosen by London-based Clarivate. The award that Panasonic Group received is given to companies that are leaders in global business because they are successful in protecting and commercializing their unique inventions and ideas through intellectual property rights. Of the 100 companies honored on the 2022 list, 35 were from Japan. Panasonic Group has been on this list since its inception, 2022 being our 11th consecutive year.

The Panasonic brands were also honored in Clarivate's Top 100 Best Protected Global Brands in 2021 is a testament to the fact that the Group's brand is properly protected.

Community Relations



Basic Policy

At Panasonic Group we believe that all the resources we need to do business have been entrusted to us by society at large, which is why we act as a public entity, having dialogues with local communities as we undertake our business activities.

The Group works to contribute positively to local communities through dialogues with local governments and residents, especially when entering or leaving a market. We evaluate our effects on the environment and other areas and seek to minimize any potentially negative impacts. We are also actively developing our corporate citizenship activities with a focus on regions where we have business locations.

Our policies on corporate citizenship activities and engagement with local communities are as follows:

(1) Corporate Citizenship Activities

Aiming to create an ideal society offering material and spiritual affluence, we actively engage in activities as a Corporate Citizen. while maintaining a dialogue with society. In particular, we engage in coexistence with the global environment, human development and education, art and culture promotion, and social welfare activities. We also carry out support activities to build a better society together with NPOs/NGOs and individual citizens.

(2) Coexistence with Local Communities

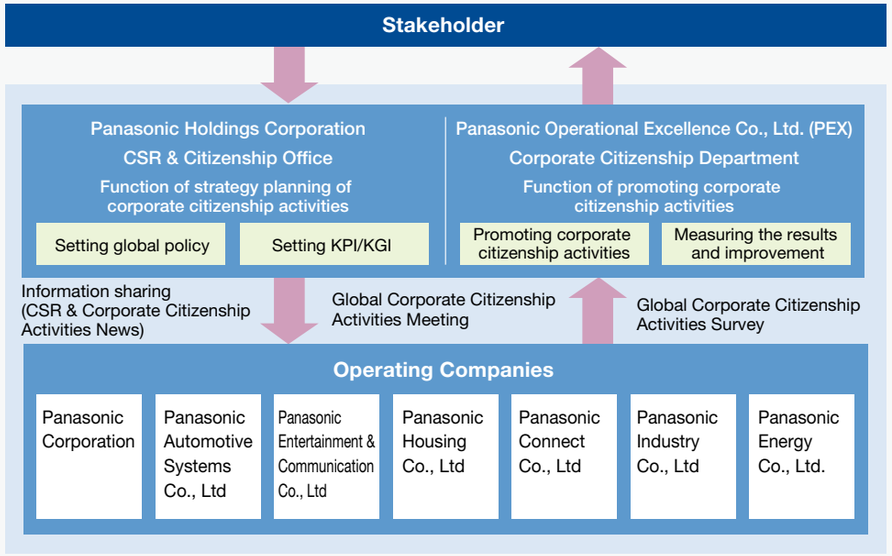
We recognize that our Company is a member of local communities, and so we will endeavor to work and prosper in tandem with them.
We will actively cooperate with our local communities and participate in their activities. In particular, we will carry out corporate citizenship activities that benefit communities in such areas as art, culture, and sports, as well as the environment. We will also work to meet local community needs by making company facilities available and holding public events when possible.
When a large-scale calamity such as a natural disaster takes place, we will cooperate with the parties concerned and swiftly take the necessary supportive action.

(3) Donations, Sponsorships, and Support for Public Service Organizations

To help alleviate social problems and contribute to society, the Company will make appropriate donations and sponsor activities. The Company will also provide support for public service organizations, including the foundations and funds that it has established.

Management System of Corporate Citizenship Activities

We are engaged in a variety of Corporate Citizenship Activities in every Operating Company and every region around the world, each tailored to the circumstances of that area, based on the Group Policy outlined in the next paragraph. We define key performance indicators (KPIs) for major activities and uses these to evaluate results and make improvements. We continue to think about ways we can better promote the activities we undertake by holding regular global Corporate Citizenship Activity meetings where we share information and exchange opinions toward that goal. In addition, through CSR & Corporate Citizenship News, those activities in the various locales are shared with the relevant directors and executives—from the Panasonic Group CEO on down—as well as with the staffs in charge of Corporate Citizenship Activities all over the world. Panasonic Group also conducts global annual surveys of its corporate citizenship activities and publicly releases the findings on our Sustainability site.



Policy

Every three years, Panasonic Group drafts a midterm plan and also establishes policies and areas of focus for its corporate citizenship activities. Panasonic determines its areas of focus by comprehensively taking into account company business policies, conditions in society, societal demands, expert opinions, and other considerations.

Midterm Policy of Corporate Citizenship Activities (FY2023-2025)

The Panasonic Group aims to create an ideal society offering material and spiritual affluence, and works to create new value by tackling social issues head-on in both our business activities and our activities as a corporate citizen.

In establishing our midterm policies, we thought about what our ideal world would look like in the year 2030 and decided it would be a “sustainable and inclusive society” where everyone can live a vibrant life more freely. As a corporate group that does business globally, we have selected issues that we should be prioritizing based on social issues and the Group’s Basic Business Philosophy.

Of all the issues the world has been facing recently, poverty of various types in both developed, newly developed and developing nations has become particularly serious. The U.N.’s Sustainable Development Goals (SDGs) include 17 goals comprising a total of 169 different targets that have been included as part of a plan of action for humanity, the earth, and prosperity. Poverty is one of the top concerns of these SDGs. Panasonic’s founder, Konosuke Matsushita, saw poverty as an evil and he made its eradication the mission of his company. Living standards have been raised for many and some poverty has been alleviated, but there are still many countries and regions that have been excluded from wealth, and even within nations considered to be “developed,” disparities in wealth are growing larger. Considering this background, we celebrated the company’s 100th anniversary in 2018 by designating the ending poverty as a critical theme, but that goal remains unachieved, we will continue our efforts toward its achievement.

We also raised the environmental activities that we have been doing to the level of a critical area of focus when we revised our Basic Business Philosophy in October of 2021, which state that “global environmental issues are a top priority for the Group to work together on,” and will expand this to our corporate citizenship activities from fiscal 2023 onward.

We are working to build upon these solutions toward solutions for poverty and environmental issues with a critical focus on human development (learning support) who will be working on these initiatives. The Group undertakes activities to foster a desire for learning among those who will go on to be the leaders of the next generation, providing them with venues to learn and gain experience in an environment that values diversity, equity and inclusion (DEI).

Sustainability Data Book 2022

Community Relations

We would like to solve social issues and contribute to the realization of a sustainable and inclusive society through Corporate Citizenship activities including those helping to end poverty, protect the environment, and boost human development. We encourage our employees to actively participate in Corporate Citizenship activities, and we will also make use of our products, technologies, know-how and resources cultivated through manufacturing, to work together with all stakeholders.

WEB **Corporate Citizenship Activities**
https://holdings.panasonic/global/corporate/sustainability/citizenship.html

Responsible Executive and Framework

The executive officer in charge of corporate citizenship activities is the Executive Officer in charge of CSR and Corporate Citizenship Activities (as of August 2022).

The CSR & Citizenship Office at Panasonic Holdings Corporation (PHD) is responsible for the function of strategic planning for the entire Panasonic Group, and performs those duties in cooperation with the Corporate Citizenship Department at Panasonic Operational Excellence Co., Ltd. (PEX) and the Group's Operating Companies. We have people in charge of corporate citizenship activities at each Operating Company, and those individuals execute their activities based on both the Group's policies and actual conditions in their areas.

Employee Participation and Supporting Systems

Enhancing employee interest in social issues and their desire to solve them is extremely important both in terms of promoting Corporate Citizenship activities and in carrying out our core business. We provide our employees with information on volunteering so they can easily get involved, as well as occasions to change their awareness and opportunities to gain experience in addressing societal issues.

Some of the most characteristic examples of these are shown below.

Activities supporting employees' social involvement

Provision of Sustainable Seafood* at Corporate Cafeteria (Japan)

Certified sustainable seafood is continually provided in 56 corporate cafeterias in Japan as of August 2022. By taking measures to increase interest in sustainability in everyday life, our aim is to change the consumption habits of our employees and their families, and to alter the awareness and behavior of consumers. We aim to expand the provision to all cafeterias at key worksites in Japan.

* Sustainable seafood with certifications such as MSC and ASC

WEB **Conservation of Biodiversity through Collaboration with and Support for NGOs and NPOs**
https://holdings.panasonic/global/corporate/sustainability/environment/biodiversity.html#biodiversity_04

Fukushima Reconstruction Support Action (Japan)

This initiative supports post-disaster reconstruction in Fukushima Prefecture and SDG #11 (sustainable cities and communities) by eating foods in the employee cafeterias that use aquaculture products from that prefecture. This initiative was first launched in January 2022 at employee cafeterias at the Group's headquarters in Kadoma in greater Osaka and an office in Osaka Business Park (in Osaka's Chuo Ward), and there are plans within the Group to expand it to other workplaces within Japan in the future.

Bringing Light to People (Japan)

This is a donation program that collects employees' welfare cafeteria points and the proceeds from selling used books and other secondhand items that have been donated to our partner company, a secondhand book shop. The program then uses the collected funds to donate Panasonic products, such as solar lanterns, to areas without electricity in Asia and Africa. This enables study, work, and medical treatment at night. We developed this donation platform to allow the public to easily participate in the donation program and to maintain the 100 Thousand Solar Lantern Project, which was completed in January 2018. In FY2022, 1,050 Solar Lanterns were donated to areas without electricity in Cambodia through employees' welfare cafeteria points donations.

WEB **Bringing Light to People**
https://holdings.panasonic/global/corporate/sustainability/citizenship/solution/akari.html

Pro Bono Program (Japan)

We have programs in which employees use the skills and experiences that they have gained through their jobs to support NPOs/NGOs' enhancement of business extension, who are addressing social issues. So far, a total of 330 Panasonic Group employees have participated in the Pro Bono Program in Japan, providing support for 56 organizations, by formulating midterm plans, drafting marketing materials, and rebuilding websites.

WEB **Panasonic NPO Support Pro Bono Program (Japanese only)**
https://holdings.panasonic/jp/corporate/sustainability/citizenship/pnsf/probono.html

Panasonic Eco Relay for a Sustainable Earth

Love the Earth, which Panasonic began promoting in 1998 in Japan, aimed at fostering greater environmental awareness and even change their lifestyles by encouraging employees and their families to actively engage in environmental activities at home and in their local communities. Those same activities are now being carried on under the name Panasonic Eco Relay for a Sustainable Earth, a global initiative for the continued development and spread among local residents, the families of employees, and others across generations.

WEB **Panasonic Eco Relay for a Sustainable Earth**
https://www.panasonic.com/global/corporate/sustainability/eco/community.html

Introducing regional volunteer activities and providing opportunities

Workplaces within the Group around the world take an active role in developing and rolling out a variety of volunteer activities that are tailored to the specific features of the regions and Operating Companies they are part of. In North America, for example, the Group has an Employee Volunteer Program and annual Month of Service initiative through which employees are offered support that allows them to divert a portion of their work time toward participating in volunteer activities. In fiscal 2022, 1,173 individuals took part in this program. In China, several times each year we have China Region Group Volunteer Activities in which employees at various workplaces across China undertake volunteer activities related to the same theme at the same time. In fiscal 2022, 11,067 individuals donated 19,682 hours to these activities. In Japan, we provide a website where employees can find regularly updated information on volunteer opportunities by NPOs and other organizations all over the country, and encourage them to take part in volunteer projects outside the group as well.

Providing learning opportunities (Japan)

In order to raise interest in and motivation to solve social issues, we hold an after-work lecture called the "Social Good Meetup (SGM)", where various outside experts on social issues give presentations, and a "Disaster Volunteer Training Course" where employees can gain knowledge and skills that will enable them to serve as a volunteer when common disasters occur. We also conduct e-Learning for employees once a year to provide opportunities to learn about social issues, such as the problems related to SDGs.

WEB **Lectures for employees regarding social issues, Social Good Meetup(SGM) (Japanese only)**
https://holdings.panasonic/jp/corporate/sustainability/citizenship/solution/sgm.html

Human Resources System for Supporting the Promotion of Employee Participation

Examples from Japan

- **Time off for volunteering**
  We encourage Group employees to spend five of the 25 days of annual paid leave offered by the Group participating in volunteer activities, for example by considering allowing time off to be taken at a stretch if it is used for volunteering.

- **Volunteering Sabbatical Leave System**
  This system is meant to allow employees to take up to one year of leave for the purpose of participating in volunteer activities. Furthermore, employees are also granted leave for the time needed to participate in the Japan Overseas Cooperation Volunteers Program run by the Japan International Cooperation Agency (JICA).

- **Challenge Vacations (Life Juncture Vacations)**
  We also have a system in place that allows employees to take leave at critical junctures in their life in the Group to allow them to refresh both body and mind and work on personal growth so that they can approach their life in the Group with renewed ambition. Employees (excluding management) can take 10 days of leave upon turning 30, 40, and 50, and this leave can also be used toward volunteer activities.

Examples from North America

Panasonic North America provides systems that allow employees to spend up to five full working days on volunteer activities so that each regional company can make its own contribution as well. We also encourage and facilitate participation in volunteer activities on the part of our employees, including by coordinating volunteer activities at individual business sites.

Performance Evaluation of Corporate Citizenship Activities

We measure the effectiveness of its main activities according to the specifics of each initiative.

The Panasonic NPO/NGO Support Fund for SDGs (formerly the Panasonic NPO Support Fund)

Regarding the Panasonic NPO/NGO Support Fund, which supports the enhancement of the organizational infrastructure of NPOs/NGOs, we conduct a follow-up survey of the

grant recipients 18 months after the completion of the subsidy project. And a third party also quantitatively and qualitatively evaluates the effectiveness of the enhancement of the organizational infrastructure. In fiscal FY2022, in addition to the follow-up survey, and as a milestone of the 20th anniversary of the establishment of the Support Fund, 63 organizations participating in the Children and Environment category that we subsidized from 2011 to 2018 and 23 organizations participating in the AFRICA category were evaluated for the 20th anniversary of the subsidy.

The results of the survey for organizations related to children and the environment showed an average rate of expansion of 19.1% in financial terms compared to before the support, as well as an average 27.8% increase in the number of staff. The results also indicated that 87.2% of all organizations saw the number of individuals receiving benefits rise, with an average of a 3.07-fold increase and the organization with the largest increase in beneficiaries rising to 14.9 times the number prior to support, demonstrating that our efforts toward Organizational Infrastructure Enhancement through this support program have been effective in producing major social results.

In the category of support we've provided in terms of PR, messaging and education projects to NPOs and NGOs working on issues in countries across Africa, the results of the survey showed that 64% of all organizations responded that they had continued to see the effects of the PR tools created through the support for at least two years afterwards, and 29% had seen continued effects for it at least five years. In a qualitative survey, we also found cases in which the support led to improvements in training for the volunteers who would be in charge of getting the message out and a greater capacity to procure funding, among other benefits.

In 2015, we conducted Social Return on Investment (SROI) assessments on a supported organization, the NPO Allergy Support Network, and the results showed that the social impact of the aid to enhance organizational infrastructure was 8.82 times as much as the donated funds. We submitted this report to an NGO, Social Value International, and received confirmation as the first SROI report in Japan.

WEB **Report on our assessment looking back over 20 years of Organizational Infrastructure Enhancement growth** (Japanese only)
https://holdings.panasonic/jp/corporate/sustainability/citizenship/pnsf/npo_summary/report_20th.html

WEB **Panasonic NPO Support Fund SROI Assessment Report (Japanese only)**
https://holdings.panasonic/jp/corporate/sustainability/citizenship/pnsf/npo_summary/sroi_report2018.html

Kid Witness News (KWN)

We have had the effectiveness of our Kid Witness News (KWN) educational program, designed with the goal of teaching both cooperation and creativity and improving communication skills through video production has been evaluated by a third party over the last five years, beginning in 2017.

The evaluation, which was conducted based on the qualitative and quantitative results of surveys and interviews given to children, students, and instructors at participating schools considered the effect that the program had on children, students and their educational activities with respect to the five items below.

1. The qualities and skills of children who showed potential for growth through the video production included in the program were organized into 9 competencies: social ideology, teamwork, communication, building human relationship, ability of designing own future, information utilization, meeting decisions, interest and understanding of local community, and international understanding.
2. Comparing children and students who participated in the program with those who did not, children who participated were found to have exhibited growth in qualities and skills the 9 competencies.
3. Based on the results of surveys given to teachers and instructors, it was confirmed that they were able to use the program in four types of educational activities: strengthening video production skills, deep learning using video production, personal/social growth through teamwork, teamwork combined with deep learning.
4. By dividing the survey results by school type (elementary, middle, and high schools), it was found that children grew through video production they did on this program regardless of their developmental stage. In addition, the qualities and skills of children and students at schools that were continuing the program grew much more than those of children at schools participating in the program for the first time.
5. Surveys of the program at special-needs schools demonstrated the effectiveness of the program as one with the potential to help develop the qualities and skills of children regardless of their disability status.

WEB **Verifying positive impact of participation in video production in KWN program (Japanese only)**
https://holdings.panasonic/jp/corporate/sustainability/citizenship/kwn/overview/teachersguide_eval.html

Educational Activities on the theme of the Olympic and Paralympic Games

The Educational Program on the Olympics and Paralympics is a program that allows students to think about a variety of social issues and how to solve them. The Group has been providing educational materials since 2015, and as of the end of fiscal 2022, we have had more than 460,000 middle and high school students from 2,309 schools across Japan participate in this program.

We have worked to verify the effectiveness of this program by measuring the growth of these students both qualitatively and quantitatively in fiscal 2020 prior to and following the implementation of this program. We conducted questionnaires and interviews with students and their teachers before and after the activities, and we measured how their awareness of social issues as well as social participation evolved. As a result, we observed a clear growth in the participants' understanding of social values, relationships and building skills. Additionally, we found that, when

teachers adopted active learning methods, communication and thinking were particularly stimulated in the classes.

* Panasonic Group's Career Education Learning Support Program, which includes KWN and Olympic and Paralympic-themed learning support activities, received the Excellent Award in the Large-Enterprise category from METI (Ministry of Economy, Trade and Industry) at the Tenth Career Education Awards in fiscal year 2020. "Educational effect" was a judging criteria in which these programs scored particularly high, along with the fact that we evaluate the effectiveness of the programs and survey the students and teachers on an ongoing basis.

External Recognition and Awards Won

Panasonic Group received the following awards in FY 2022.

■**The 12th "Japan's Most Valuable Company" Grand Prize "Executive Committee Special Award"**
Panasonic Kibi Co., Ltd. (*)

* Japan's first business establishment employing a large number of people with severe disabilities through a third-sector system, jointly funded by Okayama Prefecture, Kibi Town, and Panasonic. Started operations as a special subsidiary of the Panasonic Group in the International Year of the Disabled (1981).

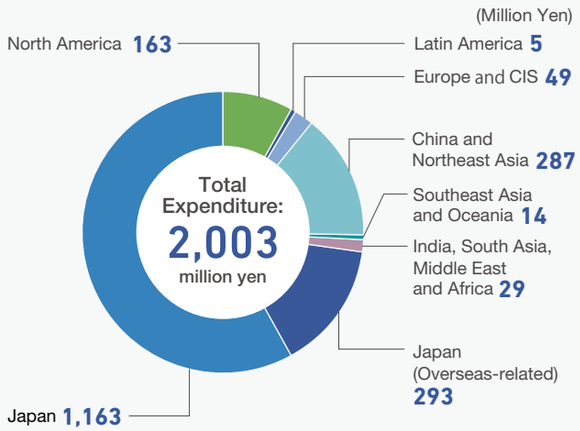
■**The 15th Kids Design Award Designs that develop children's creativity and shape their future**
A museum where Eureka turns into reality. Panasonic Creative Museum AkeruE
WEB https://holdings.panasonic/global/corporate/center-tokyo/akerue.html

■**Fifth CSR China Education Ranking "CSR China Volunteer of the Year"**
Panasonic Olympic Education Project (China)

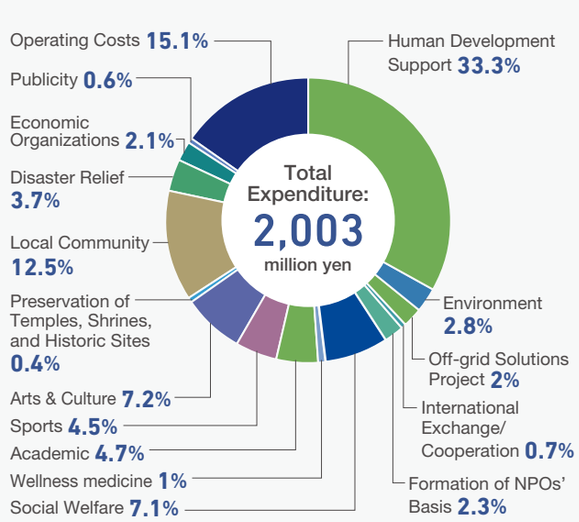
■**The Ministry of the Environment's 9th Good Life Award "Sustainable Design Award"**
Biwako "eco ideas" Club (Panasonic Group employee's vouluntary association)

Spending on Corporate Citizenship Activities

Spending on Corporate Citizenship Activities by Region in FY2022 (1st Apr. 2021 – 31st Mar. 2022)



Spending on Corporate Citizenship Activities by Area of Activity in FY2022 (1st Apr. 2021 – 31st Mar. 2022)



Donations

Types of Donations

(Million yen)

Type of Donation and Amount		Percentage of Total Costs
Charitable Donations	507	25%
Community Contribution	1,248	62%
Sponsorship	248	13%
Total	2,003	100%

Methods of Donation

(Million yen)

Method of Contribution	Amount
Cash donation	918
Expense Related to Employees Volunteering	22
Product or service donation, program sponsorship	761
Operating cost	302
Total	2,003

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Risk management

Management System

Panasonic's founder, Konosuke Matsushita, coined numerous aphorisms which are still used at the company: "Hardship now, pleasure later," "There are signs before all things," and "Small things can create big problems; one must be alert to signs of change and act accordingly," among many others. Using these ideas as the cornerstone of our thinking, we, as Panasonic Group, conduct Groupwide risk management activities covering our operations around the world, with the aim of taking pre-emptive actions to eliminate any factors that could impede the accomplishment of business goals.

The Panasonic Group has always actively undertaken risk management activities aimed at reducing the impact of risks that threaten the Group's achievement of our business objectives. Additionally, since October of last year, we have been treating uncertain matters that may at some point present opportunities or pose threats to the achievement of our business objectives as "strategic risks" and have integrated them into the risk management activities we undertake when establishing operational or business strategy and decision-making. Our objective is to elevate the quality of the Group's planning and decision-making related to operations and business strategy by both promoting the taking of appropriate risks based on the severity of the risk, and revising the countermeasures against risks at the appropriate times.

Risk management works in parallel with the development and execution of management strategies. We believe that combining these two functions makes us better positioned to accomplish business objectives and to increase our corporate value. To that end, we have created our own Rules for Risk Management for the Group, which are informed by international standards and frameworks for risk management systems including ISO31000 and COSO-ERM (2017).

Furthermore, by disclosing appropriate risk information to the public, improving management transparency, and reducing risks through pre-emptive measures, Panasonic gives its customers and other stakeholders—as well as local communities and the public as a whole—greater confidence in its organization.

Risk Management

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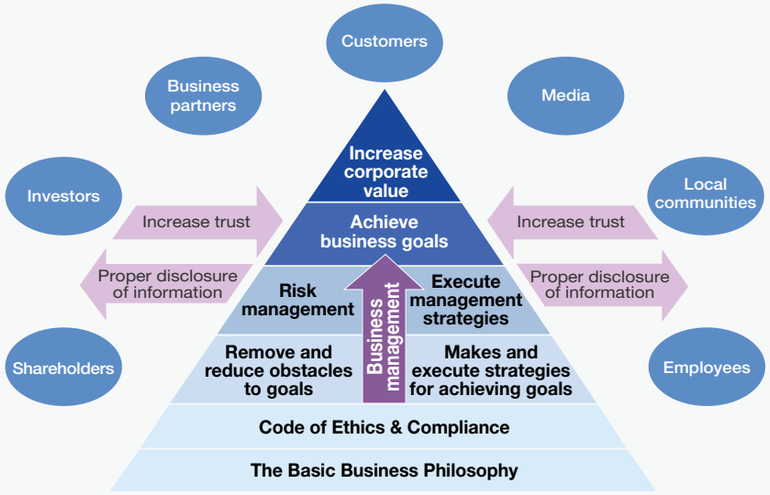
Role of Risk Management in Business Management



Policy

Risk management for the entire Panasonic Group is undertaken in accordance with the Panasonic Group Basic Rules for Risk Management (“Basic Rules”). The Basic Rules are premised on autonomous responsible management on the part of each Operating Company and define the objective of risk management as increasing the certainty with which business goals and sustainable, stable growth can be achieved. More specifically, the Basic Rules list three goals:

ensure safety and peace of mind on the part of stakeholders and compliance in our business activities; bolster business competitiveness through risk management that treats both aspects of risks appropriately, as both opportunities and threats to the achievement of our business goals; and continuously offer products and services by maintaining operating resources and ensuring work effectiveness while fulfilling our social responsibility. In addition to providing guidelines for the conduct of executives and employees toward the achievement of the objectives above, the Basic Rules also clearly define the share of responsibilities between and organizational structures of Panasonic Holdings Corporation (“PHD”) and the Operating Companies.

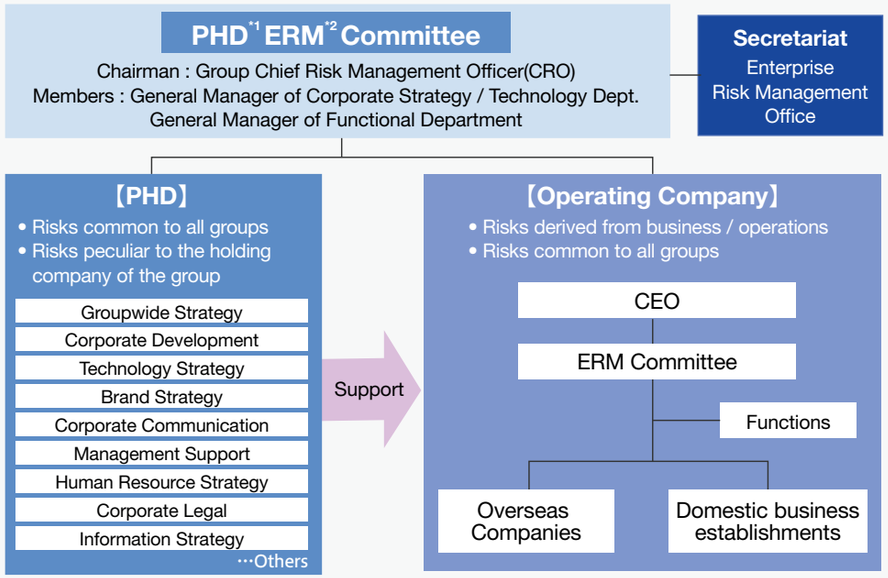
Responsible Executive and Framework

The executive vice president serves as the Group Chief Risk Management Officer (Group CRO) and is the individual responsible for risk management for the Panasonic Group (August 2022).

As an internal system for promoting risk management, the Group has established the PHD Enterprise Risk Management Committee (“PHD ERM Committee”), which is chaired by the Group CRO and comprising individuals representing PHD Legal, HR, Accounting, and other functions, with the Enterprise Risk Management Office handling the committee’s executive office functions. The PHD ERM Committee’s role is to both manage risks related to the advancement of Groupwide functions and to confirm that risks that have the potential to impact the Group as a whole are being addressed. In keeping with the Group’s principle of autonomous responsible management at each Operating Company, we have also established Operating Company ERM Committees at each Operating Company, through which each Company works with PHD to manage risks that affect the entire Group while simultaneously managing risks that arise due to the business or work of that Company.

The activities of the PHD ERM Committee are regularly reported on at management meetings and Board of Director meetings, and Corporate Auditors also observe and oversee monitoring alongside the Board of Directors. These activities are also reported on regularly at each meeting of the Board of Directors or other corporate boards of Operating Companies.

The Panasonic Group’s Promoting Organization for Global & Group Risk Management



*1 PHD: Panasonic Holdings Co., Ltd. *2 ERM: Enterprise Risk Management

Risk Management

Basic Framework

At Panasonic Group, risk management is divided into three levels: PHD, the Operating Companies, and business divisions. The same processes and cycles are used at all levels, and once each year the Group identifies all risks (attributable to either internal or external factors) that may have an impact on business activities to create a comprehensive inventory of risks. The Group then conducts an assessment of this list to select any Major Risks.

The process begins with a risks assessment conducted by each function at PHD, with specialists from each using expert knowledge to assess and select candidates for Major Risks for the Group. Then a similar process is undertaken at each Operating Company to select candidates for Major Risks for that Company, which are then decided on by the Operating Company ERM Committee. Major Risks that have been decided on in this way are reported to the PHD ERM Committee and the final determination regarding which will be considered Major Risks for the Group is made holistically based on assessments from PHD functions and the assessments of the Operating Companies. The departments responsible for the areas relevant to the selected risks form the core of the teams that draw up and execute plans, monitor the status of countermeasures, and execute initiatives for continuous improvement related to those risks. In addition to Major Risks for the Group, each Operating Company also implements countermeasures against risks that have been selected by that Company in an effort to reduce their impact on management, sales, and the like.

Furthermore, while the level of importance had conventionally been determined based on financial impact and frequency of occurrence, due to the recent more extreme impacts of the pandemic and other disasters, these assessments now also take human lives into account. This selection process also now includes risk assessment items and evaluation standards for risks that can impact society (including risks related to human rights and labor) to be more aligned with calls for greater corporate social responsibility (CSR) as well as societal demands related to SDGs, ESG, and the like. The Panasonic Group is working especially hard on the latter of these in our risk management activities, approaching this as an opportunity for the Group to serve society while simultaneously striving to bolster compliance with laws, regulations, and the like.

The items below have been selected as the Major Risks for the Group for FY2023 and has been drafting and implementing plans for countermeasures against them.

Trade regulation and economic sanctions

Because laws in countries around the world change rapidly, the Group has identified these changes as a Major Risk, and are working to understand as soon as possible what impacts new trade restrictions and sanctions may have on the Group's business. Once we have this understanding, we respond by updating our global policies and guidance as needed and assess whether our goods or technologies are in fields subject to new restrictions. We also work to make this all well-known within the Group, including by sending out information on how to avoid transactional risks, for the development of our employees both in Japan and abroad.

Fewer airlines and ships and higher fares

Recently, in addition to the higher prices of raw materials and fuel, there have also been other ongoing issues including increased prices on container shipping and driver shortages both in Japan and elsewhere. The Group is working to decrease the overall number of containers we use through more efficient loading, using multiple maritime shipping routes, and securing container space for the mid to long term.

Cyberattacks

In the interest of achieving a more advanced level of information security, the Group is further expanding our abnormality monitoring to include not only the Group within Japan but also to networks, servers, computers, and other equipment for subsidiaries outside of Japan, and we are also working toward strengthening our global, centralized security monitoring system.

Antimonopoly Act violations/Any bribery involving government officials

Due to a high level of risk in the unlikely event that this situation occurs, we will continue to approach this as a Major Risk and we have thorough countermeasures in place. The Panasonic Group Code of Ethics & Compliance stipulates that Panasonic must conduct business fairly as a public entity and states clearly that we must adhere to both laws and our corporate ethics, and we make comprehensive efforts to ensure that this basic stance of the Group is shared with and carefully observed by all executives and employees. We are also working to ensure thorough compliance based on our global regulations. Panasonic implements compliance programs throughout the year to enable employees to address each risk item in an effort to enhance awareness of ethical and legal compliance issues among employees.

Any wrongdoing and/or scandals involving suppliers and/or outsourcing contractors

The Panasonic Group makes purchases from roughly 13,000 suppliers globally. In recent years, the calls for social responsibility on the part of corporations with regard to their supply chains have grown stronger with each passing day, and this trend can also be seen in legal regulations with new regulations being drafted and going into effect. The Panasonic Group's countermeasures are informed by this perspective and place a special focus on information security, product security, environmental protections, and compliance related to human rights.

The initiatives described above are aimed at reducing losses and threats to operation, but since October of last year, we have also been treating uncertain matters that may at some point present opportunities or pose threats to the achievement of our business objectives as "strategic

Sustainability Data Book 2022

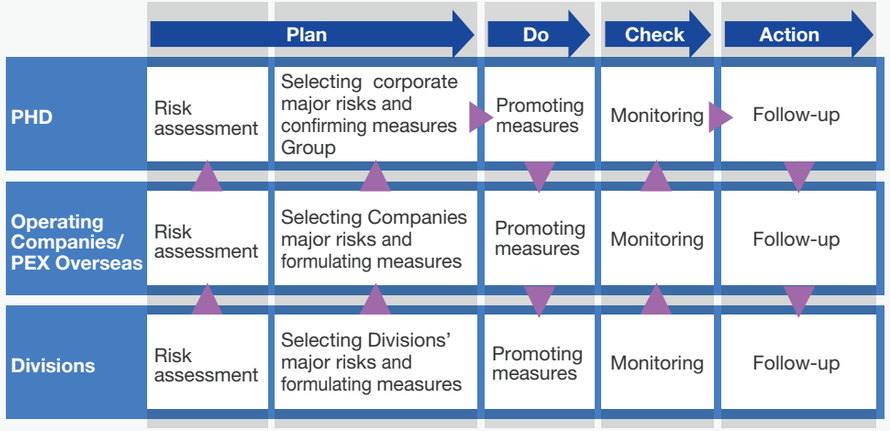
Risk Management

risks" and have integrated them into the risk management activities we undertake when establishing operational or business strategy and decision-making. Our objective is to elevate the quality of the Group's planning and decision-making related to operations and business strategy by both promoting the taking of appropriate risks based on the severity of the risk, and revising the countermeasures against risks at the appropriate times.

We have designated climate change response and geopolitical risks as the most critical strategic risks for fiscal 2023. With regard to climate change response in particular, we are working to focus on the introduction and expansion of environmental regulations and policies, making the most of the opportunities born of changes in demand for certain products and services as global warming progresses and the growing awareness of environmental issues while simultaneously reducing losses by bolstering our responses to these issues as threats.

With the development of circular economies due to shortages and restrictions on resources, we are seeking to expand our opportunities for improving corporate value through our proactive use of renewable energy, while at the same time anticipating greater demand for low-carbon products that use circulative resources. Meanwhile, there is also the possibility that higher production costs and production delays will become frequent or constant due to the increased costs and short supply of circulative resources (recycled materials and raw materials to be recycled). The Panasonic Group is aiming to expand our business by responding appropriately to both the opportunities and threats presented by the situation.

Basic Framework for Risk Management



FY2023 Group Major Risks

Operational Risks

- Earthquakes, tsunamis
- Floods and landslide disasters
- Trade regulations/Economic sanctions
- Fewer airlines and ships and higher fares
- Antimonopoly Act violations
- Any bribery involving government officials
- Cyberattacks
- Any wrongdoing and/or scandals involving suppliers and/or outsourcing contractors (Information leakage, product security, environmental protections, human right compliance)

Strategic Risks

- Climate change response
- Geopolitical risks

Training

The Panasonic Group has also established the Panasonic Group Operational Rules for Risk Management ("Operational Rules"), which are subordinate to the Basic Rules and define the standard procedures for the Group with regard to driving risk management. The Group aims to achieve centralized, sophisticated risk management by defining concrete procedures for identifying and assessing risks and selecting Major Risks, drafting and implementing measures in response, and monitoring processes. During the initial phase of risk assessment, the Group hold briefings on guidelines for those responsible for or involved in risk management at each Operating Company and work to improve their skills in the interest of executing risk management even more effectively while at the same time informing them of points for improvement in management processes.

In addition to the above, in Japan, new employees, new executives from subsidiaries outside Japan, and employees who will be dispatched to locations outside of Japan undergo training on the fundamentals of risk management and how to respond to risks in an effort to improve their ability to respond to risks when working outside of Japan.

In addition to the above, new employees, newly assigned CEOs at subsidiaries outside Japan, and those staff who are going to be assigned to overseas locations, will undergo training in Japan on the fundamentals of risk management and how to respond to risks in an effort to improve their ability to respond to risks when working outside of Japan.

Reporting/whistleblowing mechanism (external and internal)

The Panasonic Group also maintains a global hotline for reporting issues related to compliance violations, any type of harassment, procurement, and the like as a means for employees to report hidden risks. For more details, refer to the Fair Operating Practices section P121).

Risk Management

Policies on BCM and BCP

Since 2005, Panasonic Group has been keenly aware of the necessity of activities relating to business continuity—one of the company's duties to society. The company thus engages in business continuity management (BCM), the goal of which is to prevent stoppages of the provision of products or services when contingencies such as disasters occur, or, in the rare event that these have been stopped, to restart operations as quickly as possible. Specifically, if disasters or other incidents were to occur within our supply chain, they would impact the production or sales of our Group Companies. In the case of B-to-B operations, this impact would also affect the production and sales of companies to which we deliver. Therefore, Panasonic Group believes it is critical that our BCM includes not only our Group Companies but our supply chain as well.

Major Efforts

The Panasonic Group has established Corporate Emergency Management Rules wherein we define policies for emergency response, the organizations that should respond, initial response, reporting routes, and the like. We have established the Guidelines on Business Continuity Management (The Guidelines) and have formulated BCPs for each business site. The Guidelines rest on the three pillars: Business Continuity Management Policies (business covered by BCM and business recovery steps), Emergency Responses (initial responses and recovery responses), and Disaster Prevention & Mitigation Responses. We have established a BCM (Business Continuity Management) development guideline and established BCP for each business unit. Based on these BCM Guidelines, each business site reassesses BCPs as needed and works to bolster its resiliency. We also work to strengthen BCPs across the entire Group by creating BCP guidelines for each function based on the Guidelines for matters like supply chains, logistics networks, and IT security through their respective functions (procurement, logistics, IT, etc.). In particular, we have conducted a hazard survey about various risks posed by natural disasters such as earthquakes, floods, tropical depressions, tsunamis, naturally occurring fires, landslides, tornadoes, and volcanic eruptions. We have also shared these findings with each of the Operating Companies and have put priority measures in place, both within our own Group and in our supply chain. Disaster and Accident Countermeasure Committee has also been created for the Group as a whole has to help both bolster our readiness before contingencies arise, and transition rapidly to emergency response systems when some contingency does arise. The Disaster and Accident Countermeasure Committee has subcommittees for earthquakes, tsunamis, and floods that work to strengthen the specific response to each particular disaster type. In particular, given the strain that has been placed on the power supply by disasters in the past, we have incorporated emergency power supply equipment into BCPs to ensure business continuity. The Group also runs our Corporate Emergency Headquarters drill based on disaster scenarios every year, and in January of 2022 we conducted a Group-wide disaster drill, which was our Corporate Emergency Headquarters drill based on a scenario in which there is an earthquake in the Nankai Trough. Since the spread of coronavirus infections in particular, we have been promoting remote work to prevent infections among employees, so we also rehearsed using remote meetings during the drill for FY2022, based on the assumption that many employees may be working from home when disaster strikes. Coordinating with local municipalities, group companies and business divisions conduct annual disaster preparedness and emergency evacuation training drills at each business site as needed.

We also actively work to both prevent incidents and prepare for emergencies when it comes to fires as well, based on the Global Fire Prevention Rules, which govern fire risk assessments, fire prevention and fire extinguishing equipment, fire brigades and firefighting, recurrence prevention, autonomous inspections, fire prevention drills, awareness raising, auditing, and more.

COVID-19 Response

When the World Health Organization (WHO) declared COVID-19 a public health emergency on January 31, 2020, the Panasonic Group created a Group-wide Emergency Response Headquarters. We have assembled a team of individuals with job functions primarily in management, procurement, PR, and the like, and are working hard to ensure that our business can continue safely through the application of the team's specialized knowledge to different issues involved. We have also set up a response headquarters at each Operating Company engaged in business to work together in cooperation with the Group-wide Emergency Response Headquarters in addressing issues. Even now that the initial response period is behind us, in the interest of both maintaining the health of our employees and business continuity, we are undertaking a variety of measures based on infection conditions in Japan and elsewhere and the guidelines issued by each country's government, including providing detailed updates and communication to the Group.

We have also had a workplace vaccination program in operation since June 2021 in Japan, not only to ensure the safety and peace of mind of employees within the Group and maintain the systems that allow us to operate our businesses safely, but also to accelerate the rate of vaccination within Japan overall as part of our social responsibility to prevent the spread of infection. As of August 2022, we have rolled out three rounds of workplace vaccinations and will continue to respond going forward based on infection conditions and government guidelines.

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Management System

As our business expands globally, the frequency of improprieties increases, due not only to deliberately dishonest and criminal acts but also to a lack of corporate awareness and understanding. Employees doing business in countries and regions with fragile legal systems must constantly exercise a high degree of awareness of fair operating norms.

To promote fair business practices in the countries and regions in which we do business around the world, we apply the Panasonic Group Code of Ethics & Compliance (Code of Ethics & Compliance) globally. The Code of Ethics & Compliance has been established and is updated by the Group's board of directors. Its application is carried out through global cooperation among legal departments, officers responsible for the observance of the Code of Ethics & Compliance, managers in charge of export controls, and managers in various functions set up at Operating Companies, as well as business divisions and offices of Panasonic Operational Excellence Co., Ltd. outside of Japan (PEX Overseas).

Panasonic implements compliance programs and training throughout the year to enable employees to address each risk item. We also strive to enhance employees' awareness of ethical and legal compliance issues. Once each year, we review how all our business sites around the world observe and practice the Code of Ethics & Compliance, and the results are included within the scope of Groupwide internal control audits that are conducted by an external auditing firm.

In addition, we have established hotlines for whistle-blowers at our domestic and foreign business sites, as well as for our business partners, to prevent misconduct and to take immediate corrective action. For sites deemed to have a high risk of bribery or corruption, the responsible Headquarters division conducts compliance audits to quickly identify these risks and prevent their recurrence.

Besides setting initiatives aimed at correcting issues identified at the Operating Company / business site level, we also bring those issues together centrally at Panasonic Holdings Corporation and comprehensively reflect them in Groupwide policies, in consideration of external factors such as social expectations. We repeat this process regularly in the pursuit of continuous improvement. We currently carry

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out activities on the key themes of “implementing risk mitigation measures for potential violations to competition law” and “implementing risk mitigation measures targeting bribery and corruption.”

Policy

On October 1, 2021, we made major changes to the Basic Business Philosophy of the Panasonic Group, our guiding principles for how we devote ourselves to the progress and development of society and the well-being of people through our business activities. Enhancing the quality of life throughout the world is our main purpose in business as the Panasonic Group, in step with our transition to a new Operating Company system that takes into consideration current social conditions and business environments. On April 1, 2022, after revisiting the purpose and positioning of the Panasonic Code of Conduct in the context of the environment both within the Group and outside it, and after revising our Basic Business Philosophy, we arrived at a new version of our code of conduct, now titled the Panasonic Group Code of Ethics & Compliance (Code of Ethics & Compliance). This code encapsulates our revised Basic Business Philosophy and defines the commitments to be fulfilled by each company within the Panasonic Group and by every employee in the Panasonic Group as they carry out the business of the Group.

WEB Panasonic Group Code of Ethics & Compliance
https://holdings.panasonic/global/corporate/about/code-of-conduct.html

Communication

Panasonic Group aims to make compliance the norm at all business sites globally, through the legal departments and the Officer Responsible for Observance of the Code of Ethics & Compliance. Based on the idea that compliance awareness from top executives is of the utmost importance, we aim to disseminate compliance knowledge across our business sites around the world, through legal departments, export control managers, and managers in various job functions set up at Operating Companies, as well as within certain business divisions and at PEX Overseas. Specifically, we use the Global Legal and Compliance Meeting and Direct Report Meetings, in which legal managers of Operating Companies and PEX Overseas participate, to share annual compliance policies, and we carry out various programs addressing compliance throughout the year. (For further details, refer to Training). We also contact and notify the individuals responsible for legal affairs at our Operating Companies and other relevant organizations whenever there are changes to laws, governmental or ministerial ordinances, or notices from authorities that have any effect on our business.

Training

Panasonic provides training for new hires and newly promoted employees, as needed, through a variety of educational materials, including e-Learning, on the Code of Ethics & Compliance that all employees are required to follow, as well as on other compliance-related materials throughout the year.

Each Operating Company also provides training on industry-specific compliance and risks associated with its business areas to targeted audiences.

The Panasonic Group carries out programs throughout the year, aiming to instill a global awareness of ethical and legal compliance while also boosting its ability to respond to risks. In recent years, as our business environment and practices have evolved, we have strengthened efforts to accurately identify changes in risks within specific business areas, divisions, countries, and regions, as well as to identify early signs of misconduct and legal violations.

Furthermore, senior management, including the President, Operating Companies’ Presidents, division managers, and PEX Overseas managers, clearly express the Group’s policies and stances on ethical and legal compliance as they strive to fully communicate the importance of compliance to all our business sites.

Responsible Executive and Framework

Panasonic Group’s General Counsel (GC), an Executive Officer, is responsible for group compliance (as of August 2022).

To ensure compliance at business-site levels throughout the world, we maintain legal departments and appoint an Officer Responsible for Observance of the Code of Ethics & Compliance, as well as export control managers and other individuals responsible for supervising various other functions in our Operating Companies, business divisions and PEX Overseas.

Information on initiatives for preventing major risks, like bribery and corruption, and matters to be investigated will be reported to the Board of Directors and be overseen by the same.

Whistle-blowing System

Panasonic Group has established a global hotline, a Groupwide integrated reporting mechanism that accepts reports from domestic and overseas sites and from business partners for the purposes of preventing misconduct and facilitating rapid resolutions. This is included in the Code of Ethics & Compliance, along with the responsibility for reporting, so all employees are aware of it. We also have an Equal Employment Opportunity Office in Japan that can consult on fair treatment in the workplace, sexual harassment, and power harassment, as well as an Auditor Reporting System for assessing the legality of the execution of duties as well as investigating fraud perpetrated by directors and executive officers.

The Code of Ethics & Compliance stipulates that “Panasonic

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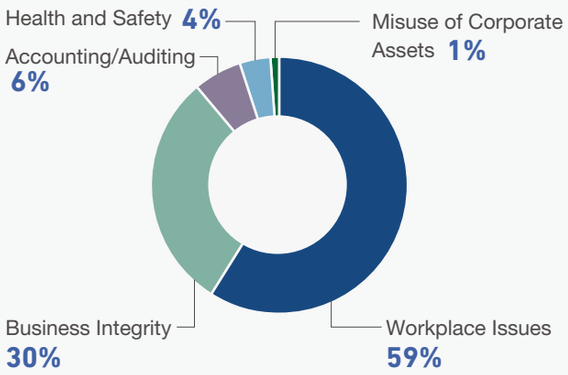
does not tolerate any retaliation or other action that discriminates against or disadvantages anyone who acts in good faith to raise a compliance concern." Retaliation against whistle-blowers is strictly forbidden, and their confidentiality is assured through anonymous reporting.

Panasonic Group has adopted internal regulations: Internal Reporting and Investigation Rules, and Rules on the Prohibition of Retaliatory Behavior Against Whistle-blowers and Others. The former establishes systems for reporting and whistle-blowing related to compliance issues and investigations, as well as processes for correcting violations and reporting to top management, so that we can uncover issues and correct them faster. The latter prohibits retaliation against internal / external whistle-blowers, employees, those participating in the investigation, and the investigation team; it clarifies the protections in place for whistle-blowers and similar parties stipulated by the Code of Ethics & Compliance; and it is intended to ensure that the internal whistle-blowing system is legitimately managed.

However, these reports and complaints need not necessarily be made through these methods, and the establishment of the hotline and contact points outlined above will in no way hinder the use of other mechanisms for making reports, complaints, or the like.

In FY2022, we received approximately 640 reports and requests for consultation, with 80% of those coming through the abovementioned global hotline. Of all the reports and requests received, roughly 60% were related to issues in workplaces (refer to the chart below). Of all the reports and requests received in FY2022, approximately 25% were substantiated (excludes anything still under investigation as of May 31, 2022). These systems respond to all reports and consultations received through the global hotline by investigating and verifying facts with the cooperation of the relevant divisions.

Content (FY2022)



Business Integrity includes concerns related to violation of internal regulations, Conflict of Interest, Bribery, Violation of Laws, Vendor/ Customer issues, Fraud, etc.

Performance Evaluation

To monitor our employees' understanding of compliance policies, the effectiveness of measures, and the degree of adherence, we conduct checks annually on the status of observance and practices of the Code of Ethics & Compliance at all our business sites around the world.

More specifically, at each Group Company, an executive officer is appointed to ensure observance of the Code of Ethics & Compliance. Education and training are conducted regarding the Code; written pledges regarding the observance of the Code are obtained; and checks are made regarding the status of these items. The results of these audits are also subject to audits by an outside auditing authority as part of Groupwide monitoring.

Serious Violations and Corrective Measures

*Updated in March 2023.

The former Panasonic Corporation and its US subsidiary, Panasonic Avionics Corporation (PAC), were the subjects of an audit by the US Securities & Exchange Commission (SEC) and the US Department of Justice (DOJ; collectively, "US authorities") in connection with the Foreign Corrupt Practices Act and other US securities-related laws. The US authorities investigated PAC's actions related to specific transactions with airlines and its appointment of agents and consultants for these transactions. In May 2018, after negotiating with the US authorities, we agreed to pay a fine, since paid. A deferred prosecution agreement with US authorities ended in September 2021, and the charge was dismissed in March 2022.

Over the past three years, the Group has had no violations that have resulted in the payment of fines or in disciplinary actions against employees.

We confirmed suspicions that our group subsidiaries—Panasonic Environmental Systems & Engineering Co., Ltd., and Panasonic Consumer Marketing Co., Ltd.—had improperly obtained construction managing engineer and other qualifications in September 2020 and November 2020, respectively. In response, we established third-party committees consisting of outside experts as well as these two companies and the former Panasonic Corporation to investigate all 43 Group companies with construction business licenses. The investigations found that over 500 employees groupwide had fraudulently or improperly obtained construction managing engineer or Certificate of Qualification for Managing Engineer. The primary causes were inadequacies in the system for checking the work experience certificates the Company issued for employees to acquire qualifications and the lack of a groupwide construction business management system. As a result, in October 2021, we established a construction business management division for each Operating Company, the Construction Management Office responsible for the entire Group's governance in this field, and internal rules to bolster our controls. Under these systems, we have established strict rules for evidence-based

work experience certification and a double-checking system to prevent the recurrence of similar situations. We have since had third-party committees conduct quality inspections for the properties where unqualified personnel were involved, confirming that no unsafe construction practices were used.

If Panasonic becomes aware of any serious violation of laws or corporate regulations, we will cease the violation immediately and, after sufficiently investigating facts and causes, consider countermeasures. We report on such matters to the Board of Directors as necessary and consider countermeasures of the violation swiftly and across the entire Group.

Compliance Programs

Panasonic Group is carrying out Groupwide compliance programs that implement measures for mitigating risks such as competition law violations, bribery, and corruption. In fiscal 2022, we put forward the following initiatives to strengthen our compliance infrastructure worldwide:

- Executive-level participation: The management team, consisting of the President, Operating Company Presidents, regional directors, and the General Counsel, issued compliance memoranda to all employees and discussed compliance at Board of Directors' meetings and other executive conferences.
- Compliance awareness and culture: To deepen our employees' understanding of fields of which they must be aware for the sake of compliance in doing business, we have created and globally distributed mangas on compliance that use examples from daily life to make compliance easier to understand. In fiscal 2022, we created a manga on quality compliance and shared it with all relevant divisions. We also included questions about compliance in the Awareness Survey distributed to all employees worldwide. In FY2022, we received approximately 150,000 survey responses.
- Training and awareness: Panasonic offered Group-wide e-Learning on compliance worldwide.
  FY2020: "Panasonic's Code of Conduct" – approximately 140,000 in attendance
  FY2021: "Conflict of Interests," "Accounting Wrongdoing" – approximately 140,000 in attendance
  FY2022: "Economic Sanctions Law," "Data Privacy" – approximately 130,000 in attendance
  We also publish a quarterly compliance newsletter for the heads of each business division.
- Establishing a new global hotline: As described in the Whistle-blowing Systems section above, we immediately conduct internal investigations when potential violations are identified through hotline reporting, audits, and the like. After confirming the facts surrounding illegal activities through these internal investigations, Panasonic immediately addresses the violations while analyzing their root causes, implementing measures to prevent recurrences, and taking disciplinary actions against relevant parties.
- Strengthening our investigational function: On July 1, 2019, we updated our Group-wide whistle-blowing and investigation systems with new global policies: Internal Reporting and Investigation Rules, and Rules on Prohibition of Retaliatory Behavior. (For details, see the chapter on Whistle-blowing Systems.)

Preventing Cartels

Panasonic Group takes extremely seriously the fact that our company has been implicated in multiple international cartel incidents.

We are working to prevent any further association with cartelization activities. We take thorough and detailed care to prevent any such involvement, as it would have a variety of negative impacts on our business. If Panasonic were to become involved in the creation of a cartel, we would not only lose the trust of our customers but also be required to pay huge amounts of penalties and compensation for damages, and we could lose our designation in public procurement.

Basic Policies

We have established the following basic policies to prevent cartels, collusive bidding, and other such violations:

- Contact with competitors is allowed only in cases in which it is absolutely necessary, and it is subject to prior approval.
- Agreements and exchanges of information with competitors regarding prices, quantities, and other competition-related matters are strictly prohibited.
- Anyone who encounters behaviors that may give rise to suspicions of cartels must make an objection, leave the room, and file an internal report.
- We have established a whistle-blowing system and an internal leniency system to improve our ability to self-regulate and conduct appropriate monitoring based on risk assessment, thereby maintaining an effective anti-cartel system.

Rules Concerning Activity and Relationship with Competitors

In 2008, we established the Rules Concerning Activity and Relationship with Competitors, which apply to all Group employees, for the purpose of preventing behaviors that could lead to cartels or bid rigging, or raise suspicion of such activities.

These rules include items such as the following:

- Prohibition of agreements or exchanges of information regarding product pricing, quantities, performance, or specifications that may raise suspicions of cartels or bid rigging
- Prior approval system under which contact with competitors requires the prior approval of the head of the business group and the person in charge of legal affairs
- Responses to inappropriate activities
- Duty of reporting possible violations
- Measures taken in response to violations
- Internal leniency system

Preventing Bribery and Corruption

In addition to preventing the bribery of public officials, Panasonic Group, through stipulations in the Code of Ethics & Compliance, has prohibited offering benefits of any kind—regardless of whether they occur as entertainment, gifts, or in any other form—or receiving any personal benefits in any situation in which these would be in violation of laws or social ethics. To more thoroughly prevent bribery and corruption worldwide in a manner appropriate for today's reality, on July 1, 2019, Panasonic adopted the following four global regulations that now apply to all Panasonic Group employees and executives.

Global Anti-Bribery / Anti-Corruption Policy

Adopted to effectively prevent, discover, investigate, and correct acts of actual corruption or acts deemed to be corrupt with regard to the bribery of public officials and corruption related to business partners.

Specifically, the Policy defines and prohibits facilitation payments and acts considered to be bribery or corruption in connection with political contributions, donations, or sponsorships; lobbying; hiring and recruitment; and mergers, acquisitions, and joint ventures. The Policy also specifies procedures for preventing bribery and corruption.

Rules on Third-Party Intermediary Risk Management for Anti-Bribery / Anti-Corruption

These rules are meant to mitigate the risks of bribery and other forms of corruption regarding sales intermediaries or administrative service providers, and to prevent, discover, investigate, and correct actual or potential problems related to these risks. They define the basic rules for screening these business partners.

Rules on Gifts and Hospitality for Anti-Bribery / Anti-Corruption

These rules describe prohibited conduct and specific procedures to prevent the risks of bribery and corruption. These risks involve the provision or receipt of gifts or entertainment, including meals, hospitality, and travel costs, in relation to public officials or business partners.

Rules on Conflicts of Interest

Any situation in which directors' or employees' personal interests or outside activities interfere or appear to interfere, directly or indirectly, with the interests of Panasonic Group, or influence or appear to influence, in any way, the directors' or employees' business decisions, actions, objectivity, loyalty, or ability to perform their jobs are defined as "conflicts of interest" in these rules. In addition to the rules regarding prevention, identification, management, and correction, the rules also offer specific examples of actual or potential conduct that may create conflicts of interest.

We have also introduced processes for reviewing new risks and for discovering bribery and corruption risks before transactions take place when starting or renewing dealings with sales intermediaries or administrative service providers. To ensure full compliance with these new global regulations on bribery and corruption prevention, Panasonic will continue our efforts to raise awareness and promote these regulations Corporatewide.

A Clean Procurement Declaration was also released in 2004 in procurement divisions. Its aim is to build healthy relationships with business partners to make sure transactions are fair. Panasonic then conducts its procurement following its Declaration. For more details, refer to the section "Responsible Procurement" (P88).

Panasonic Group has established the "Guidelines for Anti-Bribery and Anti-Corruption (For Business Partners)" that Panasonic Group's business partners are required to follow, with regard to compliance with anti-corruption laws, which prevent bribery, corruption, or other improprieties in connection with Panasonic Group business.

For Business Partners <Regarding Anti-Bribery and Anti-Corruption>

Panasonic Group is committed to preventing bribery and corruption in its global operations. (For details, refer to "Preventing Bribery and Corruption" above.)

Panasonic Group has established the "Guidelines for Anti-Bribery and Anti-Corruption (For Business Partners)," which explain Panasonic Group's expectation that business partners will comply with all anti-corruption laws and will not engage in bribery, corruption, or other improprieties in connection with Panasonic Group's business.

The cooperation of Panasonic Group's business partners is essential to the success of Panasonic's compliance with anti-corruption laws. We ask that all our business partners take the time to thoroughly understand these Guidelines and put them into practice.

PDF **"Guidelines for Anti-Bribery and Anti-Corruption (For Business Partners)" – JAPANESE (PDF file)**
https://holdings.panasonic/jp/corporate/sustainability/pdf/Guideline%20of%20Anti-bribery%20and%20Anti-Corruption_jp.pdf

PDF **"Guidelines for Anti-Bribery and Anti-Corruption (For Business Partners)" – ENGLISH (PDF file)**
https://holdings.panasonic/jp/corporate/sustainability/pdf/Guideline%20of%20Anti-bribery%20and%20Anti-Corruption_en.pdf

PDF **"Guidelines for Anti-Bribery and Anti-Corruption (For Business Partners)" – CHINESE (PDF file)**
https://holdings.panasonic/jp/corporate/sustainability/pdf/Guideline%20of%20Anti-bribery%20and%20Anti-Corruption_cn.pdf

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Compliance Risk Assessments

The Panasonic Group annually selects business sites for compliance audits based on bribery and corruption risks. For any business sites we anticipate having higher risks, such as those doing business in countries or regions where the Corruption Perceptions Index is low, our Compliance Auditing divisions conduct audits on a rotating basis.

Ensuring Transparency of Political Contribution Funds

Panasonic Group makes political donations as a part of its corporate social responsibilities. It abides by the Japan Business Federation's policy which states that: "Costs commensurate with the task are essential to properly maintaining democratic politics. Political donations by companies are a crucial part of companies' social responsibilities."

When making donations, we comply with the Political Funds Control Act and all other relevant legislation, as well as strict internal rules including the abovementioned global Corporate-wide rules for preventing bribery and corruption and prohibits any conduct that could lead to suspicion of bribery on the part of public employees or that amount to corrupt practices. We also have regulations in place concerning political contributions, including the reporting and confirming by multiple responsible executives, such as the executive officers in charge of Government and External Relations, Accounting, and HR & GA, and obtaining agreement and approval.

In Japan, the legal duty of disclosing political fund income and expenditures falls on political groups.

Their reports are publicly available on the following portal site of the Ministry of Internal Affairs and Communications. *Japanese only

WEB https://www.soumu.go.jp/senkyo/seiji_s/seijishikin/

(Previous Panasonic Corporation is mentioned on page 36, third row from the bottom)
PDF https://www.soumu.go.jp/senkyo/seiji_s/seijishikin/contents/SS20211126/00621019.pdf

Trade Compliance

The Panasonic Group has Logistics Operating Standards and Customs Law Compliance Standards that apply to the entire Group, in which we set standards meant to help us maintain and improve corporate value through the fulfilment of our social responsibility by respecting and following not only laws but also business ethics in our execution of logistics work. We also have Rules on Global Trade Restrictions & Sanction Law Compliance to ensure compliance with each country's import and trade-related regulations, including security export controls and sanctions laws in commercial fields that change day to day and minute to minute.

In Japan, the Authorized Economic Operator (AEO) system provides simpler, expedited customs procedures for business operators that have established cargo security management and legal compliance frameworks. Panasonic Operational Excellence Co., Ltd. has received customs administration certification as "specified exporters" in the AEO system. We strive to ensure the safety of our international logistics by selecting companies that provide physical, personnel, and information security, not only for our own operations but also for those of our contractors.

At a global level, we promote our participation in authorized economic operator (AEO) frameworks in all regions. For instance, our US subsidiary Panasonic North America (PNA) takes part in the Customs-Trade Partnership Against Terrorism (C-TPAT), while we actively promote participation in the AEO framework in China.

Tax Policy *added in December 2022

The Group contributes to the development of society and the resolution of issues through its business activities by paying its fair share of taxes in communities where we operate and in accordance with the tax laws of each country and other tax guidelines published by international organizations such as the OECD. See below for details.

WEB **Panasonic Group Tax Policy**
http://holdings.panasonic/global/corporate/sustainability/governance/fair-practices/tax-policy

Information Security and Protection of Personal Information

Management System

We, as Panasonic Group, place the utmost importance on protecting the personal information and other information that our customers have entrusted to us. To protect this information, we have created an information security management system to prevent data leaks and data tampering. We have also enacted the Code of Ethics & Compliance alongside our Basic Information Security Policy, management rules, and guidelines. We are working to ensure information security throughout our organization through our implementation of organizational, technical, and physical safety management measures. These measures include accurately recording information; properly managing, using, and disposing of information; and preventing information theft, leakage, and falsification. Panasonic periodically conducts awareness building activities as part of our employee training, and evaluates how it handles information, reviews it, and implements improvement through internal security audits. In the unlikely event that an incident occurs, Panasonic Group has reporting and support systems in place to minimize harm, and it works to uncover the cause of such incidents to prevent their recurrence.

WEB **List of ISO27001 certified division in Panasonic Group in Japan**
https://holdings.panasonic/global/corporate/sustainability/governance/security/iso27001.html

WEB **Panasonic Group Code of Ethics & Compliance**
“Protecting and using our company assets (Information Security)”, “Respecting individuals’ privacy”
https://holdings.panasonic/global/corporate/about/code-of-conduct/

Policy

We recognize that the information and personal information we receive from our customers, business partners, and other stakeholders are significant assets to everyone involved, as well as valuable management resources for Panasonic to earn the trust and satisfaction of our customers with our products and services. Therefore, we believe it vital that we adequately protect and handle this information, and we work to ensure that such protection and handling happens at all levels.

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Information Security and Protection of Personal Information

Responsible Executive and Framework

The executive officer in charge of information security and protection of personal information is Group Chief Information Officer (Group CIO). (as of August 2022).

Panasonic Group has established responsible person in charge of Information security and personal information in Panasonic Holdings Corporation (PHD) and each Operational Company, and each Operational Company promotes Information security initiatives in line with the Basic Information Security Policy, established by PHD.

Training

At Panasonic, we conduct appropriate information management training and targeted attack drills for all employees in order to raise the level of awareness and knowledge on the part of each employee so that they can manage information properly. We provide information security training according to each employee's needs, including training by organizational level (upon beginning employment, when promoted, and so on) and training for those who directly handle personal information and other information with which the company has been entrusted.

FY 2021 company-wide training achievements (in Japan, e-Learning)

- Training content: Appropriate handling of personal information in accordance with the revision to the Act on the Protection of Personal Information (Japan)
- Target trainees: All employees of Panasonic Group subsidiary and affiliated companies (approx. 100,000 persons)

Personal Information Protection and Compliance

In recent years, many countries have enacted or revised personal information protection laws and regulations. We recognize the importance of thorough compliance with personal information protection.

As our IoT business grows, its employees are increasingly likely to handle customer lifelogs and other personal information worldwide. Therefore, Panasonic is striving to improve its data management to provide a higher level of privacy protection.

Additionally, to comply with the EU General Data Protection Regulation (GDPR), and other laws in various countries, we have prepared response manuals and are strengthening our efforts to ensure compliance and accountability to society through employee education and other measures.

Panasonic Group places great importance on the proper protection and handling of stakeholder's (customers, other business partners, etc.) personal information, and will strive to protect personal information, based on the Personal Information Protection Policies enacted at each company, to ensure customer satisfaction and trust regarding our products and services, in line with the Basic Business Philosophy.

Ex.) Panasonic Holdings Corporation

WEB **Panasonic Information Protection Policy**

https://holdings.panasonic/global/privacy-policy.html

Please check the following Panasonic Holdings Corporation site for public information and requests for disclosure of personal information based on the "Personal Information Protection Law". (Japanese only)

WEB https://holdings.panasonic/jp/privacy-policy/public-announcement.html

External Recognition

Evaluation and certification by major certifying organizations

4 indices marked with an asterisk (*) were adopted by the Government Pension Investment Fund (GPIF) to promote ESG investment.

FTSE4Good Index Series

Panasonic Holdings Corporation has again been selected for the FTSE4Good Index Series, one of the world's leading socially responsible investment (SRI) indices. The index was created by FTSE Russell a part of London Stock Exchange Group in 2001, and Panasonic has been included for 22 consecutive years since its launch.

FTSE4Good

FTSE Blossom Japan Index

And Panasonic has become a constituent of the FTSE Blossom Japan Index* since July 2017 when FTSE launched it.

WEB **FTSE website** http://www.ftse.com/products/indices/FTSE4Good

MSCI ESG Indexes

The MSCI ESG Leaders Indexes is one of the world's leading indexes selected by MSCI Inc. of the United States, and Panasonic Group has been a constituent member for 12 consecutive years. In addition to the above, Panasonic Group has been a constituent member of the MSCI Japan ESG Select Leaders Index* since its inception in July 2017.

WEB **MSCI website** https://www.msci.com/esg-indexes

2022 MSCI ESG Leaders Indexes Constituent

2022 CONSTITUENT MSCI JAPAN ESG SELECT LEADERS INDEX

MSCI ESG RATINGS AA

CCC	B	BB	BBB	A	AA	AAA

GPIF S&P/JPX Carbon Efficient Index*

Panasonic Holdings Corporation has been a constituent of S&P/JPX Carbon Efficient Index, one of the environmental stock indices of the world's largest pension fund, the Government Panasonic Group Investment Fund (GPIF) since 2018.

CDP 2021

The results of the iteration of a survey by the U.K.-based non-profit organization CDP (formerly the Carbon Disclosure Project) which evaluates companies around the world in regard to measures against climate change and information disclosure were announced in January 2022. Panasonic Holdings Corporation received the second rating of "A-" out of the eightgrades in recognition of its efforts for climate change such as reducing CO_2 emissions and setting medium- to long-term targets, and its information disclosure.

CDP DISCLOSURE INSIGHT ACTION

EcoVadis

Every year, we receive a rating from EcoVadis, an organization that assesses the sustainability of 75,000 suppliers worldwide on behalf of their client companies.

Sustainability Data Book 2022

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Fiscal 2022 Awards in the Environmental Field

Environmental activities by Panasonic gained recognition again in fiscal 2022, with various awards received globally.

Major Awards and Achievements in the Environmental Field (Fiscal 2022)

Category	Presenter and awards	Award title	Recipient companies and details	URL
Products & Services	Japan: Energy Conservation Center Japan (ECCJ) Energy Conservation Grand Prize 2021	Minister's Prize, the Ministry of Economy, Trade and Industry in the Product Category/ Business Model Category (Household field)	Heating and Cooling Solutions Business Division, Panasonic Corporation An air conditioner with water-free humidification & new nanoe X that is a beautiful skin moisturizing system that stays close to people.	https://news.panasonic.com/jp/topics/204543.html
		ECCJ Chairman's Prize in the Product/Business Model category	Panasonic Ecology Systems Co., Ltd. (Joint award with ICHIJO Co., Ltd.) Heat exchange ventilation system with humidifiers for housing	
	Japan: Japan Electrical Manufacturers' Association (JEMA) The 70h (2021) Electrical Industry Technical Achievement Awards	Home Electrical Appliances category Excellent award	Appliance Company, Panasonic Corporation Air conditioner with double cleaning function that provides clean and healthy air quality	https://holdings.panasonic/jp/corporate/technology/awards/list/2021.html
		Home Electrical Appliances category Incentive award	Panasonic Ecology Systems Co., Ltd. Floor standing heat exchange ventilation system with humidifiers that provides comfort and an energy-saving performance	
		Home Electrical Appliances category Incentive award	Appliance Company, Panasonic Corporation Development of a large smart energy-saving refrigerator that senses the storage volume with its ECONAVI function	
	Japan: Japan Environmental Management Association for Industry (JEMAI) 2021 Resource Recycling Technology and System Awards	Minister's Prize, the Ministry of Economy, Trade and Industry	Kitchen Appliances Business Division, Appliance Company, Panasonic Corporation/Manufacturing Innovation Division, Kato Resin Circulation Factory/ Manufacturing Innovation Division, Panasonic ET Solutions Co., Ltd. Establishing a recycle-oriented supply chain for resins recycled from home appliances	https://news.panasonic.com/jp/topics/204425.html
	Japan: The Nikkan Kogyo Shimbun, Ltd. 50th Japan Industrial Grand Prize	Minister's Prize, the Ministry of Education, Culture, Sports, Science and Technology	Panasonic Corporation Development of high density cellulose fiber composition materials	https://holdings.panasonic/jp/corporate/technology/awards/list/2021.html
	Japan: LCA Society of Japan (JLCA) 17th LCA Society of Japan Awards	Incentive award	Manufacturing Innovation Division, Panasonic Corporation/Panasonic ET Solutions Co., Ltd. (Joint award with other organizations) Development resource efficiency index for circular economy products and services	https://holdings.panasonic/jp/corporate/technology/awards/list/2021.html
	Japan: Japan Gas Association 2022 Technology Award	Grand Prize, Technology Award	Panasonic Corporation "Ene-Farm" Fuel cell Co-generation Systems	https://news.panasonic.com/jp/topics/204565.html
	Japan: Japan Institute of Design Promotion 2021 Good Design Award	Good Design Award, etc. Best100	Panasonic Corporation Pure Hydrogen fuel cell system, Super-fine Mist Spray "Green AC Flex AEGF/ GN series", Outdoor lighting equipment "Smart Archi Broad Washer Series", Weight sensing plate, Rice cooker, Air conditioner, etc.	https://news.panasonic.com/jp/topics/204435.html
Production Activities	Japan: Energy Conservation Center Japan (ECCJ) Energy Conservation Grand Prize 2020	ECCJ Chairman's Prize in the Energy Conservation Best Practices category	Marketing Division, Electric Works Company, Panasonic Corporation/West Japan Division, Panasonic Facilities Co., Ltd. Reduction of energy usage by half in cooperation with building administrators, and response to the need for new energy generation at facilities	https://news.panasonic.com/jp/topics/204543.html
	Japan: Energy Conservation Center Japan (ECCJ) 2021 ECCJ Chairman's Award	Excellent award in the Manufacturing category	Panasonic Corporation Development of eco-conscious low-cost and high-quality small parts installation technologies and skills	https://holdings.panasonic/jp/corporate/technology/awards/list/2021.html
Environmental Communication	Japan: Japan Electrical Manufacturers' Association (JEMA) The 70th (2021) Electrical Industry Technical Achievement Awards	Gold Award in the Magazine Advertisement category	Panasonic Corporation, etc. Panasonic SDGs Series	http://www.bbaa.or.jp/jigyo/sogo/2021sogof.html
	Japan: BtoB Advertising Association Japan The 42nd (2021) Japan BtoB Advertising Awards	Silver Award in the Calendar category	Panasonic Life Solutions Creates Co., Ltd., etc. International Landscape Lighting <CONNECT WITH CITY LIGHTS>	

* Company and organization names are current at the time of awards.

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Independent Assurance Statement by LRQA Limited

LRQA Independent Assurance Statement

Relating to Panasonic Group's Environmental Data within its Sustainability Data Book 2022 for the fiscal year 2022

This Assurance Statement has been prepared for Panasonic Holdings Corporation in accordance with our contract.

Terms of Engagement

LRQA Limited ("LRQA") was commissioned by Panasonic Holdings Corporation ("the Company") to provide independent assurance on its environmental data within its Sustainability Data Book 2022 ("the report") for the fiscal year 2022 (from 1 April 2021 to 31 March 2022) against the assurance criteria below to a limited level of assurance and materiality of the professional judgement of the verifier using ISAE 3000 (Revised) and ISO 14064-3:2019 for greenhouse gas (GHG) emissions.

Our assurance engagement covered 238 manufacturing sites in the Company and its consolidated subsidiaries located in Japan and overseas, and specifically the following requirements:

- Verifying conformance with the Company's reporting methodologies for the selected datasets:
- Evaluating the accuracy and reliability of data for only the selected indicators listed below: [1] [2]
  - Energy-oriented CO_2 emissions in Production activities (tCO_2) and Basic Unit ($10ktCO_2e$ /10bil-Yen)
  - GHG emissions other than CO_2 from energy use in Production Activities (tCO_2e)
  - Scope 1 GHG emissions in Production activities (including the breakdown of the GHGs) (tCO_2e)
  - Scope 2 GHG emissions in Production activities (including the breakdown of the GHGs) (tCO_2e)
  - CO_2 emissions for logistics (tCO_2e) [3]
  - Scope 3 GHG emissions Category.11 (Use of sold products) (tCO_2e) [3]
  - Amount of renewable energy consumption (GWh) [4]
  - Energy consumption in Production activity (GWh)
  - Amount of Total Wastes and revenue-generating waste (Tonnes)
  - Water consumption in Production activities (m^3)
  - Release / Transfer of Substances Requiring Management (Total) (Tonnes) [5]
  - Amount of energy used (Products and Services) (GWh)
  - Amount of energy created (Products and Services) (GWh)
  - Zeroization of CO_2 emissions (7 sites and 9 plants) [6]

LRQA's responsibility is only to the Company. LRQA disclaims any liability or responsibility to others as explained in the end footnote. The Company's responsibility is for collecting, aggregating, analysing and presenting all the data and information within the report and for maintaining effective internal controls over the systems from which the report is derived. Ultimately, the report has been approved by, and remains the responsibility of the Company.

[1] LRQA undertook a limited assurance engagement of the environmental data marked with "√" within Sustainability Data Book 2022.
[2] GHG quantification is subject to inherent uncertainty.
[3] Only the logistics in Japan is covered. However, some data that could not be collected due to operate in a separate operation system are excluded from the scope.
[4] These are the results for the entire Panasonic Group, including non-manufacturing sites.
[5] Some consolidated subsidiaries that don't have data collection and aggregation systems in place are not in the scope.
[6] The scope is 9 plants at 7 location which are PANASONIC ECO TECHNOLOGY CENTER CO.,LTD.(PETEC), PANASONIC DO BRASIL LTD.(PANABRAS)(includes 3 factories (San Jose, Extrema, Manaus)), PANASONIC CENTROAMERICANA S.A.(PCA), PANASONIC ENERGY (WUXI) CO.,LTD.(PECW), SANYO ENERGY(SUZHOU)CO.,LTD.(SEC(SUZ)), PANASONIC MANUFACTURING(BEIJING) CO.,LTD.(PMFBJ), and PANASONIC ENERGY (THAILAND) CO.,LTD.(PECTH).

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LRQA's Opinion
Based on LRQA's approach nothing has come to our attention that would cause us to believe that the Company has not, in all material respects:

- Met the requirements of the criteria listed above
- Disclosed accurate and reliable environmental data

The opinion expressed is formed on the basis of a limited level of assurance[7] and at the materiality of the professional judgement of the verifier.

LRQA's Approach
LRQA's assurance engagements are carried out in accordance with ISAE 3000 (Revised) and ISO 14064-3:2019 for GHG emissions. The following tasks were undertaken as part of the evidence gathering process for this assurance engagement:

- Auditing the Company's data management systems to confirm that there were no significant errors, omissions or misstatements in the report. We did this by reviewing the effectiveness of data handling procedures, instructions and systems, including those for internal verification.
- Interviewing with those key people responsible for compiling the data and drafting the report.
- Sampling datasets and traced activity data back to aggregated levels;
- Verifying the historical environmental data and records for the fiscal year 2022; and
- Visiting Panasonic Eco Systems to confirm the data collection processes, record management practices, and to physically check the main facilities in the scope of the site.
- Visited Panasonic Eco Systems Co., Ltd. to confirm the data collection processes, record management practices, and to physically check their facilities.
- By implementing the Company's "No Visitor" Policy due to the global infection spread of COVID-19, conducting the remote verification to Panasonic Energy (Wuxi) Co., Ltd. and Panasonic Motor (Zhuhai) Co., Ltd. for confirming the effectiveness of its data management systems via emails and Microsoft Teams.
- In order to achieve practically zero CO_2 emissions, verified that each site has achieved full renewable energy use through the use of renewable energy contracts or non-fossil certificates for electricity, and each site has achieved carbon neutrality by using available carbon credits for carbon offset.[8]

Observations
Further observations, made during the assurance engagement, is:
It is recommended the Company will continue to maintain the high-level data management systems and discover further improvement opportunities proactively to ensure accurate aggregation and calculation of environmental data.

LRQA's Standards, Competence and Independence
LRQA implements and maintains a comprehensive management system that meets accreditation requirements for ISO 14065 *Greenhouse gases – Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition* and ISO/IEC 17021-1 *Conformity assessment – Requirements for bodies providing audit and certification of management systems – Part1: Requirements* that are at least as demanding as the requirements of the International Standard on Quality Control 1 and comply with the *Code of Ethics for Professional Accountants* issued by the International Ethics Standards Board for Accountants.

[7] The extent of evidence-gathering for a limited assurance engagement is less than for a reasonable assurance engagement. Limited assurance engagements focus on aggregated data rather than physically checking source data at sites. Consequently, the level of assurance obtained in a limited assurance engagement is lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.
[8] The Company's total GHG emissions are offset by the carbon credit. While LRQA confirmed that these offset credits have been obtained by the Company and offset appropriately, but LRQA has not taken any action against the provider of these carbon credits and expresses no opinion as to whether the offset credits will result in a reduction in CO_2.

LRQA ensures the selection of appropriately qualified individuals based on their qualifications, training and experience. The outcome of all verification and certification assessments is then internally reviewed by senior management to ensure that the approach applied is rigorous and transparent.

LRQA is the Company's certification body for ISO 9001, ISO14001, IATF16949 and AS9100. These certification services do not compromise LRQA's independence or impartiality with respect to the assurance services that LRQA provides to the Company.

Signed Dated: 11 July 2022

Norihiko Kinoshita
LRQA Lead Verifier
On behalf of LRQA Limited
10th Floor, Queen's Tower A, 2-3-1 Minatomirai, Nishi-ku, Yokohama, JAPAN

LRQA reference: YKA00001034

Sustainability Data Book 2022

GRI Standard Contents Index

Our website refers to the Global Reporting Initiative (GRI) Standards: Core option.

Disclosure Number	Title	Disclosure Title
General Standard Disclosures		
Organizational profile		
102-1	Name of the organization	Corporate Profile WEB https://holdings.panasonic/global/corporate/about/group-companies/phd.html
102-2	Activities, brands, products, and services	Corporate Profile WEB https://holdings.panasonic/global/corporate/about/group-companies/phd.html
102-3	Location of headquarters	Corporate Profile WEB https://holdings.panasonic/global/corporate/about/group-companies/phd.html
102-4	Location of operations	Affiliates WEB https://holdings.panasonic/global/corporate/about/group-companies.html
102-5	Ownership and legal form	Corporate Profile WEB https://holdings.panasonic/global/corporate/about/group-companies/phd.html
102-6	Markets served	Corporate Profile WEB https://holdings.panasonic/global/corporate/about/group-companies.html IR Summary PDF https://holdings.panasonic/global/corporate/investors/pdf/panasonic_summary_en.pdf
102-7	Scale of the organization	Corporate Profile WEB https://holdings.panasonic/global/corporate/about/group-companies/phd.html
102-8	Information on employees and other workers	Numbers of Employees PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-employee.pdf#employee
102-9	Supply chain	Responsible Supply Chain PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-supply_chain.pdf
102-10	Signicant changes to the organization and its supply chain	Not applicable
102-11	Precautionary Principle or approach	Risk Management PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-riskmanagement.pdf Environmental Risk Management WEB https://holdings.panasonic/global/corporate/sustainability/environment/governance/risk.html Chemical Substance Management WEB https://holdings.panasonic/global/corporate/sustainability/environment/chemical.html#approach
102-12	External initiatives	Respecting Global Standards, Norms, Guidelines, and Initiatives PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-structure.pdf Respect for Human Rights:Management System PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-human_rights.pdf#management Responsible Supply Chain:Responsible Minerals Procurement PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-supply_chain.pdf#minerals
102-13	Membership of associations	Product Recycling Management of Chemical Substances in Products Participation in the Japan Business Initiative for Biodiversity Participation in International and Industrial Partnerships Industry Cooperation Initiatives Fair Operating Practices:Management System PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-fair_practices.pdf#management
Strategy		
102-14	Statement from senior decision-maker	Message from the President WEB https://holdings.panasonic/global/corporate/sustainability/message.html
102-15	Key impacts, risks, and opportunities	Risk Management PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2021e-riskmanagement.pdf Environment : Initiatives for a Carbon-Neutral Society WEB https://holdings.panasonic/global/corporate/sustainability/environment/carbon-neutral.html Environment : Evolution of Recycling-Oriented Manufacturing WEB https://holdings.panasonic/global/corporate/sustainability/environment/resources/recycling_oriented_manufacturing.html nitiatives for Water Resource Conservation through Production Activities WEB https://holdings.panasonic/global/corporate/sustainability/environment/water.html#factory Initiatives to Reduce the Environmental Impact of Chemical Substances WEB https://holdings.panasonic/jp/corporate/sustainability/environment/biodiversity.html Environment : Biodiversity Conservation WEB https://holdings.panasonic/global/corporate/sustainability/environment/biodiversity.html
Ethics and integrity		
102-16	Values, principles, standards, and norms of behavior	Our Approach to Sustainability Management PDF https://holdings.panasonic/jp/corporate/sustainability/pdf/sdb2022e-philosophy.pdf Code of Ethics & Compliance WEB https://holdings.panasonic/global/corporate/about/code-of-conduct.html
102-17	Mechanisms for advice and concerns about ethics	Fair Operating Practices Whistle-blowing System PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022j-fair_practices.pdf#whistleblowing Fair Operating Practices Compliance Programs PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022j-fair_practices.pdf#compliance_programs
Governance		
102-18	Governance structure	Corporate Governance WEB https://holdings.panasonic/global/corporate/about/group-companies/phd/corporate-governance.html System for the Promotion of CSR Activities WEB https://holdings.panasonic/global/corporate/sustainability/management/structure.html Promotion System for Environmental Sustainability Management
102-19	Delegating authority	-
102-20	Executive-level responsibility for economic, environmental, and social topics	-
102-21	Consulting stakeholders on economic, environmental, and social topics	-
102-22	Composition of the highest governance body and its committees	-
102-23	Chair of the highest governance body	-
102-24	Nominating and selecting the highest governance body	-
102-25	Conflicts of interest	-
102-26	Role of highest governance body in setting purpose, values, and strategy	-
102-27	Collective knowledge of highest governance body	-

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Disclosure Number	Title	Disclosure Title
102-28	Evaluating the highest governance body's performance	-
102-29	Identifying and managing economic, environmental, and social impacts	-
102-30	Effectiveness of risk management processes	-
102-31	Review of economic, environmental, and social topics	-
102-32	Highest governance body's role in sustainability reporting	-
102-33	Communicating critical concerns	-
102-34	Nature and total number of critical concerns	-
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	-
Stakeholder engagement		
102-40	List of stakeholder groups	Promoting Initiatives Based on Dialogues with Stakeholders WEB https://holdings.panasonic/global/corporate/sustainability/management/structure.html
102-41	Collective bargaining agreements	Annual Securities Report:5,Employees:(3)Relation ship with labow union WEB https://holdings.panasonic/global/corporate/investors/library/securities-report.html
102-42	Identifying and selecting stakeholders	System for the Promotion of CSR Activities WEB https://holdings.panasonic/global/corporate/sustainability/management/structure.html Collaboration with Environmental NGOs Environmental Communication
102-43	Approach to stakeholder engagement	Promoting Initiatives Based on Dialogues with Stakeholders Collaboration with Environmental NGOs Environmental Communication
102-44	Key topics and concerns raised	System for the Promotion of CSR Activities WEB https://holdings.panasonic/global/corporate/sustainability/management/structure.html Collaboration with Environmental NGOs WEB https://holdings.panasonic/global/corporate/sustainability/environment/supply-chain.html Environmental Communication WEB https://holdings.panasonic/global/corporate/sustainability/environment/communication.html
Reporting practice		
102-45	Entities included in the consolidated nancial statements	Annual Securities Report, etc. WEB https://holdings.panasonic/global/corporate/investors/library/securities-report.html
102-46	Defining report content and topic Boundaries	About the Sustainability Data Book 2022 PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e.pdf
102-47	List of material topics	For material issues in each area of activity and the background to their selection, please refer to the items on Management System for the respective area (Policy for the environmental area).
102-48	Restatements of information	No revised information
102-49	Changes in reporting	No significant changes
102-50	Reporting period	Scope of Reporting WEB https://holdings.panasonic/global/corporate/sustainability.html#scope

Disclosure Number	Title	Disclosure Title
102-51	Date of most recent report	Last issue date : August, 2021
102-52	Reporting cycle	Annually
102-53	Contact point for questions regarding the report	Contact WEB https://holdings.panasonic/global/corporate/sustainability.html#Contact
102-54	Claims of reporting in accordance with the GRI Standards	GRI Standard Contents Index (this document) WEB https://holdings.panasonic/jp/corporate/sustainability/data-book/gri-guideline.html
102-55	GRI content index	GRI Standard Contents Index (this document) WEB https://holdings.panasonic/jp/corporate/sustainability/data-book/gri-guideline.html
102-56	External assurance	Independent Assurance Report PDF https://holdings.panasonic/global/corporate/sustainability/pdf/review2022e.pdf
103: Management Approach		
103-1	Explanation of the material topic and its Boundary	System for the Promotion of CSR Activities WEB https://holdings.panasonic/global/corporate/sustainability/management/structure.html Environment WEB https://holdings.panasonic/global/corporate/sustainability/environment/vision.html Respect for Human Rights PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-human_rights.pdf Human Resources Development and Promoting Diversity PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-employee.pdf Occupational Health and Safety PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-health_safety.pdf Responsible Supply Chain PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-supply_chain.pdf Fair Operating Practices PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-fair_practices.pdf Customer Relations PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-customer.pdf Raising Quality Levels and Ensuring Product Safety PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-safety.pdf Information Security PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-security.pdf
103-2	The management approach and its components	System for the Promotion of CSR Activities WEB https://holdings.panasonic/global/corporate/sustainability/management/structure.html Environment WEB https://holdings.panasonic/global/corporate/sustainability/environment/vision.html Respect for Human Rights PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-human_rights.pdf Human Resources Development and Promoting Diversity PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-employee.pdf Occupational Health and Safety PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-health_safety.pdf Responsible Supply Chain PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-supply_chain.pdf Fair Operating Practices PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-fair_practices.pdf Customer Relations PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-customer.pdf Raising Quality Levels and Ensuring Product Safety PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-safety.pdf Information Security PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-security.pdf

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Disclosure Number	Title	Disclosure Title
103-3	Evaluation of the management approach	Environmental Management Systems WEB https://holdings.panasonic/global/corporate/sustainability/environment/governance/ems.html Occupational Health and Safety:Management System PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-health_safety.pdf#management Fair Operating Practices: Performance Evaluation PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-fair_practices.pdf#performance Raising Quality Levels and Ensuring Product Safety:Management System PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-safety.pdf#management Information Security Management System PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-security.pdf Environment-related Awards WEB https://holdings.panasonic/global/corporate/sustainability/management/recognition.html

Topic Specific Standards

Economic

Disclosure Number	Title	Disclosure Title
201: Economic Performance		
201-1	Direct economic value generated and distributed	Annual Securities Report, etc. WEB https://holdings.panasonic/global/corporate/investors/library/securities-report.html Spending on Corporate Citizenship Activities PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-community.pdf#accounting
201-2	Financial implications and other risks and opportunities due to climate change	Initiatives Relating to Business Continuity Management:BCM PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-riskmanagement.pdf#bgm Panasonic Environment Vision 2050 WEB https://holdings.panasonic/global/corporate/sustainability/environment/vision.html
201-3	Defined benefit plan obligations and other retirement plans	-
201-4	Financial assistance received from government	-
202: Market Presence		
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	-
203: Indirect Economic Impacts		
203-1	Infrastructure investments and services supported	-
203-2	Significant indirect economic impacts	-
204: Procurement Practices		
204-1	Proportion of spending on local suppliers	Supply Chain Overview PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-supply_chain.pdf
205: Anti-corruption		
205-1	Operations assessed for risks related to corruption	Fair Operating Practices:Performance Evaluation PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-fair_practices.pdf#performance
205-2	Communication and training about anti-corruption policies and procedures	Fair Operating Practices:Training PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-fair_practices.pdf#education
205-3	Confirmed incidents of corruption and actions taken	Fair Operating :Performance Evaluation PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-fair_practices.pdf#performance
206: Anti-competitive Behavior		
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Fair Operating :Performance Evaluation PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-fair_practices.pdf#performance

Environmental

Disclosure Number	Title	Disclosure Title
301: Materials		
301-1	Materials used by weight or volume	-
301-2	Recycled input materials used	This information is not calculated given the difficulty in defining main products due to the diversity of business operations. See Evolution of Recycling-Oriented Manufacturing for specific initiatives.
301-3	Reclaimed products and their packaging materials	-
302: Energy		
302-1	Energy consumption within the organization	Overview of Environmental Impact WEB https://holdings.panasonic/global/corporate/sustainability/environment/governance/data.html Standard for Calculating PDF https://holdings.panasonic/global/corporate/sustainability/pdf/review_sfc_2022e.pdf
302-2	Energy consumption outside of the organization	Overview of Environmental Impact WEB https://holdings.panasonic/global/corporate/sustainability/environment/governance/data.html Standard for Calculating PDF https://holdings.panasonic/global/corporate/sustainability/pdf/review_sfc_2022e.pdf
302-3	Energy intensity	Overview of Environmental Impact WEB https://holdings.panasonic/global/corporate/sustainability/environment/governance/data.html Standard for Calculating PDF https://holdings.panasonic/global/corporate/sustainability/pdf/review_sfc_2022e.pdf
302-4	Reduction of energy consumption	-
302-5	Reductions in energy requirements of products and services	Environmental Accounting WEB https://holdings.panasonic/global/corporate/sustainability/environment/governance/data.html Environmental Action Plan Green Plan 2021 WEB https://holdings.panasonic/global/corporate/sustainability/environment/vision.html Standard for Calculating PDF https://holdings.panasonic/global/corporate/sustainability/pdf/review_sfc_2022e.pdf
303: Water and Effluents		
303-1	Interactions with water as a shared resource	Approaches to Way of Thinking about Water Resource Conservation WEB https://holdings.panasonic/global/corporate/sustainability/environment/water.html#factory
303-2	Management of water discharge-related impacts	-
303-3	Water withdrawal	Initiatives for Water Resource Conservation through Production Activities WEB https://holdings.panasonic/global/corporate/sustainability/environment/water.html#factory Standard for Calculating PDF https://holdings.panasonic/global/corporate/sustainability/pdf/review_sfc_2022e.pdf
303-4	Water discharge	Initiatives for Water Resource Conservation through Production Activities WEB https://holdings.panasonic/global/corporate/sustainability/environment/water.html#factory Standard for Calculating PDF https://holdings.panasonic/global/corporate/sustainability/pdf/review_sfc_2022e.pdf
303-5	Water consumption	Initiatives for Water Resource Conservation through Production Activities WEB https://holdings.panasonic/global/corporate/sustainability/environment/water.html#factory Standard for Calculating PDF https://holdings.panasonic/global/corporate/sustainability/pdf/review_sfc_2022e.pdf

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Disclosure Number	Title	Disclosure Title
304: Biodiversity		
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	-
304-2	Significant impacts of activities, products, and services on biodiversity	-
304-3	Habitats protected or restored	Biodiversity Conservation WEB https://holdings.panasonic/global/corporate/sustainability/environment/biodiversity.html
304-4	IUCN Red List species and national conservation list species with habitats in areas a ected by operations	Forest of Coexistance Monitoring Report (Japanese Version Only) WEB https://www.panasonic.com/jp/about/sustainability/environment/ecology/kusatsu_factory.html
305: Emissions		
305-1	Direct (Scope 1) GHG emissions	Overview of Environmental Impact and Environmental Accounting WEB https://holdings.panasonic/global/corporate/sustainability/environment/governance/data.html Reducing CO_2 Emissions in Factories WEB https://holdings.panasonic/global/corporate/sustainability/environment/carbon-neutral/site.html Standard for Calculating PDF https://holdings.panasonic/global/corporate/sustainability/pdf/review_sfc_2022e.pdf
305-2	Energy indirect (Scope 2) GHG emissions	Overview of Environmental Impact and Environmental Accounting WEB https://holdings.panasonic/global/corporate/sustainability/environment/governance/data.html Reducing CO_2 Emissions in Factories WEB https://holdings.panasonic/global/corporate/sustainability/environment/carbon-neutral/site.html Standard for Calculating PDF https://holdings.panasonic/global/corporate/sustainability/pdf/review_sfc_2022e.pdf
305-3	Other indirect (Scope 3) GHG emissions	Overview of Environmental Impact and Environmental Accounting WEB https://holdings.panasonic/global/corporate/sustainability/environment/governance/data.html Standard for Calculating PDF https://holdings.panasonic/global/corporate/sustainability/pdf/review_sfc_2022e.pdf
305-4	GHG emissions intensity	Overview of Environmental Impact and Environmental Accounting WEB https://holdings.panasonic/global/corporate/sustainability/environment/governance/data.html Reducing CO_2 Emissions in Factories WEB https://holdings.panasonic/global/corporate/sustainability/environment/carbon-neutral/site.html Standard for Calculating PDF https://holdings.panasonic/global/corporate/sustainability/pdf/review_sfc_2022e.pdf
305-5	Reduction of GHG emissions	Overview of Environmental Impact and Environmental Accounting WEB https://holdings.panasonic/global/corporate/sustainability/environment/governance/data.html Reducing CO_2 Emissions in Factories WEB https://holdings.panasonic/global/corporate/sustainability/environment/carbon-neutral/site.html Standard for Calculating PDF https://holdings.panasonic/global/corporate/sustainability/pdf/review_sfc_2022e.pdf
305-6	Emissions of ozone-depleting substances (ODS)	Managed as a substance whose use must be suspended immediately in case it is currently used.
305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other signi cant air emissions	Management of Chemical Substances at Factories WEB https://holdings.panasonic/global/corporate/sustainability/environment/chemical.html#factory
306: Effluents and Waste		
306-1	Waste generation and significant waste-related impacts	Evolution of Recycling-Oriented Manufacturing WEB https://holdings.panasonic/global/corporate/sustainability/environment/resources/recycling_oriented_manufacturing.html
306-2	Management of significant waste-related impacts	Overview of Environmental Impact and Environmental Accounting WEB https://holdings.panasonic/global/corporate/sustainability/environment/governance/data.html Evolution of Recycling-Oriented Manufacturing WEB https://holdings.panasonic/global/corporate/sustainability/environment/resources/recycling_oriented_manufacturing.html
306-3	Waste generated	Evolution of Recycling-Oriented Manufacturing WEB https://holdings.panasonic/global/corporate/sustainability/environment/resources/recycling_oriented_manufacturing.html
306-4	Waste diverted from disposal	Evolution of Recycling-Oriented Manufacturing WEB https://holdings.panasonic/global/corporate/sustainability/environment/resources/recycling_oriented_manufacturing.html Standard for Calculating PDF https://holdings.panasonic/global/corporate/sustainability/pdf/review_sfc_2022e.pdf
306-5	Waste directed to disposal	Evolution of Recycling-Oriented Manufacturing WEB https://holdings.panasonic/global/corporate/sustainability/environment/resources/recycling_oriented_manufacturing.html
307: Environmental Compliance		
307-1	Non-compliance with environmental laws and regulations	Environmental Risk Management WEB https://holdings.panasonic/global/corporate/sustainability/environment/governance/risk.html
308: Supplier Environmental Assessment		
308-1	New suppliers that were screened using environmental criteria	-
308-2	Negative environmental impacts in the supply chain and actions taken	Though comprehensive aggregation is not currently conducted, scope of the CSR self-assessment checklist has been expanded to cover Asian countries from fiscal 2017 in an effort to understand environment burden.
Social		
401: Employment		
401-1	New employee hires and employee turnover	-
401-2	Bene ts provided to full-time employees that are not provided to temporary or part-time employees	-
401-3	Parental leave	-
402: Labor/Management Relations		
402-1	Minimum notice periods regarding operational changes	Respect for Human Rights:Major Initiatives PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-human_rights.pdf#Initiatives
403: Occupational Health and Safety		
403-1	Workers representation in formal joint management–worker health and safety committees	Occupational Health and Safety:Management System PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-health_safety.pdf#management Occupational Health and Safety:Responsible Executive and Framework PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-health_safety.pdf#structure
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 Data PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-health_safety.pdf#data
403-3	Workers with high incidence or high risk of diseases related to their occupation	-
403-4	Health and safety topics covered in formal agreements with trade unions	-

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Disclosure Number	Title	Disclosure Title
404: Training and Education		
404-1	Average hours of training per year per employee	-
404-2	Programs for upgrading employee skills and transition assistance programs	Human Resources Development and Promotion of Diversity:Human Resources Development PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-employee.pdf#development
404-3	Percentage of employees receiving regular performance and career development reviews	Human Resources Development and Promotion of Diversity:Human Resources Development PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-employee.pdf#development
405: Diversity and Equal Opportunity		
405-1	Diversity of governance bodies and employees	Diversity & Inclusion WEB https://holdings.panasonic/global/corporate/sustainability/diversity-equity-inclusion.html Related HR Data PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-employee.pdf#data Corporate Governance WEB https://holdings.panasonic/global/corporate/about/group-companies/phd/corporate-governance.html
405-2	Ratio of basic salary and remuneration of women to men	-
406: Non-discrimination		
406-1	Incidents of discrimination and corrective actions taken	Reason for omission Confidentiality constraints: We refrain from disclosing information on concrete contents as they are sensitive issues relating to individual privacy.
407: Freedom of Association and Collective Bargaining		
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Respect for Human Rights:Major Initiatives PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-human_rights.pdf#Initiatives
408: Child Labor		
408-1	Operations and suppliers at signi cant risk for incidents of child labor	Respect for Human Rights:Major Initiatives PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-human_rights.pdf#Initiatives
409: Forced or Compulsory Labor		
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	
410: Security Practices		
410-1	Security personnel trained in human rights policies or procedures	-
411: Management approach disclosures		
411-1	Incidents of violations involving rights of indigenous peoples	-
412: Human Rights Assessment		
412-1	Operations that have been subject to human rights reviews or impact assessments	-
412-2	Employee training on human rights policies or procedures	-
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	-
413: Local Communities		
413-1	Operations with local community engagement, impact assessments, and development programs	-
413-2	Operations with significant actual and potential negative impacts on local communities	-
414: Supplier Social Assessment		
414-1	New suppliers that were screened using social criteria	Responsible Supply Chain PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-supply_chain.pdf
414-2	Negative social impacts in the supply chain and actions taken	Responsible Supply Chain:Supply Chain Due Diligence .. PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-supply_chain.pdf#suppliers
415: Public Policy		
415-1	Political contributions	Fair Operating Practices::Ensuring Transparency of Political Contribution Funds PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-fair_practices.pdf#transparency
416: Customer Health and Safety		
416-1	Assessment of the health and safety impacts of product and service categories	Raising Product Quality Levels and Ensuring Product Safety:Management System PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-safety.pdf#management
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Raising Product Quality Levels and Ensuring Product Safety WEB https://holdings.panasonic/global/corporate/sust
417: Marketing and Labeling		
417-1	Requirements for product and service information and labeling	Raising Product Quality Levels and Ensuring Product Safety Internal Company Rules Concerning Product Labeling PDF https://holdings.panasonic/global/corporate/sustainability/pdf/sdb2022e-safety.pdf#label
417-2	Incidents of non-compliance concerning product and service information and labeling	No incidents of non-compliance
417-3	Incidents of non-compliance concerning marketing communications	No incidents of non-compliance
418: Customer Privacy		
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	No incidents of non-compliance

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