

# Sustainability Data Book 2021

Panasonic Corporation



**Panasonic**

# About the Sustainability Data Book 2021

Panasonic reports on sustainability through our Sustainability page on our website and this Sustainability Data Book.

The topics of this report are selected based on an analysis of the concerns of stakeholders and material issues (topics ranked as critical by Panasonic). For the company's environmental activities, Panasonic reports on the goals it has set for itself in its Panasonic Environment Vision 2050, and environmental action plan, "Green Plan 2021."

The Sustainability Data Book highlights important information including topics reported on our Sustainability website, our policies and approaches to various issues, performance data, and more. For themes that have been omitted, for specific examples of initiatives, and more details generally, please refer to the Panasonic Sustainability website.

► Sustainability Site

<https://www.panasonic.com/global/corporate/sustainability.html>

## Scope of Reporting

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

Period: Fiscal 2021 (April 1, 2020 to March 31, 2021)

Organization: Panasonic Corporation and 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 242) 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 2021

## Assurances

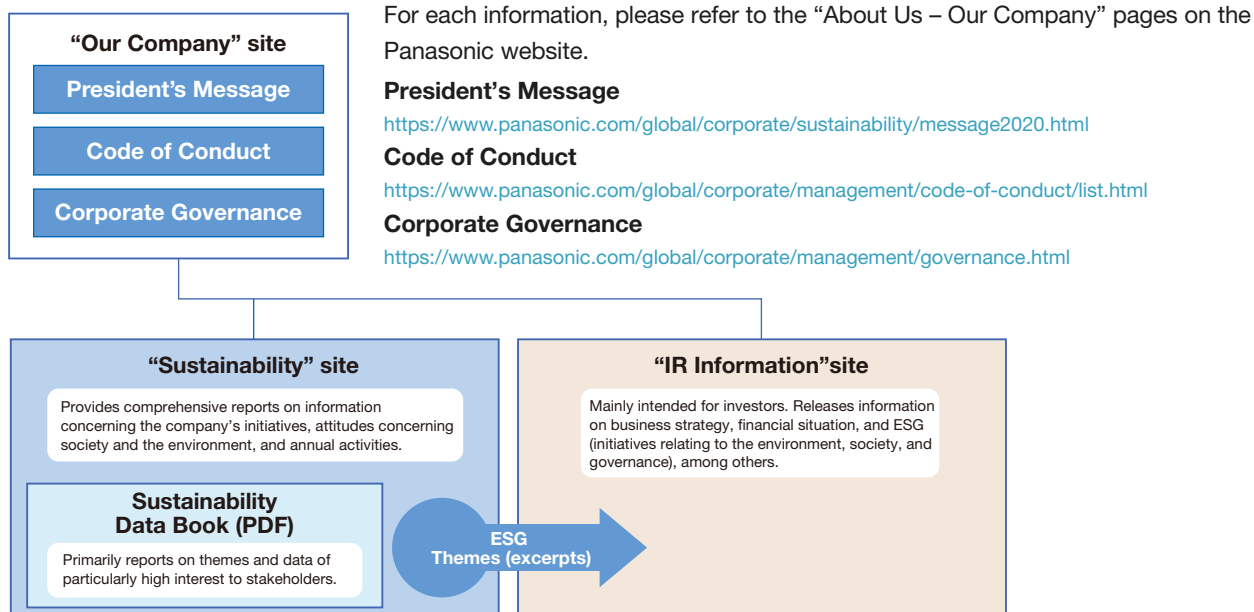
Main data relating to the environment have been assured by KPMG AZSA Sustainability Co., Ltd. For details on the indicators covered by the assurance, please refer to the Independent Assurance Report on P.147

## Reference Guidelines

Reporting requirements of the GRI Standards

Japanese Ministry of the Environment, "Environmental Reporting Guidelines 2018"

### Structure of Reporting on Social and Environmental Initiatives



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# Corporate Profile

as of March 31, 2021

**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

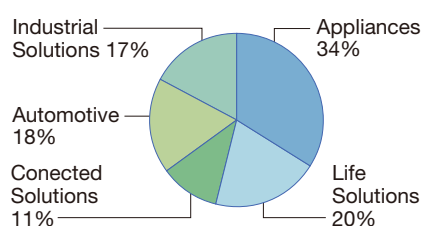
**Common Stock:** 259.0 billion yen

## FY2021 Financial Result

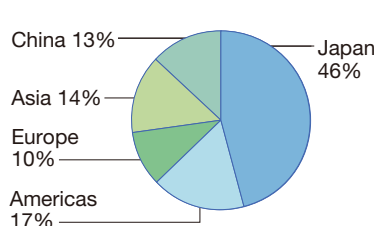
**Net sales** 6,698.8 billion yen    **Operating profit** 258.6 billion yen    **Profit before income taxes** 260.8 billion yen

**Net profit attributable to Panasonic Corporation stockholders** 165.1 billion yen    **Number of Employees** 243,540

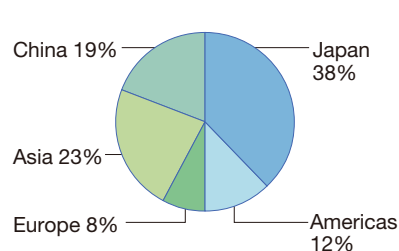
### Sales by Segment (FY2021)



### Sales by Region (FY2021)



### Employees by Region (End of FY2021)



## Main Products and Services

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

### Appliances

Room air-conditioners, large-sized air-conditioners, refrigerators, microwave ovens, rice cookers, washing machines, Vacuum cleaners, personal-care products, TVs, digital cameras, video equipment, home audio equipment, fixed-phones, showcases, compressors, fuel cells

### Life Solutions

Lighting fixtures, lamps, wiring devices, solar photovoltaic systems, ventilation and air-conditioning equipment, air purifiers, air purifier/sterilizers, kitchen & bath, interior furnishing materials, exterior finishing materials, bicycles, nursing care service

### Connected Solutions

Aircraft in-flight entertainment systems and communications services, electronic-components-mounting machines, welding equipment, projectors, professional AV systems, PCs and tablets, Solutions for various industries, installation/operation/maintenance services

### Automotive

Automotive-use infotainment systems, head-up displays, automotive audio systems, automotive switches, in-vehicle cameras, Advanced driver assistance systems(ADAS), Device and systems for electric automobiles, automotive mirrors, cylindrical and prismatic lithium-ion batteries(prismatic batteries are manufactured by prime-planet Energy & solutions Corporation)

### Industrial Solutions

Relays, switches, power supply, motors, sensors, small lithium-ion batteries, energy storage modules, capacitors, coils, resistors, dry batteries, micro batteries, , electronic circuit board materials, LCD panels

## Our Unchanging Management Philosophy and Sustainability

Our mission at Panasonic is to contribute to the advance of world culture by working to improve society through the products we produce and sell. Panasonic's Basic Management Objective clearly expresses the purpose of our business activities as well as the purpose of our existence.

This management philosophy has formed the foundation of all our business activities. As the key element of this philosophy, we have the basic concept of the "company as a public entity of society." All the management resources of a company-including the people, money, and commodities-all come from society. While the company engages in business activities using the resources entrusted by society, it also develops along with society, and so the company's activities must be transparent, fair, and just.

### *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.*

The entire Panasonic Group takes care to ensure that our management and business activities are appropriate for "a public entity of society," and we will continue to implement this management philosophy through manufacturing as our primary business. This is also the very essence of the Panasonic Group's sustainability. As we stand at historical turning points in many areas today-society, economy, global environment-the Panasonic Group will continue to promote sustainability management globally and to contribute to the future of society and the world by proposing the lifestyles of tomorrow.



Konosuke Matsushita, Founder of Panasonic Corporation, My Management Philosophy (issued in June 1978)

*"There is much discussion today regarding 'social responsibility,' but while the meaning of that concept can be wide-ranging depending on social conditions at a particular time, the fundamental social responsibility of a corporation, in any era, should be to improve society through its business activities. It is extremely important to manage all business activities based on this sense of mission."*

Konosuke Matsushita,  
Founder of Panasonic Corporation

The Panasonic Code of Conduct was formulated in 1992 as a specific guide to the practice of the Company's management philosophy. (Subsequently revised and updated, the 2016 edition is the current standard.)

<https://www.panasonic.com/global/corporate/management/code-of-conduct/list.html>

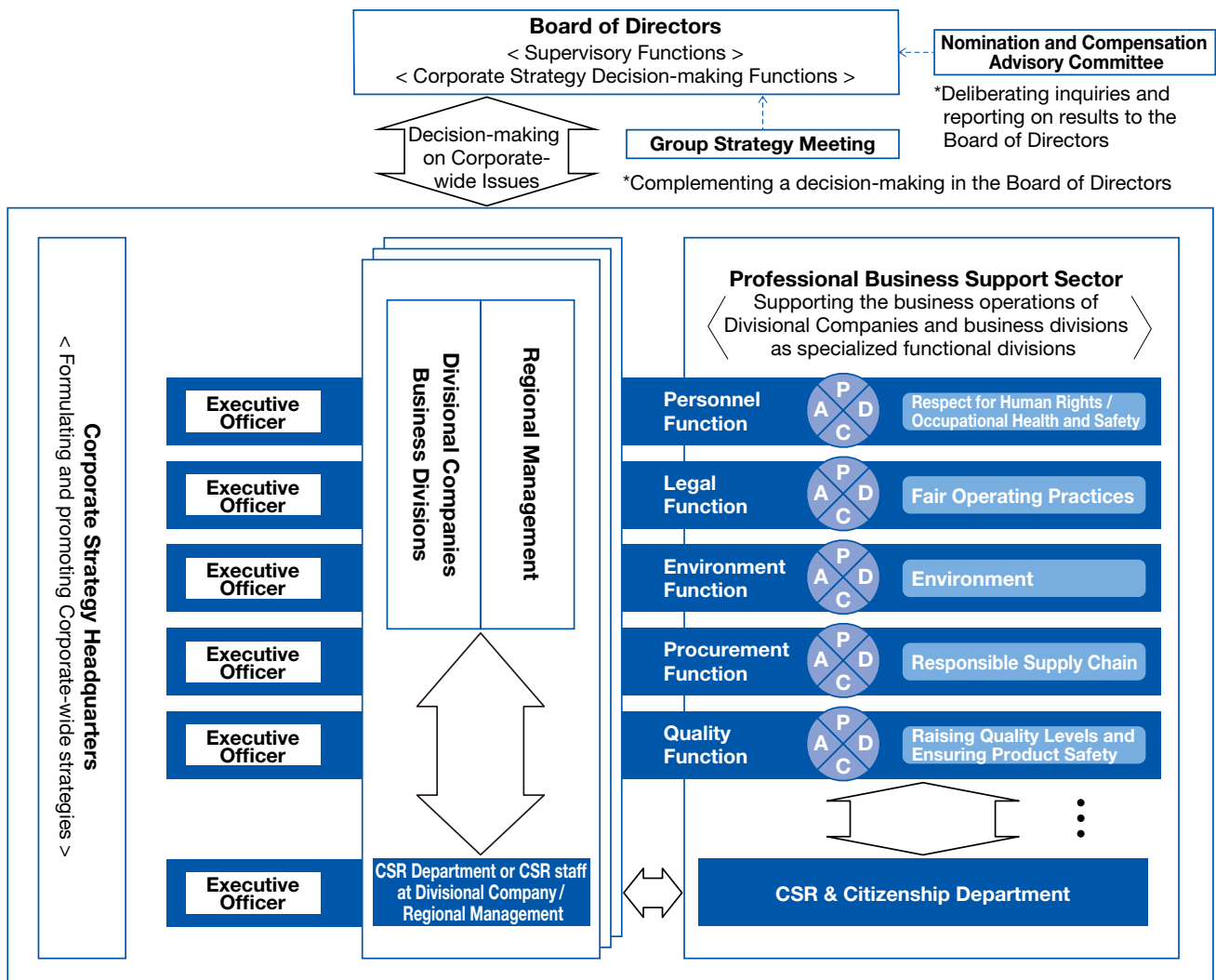
## System for the Promotion of CSR Activities

### Continuously and Organizationally Managing Issues and Progress Relating to Sustainability

For each area of activity relating to CSR—including human rights, fair operating practices, and the environment—Panasonic establishes executive officers and functional divisions. Each Divisional Company, business division, regional office, and functional division has created various group meetings and opportunities for stakeholder engagement, the results of which are incorporated into everyday activities. Using PDCA cycles, these Panasonic Group constituents monitor their progress and act autonomously.

For issues affecting the entire group for which there are strong demands from society for us to respond, including by contributing to climate change mitigation and adaptation, as well as to water-related issues, decisions are made at board of directors' meetings and at Group Strategy Meetings. Concerning issues that are deemed the most material, the company makes an analysis of and identifies such issues for each area of activity, and incorporates these important issues into its operational policies. 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). Panasonic conducts its CSR activities with respect for worldwide guidelines and stakeholders' voices as a fundamental concept.

#### System for the Promotion of CSR Activities (as of August 2021)



Respecting Global Standards, Norms, Guidelines, and Initiatives

Panasonic conducts its business based on global standards, specifications, norms, guidelines, and various initiatives. These concepts are reflected in the Panasonic Code of Conduct and the Sustainability Policy that form the guidelines for the company’s business activities.

Global Standards, Norms, Guidelines and Initiatives

Universal Declaration of Human Rights	ILO Fundamental Labour Standards
Organisation for Economic Co-operation and Development Guidelines for Multinational Enterprises	Guiding Principles on Business and Human Rights
Japan Business Federation (Keidanren) Charter of Corporate Behavior	Industry specific codes of conduct, such as the Responsible Business Alliance (RBA), and others
ISO 26000	Global Reporting Initiative (GRI) Standards

Promoting Initiatives Based on Dialogues with Stakeholders

Panasonic 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.

Major Stakeholders







## Environment: Policy

Contributing to society has been the management philosophy for Panasonic ever since its founding, and we have been taking measures against pollution since the 1970s. We announced the Environmental Statement in June 5, 1991, 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<sub>2</sub> reduction, resources recycling, water, chemical substances, and biodiversity.

In 2013, the Panasonic Group 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<sub>2</sub> 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, Panasonic will work towards creation and more efficient utilization of energy which exceeds the amount of energy used.

We announced Green Plan 2021 in 2019, following completion of Green Plan 2018, with a focus on materiality in achieving the Panasonic Environment Vision 2050 and on efforts for an early realization of the Plan.

**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<sub>2</sub> 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 13-14)

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.

## Environment: Panasonic Environment Vision 2050

### Panasonic Environment Vision 2050

Amid more and more publicized “Climate crisis” and growing global interests in social issues particularly those related to the environment and energy, high attention to the Paris Agreement through which a number of countries allied together to tackle issues by taking measures to reduce global warming, and the Sustainable Development Goals (SDGs) set by the United Nations, also imply that such environment and energy issues are becoming more serious globally. The demand to build a decarbonized society is growing ever stronger, represented by the Japanese government's declaration to achieve a carbon-neutral society by reducing net CO<sub>2</sub> emissions to zero by 2050. In view of these developments, we recognize that companies have much to contribute to fulfill each roles to achieve zero CO<sub>2</sub> emissions.

Panasonic formulated the Panasonic Environment Vision 2050 in 2017 that sets what our company should be in response to the expectations and requests from our stakeholders.

The Environment Vision 2050 was formulated to promote activities for reducing the amount of energy to use, and creating and utilizing clean energy whose amounts exceed the amount of the “energy used” at the same time, aiming for increasing the number of societies where residents use clean energy and live a more comfortable lifestyle to realize ‘A better life’ and ‘Sustainable global environment’ compatibly.

At formulating the Environment Vision 2050, the total amount of the “energy created” (clean energy that is created and/or made available through Panasonic products and services, including photovoltaic power generation systems, storage batteries, and energy solutions) remained approximately one-tenth of the amount of the “energy used” (the energy used in our business operations such as in production and the “energy used” by our products at customers sites).

To realize their Environmental Vision, we will reduce the amount of the “energy used” as much as possible through development of technologies that will improve the energy-saving performance of our products, and innovations to our manufacturing processes. At the same time, we will increase the amount of the “energy created”, by increasing opportunities to utilize clean energy through expansion of our energy-generation and storage businesses as well as contribution to building new social systems such as building a hydrogen society.

Through these efforts, Panasonic will endeavor to make the “energy created” exceed the “energy used” toward the year 2050.

**Panasonic Environment Vision 2050**

To achieve “a better life” and “a sustainable global environment,”  
**Panasonic will work towards**  
**creation and more efficient utilization of energy**  
**which exceeds the amount of energy used,**  
 aiming for a society with clean energy and a more comfortable lifestyle.

**Energy used < Energy created**

Panasonic

## Activities for Achieving the Environment Vision 2050

To achieve Environment Vision 2050, we are working on two main activities, considering “energy” and “resources” as our materiality.

One of the initiatives to realize the Environment Vision 2050 is “creating a safe and secure society with clean energy.” To be specific, we will work to provide eco-conscious and smart living spaces as well as contribute to eco-conscious and smart travel and transport.

Another initiative is “promoting businesses aiming for a sustainable society.” We will work to promote effective utilization of resources as well as promote the creation of factories with zero CO<sub>2</sub> emissions.

### 1. Panasonic will Create a Safe and Secure Society with Clean Energy

The eco-conscious and smart living spaces that Panasonic strives to provide means living spaces that create electricity and/or hydrogen using clean energy and then storing/transporting the created energy. Such living spaces offer a safe and secure life with clean energy enabled through appropriate energy management for energy-saving equipment and buildings with high insulation performances. Here, living spaces refer to every space related to people’s lives, not only homes of individuals but also working or learning spaces, and spaces for leisure. In order to realize this, Panasonic will work on development of environmental technologies from the four viewpoints of energy creation, energy saving, energy storage, and energy management.

As for energy creation, in particular, we will develop fuel cell technologies that use hydrogen derived from clean energy as energy source. At the same time, for energy storage, we will work on technologies relating to storing and/or supplying hydrogen, and storage batteries. These will expand the possibilities of utilizing clean energy anywhere in the society.

We will also work on developing environmental technologies to realize eco-conscious and smart travel and transport. With further development in technology of storage battery systems for eco-cars such as electric vehicles, we will contribute to promoting the shift from fossil fuels to clean energy. Additionally, for a safe mobility society, we will work on further development of technologies that support autonomous driving, and solutions such as next-generation logistics/transport systems utilizing IoT.

As part of our efforts to promote the utilization of clean energy throughout society, we built the “H<sub>2</sub> Kusatsu Farm”, a hydrogen energy station, in the Kusatsu Factory premises of Appliances Company in Kusatsu City, Shiga Prefecture. Towards Zero CO<sub>2</sub> emissions from goods logistics in the premises, we have been testing usage of forklift trucks powered by hydrogen, electrolytically generated from water using renewable energy since FY2020. At the Kasugai Factory of Panasonic Ecology Systems Co., Ltd. in Kasugai City, Aichi Prefecture, hydrogen is produced in electrolysis by utilizing electric power generated by solar panels installed on factory walls, and the produced hydrogen is stored in a tank. The demonstration project was started in fiscal 2021 to utilize the power generated by pure hydrogen fuel cells in the production line of products. In “HARUMI FLAG”, a town planned to open at after-use of the athletes’ village site for Tokyo 2020, power for common facilities such as outdoor lighting and air conditioning systems to be installed in each district will be supplied from pure hydrogen fuel cells. Further, we plan to install residential fuel cells powered by hydrogen, which is reformed from city gas, in all approx. 4,000 houses built for sale in the town. This should reduce CO<sub>2</sub> emissions by 4,000 tons per year.



H<sub>2</sub> Kusatsu Farm



View of HARUMI FLAG

### 2. Panasonic will Promote Businesses Aiming for a Sustainable Society

As efforts to promote effective utilization of resources, we will aim for sustainable use of resources through reuse of parts and materials and product recycling. Establishing zero-CO<sub>2</sub> factories that we are working on is to promote reducing the amount of the “energy used” in our factories through utilization of advanced energy-efficient technologies and innovation in manufacturing, such as LED lighting and FEMS.<sup>1)</sup> at the same time, to realize on a global scale, net zero-CO<sub>2</sub> factories where no CO<sub>2</sub> is emitted in manufacturing through increasing the amount of the “energy created” in our factories by effectively utilizing renewable energies such as photovoltaic power generation system, energy storage batteries, hydrogen fuel cells, and the like.

Specifically to reduce CO<sub>2</sub> emission, while promoting manufacturing with minimum energy consumption through continued energy-efficiency activities and their evolution, we will adopt renewable power generation equipment such as photovoltaic power generation systems and wind power generation systems at own sites. We will also procure 100% renewable energy electricity. In addition, we will realize net zero-CO<sub>2</sub> emission through utilization of CO<sub>2</sub> credits to offset CO<sub>2</sub> emissions from fossil fuels, hydrogen fuel cells, and the like.

In fiscal 2021, we achieved our first zero-CO<sub>2</sub> factory in China at Panasonic Energy (Wuxi) Co., Ltd., (PECW). In addition, Panasonic Center Tokyo (PC Tokyo), our corporate showroom has achieved Panasonic's first zero-CO<sub>2</sub> showroom in a non-manufacturing site.

PECW manufactures secondary batteries, including lithium-ion batteries and nickel-metal hydride batteries. We have been working on innovation for high quality and high efficiency in manufacturing. For example, a number of automated assembly lines using dual-arm robots and image processing inspection systems, were partially introduced in 2018 to replace conventional manual work and visual inspection. In addition, we have promoted minimum production aimed at manufacturing with as little energy as possible, by innovating methods and processes together with introducing advanced energy-saving technologies, energy LED lighting, and the like. At the same time, we have installed photovoltaic systems, procured I-REC certified energy, utilized carbon credits trading to offset emissions of fossil fuel-derived CO<sub>2</sub>, and the rooftop leasing scheme. As a result, we achieved net zero CO<sub>2</sub> emissions from approximately 44 kt in fiscal 2021. The production facility of PECW is the largest of our zero-CO<sub>2</sub> factories in operation today.

PC Tokyo has realized zero-CO<sub>2</sub> emissions as a showroom, by conducting a range of CO<sub>2</sub> emissions reduction activities that include continuous energy conservation activities such as installation of energy-saving facilities, and management innovations in activities at sites (e.g. online seminars and workstyle reform represented by introduction of the work-at-home scheme), as well as by procuring electricity from 100% renewable energy sources and utilization of carbon credits to offset emissions of fossil fuel-derived CO<sub>2</sub>. In addition, PC Tokyo has conducted showroom activities online, while actively promoted workstyle reforms, which have resulted in a reduction in the use of public transportation by showroom visitors and employees for commuting, contributing to a reduction in CO<sub>2</sub> emissions.

For realizing a zero-CO<sub>2</sub> factory, all of our factories across the world must respectively devise means, because the appropriate types of energy conservation efforts depend on the characteristics of production and activities in each factory and activities in each business site, and the available renewable energy depends on regional characteristics. We have realized seven zero-CO<sub>2</sub> factories and a zero-CO<sub>2</sub> showroom at the five sites across the world by adopting learning from internal and external precedents and combining them with factory-specific approaches by fiscal 2021. Furthermore, we will roll out this activity world-wide to steadily promote our Environment Vision 2050.

\*1 Factory Energy Management System

## Target for reduction of CO<sub>2</sub> emission by 2030

In May, 2021, we announced a target to make our total CO<sub>2</sub> emission net-zero by 2030 as a milestone towards making the Environmental Vision 2050 real.

We continue to strive to achieve it as our commitment to realize Decarbonized Societies.

► Direction that Panasonic 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>



PECW



Photovoltaic power generation system at PECW



PC Tokyo

## 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 plan to direct our efforts to make “energy created” exceed “energy used” towards the year 2050, or even earlier.

To this end, in terms of “energy”, we will “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 our products and services are used by customers. We aim to increase the value of this index. The initiative to increase this index is similar to our aims concerning the size of contribution in reducing CO<sub>2</sub> emissions through our products and services, which indicates the amount of our efforts to reduce CO<sub>2</sub> emissions in order to bring forward the peak of total CO<sub>2</sub> emissions in whole society. When the size of contribution in reducing energy consumption is converted to CO<sub>2</sub> emissions, it can be transferred to the size of contribution in reducing such emissions.

As a means of “energy,” Panasonic factories will undertake “promoting zero-CO<sub>2</sub> model factories,” “increasing the use of renewable energy,” and “promoting energy efficiency in production.”

In our production activities, we are currently working to further reduce energy consumption and CO<sub>2</sub> emissions by employing thorough energy-saving measures in all factories across the globe.

In terms of “resource,” we will “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 will strive to take initiatives 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 are accelerating our environmental efforts by rolling them out beyond Panasonic across the entire supply chain through close collaboration with a variety of partners.

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



## Environmental Action Plan “Green Plan 2021”

Category		2021 targets		FY2021	
Material Issues	Energy	Increase the ratio of total energy created to total energy used		Total energy created <sup>*1</sup> : total energy used <sup>*2</sup> = 1 : 8.5	1: 14.5
		Products & Services	Increase amount of energy created	Amount of energy created <sup>*1</sup> : 30 TWh or more	16 TWh
			Increase the size of contribution toward energy savings through products and services	Size of contribution toward energy savings through products and services <sup>*3</sup> : Direct <sup>*4</sup> : 25 TWh or more Indirect <sup>*5</sup> : 2 TWh or more	Direct: 30 TWh Indirect: 1.8 TWh
			Expand energy creation businesses		—
			Expand energy efficient products and services business, focusing on products and services utilizing IoT/AI		—
		Factories	Promote zero-CO <sub>2</sub> model factories - Establish model factory using advanced hydrogen technology - Establish at least one zero-CO <sub>2</sub> model factory in each region <sup>*6</sup>		—
			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 <sup>*7</sup> : 40 GWh or more	35 GWh
			Promote energy efficiency in production - Reduce energy loss through IoT - Improve productivity through manufacturing innovation		—
		Resources	Create circular economy business models		Analysis of the development of circular economy options for existing businesses: 100%
	Reduce resource consumption and increase the use of sustainable materials		Recycled resin usage <sup>*8</sup> : 42 kt or more (2019 to 2021 total)	28 kt (2019 to 2020 total)	
Achieve Zero Waste Emissions from factories globally			Factory waste recycling rate <sup>*9</sup> : 99 % or more	98.7%	
Other environmental sustainability goals	Water	Reduce water consumption in production activities			
	Chemical substances	Minimize the environmental impact of chemical substances usage in production activities and products			
	Biodiversity	Promote procurement of sustainable materials			
	Local communities	Promote environmental initiatives to contribute to local communities and educate the next generation			
	Compliance	Ensure compliance with environmental laws and regulations			

\*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 our major products.

\*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 Panasonic's sites of renewable energy (solar, wind, biomass, etc.) generated by renewable power generating facilities in Panasonic's sites.

\*8 Mass of recycled materials contained in the recycled resin used in our products.

\*9 Amount of resources recycled/(Amount of resources recycled + Amount of landfill).



## Environment: Environmental Governance

### Promoting Corporate-wide Environmental Sustainability Management Centering on PDCA

Striving for the creation of a sustainable society, we are following our initiative under the Chief Technology Officer (CTO) (Tatsuo Ogawa Executive Officer, as of April 2021) 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. The Panasonic Group formulates its annual environmental management policy in accordance with the Group management policy, Environment Vision 2050, 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 CTO, whose authority is delegated by the president.

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 Green Plan 2021, as well as Environment Vision 2050, are examined in the Group Strategy Meeting. Matters of special importance are deliberated on by the Board of Directors Meeting. The Board discussed the current state of progress and issues in achieving our Environment Vision 2050 in the Meeting held in March 2021.

In fiscal 2017, the Environmental Compliance Administrators Meeting (held twice a year) attended by the executive officer in charge of environmental affairs and environmental compliance administrators at the Companies was newly established to accelerate decision-making for corporate-wide action in the area of the environment. In addition, as has been the way until now, successful practices, challenges in implementation, and approaches to mid-term to long-term targets at Companies and various regions are shared and discussed at the Global Environmental Working Committee Meeting, held twice a year, which consists of environmental compliance administrators and environmental operation administrators at Companies and Regional Headquarters, seeking to enhance the level of corporate-wide environmental sustainability management through the PDCA management cycle.

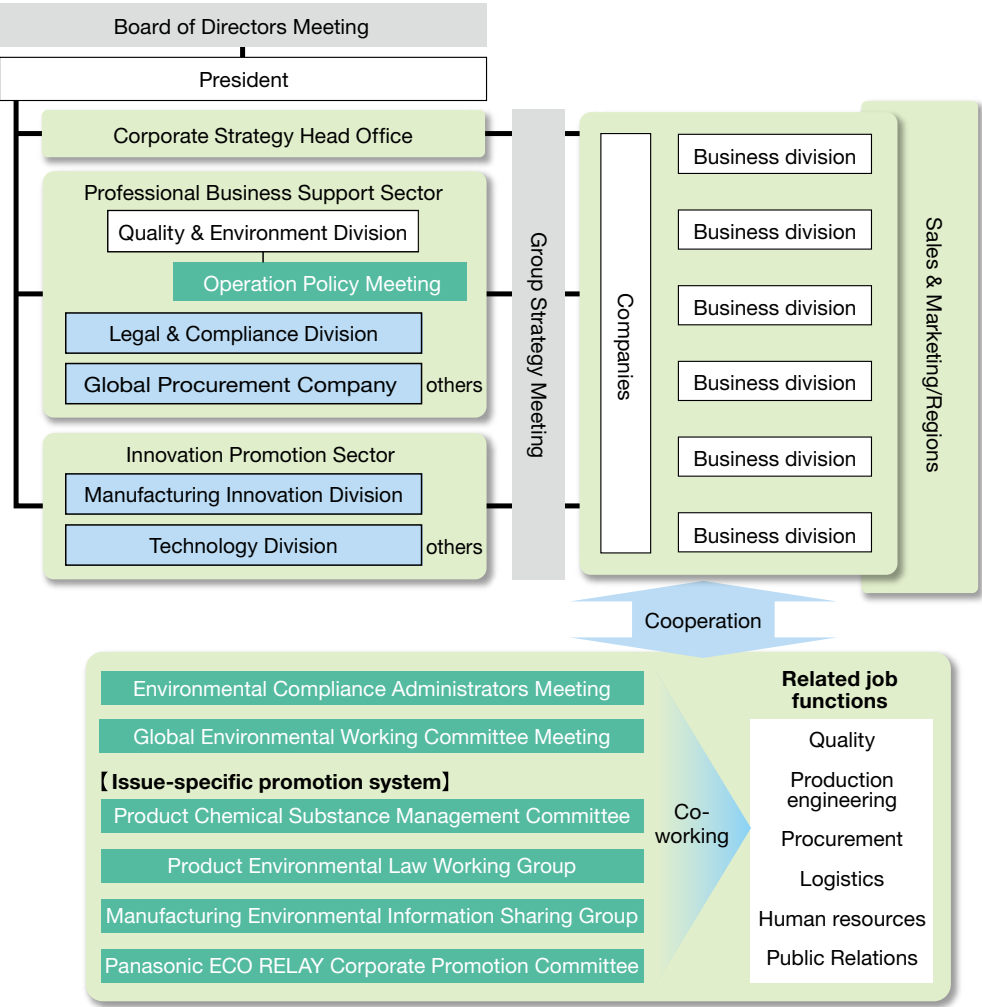
In principle, results of activities relevant to environmental targets are gathered and assessed on a monthly basis as environmental performance data, to identify the achievements, and additional measures are taken as needed. Feedback of annual performance data is given internally and disclosed externally 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 for Environmental Sustainability Management

To implement key measures across the entire company, theme-specific committees and working groups are formed to set a promotional structure that enables coordinated action across Companies, related job functions, and Regional Headquarters outside Japan. Specific examples include the Product Chemical Substance Management Committee which deliberates and ensures the implementation of chemical substance management guidelines, and the Product Environmental Law Working Group which engages in information sharing regarding environmental laws and regulations for products and reviews the actions to be taken.



Promotion System of Environmental Sustainability Management in Fiscal 2022





## Environment: Environmental Management Systems

### Implementation of Environmental Sustainability Management Based on Environmental Management Systems (EMS)

As the foundation of environmental sustainability management, Panasonic 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 Plan 2021.

Automotive Company and Industrial Solutions Company 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 were held remotely in fiscal 2021. The remote training scheme enabled employees who could not find sufficient time to attend the program to participate actively, resulting in highly effective training. Internal audits held by companies were also conducted remotely, both preventing COVID-19 infection and improving site management.

#### Acquired status of the ISO 14001 Certification (as of March 31, 2021)

Region	Number of certifications obtained*1		Total
	Manufacturing	Non-manufacturing	
Japan	13	10	23
North America & Latin America	14	0	14
Europe & CIS	9	1	10
Southeast Asia, & Oceania	41	9	50
China & Northeast Asia	52	1	53
India, South Asia, Middle East & Africa	7	1	8
Total	136	22	158

\*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. Certificate acquisition by manufacturing sites is at 96.7%, because a single certificate can cover multiple sites.

► Obtaining of ISO 14001 Certification

[https://www.panasonic.com/jp/corporate/sustainability/pdf/eco\\_isolist2019.pdf](https://www.panasonic.com/jp/corporate/sustainability/pdf/eco_isolist2019.pdf)

# Environment: Environmental Risk Management

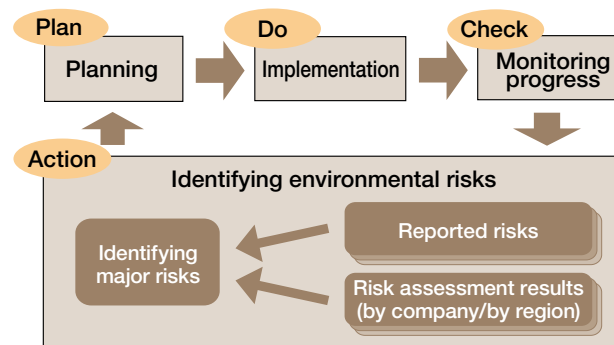
## Group-wide Systems to Manage Environmental Risks

As a tool to continuously reduce environmental risks, Panasonic has established an Environmental Risk Management System specific to each Company. In accordance with the basic risk management policy for all Companies (see page 129), 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 Company and for each region in the world each year. From these risks, environmental risks on a 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 Company, related job functions, and Regional Headquarters 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.

### Classification of Environmental Risks and Countermeasure Implementation



## Environmental Compliance Management at Factories

Panasonic manages its 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 Companies/Business Divisions, environment-related job functions, and Regional Headquarters, to ensure exhaustive compliance with legislation related to factory environment management in respective countries where Panasonic 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, we discovered no violations of environment-related legislation across the world in fiscal 2021. We continue our efforts for thorough legal compliance and the prevention of any recurrence.

## Compliance with Environmental Regulations Relating to Products

Panasonic manages compliance with regulations relating to its 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 content of 10 hazardous substances (see page 58 "Chemical Substances Management").

However, in fiscal 2020, 7 regulatory violation related to chemical substance management occurred overseas. We will tighten the criteria to judge potential inclusion of regulated substances to ensure thorough compliance with the laws and regulations.

## 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 sites. In response, we have conducted anti-contamination activities across the company. 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 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	<ol style="list-style-type: none"> <li>1. Conduct historical surveys</li> <li>2. Determine and install monitoring wells at the premises' borders</li> <li>3. Analyze groundwater at the borders</li> <li>4. Check possibility of pollution from external sources</li> <li>5. Report to management department</li> <li>6. Determine the external pollution dispersion prevention methods</li> <li>7. Install the external pollution dispersion prevention methods</li> <li>8. Install assessment wells</li> <li>9. Begin assessments (monitoring)</li> </ol>
Thorough pollution source elimination	<ol style="list-style-type: none"> <li>10. Conduct brief status check</li> <li>11-1. Horizontal direction detailed analysis</li> <li>11-2. Vertical direction detailed analysis</li> <li>12. Determine the magnitude of pollution</li> <li>13. Discuss the areas and methods of purification</li> <li>14. Conduct purification and install pollution dispersion prevention measures</li> <li>15. Monitor pollution source (groundwater) after purification</li> <li>16. Report purification completion to management department</li> </ol>

### Soil and Groundwater Pollution Surveys and Remedial Measures for Fiscal 2021

Region	Number of sites that completed remedial measures	Number of sites currently taking remedial measures
Global (including Japan)	6	38
Japan	(4)	(33)

In addition to the above, we 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.

The company cars owned and/or managed by Panasonic Japanese business sites are centrally managed on the corporate-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.

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



## Environment: Response to TCFD

Panasonic endorsed the TCFD recommendations<sup>\*1</sup> in May 2019. As we recognize 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.

<sup>\*1</sup> TCFD: 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

Our system to promote Panasonic Environmental Sustainability Management is headed by board of directors, so that information on environmental sustainability management from all of the group 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, as well as Environment Vision 2050, are examined and determined on the directions, issues, and particularly key measures in the Group Strategy Meeting where Panasonic president, presidents of group companies, and senior managers participate. Matters of special importance are deliberated on by the Board of Directors Meeting. The Board discussed the current state of progress and issues in achieving our Environment Vision 2050 in the Meeting held in March 2021.

In fiscal 2017, the Environmental Compliance Administrators (ECA) Meeting (held twice a year) was set up. Senior managers in charge of environmental affairs and persons in charge of environmental affairs in Companies participated in the ECA meeting and make decisions speedily on corporate-wide environmental management. In addition, examples of past good practices, challenges in implementation, and approaches to mid-term to long-term targets that respective Company and Regional Headquarters have are shared and discussed at the Global Environmental Working Committee Meeting, held twice a year, which consists of managers and persons in charge of environmental affairs in Companies and Regional Headquarters, seeking to enhance the level of corporate-wide environmental sustainability management through the PDCA management cycle.

See pages 15-16 for more details.

### Strategy

We analyzed their impacts on matters that are likely to affect climate change, based on our assessment of the risks and opportunities in our 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 23-26 for more details.

### Risk Management

As a tool to continuously reduce environmental risks, Panasonic is working to establish Company-specific Environmental Risk Management Systems, in accordance with the basic risk management policy for all Companies (see page 8). 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, the Global & Group (referred to as G&G, hereinafter) Risk Management Committee examines and discusses those major risks that require taking up as corporate risks from a corporate-wide points of view. The G&G Risk Management Committee also monitors progress of the measures as a means to improve and strengthen Group-wide risk management. In fiscal 2021 we listed natural disasters (earthquakes, flood damages) as one of our major risks. See pages 18, 129-131 for more details.

## Metrics and Targets

We announced the Environment Vision 2050 (see page 14) , 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)<sup>\*2</sup> in October 2017. See page 14 for more details on indicators for energy.

<sup>\*2</sup> 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 business activities (Scope 1 and 2)	Reduce by 30% (compared to FY2014)	123%
	Zero by 2050	37%
Emissions from use of our products (Scope 3)	Reduce by 30% (compared to FY2014)	11%

In addition, in May, 2021, we announced a target to make our total GHG emission (Scope 1 and 2) net-zero by 2030 as a milestone towards making the Environmental Vision 2050 real

► Direction that Panasonic 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>



## Environment: Strategic Resilience through Scenario Analysis

To verify the strategic resilience of our business, we 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 in each of our core 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
Acceleration of carbon pricing	<ul style="list-style-type: none"> <li>- Energy procurement costs increase.</li> <li>- Competition from low-carbon businesses intensifies toward carbon neutrality.</li> </ul>	<ul style="list-style-type: none"> <li>- Energy procurement costs stabilize because of increased demand for renewable energy.</li> <li>- Businesses related to fuel cells, energy-saving products, solution services, and energy management expand.</li> </ul>
Accelerated shift to electric vehicles	<ul style="list-style-type: none"> <li>- As more firms enter the automotive business, competition intensifies.</li> <li>- Increased demand for automotive batteries intensifies material procurement competition.</li> <li>- Higher cost of automotive batteries production reduces car business profitability and pressurize costs of components.</li> </ul>	<ul style="list-style-type: none"> <li>- Electric vehicle-related markets expand.</li> </ul>
Increased environmental awareness among consumers	<ul style="list-style-type: none"> <li>- Insufficient environmental efforts and promotion lead to unsupported by consumers.</li> <li>- Value shift from purchasing to leasing decreases sales.</li> </ul>	<ul style="list-style-type: none"> <li>- Recognition as a sustainable company and of sustainable products attracts more customers.</li> <li>- Businesses related to low-carbon products, eco materials, and energy management expand.</li> </ul>
Increased risk to reputation	<ul style="list-style-type: none"> <li>- Insufficient efforts in decarbonization reduce business opportunities.</li> </ul>	<ul style="list-style-type: none"> <li>- Recognition of environmental technologies and products increases business opportunities.</li> </ul>
Expansion of renewable energy usage	<ul style="list-style-type: none"> <li>- Investment in facilities with renewable energy increases.</li> </ul>	<ul style="list-style-type: none"> <li>- Highly efficient solar cells open new markets.</li> </ul>
Expansion of carbon-free power generation	<ul style="list-style-type: none"> <li>- Production energy procurement costs increase.</li> <li>- Regional disparity of carbon-free power generation lead to review the strategies of production sites.</li> </ul>	<ul style="list-style-type: none"> <li>- CO<sub>2</sub> emissions reduction throughout product lifecycles encourages shift to electric vehicles leading to related market expansion.</li> </ul>
Spread of ZEH/ZEB	<ul style="list-style-type: none"> <li>- Low-carbon products in housing equipment become mere commodities.</li> </ul>	<ul style="list-style-type: none"> <li>- Increased opportunities to provide energy management &amp; total solution services through housing equipment and home appliances.</li> <li>- Demand for heat insulation materials increases.</li> </ul>
Replacement with low-carbon products	<ul style="list-style-type: none"> <li>- Increases development costs of lightweight and robust materials for competitive low-carbon products.</li> </ul>	<ul style="list-style-type: none"> <li>- Increases demand for materials that contribute to reduction of energy consumption.</li> </ul>
Streamlining of supply chain	<ul style="list-style-type: none"> <li>- Expanded capital investment puts stress on balance sheet.</li> </ul>	<ul style="list-style-type: none"> <li>- Demand for energy management systems increase.</li> <li>- Lowered prices from reduced production costs increase sales.</li> </ul>
Conversion to a circular economy	<ul style="list-style-type: none"> <li>- Delay in recycling and reuse technologies increases costs.</li> <li>- Resource recycling does not suit consumers' tastes.</li> </ul>	<ul style="list-style-type: none"> <li>- Business models change to circular economy-based models.</li> <li>- Demand for recycled resources increases.</li> </ul>
Constant temperature rise	<ul style="list-style-type: none"> <li>- Poor health of employees reduces productivity.</li> <li>- High energy consumption from excess usage of air conditioners puts off consumers.</li> </ul>	<ul style="list-style-type: none"> <li>- Businesses related to healthcare, air conditioning and ventilation, energy management, housing, and cold chain expand.</li> </ul>
Physical risk management related to climate change	<ul style="list-style-type: none"> <li>- Suspension of operations at our factories.</li> <li>- Negative impact on supply chain.</li> </ul>	<ul style="list-style-type: none"> <li>- Demand for needs of resilient infrastructure increases.</li> <li>- Fuel cell business with resilience expands.</li> <li>- Disaster-resilient manufacturing by managing risks with BCPs.</li> </ul>

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.

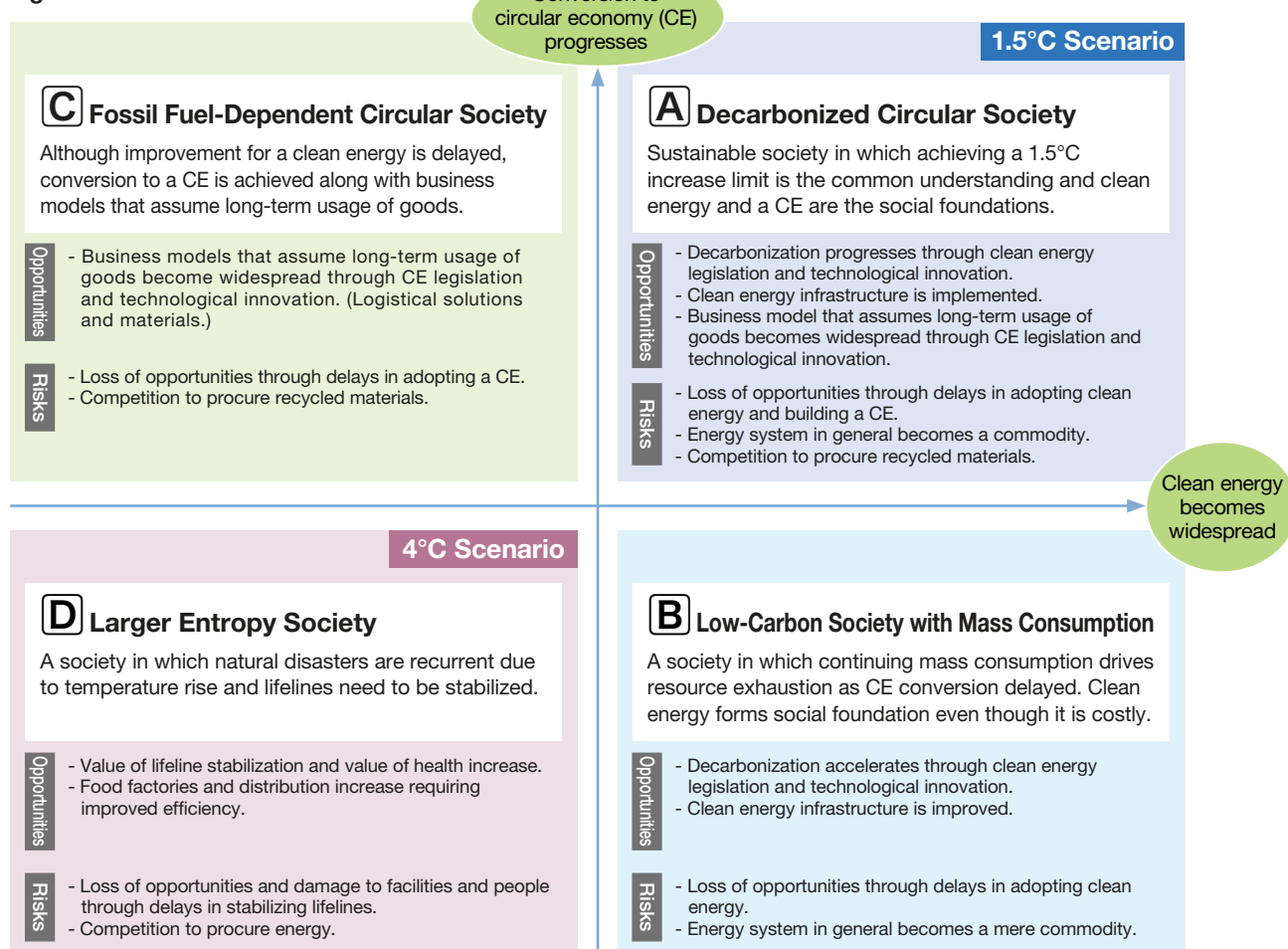


Figure 1 Impact Analysis of Climate Change Risks

Risk categories related to climate change	Transitional risks	Markets			● Conversion to a circular economy
		Policies/laws and regulations		● Acceleration of carbon pricing	● Progressive shift to electric vehicles
		Technologies	● Expansion of carbon-free power generation	● Expansion of renewable energy usage ● Replacement with low-carbon products ● Streamlining of supply chain	● Spread of ZEH/ZEB
		Reputation		● Rise of environmental awareness among consumers ● Increase of reputational risks	
	Physical risks	Acute		● Physical risk management related to climate change	
		Chronic	● Constant temperature rise		
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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



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 nine main businesses shown below.

- |                                 |  |  |
|---------------------------------|--|--|
| 1. Home appliance business      | 2. Air quality and air conditioning business | 3. Food distribution business            |
| 4. Smart Energy System business | 5. Electrical facility materials business    | 6. Frontline process innovation business |
| 7. Automotive device business   | 8. Automotive battery business               | 9. System device business                |

We have formulated strategies for each of the nine businesses from the climate change viewpoint. Some of the strategies are listed below, indicated with the corresponding scenario A to D.

### 1. Home appliance business

- |  |     |
|--|-----|
| ① Attain energy conservation performance in our products that surpass those of competitors, and offer energy saving value in customers' daily lives by utilizing IoT/AI. | A B |
| ② Increase usage of recycled materials and employ recycling-oriented manufacturing.  | A C |

### 2. Air quality and air conditioning business

- |   |         |
|---|---------|
| ① Create safe and secure, clean and comfortable spaces with our exclusive clean technologies in homes, shops, workplaces, transportation, public areas, and many other locations. | A B C D |
|---|---------|

### 3. Food distribution business

- |  |       |
|--|-------|
| ① Promote energy conservation offering comprehensive support for our energy monitoring system, which covers system installation to operations and maintenance. The equipment refurbishing service prolongs the system's usage, while contributing to material recycling. | A B C |
|--|-------|

### 4. Smart Energy System business

- |   |       |
|---|-------|
| ① Demonstrate energy management through practical and full usage of hydrogen energy and roll out the RE100 solution business. | A B D |
|---|-------|

### 5. Electrical facility materials business

- |  |         |
|--|---------|
| ① Reduce energy consumption by producing more energy-efficient equipment and installing energy management systems in houses and buildings. | A B C D |
|--|---------|

### 6. Frontline process innovation business

- |  |     |
|--|-----|
| ① Reduce waste energy and waste goods by supply chain orchestration, such as streamlining corporate customers' logistics and responsive tuning of demand and supply. | A B |
| ② Offer solutions to improve energy efficiency and automation at corporate customers.  | A B |

### 7. Automotive device business

- |  |         |
|--|---------|
| ① Expand assortment of products that contribute to electrification and weight reduction of vehicles. | A B C D |
| ② Expand the number of products made from recycled resin materials.                                  | A C     |

### 8. Automotive battery business

- |  |       |
|--|-------|
| ① Encourage shift to electric vehicles through further performance enhancement, cost reduction, and production expansion.                                  | A B C |
| ② Reduce energy usage in material procurement, by reducing or making usage of rare metals zero (e.g. cobalt) and promoting recycling of battery materials. | A B C |

### 9. System device business

- |   |     |
|---|-----|
| ① Provide devices and modules that contribute to electrification and enhanced power usage efficiency of vehicles.         | A B |
| ② Contribute to peak shaving of data centers etc. by strengthening our skills to offer the optimum power storage systems. | A B |

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**.



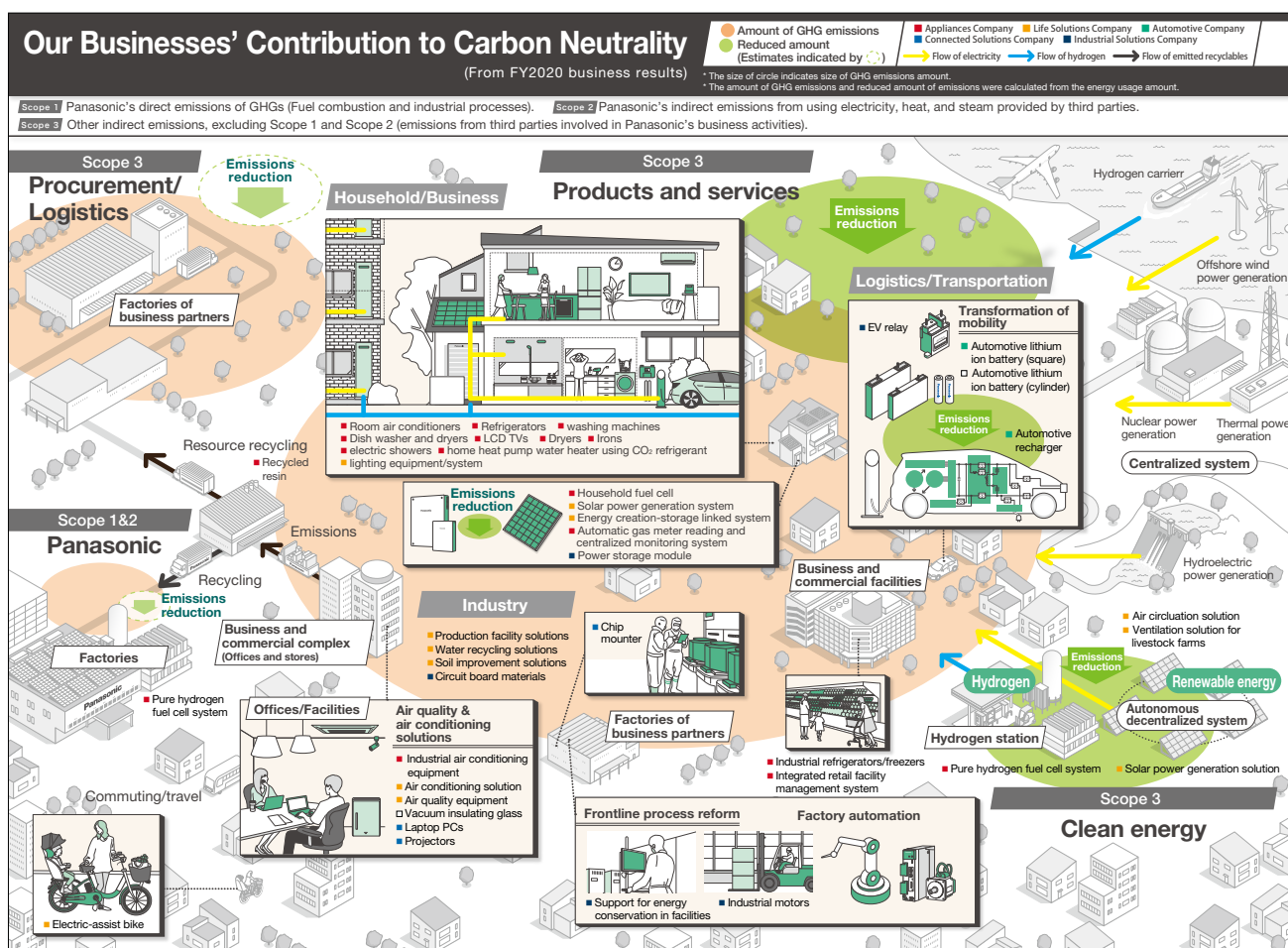
## Environment: Environmental Loads on Climate Change caused by Business Activities and Its Minimization

Since its foundation, Panasonic's mission has been to contribute to make better life style choices and advancing society through its electrical appliances and related services. Automobiles are increasingly electrically powered, and 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<sub>2</sub> emissions, causing acute and prolonged climate change. It is an imminent task for human beings to stop this climate change. We estimate our greenhouse gas (GHG) emissions from our entire supply chain is 110 million tons per year (total of figures in orange circles in the illustration shown below). Out of this total, 85 million tons are Scope 3 GHG emissions that are generated from the energy usage from our products and services while in use at our customers in society. We are aware that our greatest social responsibility concerning climate change lies in this area.

To address this issue, we set a business strategy to achieve customer value and the sustainability of the global environment at the same time, through our new higher efficiency products and services. We pursue the highest energy-saving performance in our electric appliances—from home air conditioners and washing machines to industrial refrigerators and freezers. We also offer energy management solutions that can operate these appliances in the most efficient way. By combining these appliances and energy management solutions, we aim to reduce energy consumption in households and businesses.

To realize a society where people can live comfortably with clean energy, it is essential to further electrify the transportation and industrial sectors, where fossil fuel is still heavily used as a thermal and power source. We are expanding the device system service that contributes to electrification and efficiency enhancement in the transportation and industry, through automotive electrification, including automotive battery development and reform of production and distribution processes. We believe increasing the number of electrified products and services will generate demand for further energy conservation.

Solutions for the energy "created" such as creation of clean energy with autonomous decentralized system (Solar power generation) and utilization (Hydrogen and Storage power) are the area Panasonic can uniquely contribute to. By making our business activities to contribute not only to reduction of the energy "used" by customers and societies, but also to increase of the energy "created", we aim to build a carbon-neutral society and lifestyle by 2050 by decreasing energy usage and increasing energy creation at our customers.



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

## Environment: 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 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<sub>2</sub> 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<sub>2</sub> 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 Company and the Head Quarters. 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 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, Panasonic renewed the system to adopt chemSHERPA,<sup>\*1</sup> 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 automotive business, we also adopted the JAMA/JAPIA sheet,<sup>\*2</sup> 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<sup>\*3</sup>, 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<sup>\*4</sup>) to waste disposal companies and consumers have been enhanced, and registration of SVHCs with the SCIP<sup>\*5</sup> 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.

<sup>\*1</sup> New chemical information format led by METI and recommended by the Joint Article Management Promotion-Consortium (JAMP).

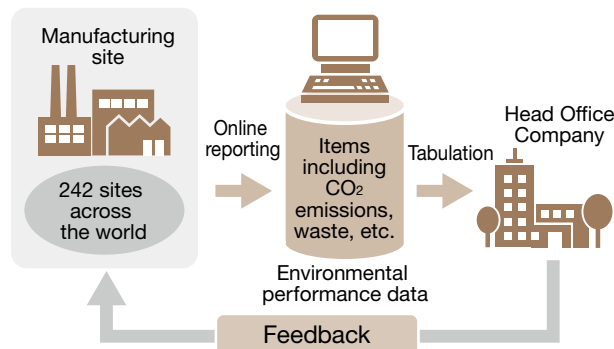
<sup>\*2</sup> A standardized survey datasheet for contained chemical compounds in Japan's automotive industry.

<sup>\*3</sup> International Material Data System: Material data system for the automobile industry that are operated on a global scale.

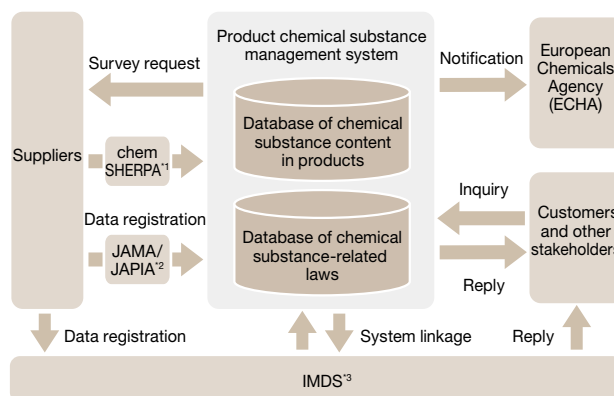
<sup>\*4</sup> Substances of Very High Concern

<sup>\*5</sup> Substances of Concern In articles as such or in complex objects (Products)

#### Mechanism of the Eco System (Factory)



#### Mechanism of the Product chemical substance management system





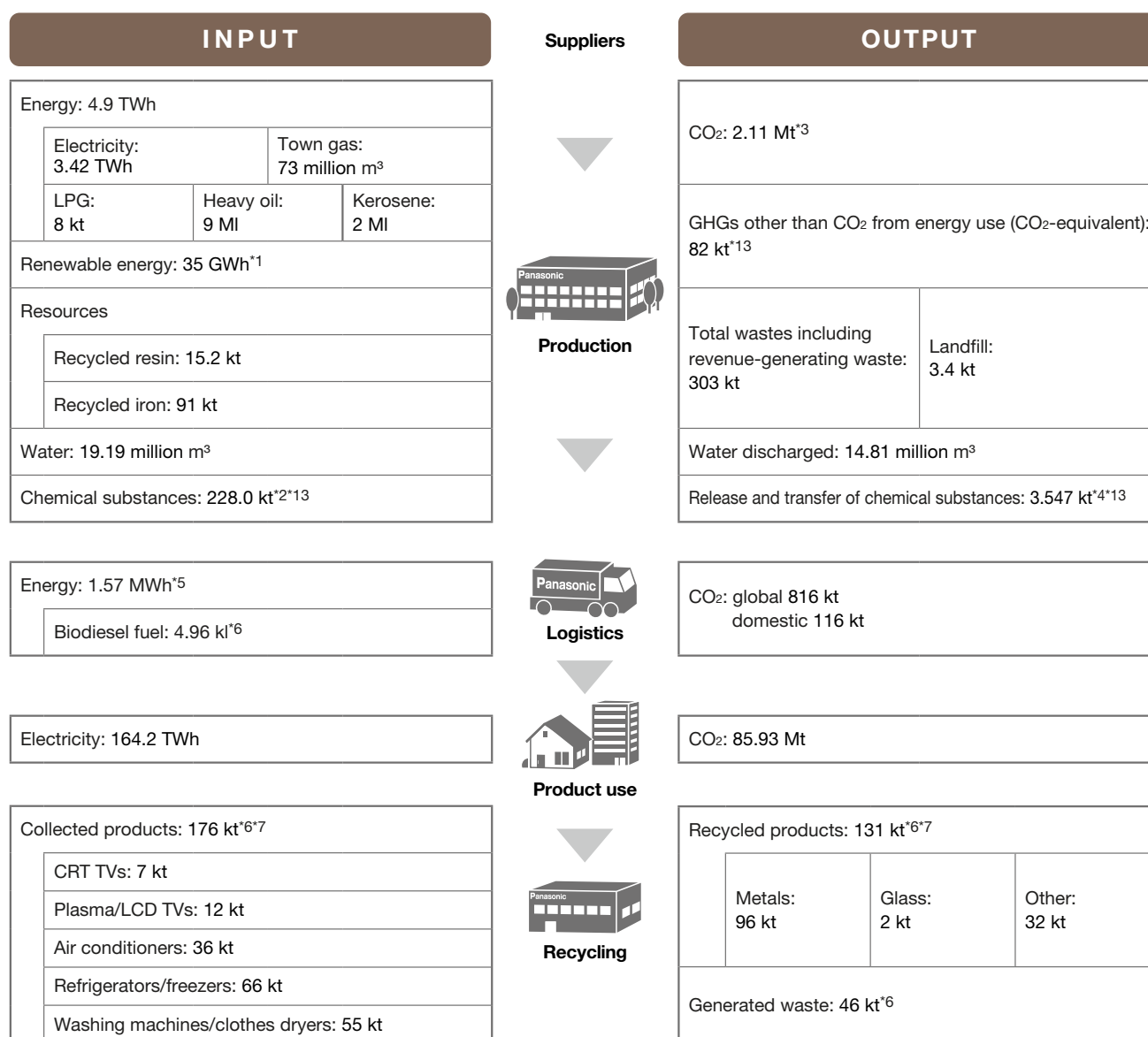


# Environment: Overview of Environmental Impact and Environmental Accounting

## Overview of Environmental Impact from Business Operation

In order to mainly manufacture and market electrical and electronic products, Panasonic consumes petroleum and electricity as energy sources and resources as raw materials of parts and components. As a result, we emit CO<sub>2</sub> and wastes into the environment. This diagram maps the environmental impact from our 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



Production: 242 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<sup>\*8</sup> with large amounts of energy use and CO<sub>2</sub> emissions (b) associated therewith.

a = Annual power consumption of a model sold<sup>\*9</sup> x Sales quantity x product life<sup>\*10</sup>

b = Annual power consumption of a model sold<sup>\*9</sup> x Sales quantity x product life<sup>\*10</sup> x CO<sub>2</sub> emission factor<sup>\*11</sup>

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 materials of a separated product.

\*1 Figures from photovoltaic, wind, and biomass sources. 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<sub>2</sub> Emissions from Fuel Combustion 2019 issued by the International Energy Agency (IEA) is used for the CO<sub>2</sub> 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 Panasonic pays 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, washing machines/clothes dryers, and PCs.

\*8 As for personal computers, PC 3R Promotion Association (one corporation) 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 Panasonic).

\*12 Regional CO<sub>2</sub> emission factors (kg-CO<sub>2</sub>/kWh) used: 0.522 (Japan); 0.331 (Europe); 0.421 (NorthAmerica); 0.623 (China & Northeast Asia); 0.718 (India & South Asia); 0.395 (Southeast Asia & Oceania); 0.297 (Latin America); and 0.709 (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)	
		FY2020	FY2021
Scope 1 <sup>*14</sup>		39	33
Scope 2 <sup>*15</sup>		193	187
Scope 3 <sup>*16</sup>	1. Purchased goods and services	1,805	1,656
	2. Capital goods	72	64
	3. Fuel- and energy-related activities	24	23
	4. Upstream transportation and distribution	86.6	81.5
	5. Waste generated in operations	1.6	1.5
	6. Business travel	2.2 <sup>*17</sup>	1.2 <sup>*17</sup>
	7. Employee commuting	3.0 <sup>*17</sup>	2.0 <sup>*17</sup>
	8. Upstream leased assets	1.5 <sup>*17</sup>	2.4 <sup>*17</sup>
	9. Downstream transportation and distribution	2.0 <sup>*17</sup>	1.7 <sup>*17</sup>
	10. Processing of sold products	—	—
	11. Use of sold products	8,313	8,593 <sup>*18</sup>
	12. End-of-life treatment of sold products	118	105
	13. Downstream leased assets	—	—
	14. Franchises	—	—
	15. Investments	—	—

\*14 Direct emissions from facilities owned and controlled by Panasonic (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 Panasonic.

\*16 Other indirect emissions, excluding Scope 1 and Scope 2.

\*17 Figures for Japan.

\*18 The number of lighting products sold overseas to be used for calculation of CO<sub>2</sub> emissions during use of the lighting products was used to be calculated with the sales amount of the lighting products overseas and the average unit selling price. However, the number of lighting products actually sold overseas has been used for the calculation to improve its accuracy since FY2021. When calculated with the previous method, the total CO<sub>2</sub> emissions is 8,013 (10kt).



## Environmental Accounting

Panasonic 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 2021

Environmental conservation in factories	
Investments* <sup>19</sup>	2,439 million yen
Expenses* <sup>19,20</sup>	139 million yen
Economic benefit	1,522 million yen

\*<sup>19</sup> Includes all investments relating to environmental conservation. The difference or appropriate portions (divided proportionally) are not calculated.

\*<sup>20</sup> 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 2021 (in physical terms)

Categories	Emission reduction	Reference indicator: environmental impact	
		Fiscal 2020	Fiscal 2021
CO <sub>2</sub> emissions from production activities	120 kt	2.23 Mt	2.11 Mt
Human Environmental Impact	36 kcount	466 kcount	430 kcount
Landfill of waste	0.0 kt	3.4 kt	3.4 kt
Water consumption	3.92 million m <sup>3</sup>	23.11 million m <sup>3</sup>	19.19 million m <sup>3</sup>

Fiscal 2020 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 2021

Electricity cost reduction from product usage (global)	
Reduced amount of electricity* <sup>21</sup>	30.7 TWh
Reduced electricity costs* <sup>22</sup>	509 billion yen

\*<sup>21</sup> Calculated under the same conditions as when determining the size of contribution in reducing CO<sub>2</sub> emissions through energy-saving products (see page 37-38).

\*<sup>22</sup> Electricity costs were set for each region based on IEA Statistics.

Panasonic also has been working on research and development. The R&D expenses for leading activities related to environment, which are implemented corporate wide, were approx. 7.4 billion yen in fiscal 2021.

## Environment: Eco-conscious Products and Factories

### Initiatives for Eco-conscious Products (Green Products)

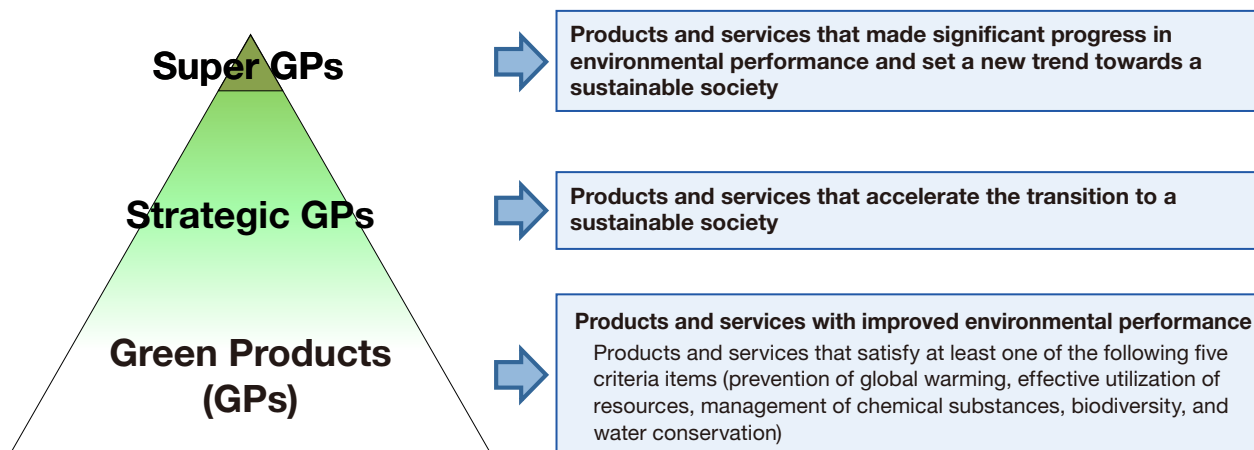
Based on the product assessment system where the environmental impacts of products and services area assessed from the planning and the design stages, Panasonic accredits own products and services that achieved high environmental performance as Green Products (GPs).

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 conduct 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\*<sup>1</sup> 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.

\*<sup>1</sup> 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.)

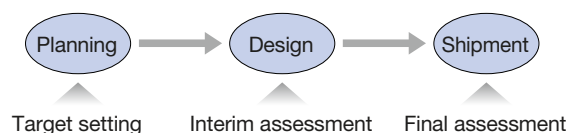
##### (2) Products and services whose promotion and dissemination lead to reducing environmental impact

(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.)

## Products Assessment System



Product Environmental Assessment		
Items for assessment		Assessment criteria
(1) Products	Prevention of global warming	CO <sub>2</sub> emissions and energy saving
	Effective utilization of resources	Resource saving, light weight/downsizing, number of reused parts, durability, amount of recycled resources used, 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 <sub>2</sub> 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's 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

\*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 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 is 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<sub>2</sub> 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<sup>\*3</sup> aiming to further improve GF activities by visualizing the progress status in each factory.

In addition, we share 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 company-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<sub>2</sub>, waste, chemical substances, water, etc.

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 own 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 global sites.



cross-company compliance assessment (CCCA)

<sup>\*3</sup> 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 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.



## Environment: Initiatives for a Carbon-Neutral Society

In October 2020, the Japanese Government committed to being carbon neutral, that is, reducing CO<sub>2</sub> emissions to zero, by 2050. Since formulating our “Environmental Vision 2050” in 2017, we have introduced various activities to offset energy used with energy created to achieve this goal.

### Reducing greenhouse gas (GHG) emissions from our business activities

We are committed to achieving zero-CO<sub>2</sub> emission at our production sites. We aim to reduce CO<sub>2</sub> emissions from our factories to zero by using energy-efficient technologies, introducing renewable energy and purchasing environmental value. In August 2019, we joined RE100, an international initiative that brings together companies committed to sourcing 100% renewable electricity for their global business operations. In this way, we are working to achieve zero CO<sub>2</sub> emissions.

See pages 39-43 for more details.

### GHG Reduction in Products and Services

In our business areas, we have a wide variety of products and technologies which can contribute to realizing a carbon-neutral society. By expanding these business areas, we aim to expand the contributions towards a carbon-neutral society. As products and services to reduce the emissions of greenhouse gases, we offer energy-management products and solutions that link and control a range of energy-saving/creating/storing products.

In March 2021, the Suita Sustainable Smart Town project acquired S ranking, the highest certification for cities under CASBEE, the assessment index for the environmental performance of cities.

AiSEG2, our home energy management product, is a core equipment of ‘HOME IoT’ for residential use that connects various home appliances and facilities with the Internet to work in conjunction. With the “HOME IoT” upgraded in June 2019, conjunction of the home charger for electric vehicles and the solar photovoltaic system has been realized. A new charging function combined with a solar photovoltaic system ‘AI Solar Charge®’ is an AI-based function that identifies the excess amount of the power to be generated by the photovoltaic system for the following day by calculating the total power to be generated and the power to be used based on the weather forecast for the day. When the function identifies the excess amount, it utilizes the excess amount without loss of the power by reducing the amount of power for charging the vehicle over the night before. With the AiSEG2 upgraded in December 2020, created energy can be utilized more efficiently by operating in conjunction with EcoCute and storage batteries, even during power outage.



AiSEG2 (with a 7-inch monitor)

In addition to the energy management of individual buildings, we are advancing the Sustainable Smart Town project to provide a better lifestyle throughout the entire town.

Following the projects in Fujisawa and Tsunashima, as the third project, we formulated a concept for Suita Sustainable Smart Town in September 2019. Based on the concept, we are working on the town planning with 15 companies from different fields. As our activities in energy field, throughout this project, we aim to create Japan’s first ‘100% renewable energy town’, where the net power used in the town is supplied from renewable energy source; and we plan to increase the town’s energy resilience at the same time by utilizing storage batteries for houses and electric vehicles, and advanced gas equipment. In March 2021, the project acquired S ranking, the highest certification for cities under CASBEE, the assessment index for the environmental performance of cities.



Suita Sustainable Smart Town

See pages 37-38 for more details.

For more business areas that contribute to reduction in GHG emissions, see pages 27-28 for more details.

### Creating and using clean energy

We are making the transition to clean energy by developing fuel cell technology, which generates power from hydrogen, and developing storage battery systems for eco-cars and electric vehicles.

See page 11 for more details.



## Environment: Energy

### Approaches and Activities Relevant to Energy (Products)

Towards “a better life” and “a sustainable global environment” compatibly, in order to realize the Panasonic Environment Vision 2050 that aims to make societies where residents use clean energy and live a more comfortable lifestyle, we are striving to make the amount of the “energy created” exceed that of the “energy used.” In terms of energy relevant to our products and services, Green Plan 2021 sets “increase the amount of the energy created” and “increase the size of contribution towards energy savings” in products and services as quantitative targets.

The Paris Agreement that came into effect in November 2016 sets out a target to limit global temperature increases to less than 2°C above pre-industrial levels and a more ambitious target to keep global temperature increases to less than 1.5°C above pre-industrial levels, as well as sets the goal for CO<sub>2</sub> and other greenhouse gas emission levels for the second half of this century to be virtually zero. In order to achieve the goals set by the Paris Agreement, we must reduce greenhouse gas (GHG) emissions as much as possible. Therefore, all corporations are expected to further contribute to reduction in GHG emissions. Our efforts in line with the Panasonic Environment Vision 2050 also contribute to reducing GHG emissions. We set targets to reduce these emissions from our business activities and our products by 30% by 2030 (vs. FY2014) and reach net zero by 2050, as well as reducing emissions from usage of our products by 30% by 2030 (vs. FY2014). This last target obtained accreditation for the targets as a Science Based Target\*<sup>1</sup> (SBT) in October 2017.

\*<sup>1</sup> SBT: an abbreviation of Science Based Target. It is a target to reduce GHG emissions consistent with scientific knowledge toward the goals to limit global temperature increases to less than 2°C above pre-industrial levels.

### 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 our products at customer sites, and “utilization” of the power stored 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 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 in customers’ premises, we set numerical targets.

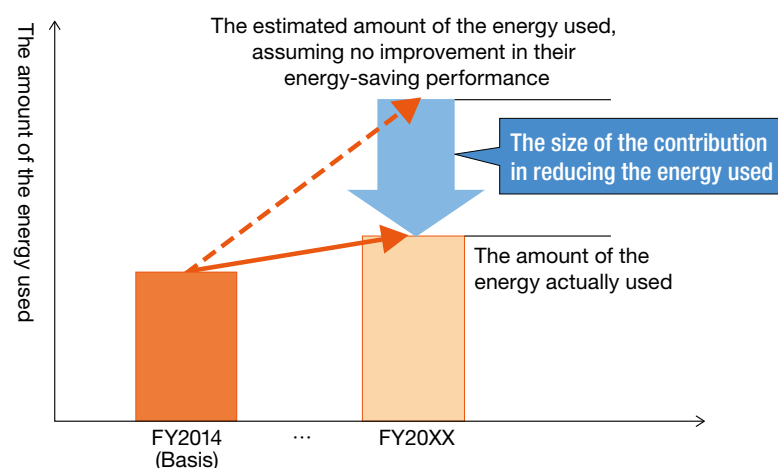
The fiscal 2020 result was 16 TWh.

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

We define the “energy used by our products and services” as the amount of the energy used by our 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.

## The size of contribution in reducing the amount of the energy used



Within the “size of the contribution in reducing the amount of the energy used,” we classify the contribution into two; 1) the contribution by our finished products, as “direct contributions”<sup>\*2</sup> and 2) the contribution by products and services except our finished products, as “indirect contributions.”<sup>\*3</sup>

The “size of the contribution in reducing the amount of the energy used” in fiscal 2020 was 31 TWh. Of this, the direct contribution was 30TWh and the indirect contribution was 1.8 TWh.

<sup>\*2</sup> Scope of the direct contribution: 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.

<sup>\*3</sup> Scope of the indirect contribution: Motors, thermal power conversion unit.

Reduction of the amount of the energy used is also reduction in GHG emissions. The size of the contribution in reducing CO<sub>2</sub> emissions converted<sup>\*4</sup> from the size of the contribution in reducing the amount of the energy used was 17 Mt.

<sup>\*4</sup> CO<sub>2</sub> emission factors (kg-CO<sub>2</sub>/kWh) used by region: 0.522 (Japan); 0.331 (Europe); 0.421 (North America); 0.623 (China & Northeast Asia); 0.718 (India & South Asia); 0.395 (Southeast Asia & Oceania); 0.297 (Latin America); and 0.709 (Middle East & Africa).

## Expanding energy creation and energy-saving businesses

Miyako Island 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,<sup>\*5</sup> 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<sup>\*6</sup>. Panasonic products are contributing to this project.

<sup>\*5</sup> Standard protocol for Home Energy Management Systems (HEMS) that comprise houses recommended by the Ministry of Economy, Trade and Industry.

<sup>\*6</sup> 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.

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





## Environment: The Amount of the Energy Used and Energy Created in Factories

### Reducing the Amount of the Energy Used and CO<sub>2</sub> Emissions in Production Activities

Panasonic promote making its factories zero-CO<sub>2</sub> emission factories as a part of efforts towards the Environment Vision 2050. Zero-CO<sub>2</sub> emission factories contribute not only as measures for climate change, but also to reinforcement of environmental sustainability management through energy-saving measures in factories, reduction in CO<sub>2</sub> emissions, productivity improvement, and reduction in energy costs. We formulated an “Environmental Action Plan, Green Plan 2021” for the current medium term with a focus on ‘energy’ as one of the priority issues. Based on the plan, all our factories are working to ‘promote zero-CO<sub>2</sub> emission model factories’, ‘increase the use of renewable energy’, and ‘promote production with energy minimum.’”

As a part of efforts to ‘promote zero-CO<sub>2</sub> emission model factories’ in fiscal 2021, Panasonic Energy (Wuxi) Co., Ltd. (PECW) in China realized zero CO<sub>2</sub> emissions.<sup>\*1</sup>

In the area of ‘increasing the use of renewable energy’, the amount of renewable energy adopted at our sites<sup>\*2</sup> in fiscal 2021 marked 35 GWh and this figure shows steadily increasing transformation of the use of power towards the fiscal 2022 target of renewable energy generated at our sites of 40 GWh.

As a part of efforts to ‘promote production with energy minimum’, each factory takes its own initiatives on the promotion.

The fiscal 2021 investment to reduce the amount of energy used and CO<sub>2</sub> emissions by the efforts was 2.2 billion yen.<sup>\*3</sup>

These efforts in fiscal 2021 resulted in 4.9 TWh<sup>\*4</sup> of the energy used in factories, and the amount of CO<sub>2</sub> emissions was 2.11 Mt in fiscal 2021.

In August 2019, Panasonic joined ‘RE100’,<sup>\*5</sup> an international initiative of corporations committed to change over to 100% renewable energy to be used for electricity in their business activities. We aim to replace all of our purchasing electricity across the world to 100% renewables by 2050, as well as to realize manufacturing with zero CO<sub>2</sub> emissions. The progress ratio in FY2021 is 2.5%.

Additionally, Panasonic has participated in Keidanren’s “Action Plan for Low Carbon Society”, a voluntary action program to prevent global warming, collaborating all members of the whole electrical and electronic industry, with targets set for 2030. Specifically, we are steadily implementing energy-saving measures at our factories and offices to achieve the goals set by the industry in Japan, aiming to ‘improve the energy consumption per basic unit at our factories and large offices at an annual rate of 1% on average towards 2030’.

<sup>\*1</sup> See pages 11-12 for relevant topics.

<sup>\*2</sup> The total amount of the adoption is subject to the amount of photovoltaic energy, wind power, and biomass energy including the amount of the renewable energy adopted at our manufacturing sites and non-manufacturing sites, excluding the amount of energy from heat pumps.

<sup>\*3</sup> The total amount includes all investments concerning reduction of the amount of the energy used and CO<sub>2</sub> emissions. Note that differences or proportions of the investment are not calculated.

<sup>\*4</sup> 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 3.6MJ/kWh. These two values are then totaled. Because of the change, the amounts of the energy used in the preceding years were also recalculated with the new factors.

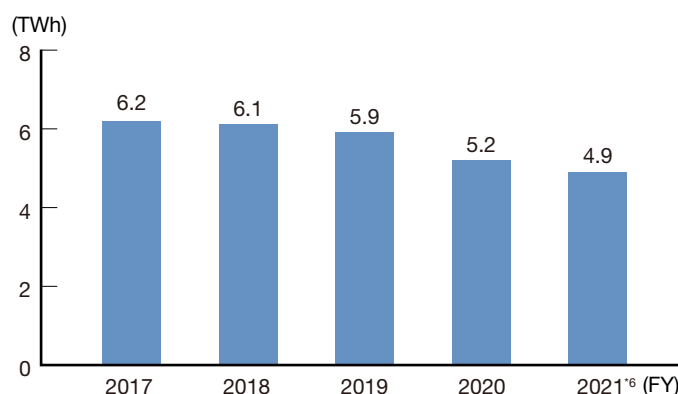
<sup>\*5</sup> Press release on August 30, 2019.

Panasonic Joins RE100 Aiming for Business Operations with 100% Renewable Energy

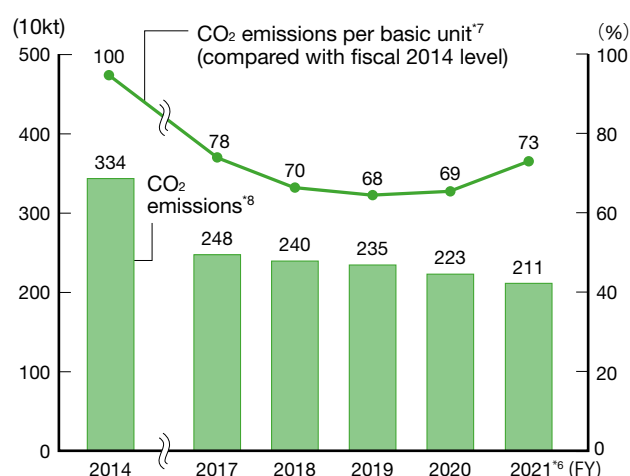
<https://news.panasonic.com/global/press/data/2019/08/en190830-2/en190830-2.html>



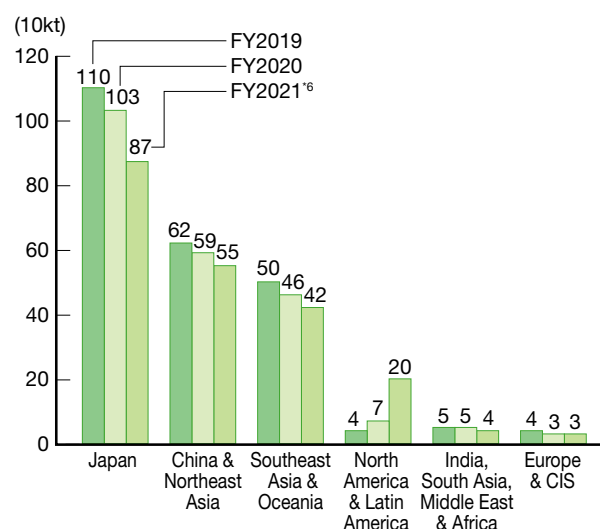
## Energy Consumption in Production Activities



## CO<sub>2</sub> Emission in Production Activities and CO<sub>2</sub> Emission Per Basic Unit



## CO<sub>2</sub> Emission in Production Activities (by region)



\*6 Includes emissions of Panasonic Corporation of North America in FY2021

\*7 We calculated the improvement rate of the 'CO<sub>2</sub> emissions per basic unit' versus that of fiscal 2014', which was obtained by dividing CO<sub>2</sub> emissions by the revenue of all group companies.

\*8 The CO<sub>2</sub> emission relevant to fuels was obtained by calculating with the factors stated in the "Guidelines for Calculation of Greenhouse Gas Emissions (version 4.7)" published by Japan's Ministry of Environment. The factors for purchased electricity by country per fiscal year defined in "CO<sub>2</sub> 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.

## Promotion of Zero-CO<sub>2</sub> Model Factories

In our regions across the world (Five regions: Japan; China & Northeast Asia; Southeast Asia, Pacific, India, South Asia, Middle East & Africa; North America & Latin America; and Europe & CIS), we set a target of realizing at least one zero-CO<sub>2</sub> emission factory in each region. We have realized six zero-CO<sub>2</sub> emission factories across four regions.\*9

In fiscal 2021, Panasonic Energy (Wuxi) Co., Ltd. (PECW) became China's first zero-CO<sub>2</sub> emission factory through manufacturing using the minimum energy, installing a photovoltaic power generation system, procuring International Energy Certified (I-REC) energy,, and using carbon credits that offset CO<sub>2</sub> emissions from fossil fuels, etc.

In Japan, Panasonic Eco Technology Center (PETEC), the Panasonic Group's home appliance recycling factory, realized a zero-CO<sub>2</sub> emission factory in fiscal 2019. In the North America & Latin America region, we realized total four zero-CO<sub>2</sub> emission factories: three in Panasonic Brazil (PANABRAS)'s sites in Extrema, San Jos dos Campos, and Manaus, and one in Panasonic Centroamericana S.A. (PCA). In the Europe & CIS region, Panasonic Energy Belgium N.V. (PECBE) realized a zero-CO<sub>2</sub> emission model factory. In addition to roll-out of the zero-CO<sub>2</sub> emission model factory in each region, we will promote to increase the number of zero-CO<sub>2</sub> emission factories in Asia.

\*9 The number does not include the number of EU dry battery factory whose transfers of stock were completed in June, 2021.

## Promotion to Reduce the Amount of the Energy Used and CO<sub>2</sub> Emissions in Factories

To ensure steady progress in reducing the amount of energy used and CO<sub>2</sub> emissions in factories, 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. To date, we have worked on CO<sub>2</sub> reduction by adopting more than 40,000 measurement equipment systems and Factory Energy Management System (FEMS) at all of our global manufacturing sites, promoting METAGEJI (Meter and Gauge)<sup>\*10</sup>, which visualizes and analyzes energy consumption.

An example of factory energy-saving support service is on the following website.

<https://www.panasonic.com/global/corporate/sustainability/eco/co2/service.html>

<sup>\*10</sup> METAGEJI is a coined word created by Panasonic which refers to visualizing energy consumption and implementing measurable reduction measures by adopting measurement instruments, such as meters and gauges.

## Activities at Factories

Activities to promote to reduce the amount of energy used and CO<sub>2</sub> emissions are being proactively continued in each factory. Several factories in such activities won the Prize of Director General Agency for Natural Resources and Energy and the like in the Energy Conservation Best Practices category under the 'Energy Conservation Grand Prize 2020'. The following projects received the awards.

The Prize of the Director General Agency for Natural Resources and Energy: Kato factory, Kitchen Appliances Business Division, Appliances Company, Panasonic Corporation.

"Comprehensive energy-saving measures in an integrated production factory led by factory's top management."

This project took place in our rice cooker factory, where the production volume has decreased. The factory's top management reconstructed an energy-saving promotion structure to boost and establish energy-saving activities. As a result, a significant energy reduction was achieved. Using this project as model, texts for leaning energy-saving were prepared and rolled out to other sites, which has enhanced the development of human resources, etc. The prize was awarded in recognition of these various efforts.



Kato factory, Appliances Company

Prize of the Chairman of Energy Conservation Center, Japan (ECCJ): Panasonic SPT Co., Ltd.

"Challenge to be an energy-saving model factory through installation of a high-efficient production facility by devising new method."

The prize was a result of the overall recognition of our united factory-wide efforts in achieving energy conservation by installing a unique and highly efficient production facility and improving operational efficiency in an production factory of pipes for wiring.



Panasonic SPT Co., Ltd.

We are also progressing with minimum energy production by reducing production loss utilizing IoT and improving productivity in production with innovative manufacturing methods. The Manufacturing innovation Division, which is leading the evolution of our manufacturing, is now developing a system to predict abnormality of equipment/facility using AI analysis of chronological data. This is an attempt to reduce defects and quality losses occur in production processes in manufacturing sites, while improving operational efficiency in production. With the system, the amount of required energy for the equipment/facility is reduced as a whole, as it will be able to detect signs of defects in processing and abnormality of equipment/facility by monitoring its trends, as well as to conduct proper preventive maintenance by indicating options for maintenance of the equipment/facility based on the abnormal trends. This maintenance can then be implemented by any operator regardless of their skill level.

We plan to elaborate these as practical technologies and apply them to various our production processes, particularly to processing processes such as presses and molding, as well as to the processing equipment itself.

## Activities for Increasing the Amount of Renewable Energy Use

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

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. Photovoltaic power generation systems, including Panasonic HIT® Photovoltaic Modules, are particularly recommended for installation wherever possible. Main installation examples of this system in fiscal 2021 are those installed at locations in Japan and in other Asian region.

In Japan, in November 2020 Connected Solutions Company installed a photovoltaic power generation system with a capacity of 5.3 kW at their Storage Business Development Center in Tsuyama Factory. This system actually generated 1.8 MWh in fiscal 2021. Also, in March 2021, Panasonic Smart Factory Solutions Co., Ltd., installed a system with a capacity of 11.7 kW in Kaga Factory.

In Asia, Panasonic Manufacturing Malaysia Berhad (PMMA) installed HIT® panels with a capacity of 1.58 MW (4872 pieces x panel of 325 W/piece), commencing operations in October 2020. The system produced approx. 1,090 MWh in fiscal 2021.

Thanks to the series of efforts described above and the commencement of full-scale operations of existing photovoltaic systems in different sites, our in-house renewable energy adoption in fiscal 2021 for the entire company\*\*11 reached 35 GWh.\*\*11 We are steadily making progress towards the 'target of generating 40 GWh renewable energy across our sites'.

We are continuously promoting to adopt photovoltaic power generation system in other global sites in addition to those mentioned above. We will continue our efforts to achieve further reductions in CO<sub>2</sub> emissions.

Examples of the use of renewable energy are on the following website.

<https://www.panasonic.com/global/corporate/sustainability/eco/co2/site.html>

\*11 The total amount of adoption is subject to the amount of photovoltaic energy, wind power, and biomass energy, including the amount of renewable energy adopted at our non-manufacturing sites, but excluding the amount of energy from heat pumps.

Procurement of renewable energy from external sources has been also promoted across the globe.

In Japan, 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 factories and offices. Utilizing our knowhow and experience of electricity procurement and trading that we have accumulated to date, we procure electricity generated from biomass and wind, as well as environmental value, such as non-fossil fuel certificates and credits to offset fossil fuel-derived CO<sub>2</sub> emissions.

These efforts have contributed to achieving zero-CO<sub>2</sub> emissions in Panasonic Eco Technology Center (page 40) and Panasonic Center Tokyo (page 12).

We also started selling our employees with electricity derived from practically 100% renewable energy in fiscal 2021.

### Approach towards the CO<sub>2</sub> Emissions Trading Scheme in China

In China, an Emissions Trading Scheme (ETS) for the power industry started in December 2017. In 2020, 2,225 power operators and related entities participated in the scheme. In response to the announcement of the carbon neutrality target set by the China government, it is expected that the related regulations will be more tightened and interim treaty for national carbon emissions will be released within 2021. As a company that owns multiple business sites in China, we will continue to respond to relevant regulations considering risks and opportunities, making the best of our CO<sub>2</sub> emissions reduction skills in production, cultivated over the years.



Photovoltaic power generation system at Tsuyama Factory



Photovoltaic power generation system at Kaga Factory



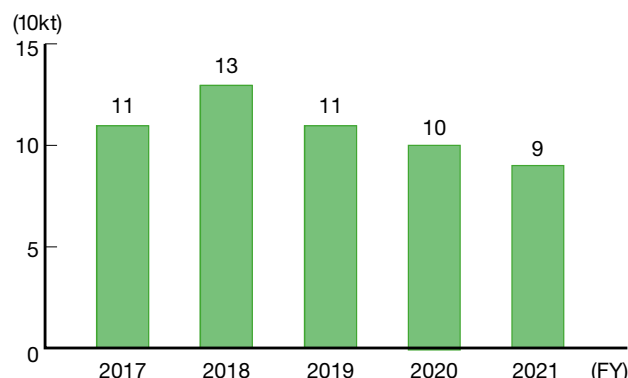
Photovoltaic power generation system at PMMA

## Reducing the Emissions of GHGs Other than CO<sub>2</sub> from Energy Use

GHGs other than CO<sub>2</sub> from energy use emitted by Panasonic include nitrogen fluoride (NF<sub>3</sub>) and sulfur hexafluoride (SF<sub>6</sub>) used as cleaning gases in LED and semiconductor factories, hydrofluorocarbons (HFCs) used in air conditioner factories as refrigerants for products. To reduce these gases, we implement a variety of measures, such as installing removal devices, preventing leakage of refrigerants, collecting and destroying refrigerants, and replacing the gas with substitute non-GHG.

GHG emissions other than CO<sub>2</sub> from energy use (CO<sub>2</sub>-equivalent; hereinafter the same) in fiscal 2021 amounted to 82 kt, which was 8 kt less than the previous fiscal year.

**Emissions (CO<sub>2</sub>-equivalent) of GHGs Other than CO<sub>2</sub> from Energy Use in Production Activities<sup>\*12</sup>**



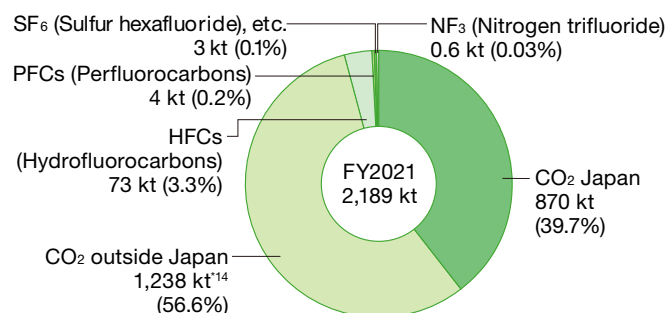
<sup>\*12</sup> The emissions from Hussmann Parent Inc. and its consolidated subsidiaries are not included. Also, the emissions from Panasonic Corporation of North America are not included.

## Breakdown of Total GHG Emissions (by gas and by scope)

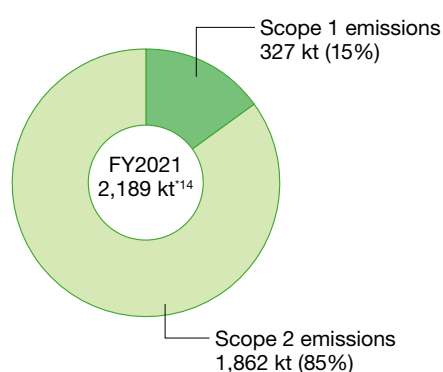
Our GHG emissions, including emissions from energy sources and other sources, reached 2,189 kt in fiscal 2021, the breakdown being 15% for Scope 1 emissions<sup>\*13</sup> and 85% for Scope 2 emissions<sup>\*13</sup> (see page 31 for Scope 3 emissions).

<sup>\*13</sup> GHG emissions defined by the GHG Protocol, an international calculation standard for GHG emissions. Scope 1 emissions refer to all direct GHG emissions from facilities that are owned or controlled by the reporting entity (e.g. emissions from usage of town gas or heavy oil). Scope 2 emissions refer to GHG emissions from manufacturing of the energy that is consumed in facilities owned or controlled by the reporting entity (e.g. emissions from generation of electricity that the reporting entity purchased).

**Breakdown of Total GHG Emissions (CO<sub>2</sub>-equivalent) in Production Activities (by category)**



**Breakdown of Total GHG Emissions (CO<sub>2</sub>-equivalent) in Production Activities (by scope)**



<sup>\*14</sup> The GHG emissions from energy use by Panasonic Corporation of North America included.

## Environment: 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, Panasonic 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.

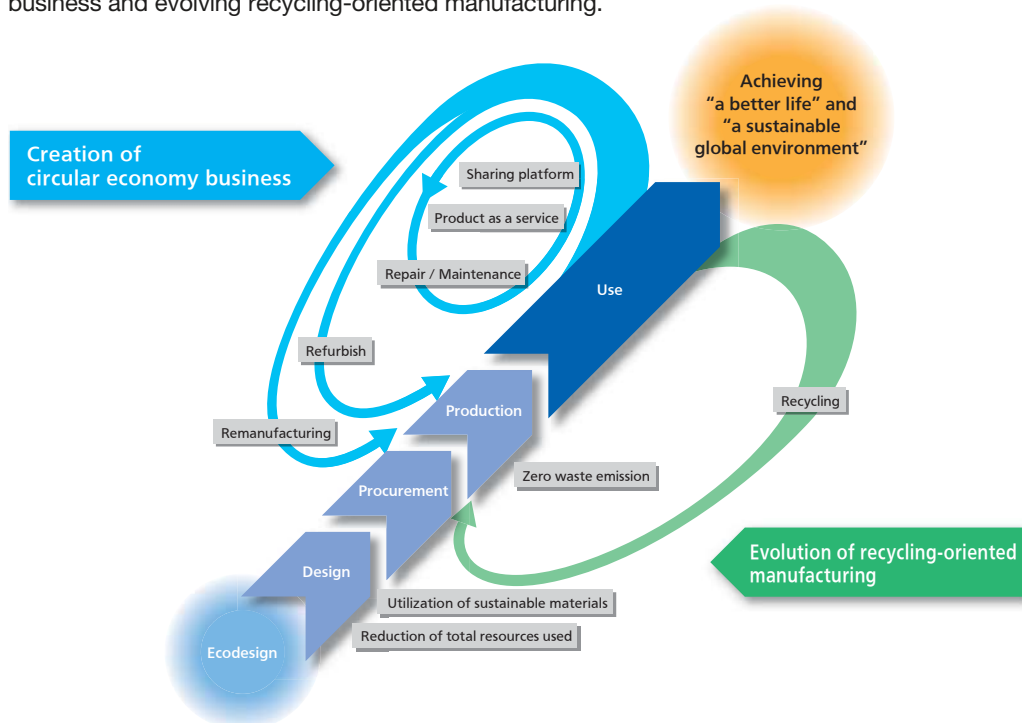
In order to realize the new value of using only product functionalities instead of using or owning the whole product, we will strive to create circular economy businesses. These include a "Sharing service", where multiple users use the same individual product, a "Product as a service" where services are fulfilled based on functions, and "Repair and Maintenance, Refurbish and Remanufacturing", where functions, values, and the life cycle 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 our Environmental Vision 2050, based on an eco-design 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 will take actions to meet our targets regarding resources in Green Plan 2021. First, in order to create circular economy businesses, we will complete mapping of the relationships between our existing businesses and the circular economy, and then, to shift the existing businesses to circular economy businesses based on the mapping.

Next, we aim to use at least 42 kt of recycled resin (cumulative from FY2020-2022), by considering component features, securing stable amounts of supplied components, and developing recycling technologies. Lastly, on zero waste emission,



we will strive to work towards achieving 99% or more for factory waste recycling rate at each factory by fiscal 2022.

To accelerate these activities, Panasonic started the 'Global Circular Economy Project' in April 2020 with Panasonic Europe as the project lead.

## Creation of Circular Economy Business

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." The service consists of bicycle parking areas; three were created inside Tsunashima SST<sup>1</sup> and at Hiyoshi Station. On top of this, 30 IoT-linked electrically-assisted bicycles with power-saving smart lock have been made available to residents of the town, employees at commercial facilities, and the neighborhood in a trial project to study how to operate and manage an IoT-linked electrically-assisted bicycle service. During this trial period, we are gathering and analyzing data, including users' needs for bicycles, areas of movement, and travel distances, to create an optimum management system for this bicycle service. We also provided IoT-linked electrically-assisted bicycles in the shared bicycle station in TENKU no MORIZONO MIYOSHI MIRAITO, a large, newly developed residential area in Miyoshi City, Aichi Prefecture, marketed by Toyota Housing Corporation of the Prime Life Technologies Group.<sup>2</sup> This was our first time to supply IoT-linked electrically-assisted bicycles and we plan to expand sales in the future.



IoT-linked electrically-assisted bicycles and smart lock

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.

Another IoT-based service that we offer is the Akari E Support<sup>3</sup> service, a lighting leasing service for corporate customers. By paying a monthly fee, customers can enjoy the LED lighting of their choice, as well as additional services such as repairs, without owning the lighting. The monthly fee includes the long-term leasing fee for the LED lighting, repairs to maintain lighting performance, general insurance for movable properties, and energy-saving certificates, thereby reducing the costs for maintenance and energy.

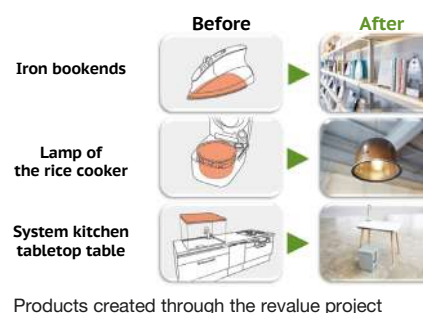
Another example is the offer for an optional service for Panasonic laptop users called Battery Life Cycle NAVI.<sup>4</sup> The service is designed to prolong the life and increase the value of our products. Through this service, the full-charge battery capacity is automatically monitored and when the capacity deteriorates beyond a specific criterion, a notice is displayed on the laptop screen. The customer can then apply for a new battery, which is sent to them at no extra charge. This enables users to continue enjoying the extended operational hours of a new battery while maintaining their long-used and familiar PC.

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<sup>5</sup> 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. We started a food subscription service demonstration<sup>6</sup> in the café in the TENNOZ Rim building. Customers can subscribe to a fixed-rate food service that includes a reusable cup made of resin with a high cellulose fiber content, and they can order one item of food or drink per day served in the reusable cup they bring to the café. This service contributes to the reduction of disposable plastic food containers. The project also helps attract people to the Tennozu area, which is recently promoting itself as a center of culture and arts, and contributes to



Co-working space in TENNOZ Rim

building a circular economy by disseminating eco-conscious containers and reducing plastic waste. We are also promoting the Revalue Project to create new value from factory waste in the form of totally new products through creative design. To date, waste from manufacturing processes for clothes irons, rice cookers and kitchen systems has been used to produce bookends, lighting equipment, tables and other furniture items in creative collaboration with our business partners. The Revalue Project won the Good Design Award 2020 (Business motel category). We plan to develop further projects of that kind and create new value through broader co-creation.



Through these activities, we are working to create businesses based on a circular economy. Likewise, we are making progress in transitioning existing businesses into more circular businesses. To achieve this, existing businesses are analysed to identify circular economy potential as indicated in the Green Plan 2021 and based on analysis methods developed in fiscal 2020.

\*1 A next-generation sustainable smart town that was built in Yokohama City, Kanagawa Prefecture, in March 2018. It is being managed by the Tsunashima SST Council organized by Panasonic and 10 other companies in various industrial fields to engage in innovative, eco-friendly activities and to create new services through collaboration among urban community developers, residents and local governments. (<http://tsunashimasst.com/EN/>)

\*2 See <https://news.panasonic.com/jp/press/data/2020/10/jn201014-3/jn201014-3.html>

\*3 See <https://www2.panasonic.biz/ls/lease/lighting-e-support/>

\*4 See [https://panasonic.biz/cns/pc/letsnote/and\\_connect/battery.html](https://panasonic.biz/cns/pc/letsnote/and_connect/battery.html)

\*5 See <https://www.tennoz-rim.tokyo/>

\*6 See <https://news.panasonic.com/jp/press/data/2020/09/jn200910-1/jn200910-1.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. 15.2 kt of recycled resin in our products in fiscal 2021. We are developing the necessary actions to take in order to get the features required for components, securing stable amounts of supplied components, improving the components for the use phase at design and manufacturing sides, and developing new recycling technologies.

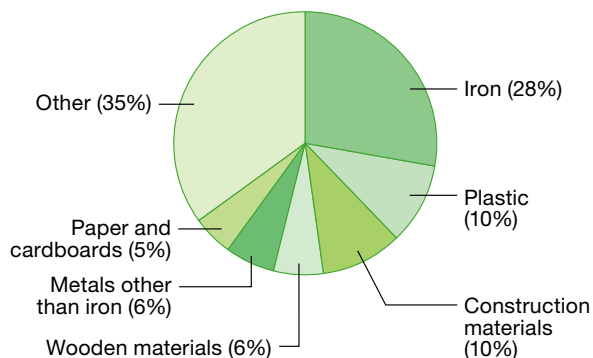
As stated above, we are making steady progress in achieving the goals of Green Plan 2021 for the effective use of recycled resin products. In addition, we are developing materials with less environmental impact, such as resins developed from plant-derived materials, and incorporating them in products.

As for the factory waste recycling rate<sup>\*7</sup>, 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. The factory waste recycling rate in fiscal 2021 was 98.7% compared to our target of more than 99%, falling short of the target (see page 51). We will analyze the issues and introduce measures to achieve the target in the future.

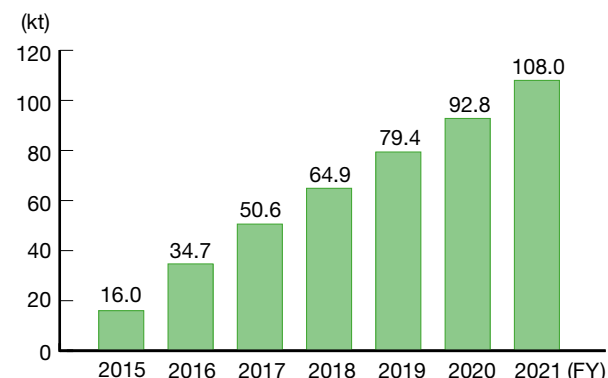
\*7 Factory waste recycling rate = Amount of resources recycled / (Amount of resources recycled + Amount of landfill)



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



### 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 34), Panasonic has 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.

[https://www.panasonic.com/global/corporate/sustainability/eco/resource/recycling\\_oriented\\_manufacturing.html](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.

► Our approaches to Resources Recycling

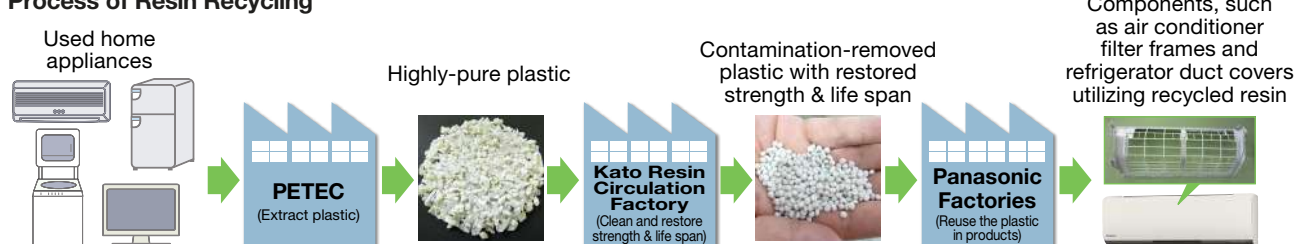
[https://www.panasonic.com/global/corporate/sustainability/eco/resource\\_sp.html](https://www.panasonic.com/global/corporate/sustainability/eco/resource_sp.html)



## 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



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 Appliances 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.



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

## 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 low environmental impact. In fiscal 2019, Panasonic developed a composite polypropylene (PP) resin containing plant-derived cellulose fiber as an additive. In fiscal 2019, we developed a molding material mixed with plant-derived cellulose fiber. This new eco-conscious cellulose fiber molding material is used in the frame parts of the Panasonic 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. Using this technology, we also developed the reusable cup, Forest Tumbler, together with Asahi Breweries, Ltd. The cup won the FY2020 Environment Minister's Award for Promotion of a Recycling-Based Society, hosted by the Ministry of the Environment, in recognition both of its advanced technology, which utilizes more than 55% natural plant-derived resources, and its innovative value.



Forest Tumbler



70% high density cellulose fiber composition materials

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 Shimibun, Ltd.)

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 66-70).

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

- ▶ Launched two new "POWER CORDLESS" stick vacuum cleaners

<https://news.panasonic.com/press/jp/data/2018/07/jn180720-1/jn180720-1.html>

- ▶ Developed a high-density cellulose fiber molding material which has flexibility in design

<https://news.panasonic.com/jp/press/data/2019/07/jn190708-1/jn190708-1.html>

- ▶ Renewed an environment-friendly reusable cup, Forest Tumbler

<https://news.panasonic.com/press/jp/data/2021/03/jn210308-1/jn210308-1.html>

- ▶ Developed 70% high density cellulose fiber composition materials

<https://news.panasonic.com/jp/press/data/2021/02/jn210204-1/jn210204-1.html>

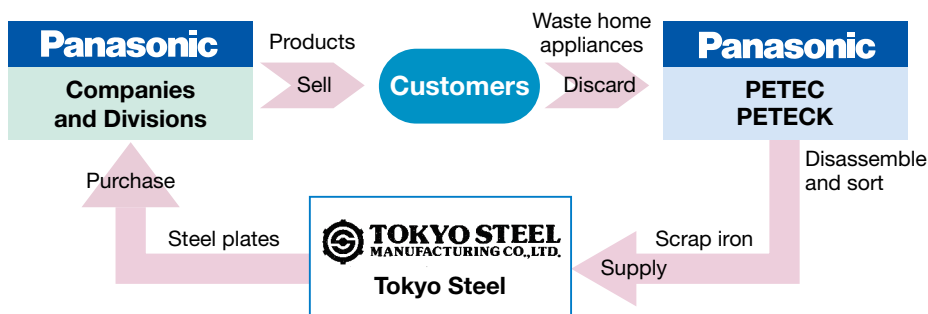
- ▶ Technology contributing to the circular economy: Environment-friendly housing materials

<https://news.panasonic.com/jp/stories/2020/83913.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.

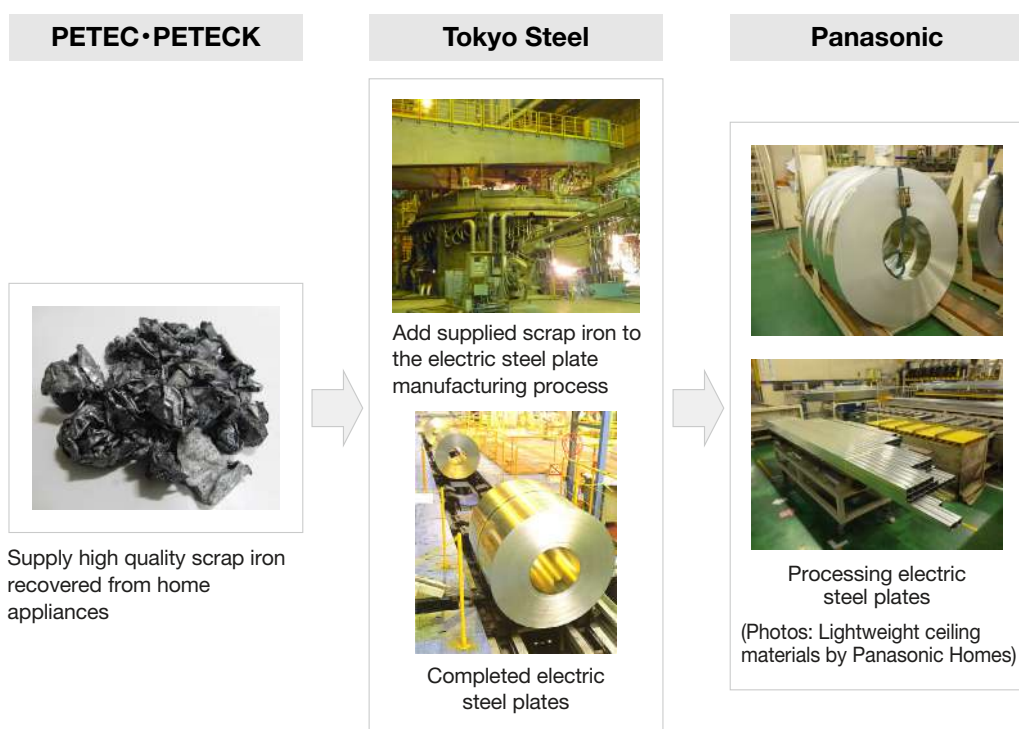
### Self-recycling Scheme for Electric Steel Plates



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 electric steel plates.<sup>8</sup> Panasonic 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 electric steel plates, and refined its specific features (e.g. shape, strength, and weldability) to meet application-specific requirements. Use of thin electric 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 electric steel plates.

The amount of scrap iron we initially supplied to Tokyo Steel was about 50 t per month. In fiscal 2021, it reached over 2.6 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



The increase in electric 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<sub>2</sub> 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<sub>2</sub> emissions reduction, and stabilization of procurement prices.

\*8 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<sup>\*9</sup> 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 2021 was 98.7%, falling short of 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 with 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.

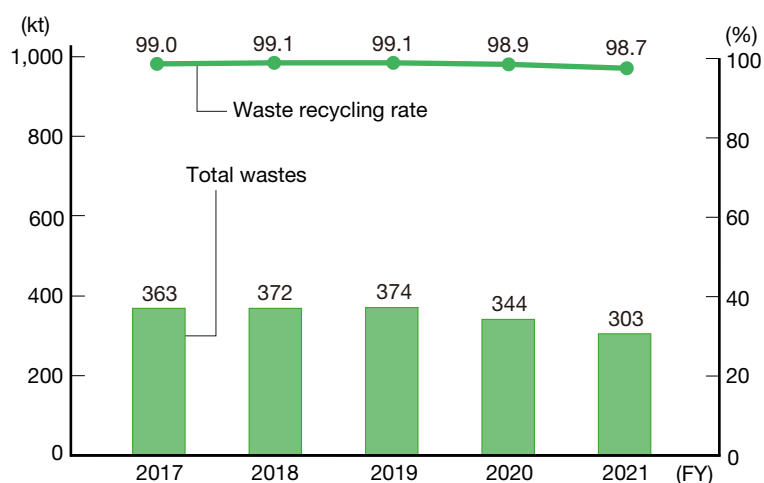
As measures to reduce the amount of landfill of waste and revenue-generating waste, we constrain the amount of waste materials that are particularly difficult to recycle, such as thermosetting resin. We are also strictly adhering to waste sorting practices in production processes to further expand the 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<sup>\*10</sup> prepared by each region, following our long-standing approach toward CO<sub>2</sub> reduction activities.

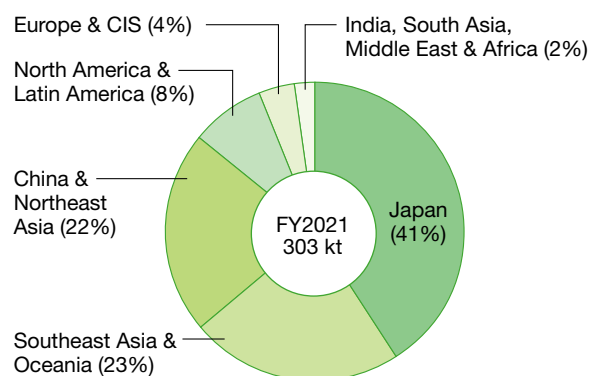
<sup>\*9</sup> Definition by Panasonic: Recycling rate of 99% or higher. Recycling rate = Amount of resources recycled/(amount of resources recycled + amount of landfill).

<sup>\*10</sup> A chart-format summary of comparisons between “before and after” implementation of waste reduction and recycling measures.

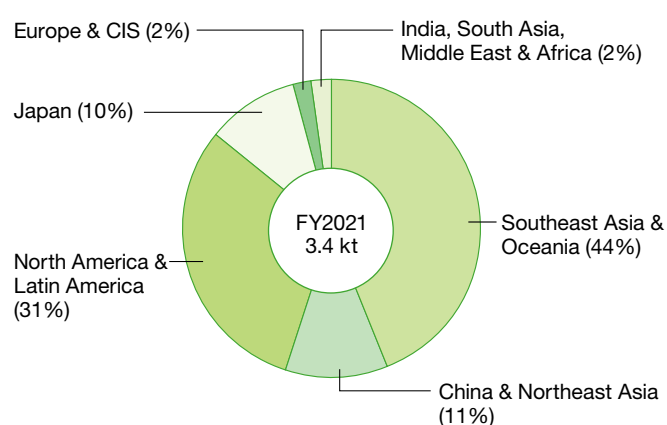
## Amount and Recycling Rate of Total Wastes Including Revenue-generating Waste



### 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)

Items	Total wastes	Recycled	Landfill
Metal scrap	129	127	0.6
Paper scrap	34	33	0.06
Plastics	37	34	1
Acids	22	14	0.2
Sludge	10	9	0.3
Wood	24	20	0.03
Glass/ceramics	3	3	0.1
Oil	20	19	0.05
Alkalies	9	7	0.003
Other <sup>*11</sup>	13	11	0.8
Total	303	279	3.4

\*11 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 2021 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.

### FY2021 Results

Japan	Processed approx. 176.62 kt of four kinds of used home appliances
Europe	Collected approx. 22.38 kt of used electronic products
USA	Collected approx. 56 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<sup>\*12</sup>, manufacturers were grouped into two groups, Group A and Group B, to collect and recycle the four specified kinds of used home appliances. Panasonic belongs to Group A, and to work on recycling, it has 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 327 designated collection sites (shared by Group A and Group B) and 30 recycling plants, based on consignment from Group A manufacturers (16 companies including Panasonic). Additionally, Panasonic invests in Panasonic Eco Technology Center Co., Ltd. (PETEC), Panasonic Eco Technology Kanto Co., Ltd. (PETECK), and Chubu Eco Technology Co., Ltd. (CETEC)<sup>\*13</sup> and exchanges 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 2021, we recycled approx. 176.62 kt of the four specified used home appliances.



Machine to turn over air conditioner outdoor units at PETECK

Although the statutory recycling rate<sup>\*14</sup> is being raised in phases, Panasonic 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 47 for more details.

<sup>\*12</sup> Air conditioners, TVs, refrigerators/freezers, and washing machines/clothes dryers.

<sup>\*13</sup> PETEC is a company fully invested by Panasonic, and PETECK and CETEC are joint ventures between Mitsubishi Materials Corporation and Panasonic.

<sup>\*14</sup> 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.

► Overview of Recycling of Specified Home Appliances(Japan)

<https://www.panasonic.com/global/corporate/sustainability/eco/resource/recovery/recycling.html>

► Panasonic Eco Technology Center Co., Ltd. (PETEC)

<https://panasonic.net/eco/petec/>

## Efforts in the Europe / CIS Region

In 2020, we collected approx. 22.38 kt<sup>\*15</sup> of used products covered by the WEEE Directive across Europe.

### Circular Economy

The EU Circular Economy (CE) Waste Package has entered into force on July 4, 2018 with new requirements on EPR (Extended Producer Responsibilities) for WEEE, Packaging, and Batteries.

This Waste Package is the EU's approach towards "closing the loop" of product lifecycles through greater recycling and re-use measures. The provisions include setting ambitious recycling targets for waste recycling and measures on extended producer responsibility.

These new requirements will be further strengthened with the EU CE Action Plan, published in March 2020, which will speed up the EU's transition towards a circular economy.

Panasonic also takes a leading role at the European trade association DIGITALEUROPE to closely monitor the CE developments in European countries, aiming to promote the industry shift towards a more circular business.

### Russia

Producers and importers must manage waste from their product and packaging waste either through self-compliance or a collective organization, or pay an environmental fee. Panasonic promotes recycling activities as a member of the collective organization EPR E-WASTE RECYCLING (WEEE scheme). To increase the access to WEEE, the scheme is also increasing the number of contracts with recyclers and retailers.

Panasonic is working on further developing appropriate regulations and on improving the recycling infrastructure in Russia through the industry association RATEK.

<sup>\*15</sup> Calculated by multiplying the weight of collected products per collection system by Panasonic market share in terms of weight per collection system.

## Efforts in North America

Panasonic 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 Panasonic's 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 programs 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 last year's 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 2020 and December 2020, 15 t of e-waste were collected and sent to licensed recyclers for proper treatment.

In November 2020, the National Assembly passed the Environmental Protection Law 2020 which sets out requirements for a wide range of environmental issues, including enhancement of e-waste management in Vietnam. Panasonic Sales Vietnam will work closely with the Vietnamese government to support the implementation of an effective e-waste recycling scheme to meet the new requirements which will be effective in 2022.

### Australia

The National Television and Computer Recycling Scheme (NTCRS) was established in Australia in 2011.

Panasonic Australia (PAU) is partnered with EPSA, a co-regulatory arrangement approved by the Australian government to fulfill its obligation under the national scheme. Between January 2020 and December 2020, 803 t of e-waste were recycled. PAU is now reviewing the current co-regulatory partnership and will confirm the co-regulatory arrangement for the new fiscal year in July.

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 which is scheduled to start in 2021. 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 was introduced in Singapore requiring producers of regulated consumer products to join the licensed Producer Responsibility Scheme (PRS), which will start in July 2021. Panasonic Singapore is working closely with the authorities and PRS operator to ensure the smooth implementation of the PRS.

## 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. Panasonic hopes 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).

Panasonic has 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), Panasonic 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. Panasonic has 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.



## Environment: 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 is 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 9). stipulates that we make efforts to conserve water resources by using water efficiently and preventing water pollution. In accordance with the "Green Plan 2021", our environmental action plan, we are 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 World Wide 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. At present, no water risks that could affect our 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, we have developed a structure for the promotion of environmental management, including water management (see pages 18-19). 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 company-wide risk management every fiscal year and (2) promptly respond to the risk when it arises (see page 21). Through these activities, we will continue to manage our environmental risks.

Moreover, we 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. We 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 33), 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.

<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, we are 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.

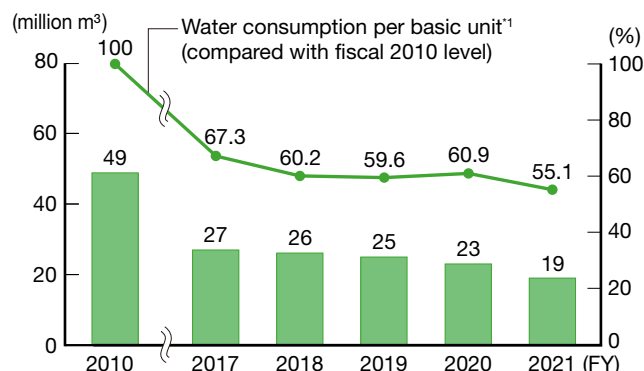
As many regions around the world are threatened by water shortages, we are conducting production activities, balancing water resource conservation in focused regions.

The amount of water used at factories in fiscal 2021 resulted in 19.19 million m<sup>3</sup>, which is reduced by 16.9% versus the fiscal 2020. The water used at our factories per basic unit of production<sup>\*1</sup> got better year-on-year thanks to positive effects of the structural reform. Our use of recycled water<sup>\*2</sup> in fiscal 2021 was 3.38 million m<sup>3</sup>, accounting for 17.6% of the total amount of water used. The amount of discharged water in fiscal 2019, 2020, and 2021 resulted in 19.25 million m<sup>3</sup>, 18.02 million m<sup>3</sup>, 14.81 million m<sup>3</sup>, 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.

### FY2021 Breakdown of Water Consumption (by region)

(10 thousand m<sup>3</sup>)

Region	Consumed	Municipal water/ industrial water	Groundwater	Rivers/lakes	Discharged	Sewer systems	Waterways
Japan	1,140	434	706	0	957	162	796
China & Northeast Asia	424	422	1	0	280	207	73
South East Asia, & Oceania	285	241	44	0	207	163	44
North America & Latin America	37	22	15	0	16	14	2
Europe & CIS	15	9	6	0	14	9	5
India, South Asia, Middle East & Africa	18	2	16	0	7	7	0
Total	1,919	1,130	789	0	1,481	562	919

Industrial Solutions Company (75 sites), uses the highest amount of water within the Panasonic Group. The company managed to achieve a year-on-year decrease of 19.6% in water consumption (10.83 million m<sup>3</sup>) in fiscal 2021, thanks to their focused efforts and business restructuring. The achievement rate for reducing the amount of water used per basic unit was 142%, showing an improved basic unit because production is recovering from the negative effects from the COVID-19 pandemic in the previous year. Water consumption at Automotive Company (11 sites) was 434 thousand m<sup>3</sup>, exceeding our target of 447 thousand m<sup>3</sup>.

Against the backdrop of the increasing occurrence of natural disasters in recent years, such as earthquake and flood disasters, Panasonic Industrial Devices Saga Co., Ltd. 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 m<sup>3</sup> per year by reusing the collection water.

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Panasonic continue our efforts to conserve water resources.



Panasonic Industrial Devices Saga Co., Ltd



Water purification system with electrical resin regenerator

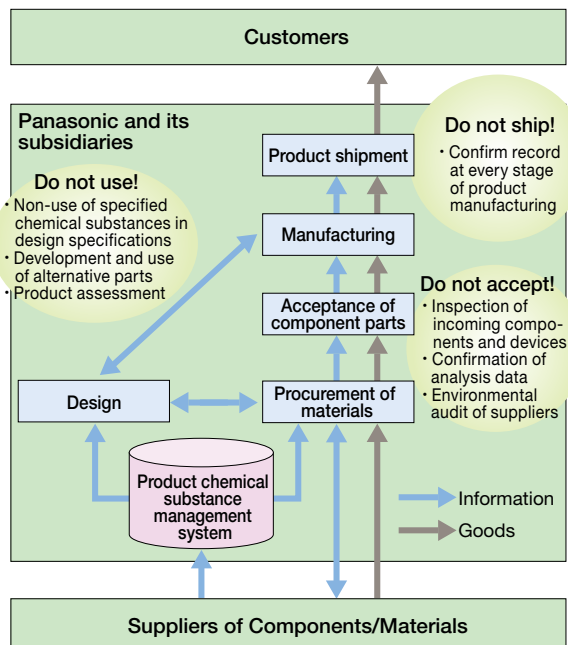
## Environment: Chemical Substance Management

### Approaches to Reduce the Environmental Impact of Chemical Substances

In order to prevent contents of hazardous substances prohibited under the EU RoHS Directive<sup>\*1</sup>, published in 2002 and revised in 2011, and the like to Panasonic products, it is important not only 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 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

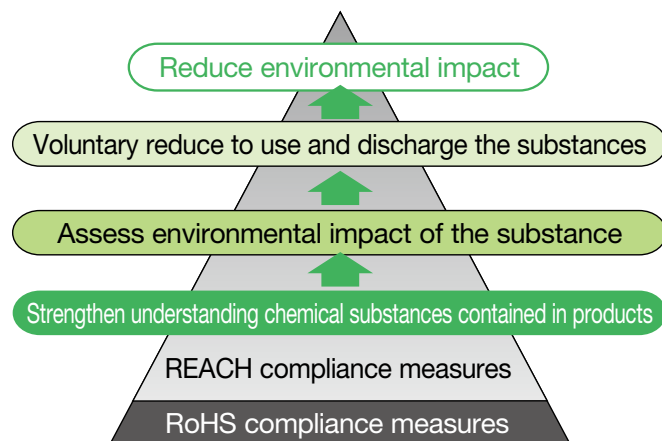


Meanwhile, as represented by the enforcement of the REACH regulation<sup>\*2</sup> in the European Union, the world is moving toward the goals agreed at the World Summit on Sustainable Development (WSSD) held in 2002, which is to produce and use all chemical substances in a manner that minimizes their impact on human health and the environment. In support of the precautionary approach proposed in the Rio Declaration made at the Earth Summit in 1992, Panasonic aims 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.

<sup>\*1</sup> Directive on the Restriction of the use of certain Hazardous Substances in electrical and electric equipment

<sup>\*2</sup> Regulations on the registration, evaluation, authorization, and restriction of chemical substances.

#### Process to Reduce the Environmental Impact of Chemical Substances



In order to definitely implement such activities described above, we issued Panasonic 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 of 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 non-use of the prohibited substances, or the substances to be prohibited under laws and regulations, but we also consider to prohibit 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 25 substances/groups in fiscal 2021.

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 download from the following website. (Green Procurement).

► Green Procurement (Download of Chemical Substances Management Rank Guidelines (For Products))

<https://www.panasonic.com/global/corporate/management/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).



## History of Our 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	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 <sup>*3</sup>	October 2005: Discontinued use of six RoHS substances globally <sup>*3</sup>	March 2009: Discontinued use of PVC in internal wiring of new products to be sold in Japan <sup>*3</sup>	March 2011: Discontinued use of PVC in internal wiring of new products globally <sup>*3</sup>	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 <sub>2</sub> 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 <sup>*4</sup>	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	

<sup>\*3</sup> Excluding applications where the quality such as safety cannot be ensured, or applications where the material is designated by laws and regulations.

<sup>\*4</sup> 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 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 is a member of the Joint Article Management Promotion consortium (JAMP). Approx 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.

We have started up a product chemical substance management system in fiscal 2005. From July, 2009, Panasonic's 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, we 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.

► chemSHERPA website: <https://chemsherpa.net/>

(The JAMP website was merged into chemSHERPA on March 15, 2019)



While the Japanese automotive industry has been using the JAMA/JAPIA sheet<sup>\*5</sup> to share information on chemicals used in products in the supply chain, IMDS<sup>\*6</sup> 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 we 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 we 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 Panasonic. In order for the companies procure electric components to speedily and effectively understand information on chemical substance contents, we have 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.

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

<sup>\*6</sup> International Material Data System: Material data system for automotive industry that is globally used.

► 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, the 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.

► Information on the Content of specified chemical substances Chemical Substances (Japanese)

<https://www.panasonic.com/jp/corporate/sustainability/eco/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, we have established a new webpage, Information Based on the Act on the Preventing Environmental Pollution of Mercury, in May 2017.

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

► Information Based on the Act on Preventing Environmental Pollution of Mercury (Japanese)

<https://www.panasonic.com/jp/corporate/sustainability/eco/chemical/jmoss/mercury.html>

## 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. We are 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 our products was discontinued in December 2010.

► Management of Chemical Substances in Products

[https://www.panasonic.com/global/corporate/sustainability/pdf/RCF\\_Professional\\_microwave\\_oven.pdf](https://www.panasonic.com/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 has devoted to develop the technology to use CO<sub>2</sub> 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<sub>2</sub> refrigerant since 2001. Although the low CO<sub>2</sub> 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 Industrial Technology Development Organization (NEDO), Panasonic developed a refrigeration system using CO<sub>2</sub> refrigerant, and has delivered CFC-free freezers and refrigeration showcases to supermarkets and convenience stores with the CO<sub>2</sub> refrigerant in Japan since 2010. 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.



OCU-CR2001MV, a fluorocarbon-free freezer using CO<sub>2</sub> refrigerant



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



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

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.

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 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, Panasonic contributed to the Indonesian government's initiative to eliminate the use of HCFCs.

Mercury lamps are currently widely used as the light source for projectors, because they provide high luminosity easily. However, mercury can have a serious impact on human health and the environment if not treated properly, and the short life of the lamps causes high consumption of resources as well as high environmental impact. For these reasons, Panasonic is developing products that adopt laser light sources. The PT-RZ31K Series are projectors for professional use that provide high luminosity by employing a high-output semiconductor laser light source module and a heat-resistant phosphor wheel. In addition, the cabinet does not use halogenated flame retardant, making the projector an eco-friendly product that contributes to reducing the use of hazardous substances.



PT-RZ31K Series, a laser projector for professional use

## 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, we have switched our new products launched from April 2011 to non-PVC.

► List of Our PVC-free Products [https://www.panasonic.com/jp/corporate/sustainability/pdf/eco\\_pvclist2016.pdf](https://www.panasonic.com/jp/corporate/sustainability/pdf/eco_pvclist2016.pdf)

## Restriction on Use of Phthalates

Phthalates are often used in PVC products, and the use of four phthalates<sup>5</sup> will be restricted under the EU RoHS2 from July 22, 2019.

Panasonic 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 our products exported to Europe used to be as high as 10 tons. However, total elimination of the phthalates has been completed as of March 31, 2019.

\*5 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 is 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 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, we have created a unique indicator, the Human Environment Impact,<sup>\*6</sup> 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, Panasonic worked together with experts from both within and outside the company, 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 publically 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 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 our Green Procurement activities to promote collaboration with our suppliers,

encouraging them to offer materials that do not contain hazardous substances.

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

<https://www.panasonic.com/global/corporate/management/procurement/green.html>

\*6 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.

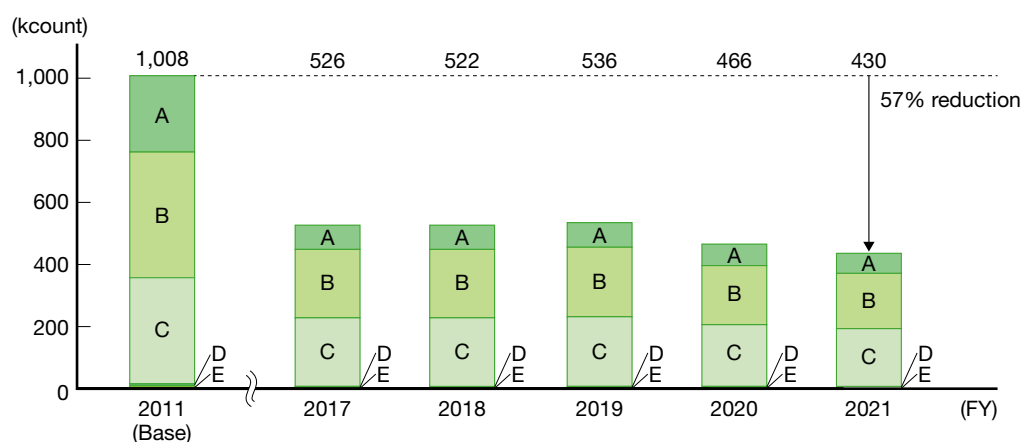
As for the VOC regulations amended in China in 2020, we successfully completed compliance confirmation and replacement with compliant components in each business division thanks to cooperation from local suppliers.

### Classification of Hazards

Classification	Hazards*7	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

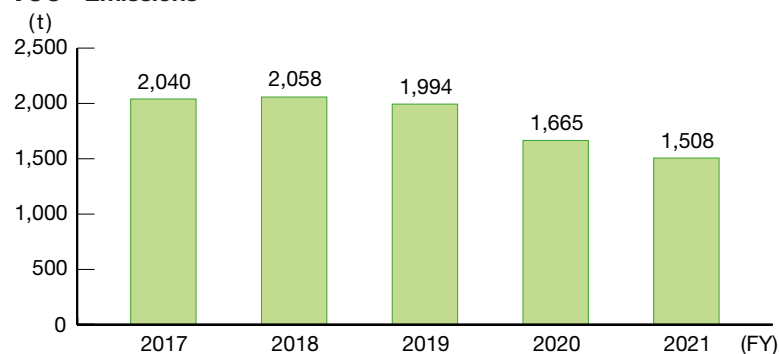
\*7 In addition to carcinogenicity, hazards to human health include genetic mutation, reproductive toxicity, and acute toxicity. In addition to ozone depleting substances, hazards to substances with impact on the environment include ecological toxicity, substances that impact global warming, and substances that generate photochemical oxidants.

### Human Environmental Impact

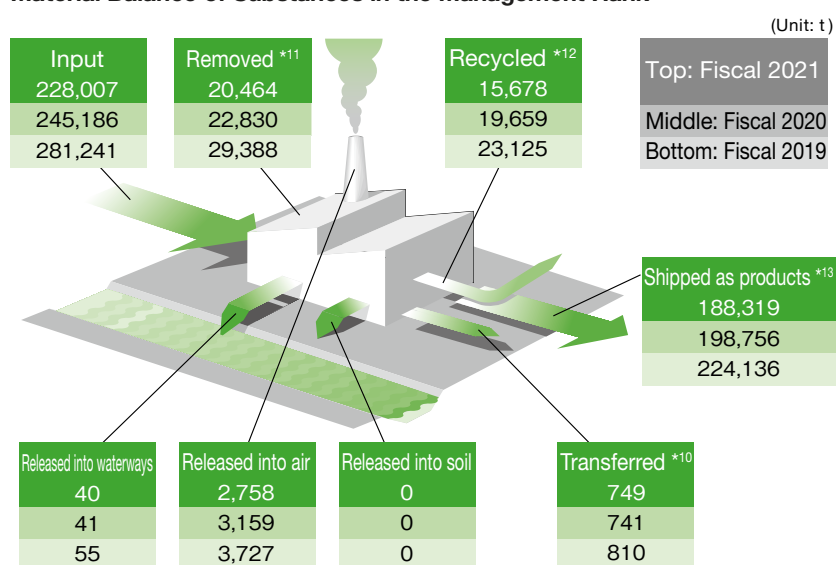


Note: Overseas sites of former SANYO Electric not included in fiscal 2011.

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\*8 Emissions**

\*8 Emissions of Volatile Organic Compounds (VOC) into the air caused by use. The calculation covers 100 major VOC substances that Panasonic selected from those listed in the Air Pollution Control Act.

**Material Balance of Substances in the Management Rank\*9**

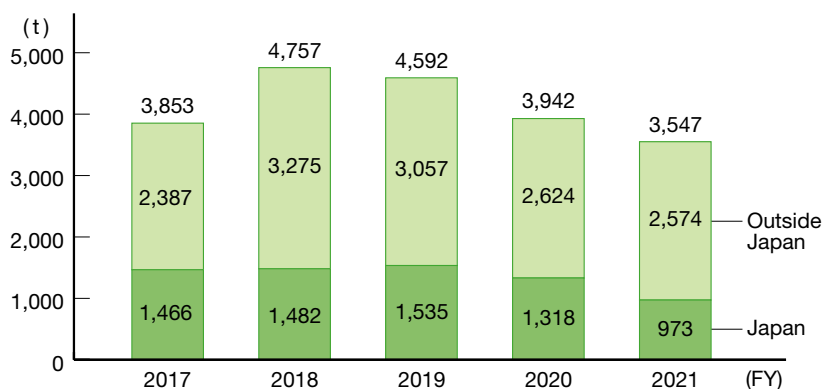
\*9 Based on the Chemical Substances Management Rank Guidelines (for factories). Includes all the substances specified in the Pollutant Release and Transfer Register Act.

\*10 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.)

\*11 The amount of substances converted into other substances through neutralization, decomposition, or other chemical treatment.

\*12 The amount of substances recycled with revenue, as well as those recycled free of charge or with any payment.

\*13 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\*14**

\*14 Hussmann Parent Inc. and its consolidated subsidiaries not included.



## Environment: 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 the conservation of biodiversity of the Green Plan 2021 we formulated to achieve “a better life” and “a sustainable global environment” at the same time, as described in the Panasonic Environment Vision 2050, we promote activities with the 3 targets for our business activities, focusing on sustainable procurement,, along with activities for 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 Plan that is reviewed and revised every three years is equivalent to the Biodiversity Action Plan under the Convention on Biological Diversity

### Initiatives for Sustainable Procurement of Raw Materials

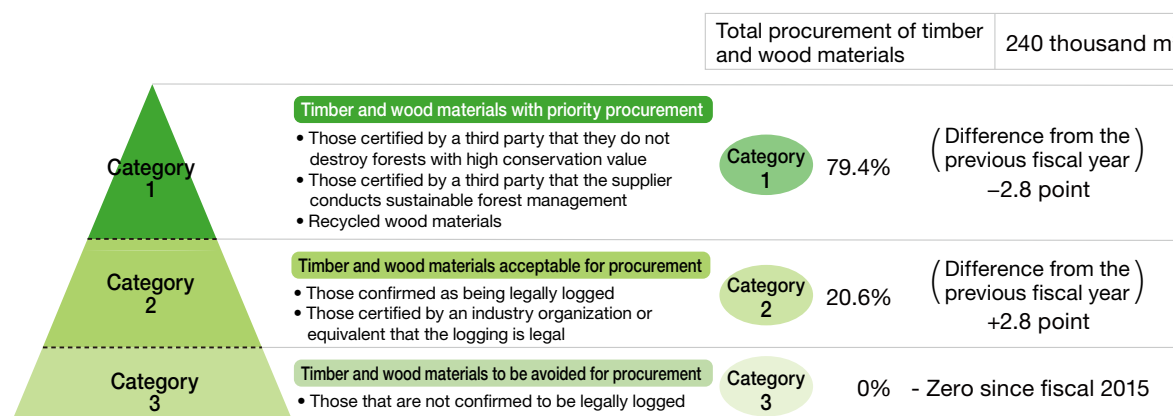
Starting with the “Green Plan 2021”, we have decided to aim for the ‘sustainable procurement of raw materials’ to cover not only procurement of wood materials, but also procurement of raw materials considering conservation of biodiversity. In these procurements, we will also consider social issues such as human right that have been growing concerns, in addition to compliance with laws and regulations. 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.

Also we stated consideration for conservation of biodiversity conservation in our “Green Procurement Standards” for all companies involved in our supply chain as a whole, to take actions for conservation of biodiversity.

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

The survey results in fiscal 2021 are as follows.

#### Green Procurement Guidelines for Wood Consulted and Formulated with WWF



▶ “Green Procurement Guidelines for Wood”

[https://www.panasonic.com/jp/corporate/management/procurement/green/pdf/green\\_wood\\_J.pdf](https://www.panasonic.com/jp/corporate/management/procurement/green/pdf/green_wood_J.pdf)



## ▶ “Green Procurement Standard”

<https://www.panasonic.com/jp/corporate/management/procurement/green.html>

## ▶ 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 habitats 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

Kusatsu Factory of the Panasonic Appliances Company in Kusatsu City, Shiga Prefecture, obtained an eco-certificate from the Association for Business Innovation in harmony with Nature and Community (ABINC)<sup>\*1</sup> 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)<sup>\*2</sup>
- Acquired ABINC certification (March 2018) and renewed the certification (February 2021)
- Received an Award of Excellence in the 2nd ABINC Awards (January 2020)

<sup>\*1</sup> 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).

<sup>\*2</sup> 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.

<https://panasonic.co.jp/ap/ecological/index.html>



ABINC Certification



Three-star rating in Shiga Biodiversity Action Certification Program



Panasonic Appliances Company's Sustainable Forest

## Preservation of Biotopes in Collaboration with Governments and Experts

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. In addition, the Ministry of the Environment and municipalities designate rare species of living things in local areas as endangered species for their preserving. Therefore, we have conducted preservation activities, in collaboration with environmental officers and experts. For example,) Biotope of Panasonic Life Solution Company in Kadoma City, through a Biodiversity Partnership (BP) Agreement concluded with



Osaka prefectural government, Osaka Prefecture University, and Research Institute of Environment, Agriculture Fisheries (RIEGF) under Osaka prefectural government.

Examples of activities are introduced in the following website.

<https://www.panasonic.com/global/corporate/sustainability/eco/biodiversity.html>

## Initiatives for Products and Services

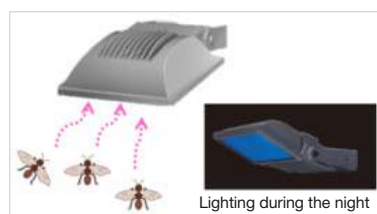
With our Green Product accreditation criteria (see page 33), we define our products that contribute to conservation of biodiversity because biodiversity-friendly materials are used in their main components, and/or they include functions to contribute to conservation of biodiversity.

### Contributing to Biodiversity Conservation through Lighting

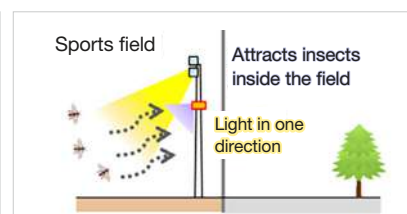
The Lighting Business Division of Life Solutions Company develops and sells lighting products that care for the environment and biodiversity.

#### 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



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



Emits a directional light to attract insects efficiently

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.<sup>\*3</sup>

<sup>\*3</sup> 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: Mushi Keeper <https://www2.panasonic.biz/ls/lighting/outdoor/invites-insects/>

#### Developing IDA-certified LED Light

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)<sup>\*4</sup> in February 2020. This was the first such achievement by a Japanese manufacturer<sup>\*5</sup>. 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.



IDA "Dark Sky Approved"

<sup>\*4</sup> As IDA-certified lighting made by a Japanese manufacturer (according to IDA Tokyo, as of February 20, 2020).

<sup>\*5</sup> The International Dark-Sky Association: The leading global organization addressing light pollution.

(Reference) Light Pollution Control Guidelines. (March 2021) Ministry of the Environment. We also contributed to the creation of these guidelines. <https://www.env.go.jp/air/hikarigai-gaido-R3.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<sup>\*6</sup>.

<sup>\*6</sup> 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.



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

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

The Housing Systems Business Division 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.

►Technology to encourage a circular economy: Eco-friendly floor board for a beautiful house

<https://news.panasonic.com/jp/stories/2020/83913.html>

►Flooring: Eco-conscious material

[https://sumai.panasonic.jp/interior/floor/concept/detail.php?id=eco\\_coordination](https://sumai.panasonic.jp/interior/floor/concept/detail.php?id=eco_coordination)

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

### Introduction of MSC-ASC certified sustainable seafood at employee canteens

Panasonic has been involved in marine protection activities<sup>\*7</sup> for some 20 years through collaboration with WWF Japan. Main activity at present is continual supply of MSC- and ASC-certified<sup>\*8</sup> sustainable seafood<sup>\*9</sup> to employees' canteens that started for the first time in Japan at Panasonic headquarters in March 2018. In this 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. Despite such a difficult situation, 10 more business sites newly adopted the sustainable seafood menu in their canteens, making a total of 52 sites. We are also providing support for other companies to introduce sustainable seafood into their canteens. Now the total has exceeded 30 such companies, making a grand total of 90, including our own sites.



Cumulative total of sites offering the menu exceeded 50



Re-Life ON THE TABLE café in Panasonic Center OSAKA showroom, a facility for general customers, offers an avocado shrimp sandwich made with shrimp that obtained ASC certification, a leading sustainable seafood certification.

From November 2020, we also started offering the sustainable seafood menu (avocado shrimp sandwich) to the public in Re-Life ON THE TABLE café in Panasonic Center OSAKA—a showroom that general customers can freely visit. Our efforts to promote sustainable seafood have now been introduced three times on TV.

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 offering a sustainable seafood menu in our canteens and commercial cafés and 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

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

#### <External awards>

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

<sup>\*7</sup> Including supports for the conservation of the tidal flats in Ariake Sea (2001 to 2006) and the Yellow Sea Ecoregion (2007 to 2015).

<sup>\*8</sup> 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.

<sup>\*9</sup> Seafood that has been certified sustainable production with MSC and ASC certification and managed under CoC certification<sup>\*10</sup>

<sup>\*10</sup> CoC is the acronym for Chain of Custody. Certification on securing management and traceability in processing, distribution, and marketing.

►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 members of 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.

Since its foundation in October 2010, PERJ has been working with a variety of stakeholders<sup>\*12</sup> 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<sup>\*11</sup> 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)

<sup>\*11</sup> 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.

<sup>\*12</sup> Collaborating with numerous stakeholders, including NPOs, citizen groups, universities, administrative bodies, local governments, research institutes, corporations, and local farmers.

▶ Panasonic Eco Relay Japan (PERJ)

<https://www.panasonic.com/jp/corporate/sustainability/citizenship/environment/perj.html>

▶ Unitopia Sasayama Satoyama Revitalization Plan

<https://unitopia-sasayama.pgu.or.jp/ecorelay/>

▶ 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/>



Wastes at Yodo River



Activities at Yodo River

## Participation in Biodiversity Initiatives

Panasonic actively participate 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, and the EU 2030 Biodiversity Strategy of the European Green Deal. We feed these domestic and global policies back into our business 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: Announcement of "Biodiversity Initiative" (June 2020). Panasonic is a participant in this 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<sup>\*13</sup>

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

<sup>\*13</sup> 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 (JBMA).



# Environment: Collaboration Across the Supply Chain

## Collaboration with Suppliers and Transportation Partners

As a company 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, we strive to minimize our environmental impact across the entire supply chain, focusing on the reduction of CO<sub>2</sub> emissions, resource recycling, chemical substance management, and biodiversity conservation.

## Activities for Green Procurement

We have been manufacturing products with suppliers, considering the environmental impacts based on the updated “Green Procurement Standards” since its first issuance in 1999. Aiming at establishing supply chain groups in which the suppliers agree to the Panasonic’s Environmental Policy and supply products and goods to us in accordance with our Green Procurement Policy, we have requested the purchasers ‘to urge the suppliers at upper stream’ to involve in spreading activities to minimize our environmental impact across the entire supply chain, in addition to ‘minimize the environmental impacts in the supplier’s business field’, and to ‘share fruitful results through collaboration between the suppliers and us’.

Also, we formulated an “Environment Vision 2050” in 2017 towards “a better life” and “a sustainable global environment” compatibly, aiming for societies where residents use 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 will work towards creation and more efficient utilization of energy which exceeds the amount of energy used. To realize the vision, we set up a “Green Plan 2021” as an environmental action plan to address priority issues in the area of energy and resources and to continuously address ongoing issues. Under the “Green Plan 2021”, we revised the “Green Procurement Standards” in September 2019 not only for Panasonic Corporation alone, but also for our business partners in our whole supply chain to collaborate more closely, in order to have a broader positive impact on societies.

In response to more stringent and expanded regulations such as EU RoHS Directive, we have 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 2021, we conducted the audits at some 1,000 suppliers and have supported their efforts to upgrade their management levels.

► 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<sup>\*1</sup>), we made our original calculations based on the Greenhouse Gas Protocol, the international accounting standard for GHG emissions. Since fiscal 2012 we have conducted assessment surveys on four occasions, with the cooperation of 185 suppliers in the areas of raw materials, electrical and electronic components, and processed parts.

From fiscal 2012, we started estimating our 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 2020 data is 16.56 Mt, roughly 7 times the GHG emissions of our own production activities.

<sup>\*1</sup> Other indirect emissions, excluding Scope 1 (direct emissions from facilities owned and controlled by Panasonic) and Scope 2 (emissions from production of energy consumed at facilities owned and controlled by Panasonic).

## Sharing Achievements through Collaboration

Since fiscal 2010, we have been implementing the ECO-VC Activity<sup>\*2</sup> Activity with our suppliers. This program is a collaboration between Panasonic and our suppliers, aimed to both reduce environmental impact as well as reinforce product capability and achieve further rationalization for our products and our suppliers. In fiscal 2010, the target for reducing environmental impact was limited to energy saving (CO<sub>2</sub> 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 the company. At the same time, as for outstanding activities, we provide awards in occasions such as ‘ECO-VC Activity award and information exchange meeting’.

Furthermore, we 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 will work 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 are aimed at long-term sustainability, through energy conservation (CO<sub>2</sub> 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	FY2017	FY2018	FY2019	FY2020	FY2021
Number of proposals	622	354	820	772	430
CO <sub>2</sub> reductions derived from proposals	253.27 kt	58.45 kt	30.50 kt	280 kt	110 kt
Use of recycled resources derived from proposals	18.42 kt	2.67 kt	80 t	100 t	5 t
Reduction in resources used derived from proposals	20.22 kt	1.09 kt	3.03 kt	19.9 kt	323 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 we have a large number of suppliers and commitment by suppliers to environmental issues have been highly demanded in the society, we have requested our suppliers—now reaching a total of about 7,000—to use our CSR Self-Assessment Checklist since fiscal 2016. In September 2016, we held seminars on our CSR Procurement Policy and Chinese environmental regulations in Guangzhou, Dalian, and Shanghai in order to accelerate that our suppliers take actions to environmental regulations. By the end of fiscal 2019, we completed collection of the CSR Self-Assessment Checklist results from all of our existing suppliers. For those suppliers who had completed the CSR self-assessment, we have conducted on-site environmental and CSR audits at the same time in some 20 suppliers per year since fiscal 2019. We have been working to reduce environmental load together with suppliers: in the auditing, we identify points to be improved and monitor until these points are actually improved.

The above efforts are being made under a collaboration with the Institute of Public & Environmental Affairs (IPE), a Chinese environmental NGO. In IPE’s Suppliers Green Supply Chain responsibility (CITI Index), which has been published since 2014, Panasonic has been listed in the top ranking companies every year. In fiscal 2021, Panasonic were ranked the third in the home appliances category.



# Environment: 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

Era	Year	Panasonic Group	World	Japan
	2005	<ul style="list-style-type: none"> <li>Participated in Expo 2005 Aichi, Japan as an official sponsor</li> <li>Green Plan 2010 revised</li> <li>Continued with the nationwide Lights-out Campaign</li> <li>3R Eco Project launched</li> <li>Completed the elimination of specified substances (6 substances) in products</li> <li>Matsushita Group's Green Logistics Policy established</li> <li>CF Accreditation System introduced</li> <li>Panasonic Center Osaka opened</li> <li>Eco &amp; Ud HOUSE opened</li> <li>Installed the first commercial household fuel cell cogeneration system in the new official residence of the Japanese Prime Minister</li> <li>Won the first place in Nikkei Environmental Management Survey</li> </ul>	<ul style="list-style-type: none"> <li>Kyoto Protocol entered into force</li> </ul>	<ul style="list-style-type: none"> <li>Expo 2005 Aichi, Japan held</li> <li>National campaign against global warming "Team -6%" launched</li> <li>Marking for the presence of the specified chemical substances for electrical and electronic equipment (J-Moss) established</li> </ul>
	2006	<ul style="list-style-type: none"> <li>Environmental specialist position established</li> <li>ET Manifest introduced into all manufacturing sites of Panasonic in Japan</li> <li>Realized lead-free plasma display panels and introduced them to the market</li> <li>Full-fledge introduction of biodiesel fuel in logistics</li> </ul>	<ul style="list-style-type: none"> <li>Restriction of Hazardous Substances (RoHS) Directive took effect in EU</li> </ul>	<ul style="list-style-type: none"> <li>Relief Law for Asbestos Victims enacted</li> <li>Energy Conservation Law revised: new cargo owner obligations, widened product scope of its application, and top runner standard revision</li> </ul>
	2007	<ul style="list-style-type: none"> <li>Energy conservation activities at our factories in Malaysia approved as CDM project by the U.N.</li> <li>A new environmental mark 'eco ideas' introduced</li> <li>Panasonic Center Beijing opened</li> <li>Environmental Forum in China held</li> <li>"Declaration of Becoming an Environmentally Contributing Company in China" announced</li> <li>Panasonic 'eco ideas' Strategy announced</li> </ul>	<ul style="list-style-type: none"> <li>The Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) released</li> <li>Registration, Evaluation, Authorisation and Restriction of Chemicals entered into force in EU</li> <li>Framework for CO<sub>2</sub> reduction agreed at Heiligendamm Summit (G8)</li> <li>The Bali Road Map for the post Kyoto Protocol agreed at COP13</li> <li>Administration on the Control of Pollution Caused by Electronic Information Products (China RoHS) came into effect</li> </ul>	<ul style="list-style-type: none"> <li>'Cool Earth 50' announced by Prime Minister Abe</li> <li>'21st Century Environment Nation Strategy' formulated</li> <li>'The Third National Biodiversity Strategy of Japan' formulated</li> <li>'Ministerial ordinance partially amending the Enforcement Regulation of the Waste Management and Public Cleansing Law' promulgated</li> <li>'Domestic Emissions Trading Scheme Review Committee' established</li> <li>'The Second Fundamental Plan for Establishing a Sound Material-Cycle Society' formulated</li> </ul>
	2008	<ul style="list-style-type: none"> <li>Established the Corporate CO<sub>2</sub> Reduction Promoting Committee</li> <li>Held environmental exhibitions, 'eco ideas' World</li> <li>Home Appliances Company announced environmental statement in which named its Kusatsu site as 'eco ideas' Factory</li> <li>Announced 'eco ideas' Declaration in Europe</li> <li>Established Environmental Strategy Research Center</li> </ul>	<ul style="list-style-type: none"> <li>G20 (conference of key countries' environmental and energy ministers) held</li> <li>Hokkaido Toyako Summit held</li> </ul>	<ul style="list-style-type: none"> <li>Cool Earth Promotion Program announced by Prime Minister Fukuda</li> <li>Mislabeling incident of waste paper pulp percentage</li> <li>Long-term Energy Demand and Supply Outlook announced</li> <li>Japan's Voluntary Emission Trading Scheme started</li> </ul>
	2009	<ul style="list-style-type: none"> <li>Opened the 'eco ideas' House to demonstrate a lifestyle with virtually zero CO<sub>2</sub> emissions throughout the entire house</li> <li>Announced the Asia Pacific 'eco ideas' Declaration</li> <li>Announced 'eco ideas' factories (in Czech, Malaysia, Thailand, and Singapore)</li> <li>Sanyo Electric joined the Panasonic Group</li> </ul>	<ul style="list-style-type: none"> <li>China WEEE law promulgated</li> <li>New framework for countermeasures against global warming on and after 2013 (post-Kyoto Protocol), the Copenhagen Accord, was adopted at the COP15 (Copenhagen conference)</li> <li>Seeking to emerge from the Lehman collapse, countries throughout the world accelerated actions for the Green New Deal</li> </ul>	<ul style="list-style-type: none"> <li>Energy Conservation Law amended: Covered area expanded from factories to commercial sector facilities</li> <li>Flat-panel TV and clothes dryer added as covered products under the Home Appliance Recycling Law</li> <li>'Eco point' system started</li> </ul>
2010s	2010	<ul style="list-style-type: none"> <li>Announced "Vision looking to the 100th anniversary of our founding in 2018"</li> <li>Announced new midterm management plan, "Green Transformation 2012 (GT12)"</li> <li>Announced 'eco ideas' Declarations (Latin America, Asia Pacific, and Russia)</li> <li>Established 'eco ideas' Forum 2010 in Ariake, Tokyo</li> <li>Commenced business of Factory Energy Conservation Support Service</li> <li>Announcement of Green Plan 2018</li> </ul>	<ul style="list-style-type: none"> <li>COP10 held in Nagoya—Nagoya agreement made</li> <li>APEC meeting held in Yokohama</li> <li>Ruling party lost in US midterm election—changes in anti global warming policy</li> <li>Cancun agreement made in COP16—Post-Kyoto framework still to be discussed</li> </ul>	<ul style="list-style-type: none"> <li>Draft legislation of Basic Law of Global Warming Countermeasures submitted but remained in deliberation</li> <li>Obligatory greenhouse gas emissions reduction started as a part of Tokyo Emissions Trading Scheme</li> <li>Waste Management and Public Cleansing Law amended: self treatment regulations tightened</li> <li>Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (CSCL) and Law concerning Pollutant Release and Transfer Register (PRTTR) amended</li> </ul>
	2011	<ul style="list-style-type: none"> <li>Announced North America &amp; Taiwan 'eco ideas' Declarations</li> <li>Announced establishment of Panasonic Dadi Dowa Summit Recycling Hangzhou Co., Ltd.</li> <li>Announced the Fujisawa Sustainable Smart Town Project</li> <li>Established Corporate Electricity Saving Division that bridges functions across the organization</li> </ul>	<ul style="list-style-type: none"> <li>Rare earth prices soared</li> <li>Revised RoHS directives enforced in EU</li> <li>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)</li> </ul>	<ul style="list-style-type: none"> <li>Home appliance eco-point incentive program finished</li> <li>The Great East Japan Earthquake</li> <li>Revised Air Pollution Control Act and Water Pollution Control Act enforced</li> <li>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)</li> </ul>
	2012	<ul style="list-style-type: none"> <li>Business reorganization due to full acquisition of Panasonic Electric Works and SANYO Electric</li> <li>Commenced sales of Resources Recycling-oriented Product series</li> <li>Terminated production of household incandescent light bulbs</li> <li>Establishment of Environmental Management Group, Environment &amp; Quality Center, Global Manufacturing Division</li> <li>Communication of 'eco ideas' Declaration (Vietnam)</li> </ul>	<ul style="list-style-type: none"> <li>United Nations Conference on Sustainable Development (Rio +20)</li> <li>"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</li> <li>Revised WEEE Directive implemented in Europe</li> </ul>	<ul style="list-style-type: none"> <li>The Recycle Resource Project, national campaign by Ministry of the Environment, commenced</li> <li>2012 Japan Tax Reform Bill enacted (Environment tax came into force in October 2012)</li> <li>Feed-in tariff for recyclable energy put into effect</li> </ul>
	2013	<ul style="list-style-type: none"> <li>Announced new midterm management plan Cross-Value Innovation 2015</li> <li>Announced new brand slogan "A Better Life, A Better World"</li> <li>PETEC's home appliance recycling reached a cumulative total of 10 million units</li> </ul>	<ul style="list-style-type: none"> <li>Phase I of the Kyoto Protocol ends. Japan's target expected to be achieved in combination with forest CO<sub>2</sub> absorption and application of the Kyoto Protocol mechanisms.</li> </ul>	<ul style="list-style-type: none"> <li>Home Appliance Recycling Law for small household appliances enforced</li> <li>Basic Plan for Establishing a Recycling-Based Society implemented</li> <li>Keidanren's "Action Plan Towards Low-Carbon Society" started (until FY 2021)</li> </ul>



Era	Year	Panasonic Group	World	Japan
		<ul style="list-style-type: none"> <li>Announced 'eco ideas' factory (Philippines)</li> </ul>	<ul style="list-style-type: none"> <li>Minamata Convention on Mercury to internationally regulate import and export of mercury adopted at UN conference</li> <li>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</li> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>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)</li> <li>Voluntary Action Plan by the electric and electronics industry terminated. Achieved improvement by 48% in CO<sub>2</sub> emissions per basic unit in average actual production output for fiscal 2009–2013 (compared with fiscal 1991 level) to the target of 35%</li> <li>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)</li> </ul>
	2014	<ul style="list-style-type: none"> <li>Panasonic DADI DOWA Summit Recycling Hangzhou Co., Ltd., started operation</li> <li>Opening of Fujisawa Sustainable Smart Town</li> <li>Announced Eco Declaration (Southeast Asia &amp; Pacific)</li> <li>Communication of housing &amp; town development at the International Greentech &amp; Eco Products Exhibition &amp; Conference (IGEM) (Malaysia)</li> </ul>	<ul style="list-style-type: none"> <li>Targets for product environmental regulations in Europe begin to shift from energy saving to resource efficiency and environmental impact</li> <li>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.</li> <li>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.</li> <li>COP12 Convention on Biodiversity, PyeongChang concluded the interim assessment of the Aichi Biodiversity Targets as "progress has been made but remains inadequate"</li> <li>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"</li> </ul>	<ul style="list-style-type: none"> <li>The amended Energy Conservation Act was enforced, incorporating action on power conservation during peak periods into existing qualitative reduction targets</li> <li>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</li> <li>Toyota Motor launched fuel-cell vehicle MIRAI into the commercial market</li> </ul>
	2015	<ul style="list-style-type: none"> <li>Won Zayed Future Energy Prize 2015</li> <li>Wonder Japan Solutions (Tokyo) held for the first time</li> <li>Announced the introduction of indirect contributions through housing, automotive, and B2B solutions in the size of contribution in reducing CO<sub>2</sub> emissions</li> <li>Announced the Tsunashima Sustainable Smart Town development project, together with Yokohama City and Nomura Real Estate Development Company</li> </ul>	<ul style="list-style-type: none"> <li>Paris Agreement on the international legal framework for global warming control from 2020 and later was adopted at COP21 (Paris)</li> <li>2030 Agenda for Sustainable Development was adopted at the UN Summit, focusing chiefly on sustainable development goals (SDGs)</li> </ul>	<ul style="list-style-type: none"> <li>Draft proposal to cut greenhouse gases by 26% over 2013 levels as its 2030 greenhouse gas reduction target announced by the Japanese government</li> <li>COOL CHOICE, a new nationwide movement for greenhouse gas reduction, started</li> </ul>
	2016	<ul style="list-style-type: none"> <li>Establishment of Environmental Management Department, Quality &amp; Environment Division</li> <li>Announced R&amp;D 10-Year Vision</li> <li>Revised Green Plan 2018</li> <li>Announced participation in Future Living Berlin, the first Smart City project in Germany</li> <li>Announced collaboration with Tesla Motors for solar batteries</li> </ul>	<ul style="list-style-type: none"> <li>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</li> <li>UK decided to leave the EU (Brexit) in a national referendum</li> <li>GRI announced "GRI Standard," the new guidelines for CSR reports</li> <li>COP 22 held in Marrakesh, Morocco. Agreement reached on establishing a rulebook to make the Paris Agreement effective by 2018</li> <li>Donald Trump won the US presidential election</li> <li>COP 13, the 13th meeting of the Conference of the Parties on Biological Diversity, held in Cancun, Mexico</li> </ul>	<ul style="list-style-type: none"> <li>The 2016 Kumamoto Earthquake</li> <li>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</li> <li>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</li> </ul>
	2017	<ul style="list-style-type: none"> <li>Announcement of Panasonic Environment Vision 2050</li> <li>Opening of Tsunashima Sustainable Smart Town</li> </ul>	<ul style="list-style-type: none"> <li>France, UK, and China announced the prohibition of sales of gas and diesel cars and the conversion to EVs in the future</li> </ul>	<ul style="list-style-type: none"> <li>Revision of the Charter of Corporate Behavior delivering on the SDGs through the realization of Keidanren Society 5.0</li> </ul>
	2018	<ul style="list-style-type: none"> <li>Announcement of Monozukuri (Manufacturing) Vision</li> <li>Achievement of zero-CO<sub>2</sub> factories at Panasonic Eco Technology Center Co., Ltd. (PETEC), Panasonic Energy Belgium N.V. (PECBE), and Panasonic do Brazil (PANABRAS)</li> </ul>	<ul style="list-style-type: none"> <li>COP24 was held. The policy based on the Paris Agreements to be uniformly applied to all member countries was adopted</li> </ul>	<ul style="list-style-type: none"> <li>The fifth Basic Environment Plan was decided by the Cabinet. Set up six cross-field strategies utilizing the concepts of SDGs</li> </ul>
	2019	<ul style="list-style-type: none"> <li>Announcement of Green Plan 2021</li> <li>Participation in 'RE100', an international initiative for the use of 100% renewable energy as electricity used in business operations</li> </ul>	<ul style="list-style-type: none"> <li>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</li> <li>COP25 was held in Spain. The statement urging governments to increase the GHG reduction targets was adopted</li> </ul>	<ul style="list-style-type: none"> <li>G20 Osaka Summit was held. "Osaka Blue Ocean Vision", which aims to further reduce pollution caused by marine plastic wastes, was shared</li> </ul>
	2020	<ul style="list-style-type: none"> <li>Launched a Global Circular Economy Project to accelerate corporate-wide activities to build a circular economy</li> <li>Started Sustainable Management Promotion Consortium where internal members who are interested in sustainability get together to discuss related topics.</li> <li>Achieved zero-CO<sub>2</sub> factory in PEC (Wuxi) in China.</li> </ul>	<ul style="list-style-type: none"> <li>Countries accelerated their decarbonization efforts and subsequently announced carbon neutrality statements.</li> <li>EU released a new battery regulation proposal.</li> </ul>	<ul style="list-style-type: none"> <li>Announced carbon neutrality by 2050.</li> <li>Formulated "Green Growth Strategy Through Achieving Carbon Neutrality in 2050."</li> </ul>

# Respect for Human Rights

## Management System

The Panasonic Code of Conduct expressly states that “we must respect human rights and do our best to understand, acknowledge, and respect the diverse cultures, religions, mindsets, laws, and regulations of people in the different countries and regions where we conduct business.” Panasonic created its Code of Conduct to embody the main elements found in the fundamental principles of the United Nations Declaration of Human Rights, the International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work, and the OECD Guidelines for Multinational Enterprises.

Panasonic is also taking an active approach to reflect the globally advocated concept of human rights in its management, including by referencing the Guiding Principles on Business and Human Rights, which the UN Human Rights Council adopted in June 2011.

In fiscal 2016, Panasonic complemented its Code of Conduct by establishing its Global Human Rights and Labor Policies to provide more detailed provisions on respecting human rights.

In view of factors such as increasing demands and expectations from society to corporations regarding respect for human rights, revision to international standards, new laws and regulations related to human rights, opinions from stakeholders affected by the company, and trends in the international community, we are currently reviewing and restructuring our policies, rules, and initiatives regarding human rights and fair labor as well as our organizational structure for implementing such policies, rules, and initiatives.

## Policy

As a company doing business globally, Panasonic believes in the fundamental principle of treating interactions with its employees and all stakeholders with the maximum degree of concern and respect for their human rights. Panasonic and all its employees worldwide are fully subject to the Code of Conduct, which prohibits discrimination, forced labor, and child labor and stipulates privacy protections.

► Panasonic Code of Conduct, Chapter 3: Employee Relations

<https://www.panasonic.com/global/corporate/management/code-of-conduct/chapter-3.html>

## Training

Panasonic regularly provides opportunities to educate its employees on the Code of Conduct—which sets forth, among other things, its policies on the respect for human rights—including when new employees join the Company or employees receive promotions.

We also conduct Pre-Overseas Appointment Training for employees on assignment from Japan and posted at overseas subsidiaries. This training aims to educate employees on human rights issues that demand particular attention overseas, including fair treatment and employment discrimination prohibitions. (In fiscal 2021, 270 employees underwent Pre-Overseas Appointment Training.)

Furthermore, alongside the obligations to prevent harassment based on power differentials stipulated in the Japanese Labor Measures Comprehensive Promotion Act (revised June 2020), we have updated our leaflet covering Company policies on harassment, definitions of harassment, case studies showing what constitutes harassment, Panasonic internal regulations, and our in-house consultation framework. We are working to educate all employees on these topics. Through the Equal Partnership Consultation Office, we also carry out training on harassment prevention and organize activities to help solve workplace issues and create a friendly work environment.

To identify human rights risks prone to occur at electronics and appliance corporations in China, we conducted a research of more than 100 of these peer firms in 2019. Through these investigations, we identified risks that included insufficient management of young workers, gender bias during hiring and promotions, and overtime work beyond legal limits. To share these results and discuss possible preventive measures, we held training sessions in three cities in China, to which 53 employees from 34 group companies attended.

Moreover, CSR managers and staff members from all Divisional Companies attend the annual Global CSR Meeting, where

they discuss about prevention of forced labor and human rights infringements, among many other topics. They also share reports on these meetings with the directors of their respective business divisions.

## Responsible Executive and Framework

Executive Officer Shigeki Mishima, is Panasonic's Chief Human Resources Officer (CHRO), is concurrently and the person in charge of Corporate Social Responsibility. (As of August 2021). The Human Resources & Industrial Relations Department of established at the Panasonic Headquarters is responsible for corporate-wide governance of human rights and fair labor matters. The human resources departments—located in each of the seven Panasonic Divisional Companies\* of Panasonic Corporation and all business divisions and affiliated companies under the Panasonic umbrella—handle day-to-day human rights and fair labor matters for employees.

\*As of August 2021

## Human Rights Support Desk

Panasonic has established a global hotline (with service in 31 languages) for our employees and external business partners to report any potential compliance issues (including human rights-related violations) they notice or suspect. The hotline uses an external, unaffiliated system that does not identify the person making the report. We have also established internal regulations to ensure that whistleblowers do not incur any disadvantages for their reports.

In Japan, Panasonic has established an Equal Partnership Consultation Office with dedicated contacts in both the Headquarters and employees' labor union. We have also created contact offices in each Divisional Company and business division. This reporting framework allows us to address any human rights violation 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.

## Participation in International and Industrial Partnerships

As a member of the Japanese Business Federation's task force on its Charter of Corporate Behavior, Panasonic partnered with other member companies to create the Implementation Guidance of a new human rights section on the Charter of Corporate Behavior, which was revised in 2017 for the first time in seven years.

Additionally, Panasonic took part in formulating the "Joint Declaration Toward Correcting Business Practices that Lead to Long Working Schedules," which was jointly issued in September 2017 by economic organizations, including the Japanese Business Federation, and various industry organizations, including the Japan Electronics and Information Technology Industries Association (JEITA).

Panasonic is an active member of JEITA, through which we actively strive to address the issues that our industry faces together with other companies in the electronics and IT industries. As a member of the JEITA CSR Committee, which Panasonic chaired until July 2021, we worked with the EU, the OECD, and the ILO to promote their project, Responsible Supply Chains in Asia.

In March 2020, JEITA published the "Responsible Business Conduct Guidelines" and we are working to disseminate it and raise awareness as a Committee member.

► Joint Declaration on Rectifying Business Practices that Lead to Long Working Schedules

<http://www.keidanren.or.jp/en/policy/2017/071.htm>

► The Responsible Supply Chains in Asia programme

[https://www.ilo.org/tokyo/events-and-meetings/WCMS\\_651504/lang--en/index.htm](https://www.ilo.org/tokyo/events-and-meetings/WCMS_651504/lang--en/index.htm)

► ILO and the JEITA CSR Committee Host a Seminar Promoting CSR in Global Supply Chains

[https://www.ilo.org/tokyo/information/pr/WCMS\\_732917/lang--en/index.htm](https://www.ilo.org/tokyo/information/pr/WCMS_732917/lang--en/index.htm)

## Efforts Concerning Fundamental Human Rights

### Panasonic's Structure for Respecting Fundamental Human Rights

The following diagram illustrates the primary structure of fundamental human rights that Panasonic commits to respect:

#### Structure of the Fundamental Human Rights that Panasonic Respects



### Prohibiting Forced Labor, Effectively Abolishing Child Labor, and Giving Attention to Young Workers

When recruiting employees, Panasonic strives to protect fundamental human rights and engages in hiring activities that comply with the international standards related to labor and human rights, as well as the laws and regulations of the countries in which it operates. Panasonic also prohibits forced, involuntary, and child labor.

\* For information on suppliers, please see the Responsible Supply Chain section (P.106).

### Providing Employment Opportunities to Young People

Panasonic provides junior-level job seekers with career education, industry-academia collaboration, human resource development, 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.

### Prohibiting Discrimination

Panasonic strives to create workplaces where diverse and talented individuals can respect one another as vital partners, regardless of factors such as race, sex, age, nationality, beliefs, religion, social status, disability, sexual orientation, and gender identity. We also strive to create a lively and supportive work environment where people can actively engage in their work, with consideration of the laws and regulations of each country.

Panasonic has established recruitment standards that select employees based on the applicants' aptitudes, capabilities,

and desires. To thoroughly implement these standards, Panasonic Corporation (Panasonic in Japan), for instance, educates interviewers based on the Recruitment and Human Rights handbook, which the Japanese government's public employment stability office Hello Work drafted to promote fair recruitment screening.

Regarding employee discipline, Panasonic's Code of Conduct has provisions mandating the respect for human rights and forbidding discriminatory action or harassment in the workplace. Our Employee Handbook also defines punitive measures in response to any illegal behavior.

Furthermore, the company is 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 sexual harassment, 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

## Managing Working Hours

Based on labor laws and labor-management agreements (including collective bargaining agreements when they exist) in each country, our Employee Handbook includes provisions related to proper management of working hours, break times, overtime work, holidays, leave, and other matters.

For example, in Japan, we have set the prescribed working hours at 7.75 hours/day. Any extra hours worked are subject to additional pay, providing a benefit beyond that required by law. We have also established in-house working hour management standards, which are even stricter than the legal standards, as part of our efforts to eradicate long working hours for all employees, including managers and supervisors. Moreover, we provide our employees with more annual paid leave than legally required and allow them to accumulate up to 50 days of leave. We have a system that responds more flexibly to individual needs for people taking annual leave. There are three things in particular: not limiting the purpose of the leave; making hourly or half-day leave available to all employees regardless of work style, and allowing employees to take hourly annual leave during regular work hours.

On top of these system enhancements, we comprehensively address employee physical and mental health management by optimally allocating human resources to prevent uneven overtime work distributions among specific employees, and by conducting additional medical examinations for employees who happen to work long hours.

## Wage Management

Panasonic has established group-wide guidelines for compensation system design and aims to realize competitive and attractive compensation levels based on labor standards of the legislation and on labor agreements in the respective countries where it operates. In our employee wage regulations, we have also adopted provisions for adequate wages, commuting allowances and other expenses, bonuses, other occasionally paid compensation, and retirement allowances.

Panasonic has implemented a "Role / Grade System" that determines compensation based on the work or role in which employees are currently engaged; there are no gender-based inequalities in this compensation system.

In Japan, to ascertain whether employees' wages are being paid correctly, labor unions conduct annual surveys of wage conditions among their members and check whether those members are properly paid the salaries resulting from wage negotiations decided between labor and management.

Overseas, Panasonic establishes for each country company regulations to comply with wage-related laws and regulations concerning minimum wages, statutory benefits, and overtime. We conduct our operations based on these regulations and—for the specified period and time of payment—notify employees about their direct payments using pay statements and electronic data.

In countries and regions where the law permits monetary penalties, Panasonic recognizes and allows these penalties as an option for disciplinary action. However, this permission is all predicated on the penalty procedures and monetary

amounts being established within legal limits and within reasonable limits in terms of livelihood impact. Such measures must also be codified in internal regulations and made well known to employees. Japanese law does not prohibit monetary discipline, but Panasonic's disciplinary rules within Japan do not include monetary penalties.

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

Panasonic believes that the freedom of association, combined with the right to collective bargaining, is one of the fundamental human rights that companies should respect.

In countries and regions that allow for the formation of labor unions—as, for instance, in Japan—Panasonic and the Panasonic Group Workers Union Association have stipulated in their labor agreement that unions retain the right to organize, collectively bargain, and strike.

Furthermore, even at subsidiaries or offices in countries and regions where the laws, regulations, or conventional labor practices do not permit the formation of labor unions, the Panasonic Code of Conduct 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.

### Panasonic Code of Conduct (Excerpts)

#### Chapter 3: Employee Relations

(Omitted)

(2) Respect for Human Rights

5) Taking into account the laws and labor practices of each country, the Company will try to foster a good relationship with its employees and to resolve issues of, among others, workplace and working conditions by constantly having a sincere and constructive dialogue.

► Panasonic Code of Conduct, Chapter 3: Employee Relations

<https://www.panasonic.com/global/corporate/management/code-of-conduct/chapter-3.html>

## Japan

Panasonic has adopted a “union shop” system, whereby all full-time company employees automatically become labor union members upon being hired with that status. It has concluded labor agreements and a basic agreement with the Panasonic Group Workers Unions Association (PGU). Except for employees engaged in management work, almost all full-time Panasonic employees in non-managerial roles (96.7%) are labor union members. We also respect the right of non-regular employees to join a labor union if they choose to do so.

At Panasonic, essential management issues are discussed in advance with labor unions. Management-Labor Committees are established as a forum for people to express their opinions on these issues. Particularly important decisions are explained to the labor unions, and Labor-Management Councils are held to provide an opportunity for people to express their approval or to propose changes. Both Management-Labor Committees and Labor-Management Councils are held periodically and separately at the Panasonic Corporation (in Japan), Divisional Company, and business division levels. The Group-level Management-Labor Committee—which notably includes the Panasonic Group President, the Executive Officer in charge of human resources, and the PGU Central Executive Committee chair—is held once per month. The Group-level Labor-Management Council includes the Panasonic Group President, Group Executives, the PGU Central Executive Committee chair, and other members as required. The Council meets semi-annually.

If Panasonic has issued a proposal on structural reforms or other crucial considerations that arise, all relevant parties will engage in discussions, if necessary, every single day at every level—Panasonic Corporation (in Japan), Divisional Company, and business division—until both labor and management have reached complete agreement.

## Europe

Following an EU directive\* adopted in 1994, Panasonic set up a voluntary labor-management agreement to provide a venue for meaningful discussions between labor and management and established the Panasonic European Employee Congress (PEEC).

In fiscal 2021, 31 employee representatives and 12 company representatives assembled online, exchanged information, and



held fruitful discussions on matters including management strategy and business issues.

\* 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

## China

The unionization rate among private companies in China varies among different groups of firms. Still, nearly all Panasonic affiliated companies have organized labor unions (gōnghuì) and actively engage in labor-union-related activities.

Specifically, Panasonic conducts initiatives including periodic labor-management dialogues, proactive joint labor-management recreational events, and prior explanations to unions concerning critical management decisions. Thus Panasonic focuses its efforts on building good relations between labor and management, which we consider the foundation for business development. In 2020, we deliberated on issues including remuneration, employee benefits, and training facilities. We successfully reached a labor-management agreement that adequately accounts for the many varied factors of our business, including improving corporate efficiency and profit, as well as providing our employees' families with a better quality of life.

## Demand on Suppliers

Standard Purchase Agreement (Excerpts)

The Supplier shall try to foster a good relationship with its employees and to resolve issues by constantly having a sincere and constructive dialogue.

## Efforts to Protect the Rights of Children

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

- Programs supporting employees raising children  
<https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-employee.pdf#management>
- Providing products that support people raising children  
[https://www.panasonic.com/global/corporate/technology-design/ud/products/declining\\_birth\\_rate.html](https://www.panasonic.com/global/corporate/technology-design/ud/products/declining_birth_rate.html)
- Safe and secure, child-friendly product design that is conscious of healthy development (Japanese only)  
[https://www.panasonic.com/jp/corporate/technology-design/ud/pdf/KIDSDESIGN\\_pamphlet2021.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

<https://www.panasonic.com/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)

<https://www.panasonic.com/jp/corporate/sustainability/citizenship/pks.html>

## Initiatives Relating to Global Standards, Legislation, and Regulations

Panasonic created its Code of Conduct to embody the main elements maintained in the fundamental principles of the United Nations Declaration of Human Rights, the International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work, and the OECD Guidelines for Multinational Enterprises. Panasonic collects information on critical changes in legal requirements related to human rights and labor. Every one of our business sites works to ensure and strengthen our compliance with these requirements.

### Efforts Concerning the ILO Core Labour Standards

#### The freedom of association and the right to collective bargaining

No. 87 (Freedom of Association and Protection of the Right to Organise Convention)

No. 98 (Right to Organise and Collective Bargaining Convention)

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

[https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-human\\_rights.pdf#freedom](https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-human_rights.pdf#freedom)

#### Prohibiting forced labor

No. 29 (Forced Labour Convention)

No. 105 (Abolition of Forced Labour Convention)

► Prohibiting Forced Labor, Effectively Abolishing Child Labor, and Giving Attention to Young Workers

[https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-human\\_rights.pdf#labor](https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-human_rights.pdf#labor)

#### Effectively abolishing child labor

No. 138 (Minimum Age Convention)

No. 182 (Worst Forms of Child Labour Convention)

► Prohibiting Forced Labor, Effectively Abolishing Child Labor, and Giving Attention to Young Workers

[https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-human\\_rights.pdf#labor](https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-human_rights.pdf#labor)

#### Rejecting discrimination in employment and occupation

No. 100 (Equal Remuneration Convention)

No. 111 (Discrimination (Employment and Occupation) Convention)

► Prohibiting Discrimination

[https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-human\\_rights.pdf#discrimination](https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-human_rights.pdf#discrimination)

### Efforts to Prevent Modern Slavery and Human Trafficking

Modern slavery may occur in various forms—including servitude, forced or compulsory labor, and human trafficking—all of which include the deprivation of an individual's (an adult's or a child's) liberty by another (collectively, "modern slavery"). Panasonic is committed to a work environment free from modern slavery, in accordance with the laws and regulations of the respective countries in which we operate. We are committed to acting ethically and with integrity in all our business dealings and relationships. We do not knowingly use modern slavery in any of the products we use or services we supply. We constantly improve our internal regulations, guidelines, and partnership agreements to bolster management and ensure modern slavery is not taking place anywhere in our own business or in our supply chains.

The following describes our efforts to prevent the occurrence of modern slavery in our business or supply chains.

#### ■ Fully educating employees on policies

##### Panasonic Code of Conduct (Excerpts)

#### Chapter 3: Employee Relations

(Omitted)

(2) Respect for Human Rights

2. The Company will not employ people against their will, and will not use child labor. The Company will comply with the employment laws and regulations of the countries and regions in which it conducts business.

► Panasonic Code of Conduct, Chapter 3: Employee Relations

<https://www.panasonic.com/global/corporate/management/code-of-conduct/chapter-3.html>

## Recruitment

When recruiting employees, Panasonic adopts a perspective of protecting fundamental human rights and engages in recruitment activities that comply with the laws and regulations of the respective countries in which we operate.

## Training

We conduct training for all new, permanent staff on our Basic Business Philosophy and Code of Conduct. This training covers compliance with local laws and respect for fundamental human rights, emphasizing not employing persons against their will or in violation of local employment laws.

Furthermore, job-specific training for CSR, procurement, and other relevant occupations enlightens employees on human rights risks and responses.

## Confidential whistle-blowing

We protect whistleblowers by providing an anonymous whistle-blowing hotline for our employees and business partners. Employees are regularly reminded of the whistle-blowing hotline. They are encouraged to use it if they suspect any potentially illegal behavior or practice, including modern slavery.

## For suppliers

We ask our suppliers to meet our CSR requirements, including the respect of human rights and the health and safety of workers, so that forced labor does not occur in their operations. We also state this requirement in our standard purchase agreements.

- **Panasonic Supply Chain CSR Promotion Guidelines**

<https://www.panasonic.com/global/corporate/management/procurement/for-suppliers.html>

- **Standard Purchase Agreement (Excerpts)**

(Demand on Suppliers to Respect Human Rights)

The Supplier must strive to provide equal employment opportunities and not engage in forced labor, child labor, excessive work hours, illegal employment of foreign workers, or other unlawful/inappropriate labor practices. With regard to employment conditions, including wages and work hours, the Supplier shall comply with the laws and regulations of countries and regions in which their business activities are undertaken.

- **CSR Self-Assessments for Suppliers**

We ask our suppliers to conduct CSR self-assessments. For further information, please see the Responsible Supply Chain section (P.106).

## Efforts to Comply with SA8000

SA8000 is an international standard concerning labor and human rights that the US NGO Social Accountability International has issued. The standard provides voluntary requirements for employers to fulfill, including those concerning workers' rights in the workplace, the working environment, and management systems. The eight requirements laid out by SA8000 and the state of Panasonic's initiatives concerning each management system:

### 1. Child labor

▶ Prohibiting Forced Labor, Effectively Abolishing Child Labor, and Giving Attention to Young Workers

[https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-human\\_rights.pdf#labor](https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-human_rights.pdf#labor)

### 2. Forced labor

▶ Prohibiting Forced Labor, Effectively Abolishing Child Labor, and Giving Attention to Young Workers

[https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-human\\_rights.pdf#labor](https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-human_rights.pdf#labor)

### 3. Health and safety

▶ Occupational Health and Safety

[https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-health\\_safety.pdf](https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-health_safety.pdf)

### 4. The freedom of association & the right to collective bargaining

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

[https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-human\\_rights.pdf#freedom](https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-human_rights.pdf#freedom)

### 5. Discrimination

▶ Prohibiting Discrimination

[https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-human\\_rights.pdf#discrimination](https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-human_rights.pdf#discrimination)

### 6. Disciplinary practices

▶ Prohibiting Discrimination

[https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-human\\_rights.pdf#discrimination](https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-human_rights.pdf#discrimination)

### 7. Working hours

▶ Managing Working Hours

[https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-human\\_rights.pdf#hours](https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-human_rights.pdf#hours)

### 8. Remuneration

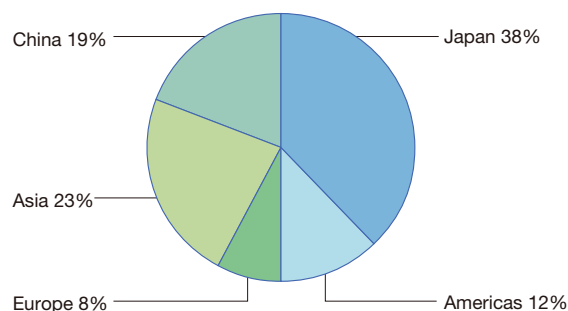
▶ Wage Management

[https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-human\\_rights.pdf#wages](https://www.panasonic.com/global/corporate/sustainability/pdf/sdb2021e-human_rights.pdf#wages)

# Human Resources Development and Promotion of Diversity

## Numbers of Employees

**Total Consolidated Number of Employees Globally: 243,540 (as of the end of March 2021)**



## Policy

To deliver products and services that contribute to society and our customers around the world while growing Panasonic's business, it is essential for us to keep developing human resources that can actively participate to our global business environment. It will also be essential that the company creates an organization and culture where diverse people can fully utilize their talents irrespective of gender, age, or nationality. Thus, we regard the promotion of human resource development, diversity and inclusion as a crucial part of our business strategy, provide a broad range of opportunities for anyone with ability and ambition, and actively strive to create an environment where work feels meaningful.

## Responsible Executive and Framework

Executive Officer Shigeki Mishima serves as the Group Chief Human Resources Officer (Group CHRO) and the DEI (Diversity, Equity & Inclusion) Promotion Officer.

The divisions responsible for the day-to-day management are the Strategic Human Resources Department of Corporate Strategy and Technology Sector and the Human Resources Divisions that have been established in the Lifestyle Business Division and at each of the Divisional Companies and in all business divisions and affiliated companies under the Panasonic umbrella. (As of October 2021)

## Performance Evaluations

At Panasonic, we believe that people are the driving force behind our competitive power, which is why we aim to be a company where diverse human resources can use their talents to the fullest extent in a way that is worthwhile. To achieve this, we believe that it is essential to start with a culture that values and leverages diversity, increase the willingness with which each individual employee approaches challenges, and continue to build in concert as an organization. Putting this belief into action, we conduct surveys of employees' opinions—both in Japan and elsewhere—to understand the current state, needs and issues of its employees and organization. Issues identified in these surveys are factored into action plans, and each relevant Divisional Company and organization works to implement the plans and resolve the problems. From fiscal 2016, Panasonic has been conducting individual overseas opinion surveys by using a common platform in Japan and overseas. Through this common global perspective, we are gaining a clearer understanding of both our organizational strengths and issues to be resolved. This knowledge enables us to enhance the quality of our management and to achieve an organizational culture in which all employees can find meaning in their work.

## Managerial Promotion

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

Panasonic 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. Panasonic then motivates these candidates by sharing the assessment reports to promote self-driven growth among its senior managers. Panasonic has established the Group Talent Management Committee as a venue to openly discuss and examine management candidates from a variety of angles. The President, Divisional Company Presidents, CTO, and other Committee members discuss how to find the best candidates worldwide, as well as matters related to career development and promotions.

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

## Remuneration System

Panasonic 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, Panasonic aims to inspire the desire to improve both performances.

The compensation of Directors and Executive Officers 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. 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. The objective of Panasonic's stock options with transfer restrictions is to incentivize improvement of the company's corporate value over the long term, as well as to further align interests with our shareholders.

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

## Human Resources Development

### Human Resources Development Initiatives and Performance

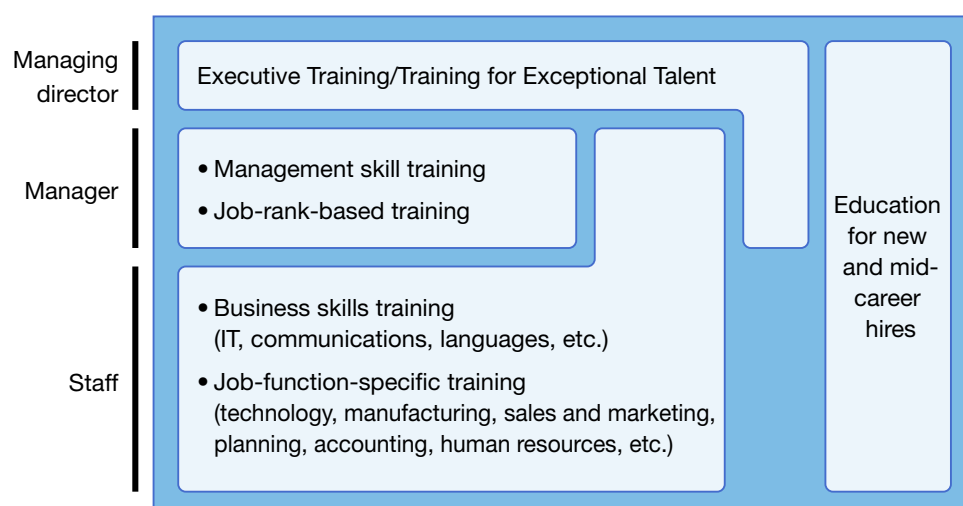
#### Basic Education and Training System

Our education and training system offers all levels of Panasonic Group employees a set of global core common knowledge, which constitutes the minimum knowledge necessary for all aspects of Panasonic's global business. Panasonic 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, Panasonic has been developing learning programs globally, while planning and providing optimized training for actual needs, including developing individualized training to suit specific business needs.



## Basic Education and Training System



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.

## Human Resources Development Company

Panasonic has established the Human Resources Development Company (HRDC) as an organization that specializes in human-resources-related development and training for employees of all levels worldwide.

The HRDC provides training to new hires (in Japan) so that new employees can quickly become active at Panasonic. 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, HRDC 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’s management philosophy, and other forms of job rank-based training.

Starting in April 2020, we began offering free educational content related to business skills and liberal arts publicly available on our corporate website with a view to stimulating self-driven study, making study a daily habit for boosting personal growth and better achieving organizational targets. This is part of Panasonic’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. We will continue to further expand and promote our online training offerings.

### FY 2021 training results\*1

- Total: 186,899 person-days\*2

\*1 These results only include those from the Human Resources Development Company and do not include training conducted by business divisions or other job functions.

\*2 Person-day: number of people × number of days

## Global Human Resources Development

Panasonic has established the Panasonic Global Mobility Policy, regulations for inter-regional personnel transfers 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, and to that same end we implement programs for inter-regional personnel transfers and programs that bring employees from outside Japan to work in Japan, for example.

In each country and region, Panasonic conducts and is expanding training programs to increase mutual understanding among people from all nations around the globe. For example, in Europe, as part of the two-year “Talent for Tomorrow” (TFT) human resources development program, employees join separate project teams, and each team works to promote CSR-

based projects. These projects take several months and receive support and praise from non-profit organizations.

The participating employees work on social issues while making use of their work skills and then apply the knowledge and experience that they gain from these activities to product development and business creation.

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

## **Efforts to Develop Employees' Employability**

### **Career Creation System to Support Employees' Ambitions to Create New Careers**

We believe in the great importance of giving each and every one of our employees the opportunity to make the most of their own desires and creativity, to develop their talents and skills, and reach their full potential based on what their individuality brings to the table. Based on this philosophy, we have devised a Career Creation System to advertise job opportunities within the company and to support our employees' efforts to advance their careers. In this system, 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. These systems support all employees equally, regardless of age, gender, or nationality.

### **Career and Life Design Seminars**

To foster individuals who are improving their employability and continuing to strive for a better future, Panasonic 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 Panasonic Corporation (Panasonic in Japan) and 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 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 and Inclusion (DEI)

In 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.

### Policy

#### Panasonic Group DEI (Diversity, Equity & Inclusion) Policy

The Panasonic Group DEI policy aims to describe and communicate to all the stakeholders our definition, mission and vision of Diversity, Equity & Inclusion for entire Panasonic Group. In order to put our DEI policy into practice in light of the applicable laws and regulations, each company of the Group will promote specific activities.

##### About Panasonic Group

Our reason for existence is “contributing 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.” As the basic attitude for employees and for conducting all work activities, our management philosophy emphasizes the importance of attaining a “Sunao Mind” and conducting “Management by All with Collective Wisdom.”

A “Sunao Mind” is defined as a “mind to see things as they are and grasp the true picture correctly without being obsessed with anything such as self-interest or selfish desire.” It is about being generous and having attitude of listening to others. “Management by All with Collective Wisdom” is the “management that relies on everyone’s wisdom,” in which “each person shall work in the spirit of autonomous responsible management.”

In an era where the social environment is changing rapidly and values are diversifying, it is becoming more and more important to listen to various opinions and incorporate them into management, therefore, we set out our definition of Diversity, Equity & Inclusion based on our management philosophy as follows:

##### Diversity:

##### Embracing and respecting the individuality of each person who accepts challenges and finding value in individual differences

Individuality can be along internal and external dimensions such as value, culture, religion, personality, experiences, sexual orientation, gender identity, race, ethnic group, nationality, language, gender, age, disabilities, health, family, social status, educational background, job experience and others.

##### Equity:

##### Seeking fairness in providing opportunities for each person who accepts challenges

We strive to create a workplace where everyone is treated fairly and provide support by utilizing information, tools and mechanisms, taking into account individuality of each person, so everyone has the opportunity to be successful.

##### Inclusion:

##### Cultivating an environment where each person who accepts challenges can value their own individuality and the organization can leverage the power of individuality

We aim to build an inclusive culture where each person who is highly motivated to contribute to the progress of the company can actively participate in management and openly discuss, which enables creation of greater value.

##### Mission, Vision and Declaration on action

For the success of each person who accepts challenges and the organization, we are committed to promote Diversity, Equity & Inclusion, with the aim of “becoming the Best Place to Work where diverse talents work at their best.”

The founder of Panasonic Group Konosuke Matsushita once said, “Every single person has their heaven-sent qualities found in no other, and success on our life depends on making the most of our unique qualities.” We will continue to take on the challenge of practicing management by all with collective wisdom with a “sunao” mind for realization of an “ideal society” and the improvement of well-being of people by squarely addressing social issues.

### Department in charge of DEI (Diversity, Equity & Inclusion)

In 1999 Panasonic began its Equal Partnership initiative, and since then, it has promoted the creation of an open and fair work environment—one that does not discriminate based on gender, age, nationality, or similar factors—through initiatives such as the establishment of the Panasonic Positive Action Program, special training programs for female employees, and the nomination of Equal Employment Opportunity Officers.

Soon thereafter, in 2001, efforts to appoint women to positions of responsibility—previously largely the purview of the human resources department—were more forcefully recognized as drivers of diversity for the entire organization.

Accordingly, the Corporate Equal Partnership Division was established directly under the office of Panasonic’s President, as part of the management policies aiming to change the work environment by facilitating the participation of women in management.

In 2006, this Division was further developed and became the Corporate Diversity Promotion Division— with an expanded mandate that focused on diversity of age and nationalities, in addition to gender, while extending its efforts worldwide. At the same time, Panasonic established its e-Work Promotion Office, an organization dedicated to promoting telecommuting (internally called “e-Work”) as an efficient way of working.

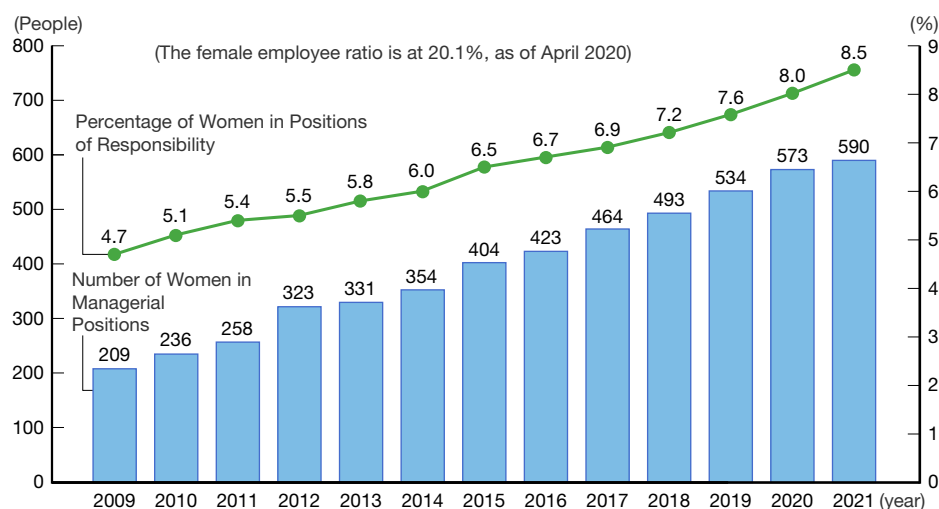
In 2018, on the 100th anniversary of the company’s founding, Panasonic has established the Office for A Better Workstyle, which reports directly to the Headquarters. This editorial office is responsible for further increasing the job satisfaction of all

employees, who are the driving force the firm for continuing to serve society and customers for the next 100 years. In 2020, we established the Strategic Human Resources Department as a new entity to formulate human resources strategies and measures for our workforce.

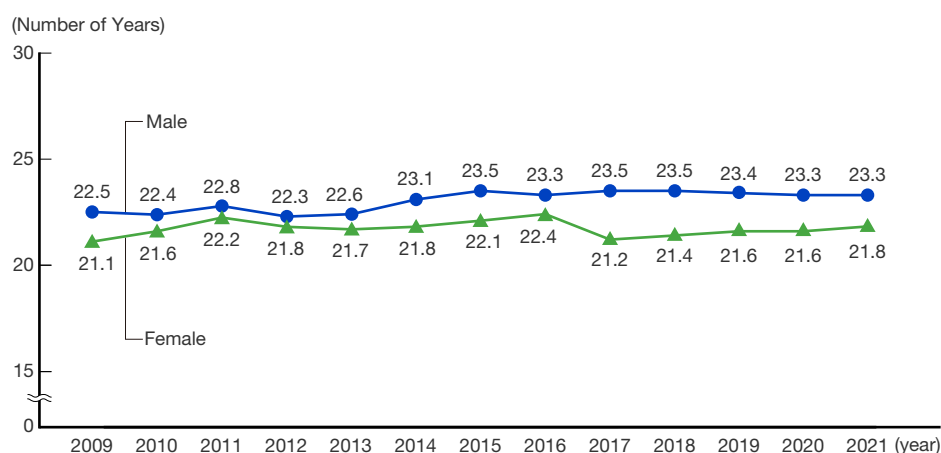
In 2020, we established the Strategic Human Resources Department and set up a bureau for our “A Better Workstyle” initiative within it. As of 2021 the authority over this bureau was shifted to the Strategic Human Resources Department where we plan to promote it even more strongly.

As of 2021 the authority over this bureau was shifted to the Employee Success Center of an internal company, the Operational Excellence Company, where we plan to promote it even more strongly.

### Number of Women in Managerial Positions, Percentage of Women in Positions of Responsibility



### Average tenure length



## Major Initiatives of DEI

The Panasonic Group has developed a wide variety of initiatives meant to promote diversity in all of the global regions where we do business.

### Gender Equality

To leverage the knowledge capital of society to the greatest extent possible, Panasonic 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 are no gender-based inequalities in this compensation system. However, particularly in Japan, Panasonic is 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 diversity.

Regarding the Senior Management team, one woman was appointed to Director in 2013, and currently two of the thirteen Directors are women.

To accelerate female participation in management, Panasonic 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.

In 2021, Panasonic 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. Panasonic 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.

## In Japan

We are devoting energy to maintaining environments that allow diverse human resources to put their abilities to full use, such as by including education about unconscious bias in management training, while also creating opportunities for networking and spaces for communication based on the diverse categories of our employees, including people with disabilities, people of other nationalities, women, and LGBTQ people.

Furthermore, to raise the consciousness of all employees concerning the promotion of diversity, Panasonic has established a Diversity Promotion Month in July every year, hosting forums and creating opportunities in the workplace for discussions on the theme of diversity. As Panasonic welcomed its 100th anniversary, it is essential that all employees, who serve as the driving force behind Panasonic's continued usefulness to society and its customers in the next 100 years, undergo self-growth while feeling rewarded in their work. Since November 2017, Panasonic has endeavored to create "A Better Workstyle" (by undertaking reforms that make work rewarding), with a focus on creating growth opportunities by reaching outside the company, supporting voluntary changes among employees, and encouraging a diverse environment.

## In the United States

Guided by our basic business principles and company values, Diversity, Equity and Inclusion (DEI) at Panasonic North America (PNA) is a business imperative. Diversity improves company performance in every imaginable area — talent, innovation, group performance, reputation, and finance.

According to Census data, by 2060, minority groups will make up 55% 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, PNA spent the past year developing a strategic DEI framework to guide our path forward.

"In 2021, PNA will focus on two key DEI strategic priorities, Culture & Belonging and Talent. Specifically, we will continue to support our Business Impact Groups (BIGs): RISE (formerly Women's Connect), Veterans Group, PRISM (supporting LGBTQ), Level Up (Millennials), and the Black Employee Network (BEN). The BIGs are instrumental to supporting the recruitment, retention and internal advancement of a diverse workforce. We will also continue to deepen our DEI learning and build on the Unconscious Bias Training that launched earlier this year and reached more than 12,000 employees. In addition, PNAs HR leaders are incorporating inclusive hiring policies and practices into the talent acquisition strategy. They are also working on implementing a talent review process with clear diversity and inclusion expectations for leaders and managers, including how diversity and inclusion performance will be considered in evaluation results. Lastly, we are launching a DEI pulse survey to gather insights and baseline data from employees.

We are 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 "Unconscious 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.

## Work-Life Management

### Flexible work systems that enable diverse workstyles

Panasonic has been promoting "e-Work" for some time as an efficient way of working that takes advantage of information and communication technologies to perform work in any location. We are implementing a work-from-home system

that covers around 40,000 employees. 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 10,000 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 missing work in the middle of working hours for any personal reasons and allocating off time for that.

We aim to increase productivity and improve the work-life balance of employees through these working styles.

## Supporting Diverse Ways of Working through Work-Life Management

As part of Panasonic'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. Panasonic 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 Management

### ■ Flex-time work system

A flexible work-hour system that does not designate mandatory "core hours" when all employees must be present

### ■ Child Care Leave

A non-consecutive total of two years of leave that can be taken until the end of the April following the child's start at elementary school

### ■ Work and Life Support Program

A flexible work system for those raising children, or providing nursing for an elderly person, 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-Rearing Support Café Point

A system by which Panasonic covers some of the costs for childcare, such as extended daycare and daycare for an ill child

### ■ Child Planning Leave

System of leave for fertility treatments

### ■ A Comprehensive Program for Supporting a Balance between Nursing Care and Work

- Holding of seminars and launch of a portal site with information concerning nursing care
- Counseling for employees facing the prospect of nursing care, and support for related procedures
- Company support for half of the daily costs of nursing care through the Nursing Care Support Café Point
- Ability for employees to take leave days up to a total of 365 days per person requiring nursing care, with a payment of 70% of wages plus an allowance for the employee-borne portion of social insurance premiums for leave totaling to 183 days or fewer
- Other measures, including the establishment of a nursing care financing system

## Creating a Workplace Where People with Disabilities Can Take an Active Part

As Panasonic develops its business worldwide, counterfeit Panasonic goods are also spreading on a global scale, particularly in China. Counterfeit goods lead to quality concerns and can cause accidents and injuries to our customers. Imitations also harm a healthy society because they create economic losses: Circumventing the proper payment of tax leads to a decrease in tax revenue, as well as to less business incentive to develop new products. Fake products also present security issues that could include the potential funding of criminal and terrorist organizations. Moreover, confiscated counterfeit goods are treated as waste when they are scrapped, which also has a big impact on the environment. Eliminating counterfeit goods should be considered a Corporate Social Responsibility. Here we discuss some of Panasonic's anticounterfeiting measures.



## Specific countermeasures

Panasonic supports every workplace in creating a pleasant work environment for all employees, whether they have a disability or not. For example, if an employee with a hearing loss takes part in a training session, we utilize a sign language interpreter or use a voice recognition software to ensure that there is no impediment to exchanging information. We also promote working environment improvements such as floors without steps or dips, lighting that is sufficiently bright, and unassigned desk space in an open office format. Panasonic also develops educational materials to improve employees' understanding about people with disabilities and to provide opportunities for further learning.

The Panasonic Group manages seven special subsidiaries to promote the employment of workers with severe disabilities in cooperation with local communities and governments. These subsidiaries take measures to create an appropriate workplace, which includes the installation of specially designed workbenches and materials suitable for people who use wheelchairs. The subsidiaries also actively welcome trainees and observers.

As of June 2021, individuals with disabilities represented 2.40% of Panasonic Corporation workforce in Japan, while the figure for the whole Group was 2.41% (exceeding the Legal Employment Rate of Persons with Disabilities of 2.30%).

\* National average of actual employment rate of persons with disabilities: 2.15% (Jan. 2021)

Going forward, we will continue our efforts to support people with disabilities in their independence and social participation.

## Employment of Workers with Disabilities (Japan)

	2012 June	2013 June	2014 June	2015 June	2016 June	2017 June	2018 June	2019 June	2020 June	2021 June
Panasonic Corporation	2.04%	2.15%	2.16%	2.15%	2.18%	2.15%	2.15%	2.20%	2.33%	2.40%
Key Group Companies	2.11%	2.21%	2.24%	2.46%	2.50%	2.24%	2.47%	2.49%	2.58%	2.59%
Group (whole)	2.06%	2.17%	2.18%	2.21%	2.23%	2.16%	2.17%	2.22%	2.35%	2.41%

## Special Subsidiaries (employee figures are as of June 2021)

Company Name	Year of Establishment	Number of Employees (Number of Persons with Disabilities)	Description of Business
Panasonic Kibi, Co., Ltd.	1980	77 (35)	Assembly of video camera LCD units, video accessories
Panasonic Katano Co., Ltd.	1981	38 (33)	Assembly of avionics products, inspection and packaging of AV accessories
Panasonic Associates Shiga Co., Ltd.	1994	67 (37)	Assembly of electronic circuits (for massage chairs, shavers, etc.)
Panasonic Ecology Systems Co., Ltd.	1980	46 (26)	Assembly of ventilating fan parts, printing of user manuals
Panasonic Heart Farm Associates Co., Ltd.	1998	76 (43)	Growing / selling orchids, distribution of company-internal mail
Harima Sanyo Industry Co., Ltd.	1982	38 (22)	Assembly of vacuum cleaner parts, maintenance of internal environment
Panasonic Associates Tottori Co., Ltd.	1992	56 (23)	Manufacture of LED products, light sensors

## Employing Workers Post Retirement

In 1982, Panasonic 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 in 2008, we relaunched this as the "New Next Stage Program", renewing our position as an industry leader in formulating policies for the employment of older workers in Japan. In 2019 we once again revamped the New Next Stage 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.

## Next Stage Program

The Next Stage Program is a system that mainly consists of the Next Stage Partner Program, which allows workers who wish to continue working after the mandatory retirement at age of 60 to do so until the age of 65. In April 2008, we relaunched this as the New Next Stage Program. Our basic thinking here relies on an emphasis on personal autonomy. The

new system is easier to understand, more flexible, and easier to use than ever before. In 2015, we updated this system once again, based on new ideas about longer term careers and aimed at encouraging each employee to map out his or her own career from an early stage. Our new system offers a broader range of measures to meet the diverse needs of older workers. More specifically, across the entire company, we are developing and promoting training seminars on career design and life design for various stages of people's lives. In April 2020, we made substantial revisions to the conditions of our Next Stage Partner Program to accommodate changes in the social significance of responding to the grater desire of seniors to work as well as financial preparedness for the period between retirement and the age at which pension can be received, all with an eye toward empowering seniors and complying with updated laws. In April 2021, in addition to our existing efforts to ensure that anyone over the age of 60 who wants to work can do so, we have also begun an initiative that will allow employees to continue their employment even beyond the age of 65. We are also offering economic support for employees who are willing to leave Panasonic earlier and seek new activities elsewhere, as well as support for those who wish to work elsewhere after reaching retirement age.

## Create a Good Work Environment for all Regardless of Sexual Orientation or Gender Identity Policy

Panasonic's Code of Conduct makes it clear that discriminatory speech or conduct with regard to sexual orientation or gender identity, as defined by applicable laws, are not permitted.

► Panasonic Code of Conduct, Chapter 3: Employee Relations (2) Respect for Human Rights

<https://www.panasonic.com/jp/corporate/management/code-of-conduct/chapter-3.html>

### Treatment of Individuals in Panasonic's HR Systems

Effective April 2016, Panasonic now 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. This is part of the company's promotion of diversity in management, which is based on valuing, accepting and making the most of individuality. Affiliates both within and outside of Japan are addressing this matter on an individual basis, subject to the condition of compliance with applicable local laws.

### Advancement in Understanding

In order to create a friendlier workplace regardless of sexual orientation or gender identity, Panasonic has been conducting since February 2016 successive seminars targeting HR functional divisions, managerial positions, and employees.

Seminars for HR functional divisions offer not only basic knowledge about sexual orientation or gender identity concerns, but also methods for dealing with discriminatory speech or conduct, and 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's intranet system.

### Creating Support Desks

Panasonic has created support desks through which employees can engage in email or telephone consultations about any internal company topic, including cases of sexual harassment or abuse of authority (employees can use these support desks anonymously.)

### Support for External Activities

Since fiscal 2015, Panasonic 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. Panasonic provided a hall in its Tokyo building as a venue for an event in 2014, with roughly 200 people taking part, most of them from corporate HR departments.

Every year since then, we have cooperated with "work with Pride" on their Tokyo Rainbow Week exhibits and continuously cooperated for other events. Panasonic also took part in the policy working group for a corporate LGBTQ evaluation index held from December 2015 to May 2016. Panasonic 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, Panasonic 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.

# Occupational Health and Safety

## 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's business. In addition, the Group has established in its regulations that it will give careful consideration to the health and safety of the employees of its subcontractors who work full-time on Panasonic premises.

To maintain our occupational health and safety efforts—and to continuously improve them—Panasonic has introduced an occupational health and safety management system at nearly all of its global manufacturing sites (some of which are now under construction). In addition, Panasonic's business sites are working toward obtaining certifications such as ISO45001. Through these certifications, Panasonic is working to set clear targets and promote health and safety initiatives with clearly defined roles and responsibilities for every employee, including long-term reviews conducted by business site directors and making adjustments to those activities.

As of the end of the FY2021, 110 of Panasonic's sites have obtained ISO45001 certification, and 96 are currently preparing to transition from certifications like OHSAS (Occupational Health and Safety Assessment Series) 18001 to ISO45001. (Roughly 185 of our 223 manufacturing sites are projected to obtain ISO45001 certification by the end of FY2022.)

In addition, based on the Industrial Safety and Health Act, Panasonic conducts at least once a year regular risk assessments of sites elements including mechanical equipment and harmful substances. This process aims to identify potential risks of workplace accidents or illnesses and to ensure to reduce these risks, according to their level of severity.

Furthermore, when a workplace accident happens within the company, Panasonic shares it as a case study through its corporate intranet, so that we can implement activities to prevent recurrence of such accidents at all business sites.

Through OSHMS, all business sites in Japan have Health and Safety Committees, composed of employees and managers.

The purpose of these Committees is to investigate and debate employee hazard prevention measures, root causes of occupational accidents, measures for recurrence prevention, prevention measures for employees' health issues, as well as employee health maintenance and promotion measures. Moreover, Panasonic has established Occupational Health and Safety Councils with its contractors in order to prevent occupational accidents caused by working with contractors' employees operating on our premises. These Councils serve to maintain open lines of communication among workers and to comprehensively manage health and safety issues.

At our Headquarters, we have built a system for managing the status of occupational accidents arising at some 340 global sites. Should a major occupational accident occur, this system allows to report it within 24 hours, in addition to full year-round monitoring and sharing of case studies with all Group companies. At business sites where occupational accidents have occurred, Panasonic investigates the root causes behind incidents and implements measures at all business sites to prevent the recurrence of similar accidents.

In March of each year, Panasonic establishes Corporate-wide priority policies, and strives to fully inform all employees of their content during July's National Safety Week and October's National Occupational Health Week. These communication efforts include the issuance by Panasonic's President of a specific message related to the key Corporate-wide policies for that fiscal year.

Panasonic Group personnel in charge of health and safety also participate in an annual Employee Personal Health and Occupational Health and Safety Forum, where together they study case studies of initiatives at different business sites, attend lectures by visiting instructors, and engage in activities to increase their knowledge and to put it into practice at each business site.

In addition, Panasonic's Occupational Health and Safety personnel attends presentations given by external experts, share best practices on health and safety among business sites (including those overseas), and give awards to business sites with exceptional safety records at the Employee Personal Health and Occupational Health and Safety Forum held each year in September. These engagements are designed to promote high standards of health and safety across Panasonic's sites.

## Policy

Panasonic strives to ensure the personal and occupational health and safety of its employees by sharing the Panasonic Code of Conduct, created by the Board of Directors, and the Panasonic Occupational Safety and Health Policy, issued by the President, to all Panasonic Group companies worldwide. (At the Headquarters these are translated into our most commonly used foreign languages, English and Chinese, while multilingual versions are also offered at each business site.)

### Panasonic Code of Conduct (Excerpts)

Panasonic has established that it will take into account the health of its employees and strive to ensure a safe and comfortable work environment.

#### Chapter 3: Employee Relations

(2) Respect for Human Rights

4. The Company will give due consideration to the health of its employees and will maintain a comfortable workplace that meets all applicable safety standards.

► Panasonic Code of Conduct, Chapter 3: Employee Relations

<https://www.panasonic.com/global/corporate/management/code-of-conduct/chapter-3.html>

### Panasonic Occupational Safety and Health Policy

The Panasonic Occupational Safety and Health Policy consists of an Occupational Safety and Health Declaration, as well as a set of Activity Guidelines for Occupational Safety and Health. The Company has set initiatives in eight areas that it is thoroughly undertaking.

#### Occupational Safety and Health Declaration

Based on the spirit of "respect for human beings" as stated in our management philosophy, Panasonic Corporation is committed to creating safe and both physically and mentally healthy workplaces through consistent efforts and careful attention.

#### Activity Guidelines for Occupational Safety and Health

##### 1. Legal and regulatory compliance

Each business site shall establish its own internal policies and procedures to ensure compliance with all relevant legal and regulatory obligations related to occupational safety and health.

##### 2. Management of resources

Each business site shall invest in human, technology and capital in order to create safe and healthy workplaces.

##### 3. Establish, maintain, and improve our occupational safety and health management systems

Each business unit shall establish an occupational safety and health management system, and regularly maintain and improve it.

##### 4. Definitions of roles, authorities and responsibilities, and establishment of an organizational structure

In order to ensure smooth implementation of Panasonic's occupational safety and health management systems and to promote their continuous and voluntary improvements, each business site shall define the organizational structure for health and safety management, including the roles, authorities, and responsibilities of legal representatives, managers and supervisors.

##### 5. Removal and reduction of the root causes of hazards and potential damage

Each business site shall carry out risk assessments, identify hazards and root causes of potential damage, and remove or reduce them.

##### 6. Setting health and safety goals and formulating and implementing a management plan

At each business site, the business operators taking part in the Health and Safety Committees (managers) and employees shall work together to assess occupational safety and health activities, identify disasters and potential threats to health, adopt appropriate goals, and formulate and execute a management plan for occupational safety and health.

##### 7. Auditing and review by management

Each business site shall conduct regular audits to monitor occupational safety and health activities. Based on the audit results, the management shall carry out appropriate reviews and implement continuous improvements.

## 8. Education and training

Each business site shall provide its employees and those of its business partners on its premises with education and training in accordance with the occupational safety and health management plan. Each business site shall ensure that all relevant personnel are appropriately kept informed of the health and safety policy and the occupational health and safety management system.

June 24, 2021

President Yuki Kusumi, Panasonic Corporation

## Training

Panasonic educates employees, managers, and occupational health and safety personnel using the Safety and Health Education Guideline and the Mental Health Education Guideline that it has established.

In September of each year, Panasonic holds its Employee Personal Health and Occupational Health and Safety Forum—where employees from all business sites can learn good examples of personal health and occupational health and safety promotion activities from each other. At the Forum, Panasonic awards business sites that have achieved zero accidents or shown outstanding efforts—as part of its goal to raise the standards of its health and safety activities.

### Headquarters Training and Numbers of Trainees (Fiscal 2020)

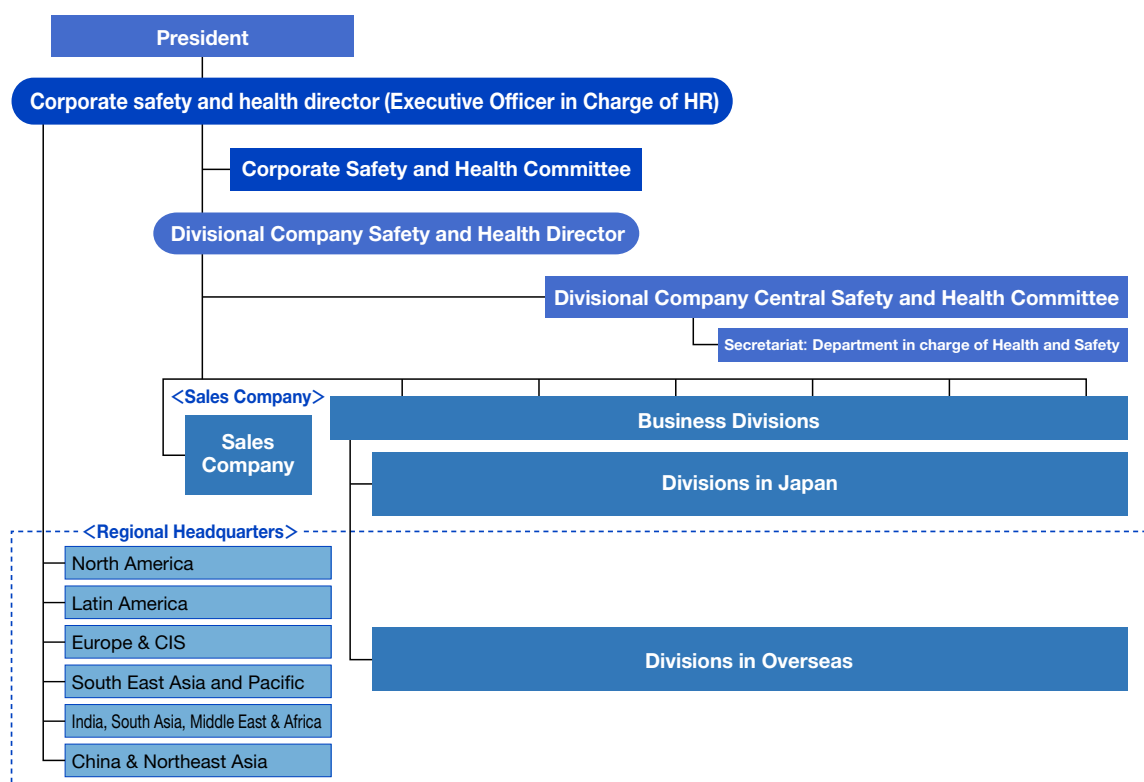
Group	Name of Training	Period/Time	Number of Trainees
New hires (all types)	All new hire trainees	30 minutes	1,255
	Career Hires Introductory Training	30 minutes	175
HR roles	Occupational Health and Safety Personnel Training (Introduction)	2.5 days	28
	Course on Human Resources Basic Roles	3 hours	62
Manufacturing-related roles	Lectures on Machinery and Equipment Safety Standards	As needed	Roughly 200
	Occupational Health and Safety Seminar for Production Engineering Manager	2days	21
Executives/managers	Occupational Health and Safety Seminar for Executives and Plant Managers	2days	17
Total			Roughly 1,760

\*All seminars are for employees of Panasonic Corporation and its affiliated companies in Japan.

## Responsible Executive and Framework

The executive officer responsible for occupational health and safety is the Chief Human Resources Officer (CHRO), Shigeki Mishima. (As of August 2021)

As per Panasonic's Occupational Health and Safety Management Regulations, established for Corporate-wide occupational health and safety management, Panasonic uses the management structure shown below. Divisional Company Presidents (or executives of at least executive officer rank) supervise occupational health and safety at their respective Divisional Companies.

**Corporate Occupational Health and Safety Management Organization (Japan)** (as of August 2021)**Occupational Health and Safety Support Centers**

In Japan, Panasonic has established the following support centers to help employees prevent or deal with mental or physical stress:

**Employee Counselors (or the human resources department of the employee's place of work)**

Since 1957, Panasonic 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**

Panasonic 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.

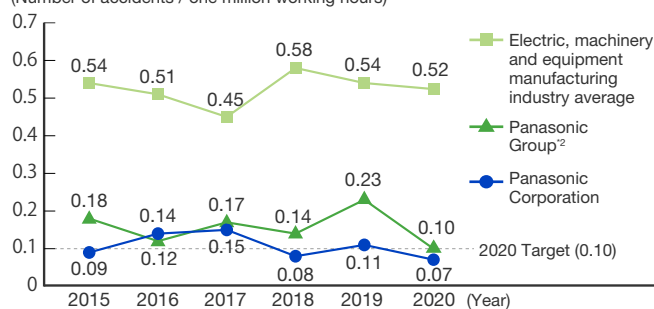


## Incidence of Occupational Accidents and Responses

### Lost-Time Injury Frequency Rate\*<sup>1</sup>

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

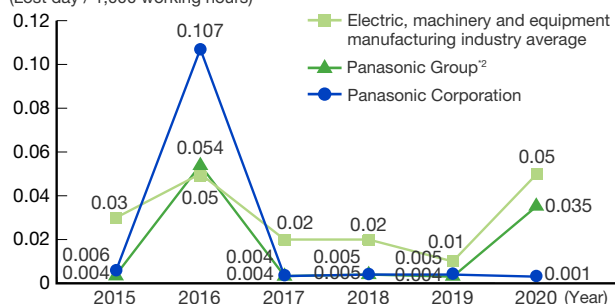
(Number of accidents / one million working hours)



### Intensity Rate\*<sup>1</sup>

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

(Lost day / 1,000 working hours)



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

### Number of Fatal Accidents (Global)\*<sup>3</sup>

Fatal incidents	2015	2016	2017	2018	2019	2020
Target	0	0	0	0	0	0
Actual	0	1 (Japan: An employee)	0	1 (Overseas: A local employee)	1 (Japan: Temporary staff)	1 (Japan: Panasonic Group Employee)

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

\*2 For the Panasonic Group in Japan.

\*3 Includes employees stationed overseas, temporary employees, and onsite contractor employees

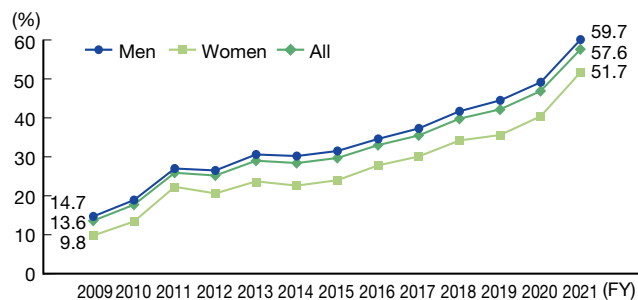
## Incident Background and Recurrence Prevention

In FY 2021, there was a regrettable incident involving an employee who fell to their death while performing work in a high location where they had been dispatched. Panasonic takes this extremely seriously and has conducted a thorough general inspection of the management of work instructions at the site to which the employee was dispatched, whether or not the work was dangerous, and whether proper protective equipment for fall prevention was used. We are reminding those at all of our worksites that safety is the first priority over everything and working across the entire Group to eliminate serious accidents

## Health Key Performance Indicators

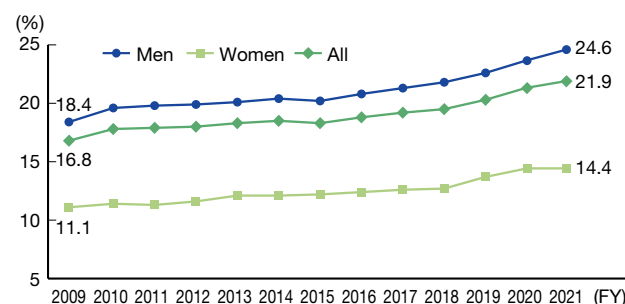
### Rate of awareness of steps walked

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



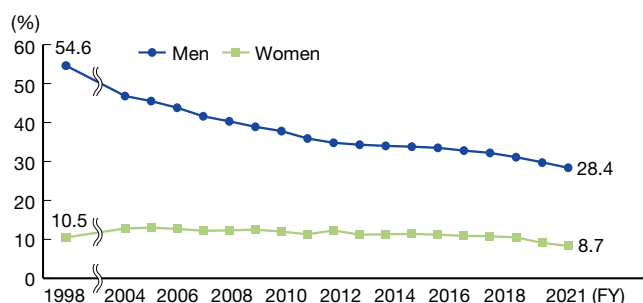
### Exercise rate

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



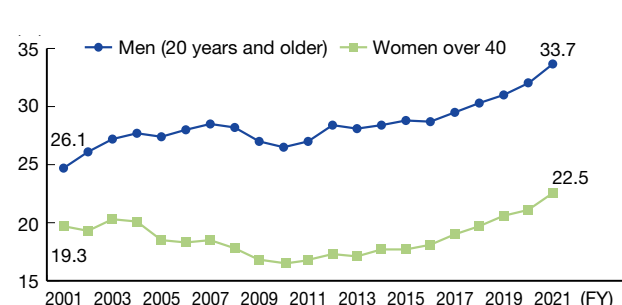
## Smoking rate

**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**



After promoting Corporate-wide efforts to raise awareness of steps walked in fiscal 2019, we raised the 10-year rate of awareness by nearly threefold, while gradually increasing the rate of exercise as well. Panasonic's initiative to move from separate indoor smoking areas to 100% smoke-free buildings has lowered the smoking rate among men by just over 26% and among women by 4.4% from the peak figure. At the same time, while health promoting initiatives temporarily lowered obesity rates, they have continued to make gains again, so the Panasonic Group needs to expand the scope of its health promotion activities even further.

## Key Initiatives

### Safety

#### Creating Equipment Safety Standards

To prevent occupational safety risks involving equipment, Panasonic reviews safety conditions for all newly installed equipment by evaluating compliance with its Equipment Safety Standards. These precautionary audits take place when Panasonic builds new plants and installs new production equipment in existing business sites. The 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.

Panasonic publishes 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 (P.134) for more details.

### 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 Stress Check system was scheduled and implemented for each of Panasonic's locations between FY2017 and FY2020 (and was carried out by each location), but in addition to the conventional response for those under high stress, since FY2021 all Panasonic Group companies conduct these Stress Checks in June of each year, implemented for each company organizational unit, in order to promote group analyses and workplace improvements on a company organizational unit level. (Stress Checks for FY2021 were postponed until October due to the impact of the coronavirus.)

We have also worked out functions for reminding every employee in the Panasonic Group to undergo these Stress Checks. Beyond helping the employees themselves understand their stress levels, the results of these Stress Checks are also used as feedback for workplace diagnostics and analyses and are also leveraged in measures meant to prevent mental health

issues through workplace stimulation. 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.

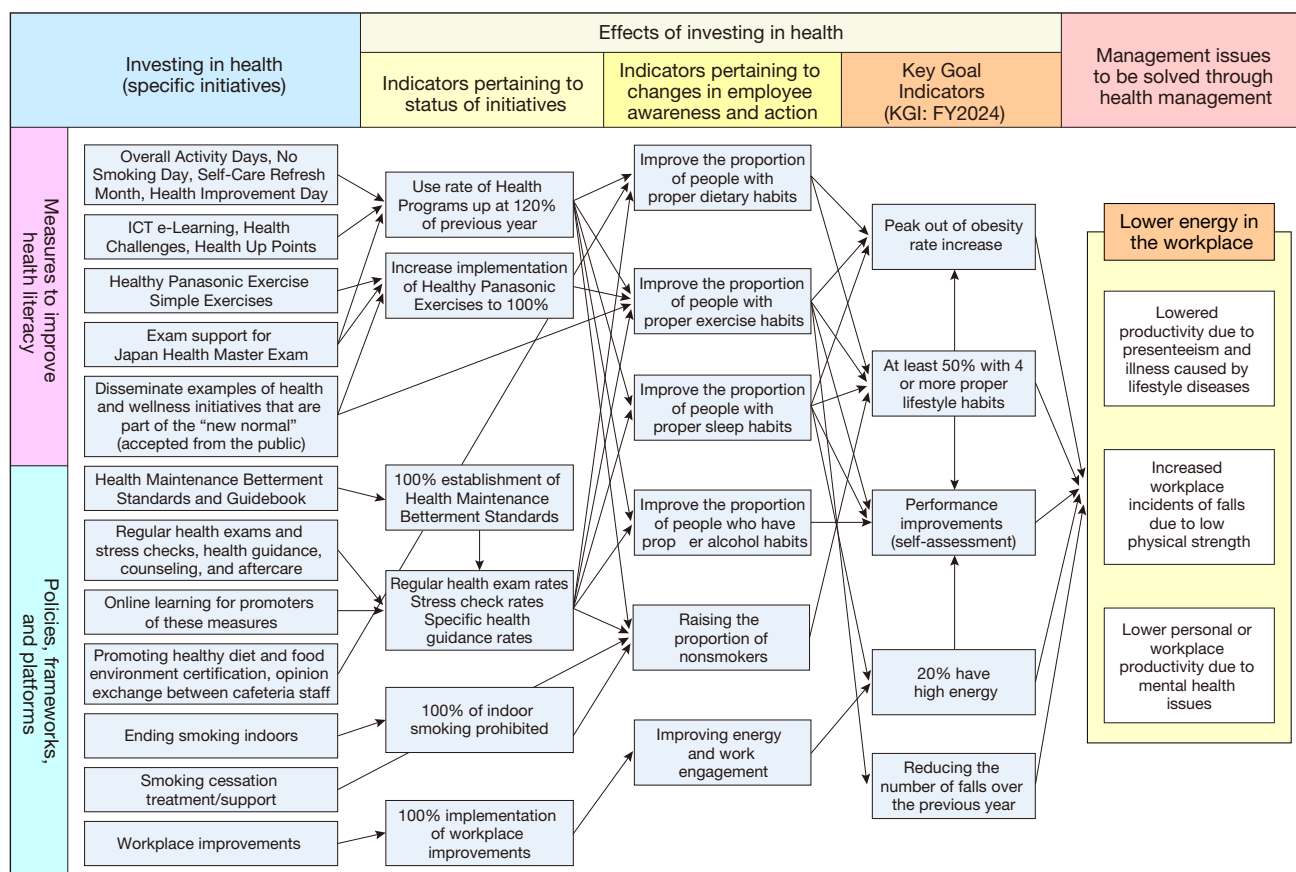
Employees who work long hours or whose regular health screening results suggest a need for monitoring their safety receive a consultation from an occupational physician based on Panasonic's own criteria. Measures are also taken to prevent damage to the employee's health, including by addressing working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

## Personal Health

We are promoting "Healthy Panasonic", a Corporate-wide campaign for healthy lifestyles started in FY2002 that targets all employees, labor unions and health insurance organizations. To ensure sustainable growth, and as the average employee age advances, Panasonic aims to prevent falls, reduce the risks of brain and heart disease, improve the mental and physical condition of its employees, and exhibit top performance Corporate-wide.

## Healthy Panasonic Strategic Roadmap

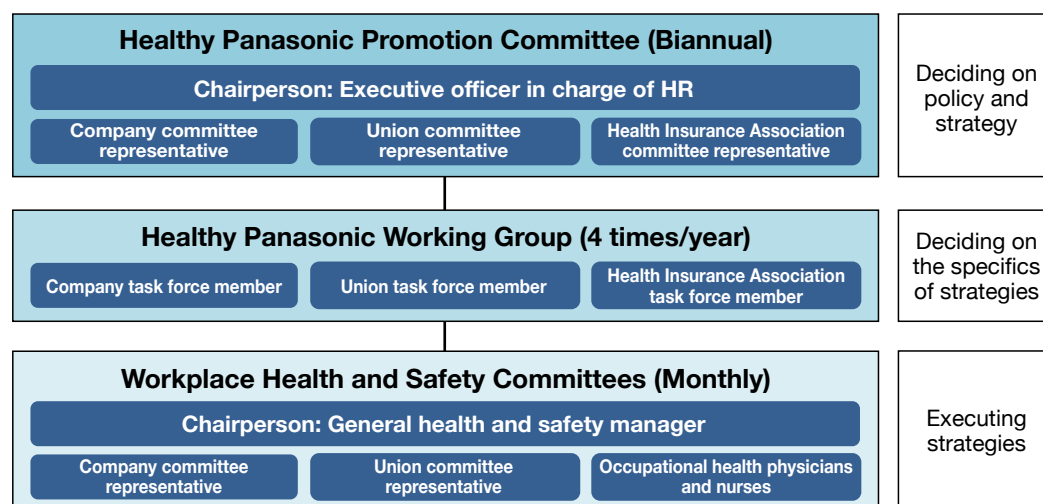


## Promotional Framework

As of August 2021, the executive in charge of promoting Healthy Panasonic is Executive Officer and CHRO Shigeki Mishima.

Panasonic 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”



## Employee Health Problems

As Panasonic's employees become older, the number of individuals with obesity or other health problems is increasing, as is the number of falling accidents. At the same time, improvements in lifestyle habit metrics have remained stagnant, except in the rate of employees who are aware of how much they walk and who do not smoke. To address these health problems, Panasonic needs to raise its employees' health literacy and create plans to increase the number of employees who engage in healthy behaviors.

The coronavirus pandemic has also led to more remote work, especially for indirect divisions, which has brought up new issues including a lack of exercise and insufficient communication.

## Health Promotion Initiatives

As an initiative to raise employees' health awareness, we hold a No Smoking Day (June 1st) and Health Improvement Day (October 1st) every year for the entire Group, and in fiscal 2021, 85.5% and 67.0% of business sites took measures to prevent passive smoking, quit smoking, eat well and exercise. In addition, Panasonic also offers ICT-based health promotion solutions through web services and lifestyle habit apps. These solutions provide health information, records of health checkups, health challenges, and health care point programs, and 58.3% of all Panasonic Group employees use these services and apps.

In terms of improvements to work environment, Panasonic promotes non-smoking workplaces and certifies 115 workplace cafeterias across Japan through the internal Health Improvement Cafeteria Certification System. Thanks to these certifications, 50% of cafeteria users can choose from a selection of health-conscious meals.

Meanwhile, Panasonic 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.

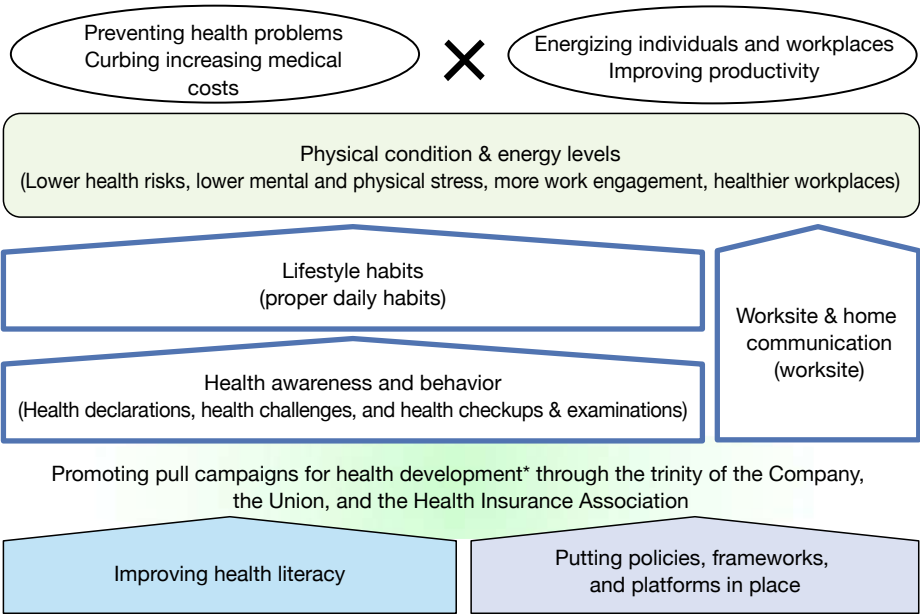
We undertake a variety of physical fitness initiatives, including working toward popularizing workplace exercises focused on strength training and encouraging individuals to be more aware of their own lack of exercise through strength checks, all under the banner of “making exercise a habit,” our key theme for fiscal 2021. 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 36.2% in fiscal 2021, a 3.2% increase from the previous year.

\* “Proper lifestyle habits” as defined by the standards of the Health Scoring Report

Overview of “Healthy Panasonic” from FY2020



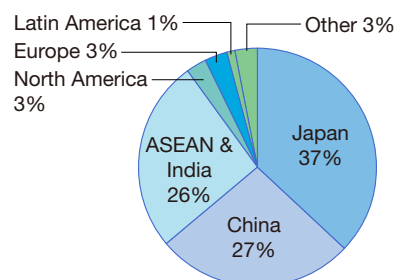
\*Promoting health through self-directed initiatives individuals take for the sake of themselves and their families

# Responsible Supply Chain

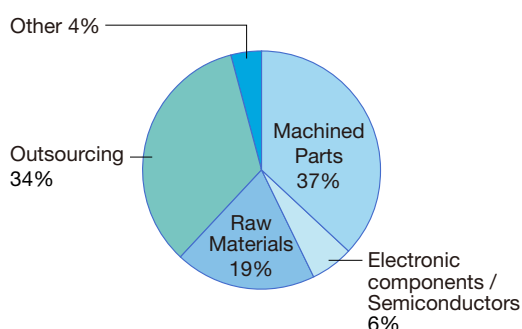
## Overview of Supply Chain

Panasonic does business with approximately 10,000 suppliers worldwide. The company promotes activities with its global business partners across its entire supply chain in order to achieve its CSR-related goals.

**Breakdown of Transactions by Region (%)**



**Breakdown of Transactions by Product (%)**



## Management System

With a rising global demand for socially responsible procurement—taking into account the environment, human rights, fair labor conditions, and fair trade—we strive to conduct our business with suppliers in a way that not only provides excellent technology and quality, but also fulfills our social responsibility, including towards human rights and responsible employment, occupational health and safety, green procurement, clean procurement, compliance and information security.

Panasonic considers the CSR initiatives in our procurement departments to be vitally important, and we conduct regular management reviews.

In order to increase understanding of CSR procurement and raise awareness of employees involved in procurement activities, we have created internal rules and manuals on CSR procurement, and disseminated the necessary information via handouts, the company's intranet and training sessions.

We ask each of our suppliers to agree to Panasonic Supply Chain CSR Promotion Guidelines, which bring together our management philosophy, CSR procurement policies, and other matters with which we want our suppliers to comply. We also ask them to perform CSR self-assessments before we start doing business with them. Additionally, we enter into a Standard Purchase Agreement with suppliers, which includes CSR-related items such as respect for human rights, safe working environments, and consideration for the environment.

Furthermore, in addition to evaluations related to quality, cost, delivery, and service (QCDS) and to business performance, we conduct regular evaluations of suppliers' CSR initiatives.

With regard to conflict minerals, which are sources of funding for organizations involved in unethical practices in conflict areas, such as human rights violations, environmental destruction and corruption, we strive to adhere to the Organization for Economic Cooperation and Development's (OECD) Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas. Additionally, we participate in the Responsible Minerals Initiative (RMI) and work to respect human rights in the procurement and use of conflict minerals and cobalt.

Through these efforts, we are building sustainable supply chains together with our suppliers.

## Policy

### Procurement Policy

Panasonic 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, 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, global environmental conservation, 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.

## Supplier Selection and Evaluation

When selecting new suppliers, Panasonic 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 protection and information security. Since 2015, Panasonic has required that new suppliers to carry out CSR self-assessments. We conclude Standard Purchase Agreements including CSR requirements and then start trading with suppliers that confirmed meeting our standards.

Panasonic also began asking our existing suppliers to begin doing CSR self-assessments in 2015, and provides guidance for improvement or awareness-raising activities according to the assessment results. Self-assessment results are shared across the Panasonic Group as one of the tools a business division uses for evaluating a supplier with which it has never done business before.

## Clean Procurement

Because Panasonic 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 ever since.

Throughout the year, we keep all our procurement personnel and departments well informed of clean procurement practices and visit our key suppliers to request their cooperation in implementing these 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.

### • Establishment of a global hotline

Panasonic aims to promote fair and equitable procurement activities based on our Clean Procurement Declaration.

Our global hotline acts also as a reporting system in the event that any of our procurement personnel or departments have violated any laws or regulations, agreements with suppliers, the Panasonic Code of Conduct, or other procurement rules, or are suspected to be about to do so.

This hotline is also available to suppliers for the purposes above.

#### ► Global hotline

<https://secure.ethicspoint.eu/domain/media/en/gui/104773/index.html>

#### ► Clean Procurement Declaration

<https://www.panasonic.com/global/corporate/management/procurement/declaration.html>

## Training

Our procurement departments at Panasonic conduct CSR procurement training to train our procurement staff members who will be able to fulfill our social responsibilities when it comes to procurement by teaching them about the company's basic approach to CSR and create opportunities to gain knowledge about procurement compliance. CSR procurement training within Panasonic's group in Japan has divided its training into two levels. The CSR1 level is made to help trainees gain expertise and solve problems in the workplace, and the CSR2 level is made for trainees to learn the basics of CSR and learn to apply them in the normal work of procurement. Each level concludes with a comprehension exam after the training.

In particular, the CSR2 level certificate listed below is a prerequisite for our internal buyer certification system.

(Training example) CSR2 training curriculum

- Compliance for subcontracting, green procurement, clean procurement, and more
- Panasonic's management philosophy and stance on CSR procurement
- Issues with human rights and labor or health and safety in the supply chains
- Specific efforts made in Panasonic CSR procurement

In addition to all this, we also build in basics on CSR procurement in our training curricula for new procurement personnel who have changed jobs internally or who newly joined Panasonic.

We also have plenty of necessary information available on the portal site for procurement personnel that includes the Conflict Minerals Manual and the requirements for conducting CSR self-assessments to make it possible for them to always have the latest information at hand as they do their work.

## Responsible Executive and Framework

The executive in charge of procurement is Mototsugu Sato, Executive Vice President (as of August 2021).

The department responsible for responsible procurement activities is Panasonic's Global Procurement Company. Each of our Divisional Companies, as well as their business divisions and other affiliated companies have their own procurement departments.

The Global Procurement Company collaborates with these Divisional Companies' procurement departments to strengthen CSR procurement activities at the Corporate-wide level.

Each Divisional Company and business division follows the PDCA cycle by planning and promoting initiatives in line with Corporate-wide rules and manuals related to procurement operations. Issues that arise in this process are addressed and appropriate solutions devised through discussions during Corporate-wide meetings attended by the heads of procurement in each Divisional Company and business division.

## Enforcement of CSR for Suppliers

### Enforcement of the Panasonic Supply Chain CSR Promotion Guidelines

In March 2016, the Panasonic Group issued the Panasonic Supply Chain CSR Promotion Guidelines (Ver. 1.0), a set of CSR requirements we ask suppliers to adhere to. These guidelines were formulated with reference to international standards and standard approaches in industry and in a way that communicates the Panasonic Group's basic approach to CSR procurement while into account CSR requirements from NGOs and customers. This same document was later updated and amended to reflect the changes to CSR requirements placed on companies and released in July 2018 as Panasonic Supply Chain CSR Promotion Guidelines (Ver. 2.0), hereinafter called the "Procurement Guidelines."

The Procurement Guidelines establish the following provisions while meeting legal and regulatory requirements and taking into account international conventions and standards:

- 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 latest edition of Panasonic'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

These Procurement Guidelines are prepared in Japanese, English, and Chinese and we both keep them on our home page and endeavor to distribute to our suppliers and notify them of any revisions. We also call supplier meetings 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.

For further details, please visit our “For Suppliers” page regarding procurement activities.

<https://www.panasonic.com/global/corporate/management/procurement/for-suppliers.html>

## Requests to Suppliers for CSR Self-Assessments

Since fiscal 2016, Panasonic has asked suppliers to begin conducting CSR self-assessments (based on our Procurement Guidelines) of the state of their initiatives related to human rights, fair labor, health and safety, the environment, and ethics.

These CSR self-assessments include items that prohibit suppliers from using child labor, forced labor, and the like. Panasonic requires our suppliers to follow their country’s laws regarding hiring workers and that no one is made to work against their will.

We place priority on self-assessments in regions with higher CRS risk. In fiscal 2017, some 5,000 suppliers mainly in China, India, and Southeast Asia conducted these assessments. In fiscal 2018, some 2,000 of our suppliers in Japan conducted these assessments. In fiscal 2019, roughly 3,000 assessments were conducted, including new suppliers. In fiscal 2020 more new suppliers conducted self-assessments, and over these five years, nearly all Panasonic suppliers have now provided self-assessments. Additionally, we had some 1,500 of our key suppliers in fiscal 2021, including both existing and new suppliers, which Panasonic continues to do business with.

When issues are found in the course of CSR self-assessments, we get to work toward making improvements using a variety of different methods. When necessary, we even go to visit our suppliers’ actual facilities for confirmation, hearings, and the like. In fiscal 2018 we visited four suppliers in Thailand and three in China to verify their actual facilities. Issues related to safety and health had been found at suppliers in Thailand, and we had identified problems with both safety and health and the environment at the suppliers in China, so we had asked the suppliers to take corrective action. By fiscal 2020, Panasonic had also visited 100 suppliers for site audits in China and Malaysia, areas where risks were considered high in terms of human rights, labor, and the environment.

Panasonic considers terminating contract in cases where critical items in these guidelines such as issues with legal violations or prohibitions against child labor and forced labor cannot be remedied, or when issues with any of the other items in the Procurement Guidelines have not shown improvement even with ongoing efforts to correct them. However, because Panasonic works with our suppliers in a spirit of mutual prosperity, the company’s basic approach when less urgent issues are found is to provide ongoing guidance aimed at solving those issues.

In fiscal 2021, Panasonic has also deployed a new platform for recording the results of CSR self-assessments for ongoing monitoring, enabling us to share the outcomes of these assessments across the entire group. Thank to this system, in addition to stronger governance across the group, we are now able to leverage assessment results rapidly and efficiently when selecting suppliers in all business areas. This new platform will allow Panasonic to build healthier, more transparent supply chains.

## Cooperation with our Suppliers towards 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 (P.71).

► Collaboration across the Supply Chain

<https://www.panasonic.com/global/corporate/sustainability/eco/supplychain.html>

## Responsible Minerals Procurement

### Panasonic's Basic Stance on Responsible Minerals Procurement

Panasonic 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 Panasonic promotes responsible procurement of minerals in its global supply chain in order to fulfill our corporate social responsibility.

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 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.

Panasonic 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 and refineries and downstream enterprises. As it is not possible for one single company to manage the whole supply chain, Panasonic requires all related suppliers to provide information on smelters/refineries through the supply chain, and aims to procure from suppliers who don't present any issue.

Going forward, Panasonic will keep contributing to the international efforts towards responsible minerals procurement while actively considering our future role in such global efforts. We also participate in the Responsible Minerals Initiative (RMI) and its Cobalt Workgroup to promote industry-wide efforts.

### Responsible Minerals Procurement System

With the Executive Vice President in charge of procurement assuming ultimate responsibility, we are working to build a Corporate-wide management system for responsible minerals procurement in collaboration with each Divisional Company.

### Due Diligence Efforts

In order to fulfill our social responsibility, Panasonic promotes responsible minerals procurement throughout its entire supply chain while actively communicating its policies to all suppliers and collaborating with them.

Responsible surveys of conflict minerals require the cooperation of all suppliers and the refineries/smelters with which they work. In order to reduce the burden on suppliers and to enhance the efficiency of such surveys, we use common survey tools and explanatory materials. To this effect, Panasonic uses the Conflict Minerals Reporting Template (CMRT) and the Cobalt Reporting Template (CRT) issued by the Responsible Minerals Initiative (RMI). We also participate as a member of the awareness and public relations team of the Japan Electronics and Information Technology Industries Association's (JEITA) Responsible Minerals Procurement Working Group, and actively use the common manuals and procedures shared between the Japan Automobile Manufacturers Association (JAMA) and the Japan Auto Parts Industries Association (JAPIA).

### Conflict Minerals Surveys

In fiscal 2021, the Panasonic Group as a whole surveyed around 3,270 suppliers on conflict materials and collected responses from 95% of them (as of the end of February 2021). Based on the data collected from the survey forms (CMRTs), we conducted a risk analysis and assessment and requested further investigations from suppliers, according to the risks that we identified.

The Panasonic Group identified a total of 311 smelters and refineries present in the supply chain of minerals used in our products. Among these, 78% have received the "Conformant/Active Smelter" certification (which is awarded to smelters/refineries that have passed or are currently undergoing an audit by RMI).

At present, we have not confirmed that any of the minerals that survey respondents have identified as being sourced from target countries have, either directly or indirectly, financed any armed forces. However, we will continue to carefully examine and identify information from smelters and refineries.

Furthermore, through our industry activities, we have urged smelters and refineries to participate in the Responsible

Minerals Assurance Process (RMAP) and our suppliers continue to perform due diligence processes. In the event that we identify minerals that contribute to fund conflicts or any other issues, we will request our suppliers to take measures including changing their suppliers or eliminating the use of these minerals.

## Cobalt Surveys

There are concerns about cobalt, which is used in lithium-ion 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 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 2021, we conducted cobalt surveys for 474 suppliers, and received a response from 90% of those surveyed. These results allowed us to identify 64 smelters and refineries (as of the end of February 2021). We have conducted a risk analysis and assessment based on the data from the survey form (CRTs) that we have collected from suppliers, and have requested further investigations from suppliers in response to those risks.

Panasonic will keep conducting appropriate cobalt surveys and procurement while watching industry trends through RMI and other industry initiatives.

## Participation in the Forum on Implementing Due Diligence for Responsible Mineral Supply Chains

From 2011 to 2017, Panasonic participated in the OECD's Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas projects (currently, the Forum on Responsible Mineral Supply Chains). At the forum in November 2013, we learned about ongoing efforts toward conflict-free minerals procurement, including mines, exchanges and ore traceability systems as well as efforts to identify mines through analysis of mineral composition and generation in Rwanda. We attended the forums held in Paris in 2016 and 2017, and 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 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, and participated in the development of the U.S. data transfer standard IPC-1755 on conflict minerals. JEITA's Responsible Minerals Procurement Working Group teamed up with Japanese automakers in November 2013 to create the "Conflict-Free Sourcing Working Group", in order to engage in dialog with the smelting industry and accelerate efforts to verify information about smelters/refiners. Panasonic is also an active participant in this initiative.

Since January 2016, we have been working with other members in JEITA's Responsible Minerals Procurement Working Group and continue to encourage smelters to participate in the Responsible Mineral Assurance Process (RMAP) with other member companies.

Furthermore, Panasonic 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 will continue to conduct responsible minerals surveys while monitoring industry trends.

# Customer Relations

## Management System

Panasonic has established a set of Basic Rules for Response to Customers (compliant with ISO 10002 and JIS Q 10002) for responding appropriately Corporate-wide to inquiries and complaints from customers. The CS Planning Office at the Panasonic Headquarters oversees the implementation of these regulations, which apply to all work relating to customer relations in Japan by Panasonic or by affiliates that handle products bearing the Panasonic brand. In those business sites in Japan, the company 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, the company has 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's management philosophy has been to contribute to society through its products and services while always putting the customer first. Based on this philosophy, the company strives to improve customer satisfaction and offers products, solutions, and services that enrich the lives of people around the world. When providing customer service, Panasonic strives for sincerity, accuracy, and speed, and acts with humility and appreciation. This finds its basis in the principle of "true service" that the company's founder described. The company's fundamental stance is thus to provide customers with trust, peace of mind, and satisfaction.

#### 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)

#### 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



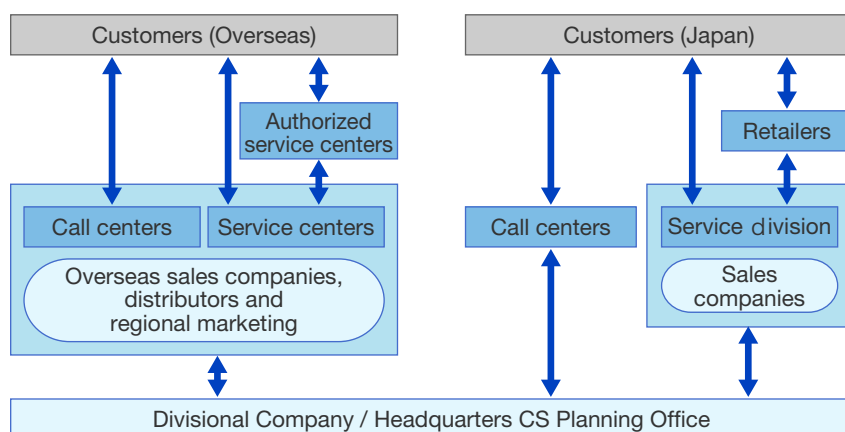
## Responsible Executive and Framework

The executive officer in charge of CS is Executive Vice President of Appliances Company Akira Kono (as of August, 2021).

The CS Planning Office at the Panasonic Headquarters and the CS departments at each of the five Divisional Company (Appliances, Life Solutions, Connected Solutions, Automotive and Industrial Solutions) cooperate to implement Panasonic's customer satisfaction initiatives. Overseas, the CS departments of Panasonic'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.

### Customer Relations Structure (as of August 2021)



## Customer Inquiry Response System

In Japan, Panasonic deals 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, 365 days per year. 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.

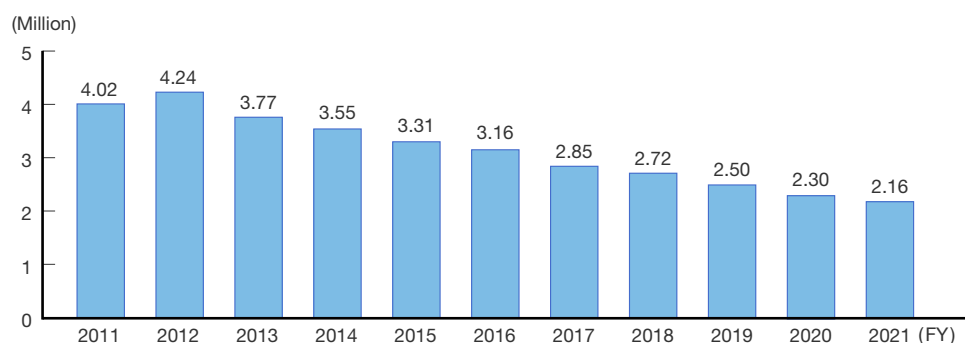
When customers make inquiries on the Panasonic website by typing in a question, the site displays multiple relevant FAQs. Thus, the company strives to provide quick responses to questions.

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 operates 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.

**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 LS Techno Service Co., Ltd. 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 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 2021)

Number of Service Locations of Panasonic LS Techno Service Co., Ltd.: 43 locations (as of April 2021)

**Initiatives for Improving Repair Service Contact Point**

For household appliance repairs in Japan, Panasonic has 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**

Repair services outside Japan are handled by Panasonic sales companies, service centers operated by dealers, and certified service providers. Panasonic aims to provide services that will satisfy its customers in all the countries and regions where our products are available, and to that end, we tailor services to the needs of customers in each specific area. In some countries we are able to offer not only on-site repair services but also door-to-door pick-ups and returns of our products for the convenience of our customers.

## Number of Repair Service Centers (FY2021)

Region	Number of Repair Service Centers
Japan*	146
North America	1,597
Latin America	1,017
Europe & CIS	304
Southeast Asia & Pacific	1,789
India, South Asia, Middle East & Africa	510
China & Northeast Asia	3,694

\*Japan: CS Company, Panasonic Consumer Marketing Co., Ltd. and affiliates, Panasonic LS Techno Service Co., Ltd.

## CS System for Enterprise Business

### Housing Facilities-Related Products

Through its corporate customer support window for energy-related products—which include lighting fixtures, information systems, electrical facility materials, housing facilities and materials, and solar power generators / power storage facilities—Panasonic has created a rapid system that can respond 365 days a year when corporate customers (partners) have problems regarding construction, installation, or configuration.

### Commercial Equipment

In the area of commercial equipment—which includes video, security, information communications, automotive, and commercial air conditioning equipment—Panasonic'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, Panasonic strives to improve its CS.

### Commercial Solutions

Panasonic Group sales companies that are in charge of commercial solutions, as well as Panasonic 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 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. Panasonic is 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.

## Performance Evaluations

### Activities for Improving Customer Satisfaction in BtoB Systems Solutions Business

Periodically, Panasonic surveys customer satisfaction in its solutions business, from sales proposals to maintenance and service, to check for gaps between customers' expectations and their evaluations of Panasonic, and the company reviews those results as part of its efforts to connect with its customers. Based on analyses of the survey results, the company follows a cycle of improvement, as follows: Draft plans for improvement initiatives → Execute these initiatives → Verify progress → Survey (evaluate) customer satisfaction. The company works to improve customer satisfaction by implementing improvements to products, system solutions and services by making the most of the results of the survey, in

cooperation with manufacturing divisions such as product planning, design, engineering, and quality, and customer support divisions such as marketing, sales, construction, and maintenance services.

## Initiatives Related to Improving Customer Satisfaction

### Promoting the Acquisition of Consumer Affairs Advisor Credentials

Panasonic 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.

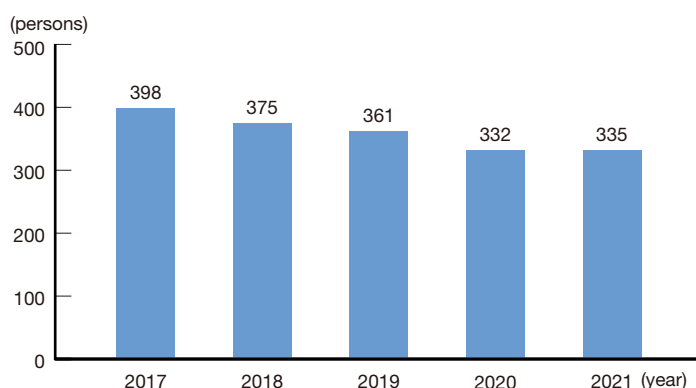
As of April 1, 2021, 335 employees affiliated with the Panasonic Group had acquired this certification.

### 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 goal 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 2021)



### Customer Month Initiatives

We believe that a customer-oriented corporate culture will become even more important to serve our customers in the future, so in Japan we have designed May as “Customer Month” to make it easier for all employees to get involved in Japan. In accordance with the Japanese government’s designation of May as “Consumer Month”, Panasonic actively implements the following unique measures every year in May in order to cultivate such culture in all its employees.

1. The President sends out a message regarding the “Introduction to the Customer Month”, informing all employees of the significance of this special month.
2. The Company develops its own original Customer Month posters and raises awareness by distributing and displaying them at all business sites.
3. We strive to promote a consumer-oriented management by holding a “Customer Month Commemorative Symposium”, which involves the participation of employees responsible for consumer-related activities at all business sites, managers in relevant divisions, as well as the employees with the Consumer Affairs Advisor certification. In FY2022, an outside speaker was brought in to give a lecture entitled “Our Choices Change the Future: Ethical Consumption and SDGs.” The symposium was held online. This was followed by a project report from the Laundry Engineering Dept. in the Laundry Systems and Vacuum Cleaner Business Division at our Appliances Company, which received the Sixth Consumer-Oriented Activities Award from the



Fiscal 2021 Customer Month poster

Association of Consumer Affairs Professionals (ACAP). The report they shared was entitled “From ‘Reading’ Manuals to ‘Seeing’ Manuals: Toward Improved Manuals from the Customer Perspective.” These events provided attendees with a deeper understanding of the customer-oriented initiatives being undertaken by the Panasonic Group's companies in Japan.

\* Consumer Month

Japan'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.

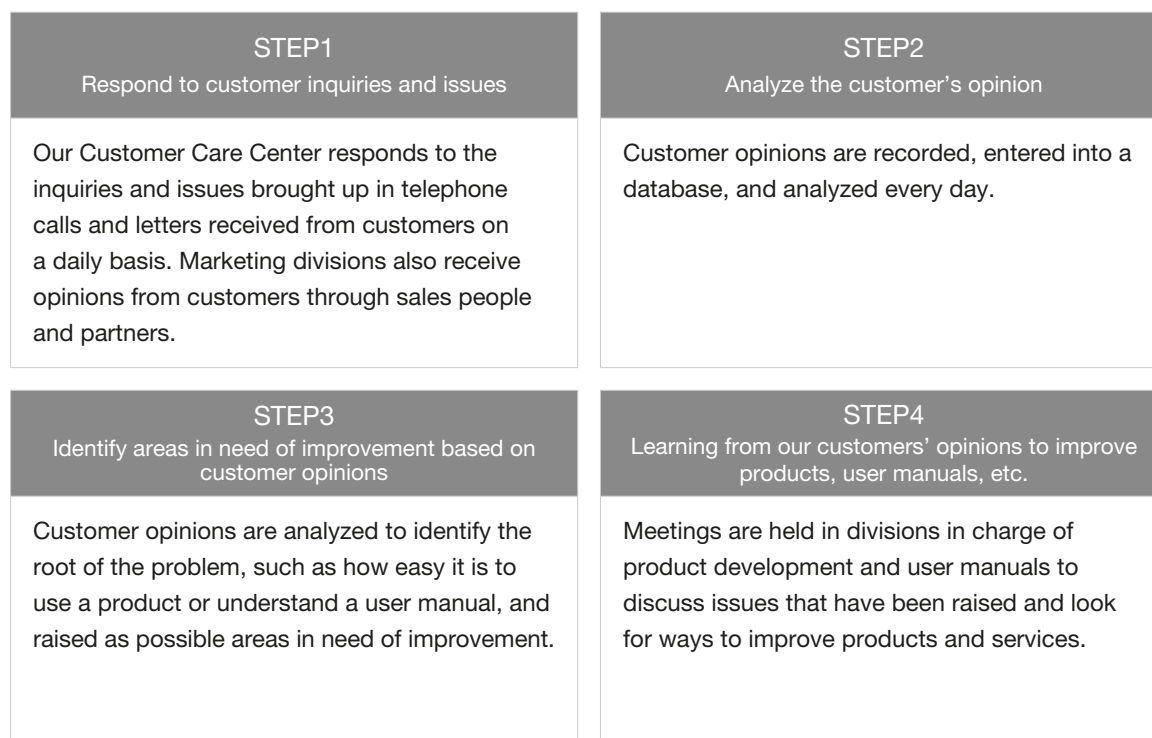
## Reflecting Panasonic's Voices of Customers in the Company's Products and Services (VOC Activities)

In what we call Voice of Customer (VOC) activities, Panasonic 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's sales companies 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 considers its VOC activities to be practical implementations of its management philosophy aiming 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.



Overseas, Panasonic 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 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,” “Energy Conservation,” “Crime Prevention,” “Disaster Measures,”

“Environmental Air Quality,” 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 response to increased awareness of the environment and need to conserve electricity, Panasonic's Life Solutions Company offers a number of curricula now being taught in elementary, middle, and high schools across Japan, through “Eco Lighting Workshop” (which uses LED lighting fixtures), “Eco and Solar Power Generation Workshop” (which teach how solar power works), and “Natural Energy Workshop: Generation, Storage, and Use Reduction” (which teaches about efficient energy use). In fiscal 2021 these workshops were attended by roughly 3,800 students from 58 schools, including students who participated online.

Our website provides information for customers to use their home appliances safely and in an eco-friendly way as part of the “Home Appliance Information Pocket” (KADEN POCKET).

▶ KADEN POCKET (Japanese only)

<https://www.panasonic.com/jp/support/kaden.html>

The KADEN POCKET explains the correct usage for safe and long-term use of household appliances, while referencing what to check in each product and listing examples of what not to do. The page provides information for expanding customers' understanding of product safety.

This KADEN POCKET brings together tips on how best to use household appliances with minimal power consumption for each product. It also provides other useful information for saving electricity and reducing energy consumption.





# Raising Product Quality Levels and Ensuring Product Safety

## Management System

The management philosophy that our founder established states that Panasonic should strive "to contribute to society through its products and services while always placing the customer first". Based on this philosophy, we engage in manufacturing activities while continuously improving our various systems and mechanisms to raise quality and ensure safety for all our products. We have adopted unique Corporate-wide targets that are even more demanding than generally accepted standards and regulations. Panasonic also keeps an eye on evolving social trends while striving to grow our business coverage, including when creating new service lines.

As a part of our fundamental policy regarding product quality, Panasonic has established a unique set of Basic Rules for Quality Administration under the responsibility of the Chief Quality Officer (CQO), who is ultimately accountable for the quality of all Panasonic products and services. We have also created a Panasonic Quality Management System that is implemented in each business division and for each Divisional Company product. This system is part of Panasonic's customer-centric perspective and continuous efforts in improving the quality of our products and constantly reviewing the soundness of each production step. In October 2016, Panasonic enacted unique standards of duty to promote a smoother and higher performance in the manufacturing and sales of medical equipment.

Panasonic acknowledges the profound lessons learned from the accidents involving FF-type kerosene heaters, and views product safety as a top management priority. Specifically, Panasonic applies its unique product safety standards to each product lifecycle phase (from planning and design to service and disposal) for every product to ensure its safety. Furthermore, in line with changes to our businesses or products, we strive to take product safety to the next level by convening our General Product Safety Committee twice a year. We also use our corporate intranet, Panasonic's homepage, and other means to share information related to the product safety of all Panasonic products in as timely a manner as possible to all employees, including quality officers and design officers at each Divisional Company and in each division.

Reference URL

Important news about products (Japanese only)

<https://www.panasonic.com/jp/corporate/info.html>

Additionally, we started holding Quality Management Workshops in fiscal 2020, as we consider customer satisfaction to be intimately tied to product quality improvement. These Workshops focus on our business model and examine how to conduct business in a way that reflects the evolutions of customers' expectations.

## Quality Management System

To establish self-sufficient quality assurance processes in each Divisional Company and business site, Panasonic published its Product Quality Management System (P-QMS) Guidelines in 2004. These Guidelines supplement the requirements of the ISO 9001 standard with Panasonic's own quality assurance methods and expertise to create a quality management system designed to deliver the level of quality that we aim for. The Guidelines have since been updated to comply with ISO 9001-2015. All of Panasonic's workplaces are expected to adhere to P-QMS.

These Guidelines also serve as the basis for the quality management systems established within each Divisional Company and business sites that are tailored to their own specific business sector. We also conduct quality assessments regularly and internal audits to verify the progress of these systems at every level (Group, Divisional Company, business site, etc.) and formulate corrective action for anything that does not meet those standards as part of the Company's commitment to continuous quality improvement.

Panasonic strives to evolve in keeping with each of its ever-diversifying business sectors. This includes dividing the Guidelines into portions of P-QMS that are focused on shared Corporate-wide guidelines and standards specific to each sector—including consumer electronics, automotive, housing, devices, BtoB solutions, pharmaceuticals, and services.

## Policy

Panasonic's Corporate-wide Quality Policy is unique in its statement 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." Panasonic has also established a Basic Policy regarding the Autonomous Code of Conduct for Product Safety. (This basic policy was approved at a meeting of the board of directors in 2007 of what was then called Matsushita Electric Industrial Co., Ltd.) 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 "super-honest" attitude.

► Basic Policy Regarding the Autonomous Code of Conduct for Product Safety (Japanese only)

<http://www.panasonic.com/jp/corporate/management/code-of-conduct/quality-policy.html>

The Panasonic Code of Conduct also states in its "Product Safety" section that the company will strive to ensure the safety of its products.

► Panasonic Code of Conduct, Chapter 2: Implementing the Code in Business Operations; II-2. Product Safety

<http://www.panasonic.com/jp/corporate/management/code-of-conduct/chapter-2.html#section2-2>

## Training

Panasonic holds training twice each year (once per half) for all quality managers in each Divisional Company and business sites with the aim of training key quality personnel to become champions innovating our quality management.

In November of each year, Panasonic also holds its Quality Control Circles World Conference to improve the quality control skills of on-site manufacturing employees through the horizontal expansion of Quality Control (QC) activities so that employees can learn methods for solving problems in the workplace from one another. At the 28th conference, held in fiscal 2021, 30 quality control circles (Japan: 18, China: 11, Malaysia: 1) were picked from a total of 4,708 Corporate-wide circles to compete in a quality control grand prix. Due to the coronavirus pandemic the competition was held online this year.

To establish a workplace culture that makes product safety the top priority in manufacturing, Panasonic holds product safety engineer training lectures to train product safety experts. In 2019, we were able to meet the target in our initial plan regarding the number of employees who took part in these product safety training lectures. Going forward, we are having those who have completed this training share their know-how horizontally by holding training sessions in each workplace. Panasonic is working to expand its online meeting systems to make it possible to hold its Product Safety Forums, where employees can consider product safety-related issues through cases seen inside and outside the company, once again in FY2021 in spite of the pandemic. To spread this corporate culture that makes product safety a top priority, in FY 2021 we also began holding a new PCSS practitioner training once annually, with more than 430 participants including business division product quality leaders and individuals from engineering and quality divisions. Panasonic also offers online learning courses such as Product Safety Basics.

Panasonic has also established a Product Safety Learning Square at the Human Resources Development Company 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 essentially unsafe phenomena (including tracking or strength degradation).

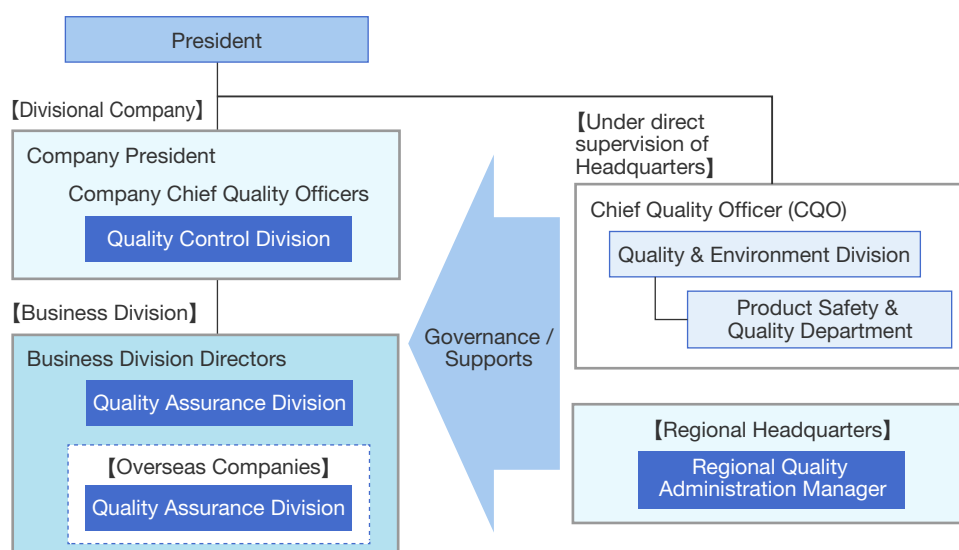


Product Safety Learning Square

## Responsible Executive and Framework

As of August 2020, the executive in charge of quality is Tatsuo Ogawa.

With the support and governance of the Panasonic Headquarters, each Divisional Company, business division, and overseas subsidiary has implemented systems for undertaking its business with independent responsibility and self-sufficiency.

**Quality Management Structure** (as of August 2021)

Since September 2014, regional quality administration managers have been appointed for six regions: North America; Latin America; Europe and CIS; Southeast Asia and the Pacific; India, South Asia, Middle East; and China and Northeast Asia.

Quality administration managers from these six regions and each Divisional Company in Japan meet once a year for a Global Quality Managers' Meeting. These managers monitor regional quality conditions and promptly share information on product safety-related defects with the various business divisions. They also share information on public safety standards and public safety certifications in their regions, reinforcing the organizational structure of their business divisions.

## Committees and Organizations

### Activities of Quality Managers Meetings

Panasonic investigates and summarizes Corporate-wide quality improvement efforts and the state of product quality within the Group at its semiannual CQO Meetings. Group CQOs, CQOs from each Divisional Company, and stakeholders in relevant job functions all attend these meetings. Attendees discuss how Panasonic should handle quality over the medium and long terms, and decide on policies and actions meant to further strengthen the foundation of quality for the whole Group.

Panasonic also periodically holds Quality Managers' Meetings—attended by the quality managers of each Divisional Company—as a place for more practical discussions on the quality policies covered during CQO meetings. These meetings both enhance cooperation within the Group and promote quality improvement efforts. Since fiscal 2016, Panasonic has also been holding an annual Global Quality Managers' Meeting for quality managers from around the world. It is an opportunity for these managers to share regional issues and annual plans with companies from other regions and to facilitate quality improvement efforts.

### Activities of the Corporate Product Safety Committee

To conduct manufacturing activities with safety as top priority, Panasonic established in 2012 a Corporate-wide Product Safety Committee made up of key people in product quality assurance at each Divisional Company and established a Safety Technology Working Group as well as a Safety Standards Working Group under its umbrella. Using these working groups, we began developing safety technologies and upgrade our product safety standards on a regular basis, in response to the 2005 FF-type kerosene heater accidents.

This Committee holds semiannual roundtable discussions for representatives of each Divisional Company to investigate approaches to maintain and improve Panasonic quality, by ensuring the safety and quality of lithium-ion battery and network connectivity products and adapting AI to all types of product quality measures.

### Activities of the Safety Technology Working Group

The Safety Technology Working Group takes into account the possibility that customers may use products longer than anticipated at the design stage. The Working Group develops scientific evaluation methods for testing the durability of materials used in products—including accelerated deterioration tests—accumulates data and creates testing databases.

In fiscal 2021, the Working Group looked at an analysis of quality issues extending to the level of management and covering major concerns from fiscal 2019-2020. This analysis was used to consider the adoption of specific measures to prevent recurrences, as well as ways to deploy those measures to other Panasonic divisions.

### Activities of the Safety Standards Working Group

To realize an ever higher level of product safety beyond mere compliance with public safety standards, Panasonic has established the Panasonic Corporation Safety Standards (PCSS), consisting of internal design rules that are stricter than official standards.

The Safety Standards Working Group has reflected in the PCSS what it has learned from the activities of the Safety Technology Working Group, and it has strengthened standards related to major safety issues, such as long-term use, flame-retarding measures, and fall prevention. In FY2021, the Working Group continued its work from the previous year by sharing and deliberating on quality issues and the preventive measures that were reported up to senior management, which are reviewed by the CQO Meeting and Safety Technology Working Group.

Furthermore, in order to facilitate inquiries about new technologies at Panasonic sites outside Japan, the Working Group is making efforts to revise in-house product safety standards in each business sector, including the Panasonic Corporation Safety Standards, Edition 9 Ver. 01.

## 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 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

See: <https://sumai.panasonic.jp/agefree/products/resyoneplus/> (Japanese only)

### 2) ISO 26262 certification received

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 acquired certification in the ISO 26262 road vehicle functional safety standard from the German third-party organization TÜV SÜD. 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

See [https://www.jeita.or.jp/japanese/exhibit/2015/1111/pdf/02\\_Functional.pdf](https://www.jeita.or.jp/japanese/exhibit/2015/1111/pdf/02_Functional.pdf) (Japanese only)

## Internal Company Rules Concerning Product Labeling

Panasonic has produced both Operational Standards for the Design of Safety Instructions and Operational Standards for the Design of Operating and Installation Instructions, meant to outline the basic approach and requirements for product manuals and operating and installation manuals. On top of this basic working framework, we have also set a number of more detailed rules. Specifically, Panasonic has created its own unique internal industrial standards, which include methods for warning labels that relate to product safety as laid out in Safety Instructions Design Methods and Operating and Installation Instruction Design Methods as well as legally mandated labeling related to recycling or disposal (recycling laws of the like) in order to avoid misunderstanding or errors on the part of the customer.

## 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 the product to malfunction.

At Panasonic, we have a specialized department for Corporate-wide product security which develops guidelines 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 Employees Training

Issues in product security and how to address them change on a daily basis. At Panasonic, 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 organization.

\*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 to ensure product security

As part of Panasonic’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

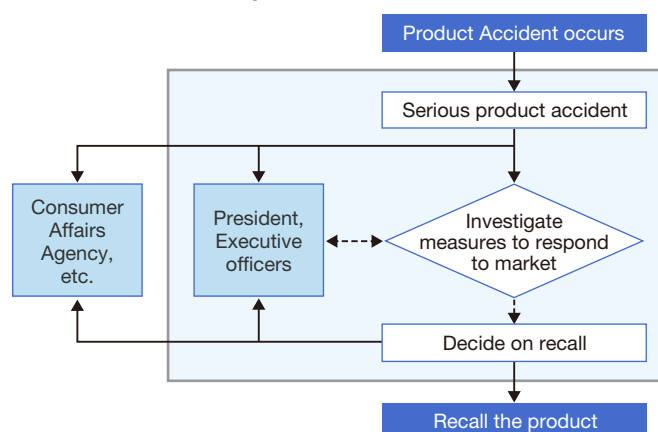
<https://www.panasonic.com/global/corporate/product-security/sec/psirt.html>

## 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 the Group’s Headquarters and each of its Divisional Companies and business sites work together to take appropriate measures to ensure customers’ safety. Specifically, Panasonic’s first response is to notify relevant government bodies such as the Consumer Affairs Agency, as well as the company President and senior management, who then consider the response policies.

### Product Accident Response Flowchart



## Serious Product-Related Accident Information

In Japan, Panasonic publicly reports serious product accidents<sup>\*1</sup>, including accidents suspected of being caused by products<sup>\*2</sup>, and accidents for which it has been determined that it is unclear whether a product was the cause<sup>\*3</sup>, based on the Consumer Product Safety Act and Panasonic'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 permanent injury;
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 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

List of Information Concerning Serious Product-Related Accidents (Japanese only)

<https://www.panasonic.com/jp/corporate/info/psc.html>

## 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. Sixteen years have passed since we began the Corporate-wide product recall. We continue to work, led by the Corporate FF Customer Support & Management Division staff, to prevent any new incidents.

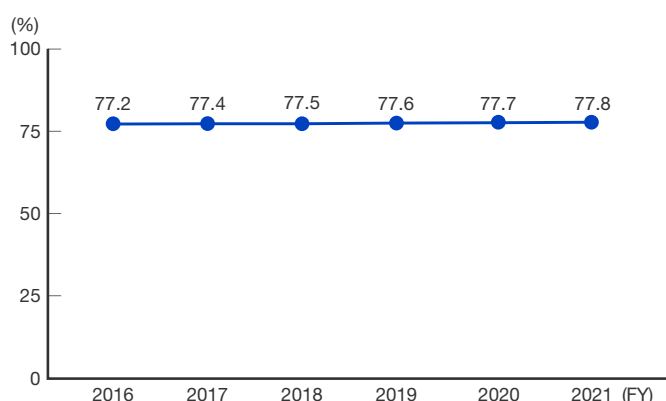
Panasonic would like to sincerely thank those who provided their cooperation and support in our market response.

In fiscal 2021, 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 2021, we added 122 units to our list of products discovered or confirmed to have been discarded. In total, 118,314 units have been recorded, bringing the percentage of units identified to 77.8% of units sold as of March 31, 2021. 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 with the help and cooperation of those involved.

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

This 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.

(For more details, see: [https://www.meti.go.jp/product\\_safety/ps-award/3-consumer/h30\\_award.html#anc-1-1](https://www.meti.go.jp/product_safety/ps-award/3-consumer/h30_award.html#anc-1-1) (Japanese only) )

FY2021

- METI Minister's Award, Large Manufacturer and Importer Category: Laundry and Cleaner Division, Appliance Company, Panasonic Group

### 2) IAUD 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.

Panasonic's various products and initiatives had been granted the IAUD Gold Award for seven consecutive years until 2018, alongside the recognition given below.

- 2017 Grand Award: Communication of Panasonic Universal Design
- 2020 Silver Award: Panasonic LED Torch Light

Reference: <https://www.panasonic.com/global/corporate/technology-design/ud.html>

# Community Relations

## Basic Policy

At Panasonic 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.

Panasonic 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.

The Panasonic Code of Conduct outlines our policies on corporate citizenship activities and engagement with local communities.

## Panasonic Code of Conduct (Excerpt)

### Chapter 2: Implementing the Code in Business Operations; II-6. Corporate Citizenship Activities

#### (1) Corporate Citizenship Activities

We recognize that our Company is a member of society. As such, we will carry out corporate citizenship activities that aim to improve society, such as in coexistence with the environment, personal development and education, art and cultural promotion, social welfare, and support for and partnerships with nonprofit and nongovernmental organizations. Through these activities we seek to help create a healthier, more prosperous society.

#### (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.

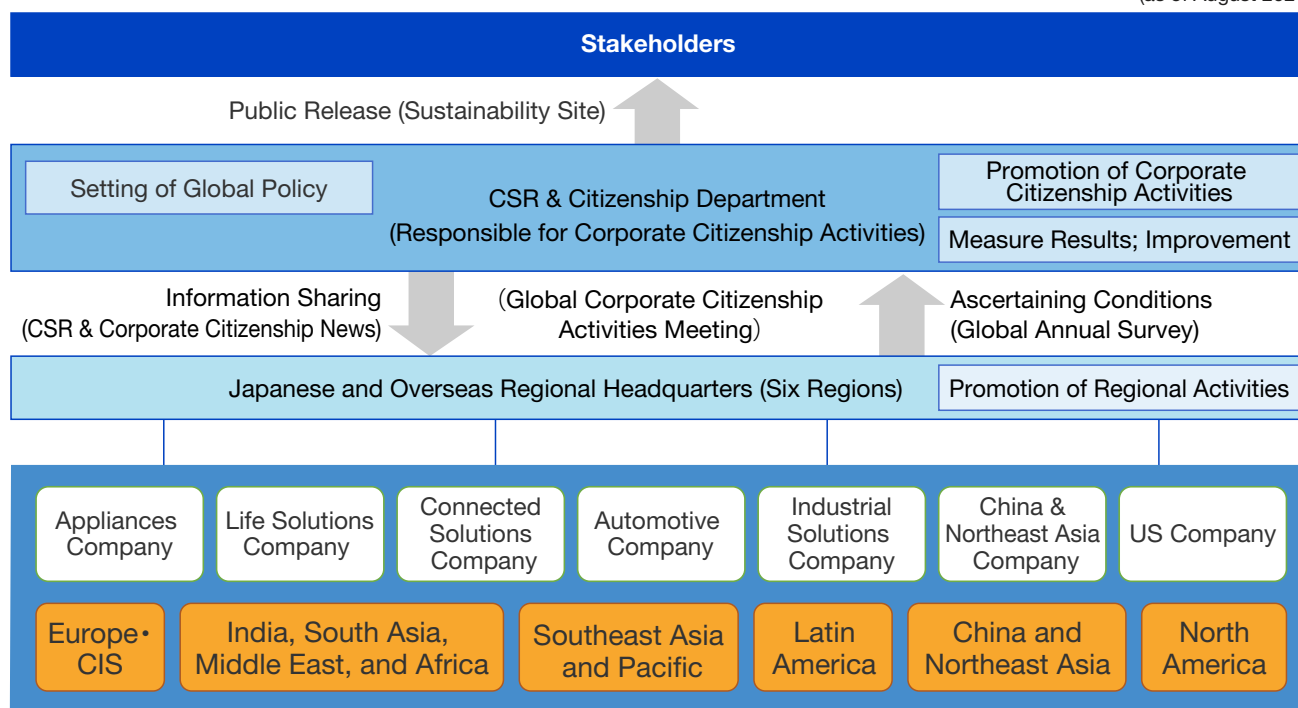
#### (3) Donations, Sponsorships, and Support for Public Service Organizations

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

Panasonic is engaged in a variety of Corporate Citizenship Activities in regions around the world, each tailored to the circumstances of that area, based on the Global Policy outlined below. The Company defines 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, the relevant directors and executives—from the Panasonic president on down—share information concerning Panasonic's regional activities with those in charge of those activities in the various locales. Panasonic also conducts global annual surveys of its corporate citizenship activities and publicly releases the findings on our Sustainability site.

(as of August 2021)



## Setting Policies

Every three years, Panasonic 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.

The current midterm plan (FY2020-2022) was created with consideration given to progress from the previous midterm plan (FY2017-2019), which included Panasonic's 100th anniversary, as well as trends within the company and elsewhere.

## Policy of Corporate Citizenship Activities

Panasonic aims to contribute to the resolution of societal problems, the creation of a better life and happiness around the world, and the development of society through both its business activities and its corporate citizenship activities, all under the banner of the brand slogan, "A Better Life, A Better World."

Of all the issues in the world today, the growing poverty faced by people around the globe, whether in developed countries or in developing and emerging countries, is particularly serious. The Sustainable Development Goals (SDGs) were created by the United Nations in 2015 as a plan of action for humanity, the Earth, and prosperity. Of the 17 goals and 169 targets included in those goals, the one at the very top of the list calls for ending poverty.

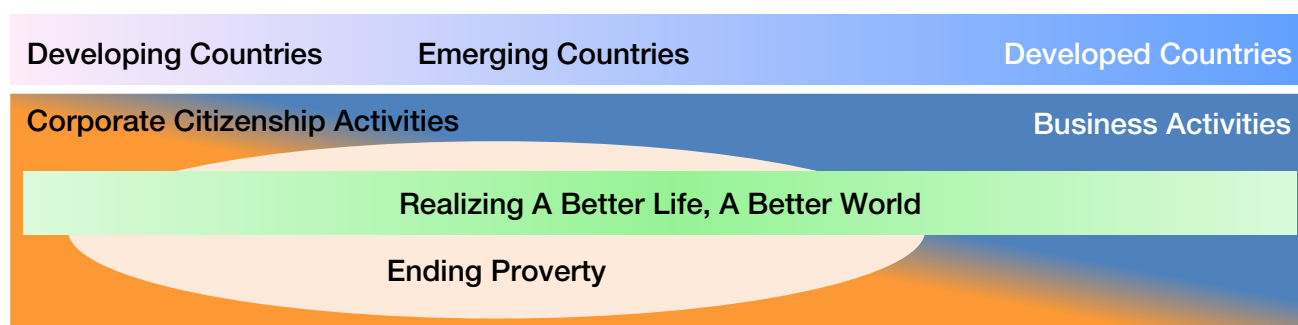
Konosuke Matsushita, the founder of Panasonic, understood poverty to be an evil, and he believed the purpose of business was to end it. While standards of living have improved for many and some poverty has been eliminated, there are many nations and regions that do not share in this wealth, and the gaps in standards, even among the so-called developed nations, have become wider.

It is for this reason that we have established the eradication of poverty as one of our areas of focus in working toward creating a more equitable and tolerant world.

Panasonic wants to contribute to resolving these social issues and to building a sustainable global society through corporate citizenship activities such as human resources development, opportunity provision, and mutual understanding. The Company hopes to do so in cooperation with all its stakeholders, while putting its products and technologies, as well as its knowledge and resources cultivated through manufacturing, to good use.

► Corporate Citizenship Activities

<https://www.panasonic.com/global/corporate/sustainability/citizenship.html>



## Responsible Executive and Framework

The person in charge of corporate citizenship activities is Executive Officer Shigeki Mishima. (As of August 2021) Panasonic's CSR & Citizenship Department is charged with coming up with Group strategies and running various Corporate-wide programs and initiatives. In addition, the seven Divisional Companies (Appliances, Life Solutions, Connected Solutions, Automotive, Industrial Solutions, China & Northeast Asia, and US) and the six regional headquarters (Europe & CIS; Southeast Asia and Pacific; India, South Asia, Middle East, and Africa; Latin America; China & Northeast Asia; and North America) have established corporate citizenship activity managers who engage in activities that are based on Panasonic's global policies but are tailored to local conditions.

## Employee Participation and Supporting Systems

Instilling mindfulness in employees about their roles and participation as corporate citizens is critical in promoting Panasonic's corporate citizenship activities. 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.

### Provision of Sustainable Seafood\* at Corporate Cafeteria

Certified sustainable seafood is provided in 53 corporate cafeterias in Japan as of August 2021. 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 in fiscal 2022.

\* Seafood with MSC, ASC or similar certification

► Sustainable Seafood Project Places the Environment Front and Center

<https://www.panasonic.com/global/corporate/brand/story/sustainable-seafood.html>

### Bringing Light to People

Panasonic carried out the 100 Thousand Solar Lantern Project from 2013 to 2018, which donated solar lanterns to off-grid areas in Asia and Africa, helping people study, work, and carry out emergency health care at night in their homes.

Following this project, we started Bringing Light to People, which is a donation program that collects employees' welfare points and the proceeds from selling used books, and other second-hand 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. We developed multiple global donation platforms to enable the general public to easily participate in the donation program and to maintain the effectiveness of the Solar Lantern Project. In FY2021, 1,136 employees around the world joined this donation program.

► Bringing Light to People

<https://www.panasonic.com/global/corporate/sustainability/citizenship/solution/akari.html>

## Panasonic NPO Support Pro Bono Program

Panasonic has been running a social contribution program since April 2011 in which employees use the skills and experiences that they have gained through their jobs to support NPOs—the Panasonic NPO Support Pro Bono Program. The participating employees have been providing NPOs with support, including by formulating midterm plans, drafting marketing materials, and rebuilding websites.

This type of program is included in HR development programs in Japan as well as in Europe, and it provides employees with not only a better understanding of social issues but also practical experience that can be put to use in their daily work.

So far, a total of 296 Panasonic employees have participated in the Pro Bono Program in Japan, providing support for 54 organizations, by formulating midterm plans, drafting marketing materials, and rebuilding websites.

► Panasonic NPO Support Pro Bono Program (Japanese only)

<https://www.panasonic.com/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, a global initiative for the continued development and spread among local residents, the families of employees, and others across generations.

► Panasonic Eco Relay for a Sustainable Earth

<https://www.panasonic.com/global/corporate/sustainability/eco/community.html>

## Providing learning opportunities

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. We also conduct e-learning for employees once a year to provide opportunities to learn about social issues such as the SDGs.

► Lectures for employees regarding social issues, Social Good Meetup(SGM) (Japanese only)

<https://www.panasonic.com/jp/corporate/sustainability/citizenship/solution/sgm.html>

## Human Resources System for Supporting the Promotion of Employee Participation (Examples from Japan)

### ■ Volunteering Vacation System

Each Panasonic employee receives five days of Volunteering Vacation time every year. When taking vacation time for the purpose of volunteering, the company takes special notice and allows employees to take consecutive days off.

### ■ Volunteering Sabbatical Leave System

This is a system for sabbaticals whose goal is participation in volunteering activities.

Activities covered by this system include volunteering led by the national government, local public bodies, and other public institutions, as well as those volunteer activities led or recommended by the Company or the labor union and approved by the Company. (However, political or religious activities are not allowed.)

### ■ Japan Overseas Cooperation Volunteers Leave of Absence System

This system offers leaves of absence to young employees to participate in the Japan Overseas Cooperation Volunteers program run by the Japan International Cooperation Agency (JICA).

### ■ Challenge Vacations (Life Juncture Vacations)

The Challenge Vacation system is intended to promote company employees' self-growth and refreshed minds and bodies. To enable them to engage in their work with new passion, employees may take vacation time at important junctures during their careers at Panasonic. Employees who have completed 10, 20, or 30 years of consecutive service at the Company (with the exception of executives and managers) may take 10 days of vacation time. Employees also take advantage of these days as opportunities to volunteer.

## Performance Evaluation of Corporate Citizenship Activities

Panasonic measures the effectiveness of its main activities according to the specifics of each initiative.

### 1. The Panasonic NPO/NGO Support Fund for SDGs (formerly the Panasonic NPO Support Fund)

For activities aimed at enhancing the organizational infrastructure of NPOs / NGOs—the Panasonic NPO Support Fund for SDGs—the company conducts a follow-up survey with the organization that received assistance one year after the assistance work was completed. Third parties conduct quantitative and qualitative evaluations of how effectively an organization's infrastructure has been strengthened. In a 2020 survey, the average revenue growth for the ten NPOs that received funds in 2018 was 10.7%, with all ten reporting an expanded financial basis and, 1.2 times improvement in operation. Six organizations of the ten (60%) reported that organizational management problems that they had faced when applying for assistance had been resolved through the supportive work of Panasonic, and nine out of the ten (90%) reported that or greater outcomes for the organization's primary businesses. This demonstrates that the organizational infrastructure enhancement initiatives implemented through this assistance program are effective at improving outcomes or increasing the impacts of the major work performed by the beneficiary organizations.

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.

▶ Panasonic NPO Support Fund Business Evaluation Report (Japanese only)

[https://www.panasonic.com/jp/corporate/sustainability/citizenship/pnsf/npo\\_summary/2021\\_building.html](https://www.panasonic.com/jp/corporate/sustainability/citizenship/pnsf/npo_summary/2021_building.html)

▶ Panasonic NPO Support Fund SROI Assessment Report (Japanese only)

[https://www.panasonic.com/jp/corporate/sustainability/citizenship/pnsf/npo\\_summary/sroi\\_report2018.html](https://www.panasonic.com/jp/corporate/sustainability/citizenship/pnsf/npo_summary/sroi_report2018.html)

### 2. Kid Witness News (KWN)

We have been evaluating the results of the Kid Witness News (KWN) program which aims to raise communication, teamwork, and creativity skills through video production. In 2017, we conducted written surveys and interviews with elementary school students who had joined the KWN program. In 2018, we conducted similar surveys and interviews with volunteer junior high school students, and compared their skills before and after participation in the program. We also compared and analyzed skills gaps between students who had participated in the program and others who had not. By studying the effects of these programs, we identified the qualities and abilities in which children can grow stronger through video production and organized them into nine areas like social significance, teamwork, and role distribution.

In 2019, we conducted a survey of teachers and other educators at 47 schools to find out how this program could be leveraged as part of other educational activities. Based on the results of the survey, we found that these can be divided into four types: improving video production skills (entering contest), inquiry-based learning through video production, personal growth through teamwork, and combining teamwork with inquiry-based learning.

▶ Verifying positive impact of participation in video production in KWN program (Japanese only)

[https://www.panasonic.com/jp/corporate/kwn/overview/teachersguide\\_eval.html](https://www.panasonic.com/jp/corporate/kwn/overview/teachersguide_eval.html)

### 3. Educational Activities on the theme of the Olympic and Paralympic Games

Panasonic supports Olympic and Paralympic-themed learning activities, in which students learn about various social issues and find solutions. We assess the output of these activities by quantitatively and qualitatively measuring the growth of students. In 2019, 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's "Learning Support Program," which includes KWN and Olympic and Paralympic-themed learning support activities, received the Excellent Award from METI at The Tenth Career Education Awards in the Large-Enterprise category. The program evaluation and continuous surveys of teachers and students were highly commended.



## Awards Won

Panasonic received the following awards in FY 2021.

### ■ 2020 Youth Experience Program Promoter Award from the Ministry of Education, Culture, Sports, Science and Technology

Judges' Panel Award

"Eco Learning Program for kids" from the Appliance Company (Japanese only)

[https://panasonic.co.jp/ap/eco\\_study/index.html](https://panasonic.co.jp/ap/eco_study/index.html)

### ■ The 14th Kids Design Award

"Eco Learning Program for kids" from the Appliance Company (Japanese only)

[https://panasonic.co.jp/ap/eco\\_study/index.html](https://panasonic.co.jp/ap/eco_study/index.html)

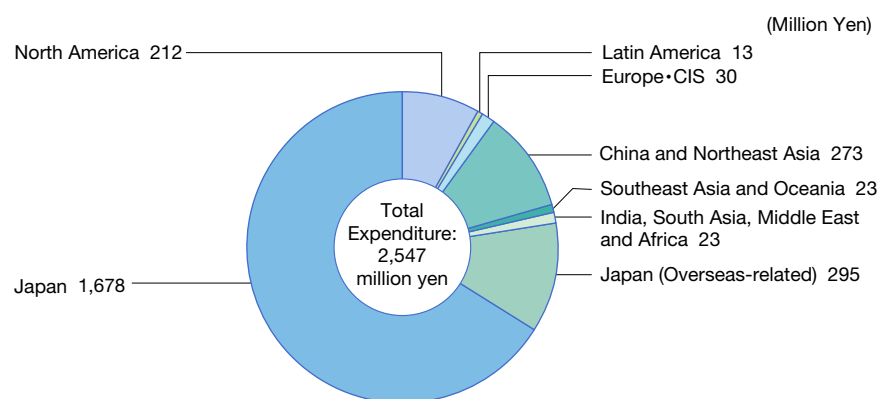
### ■ Global Business Alliance (GBA) 2020 CSR Award

Panasonic Foundation "Camp Skyhook Program (hands-on environmental learning program)"

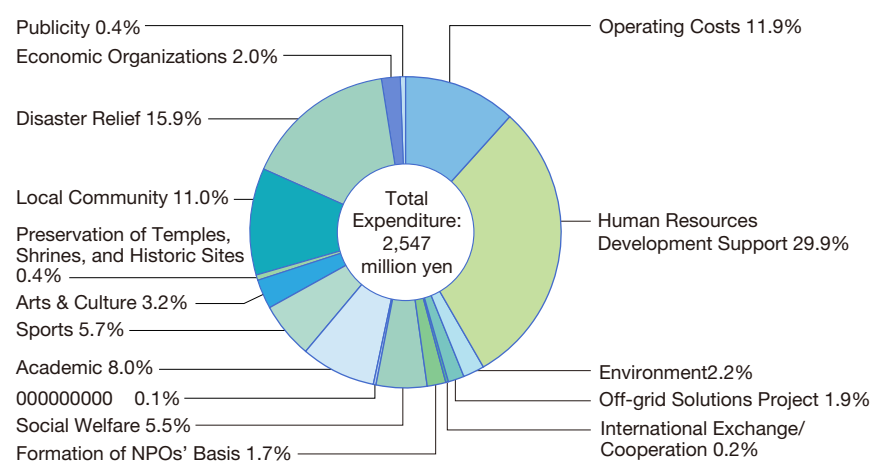
<https://na.panasonic.com/us/trends/developing-future-stem-stars-camp-skyhook>

## Spending on Corporate Citizenship Activities

### Spending on Corporate Citizenship Activities by Region in FY2021 (1<sup>st</sup> Apr. 2020 – 31<sup>st</sup> Mar. 2021)



### Spending on Corporate Citizenship Activities by Area of Activity in FY2021 (1<sup>st</sup> Apr. 2020 – 31<sup>st</sup> Mar. 2021)



## Donations

### Types of Donations

(Million yen)

Type of Donation and Amount		Percentage of Total Costs
Charitable Donations	1,072	42%
Community Investments	1,228	48%
Commercial Initiatives	247	10%
Total	2,547	100%

### Methods of Donation

(Million yen)

Method of Contribution	Amount
Cash contributions	1,190
Time: employees volunteering during paid working hours	26
In-kind giving: product or service donations, projects / partnerships, or similar	1,028
Management overhead	303
Total	2,547

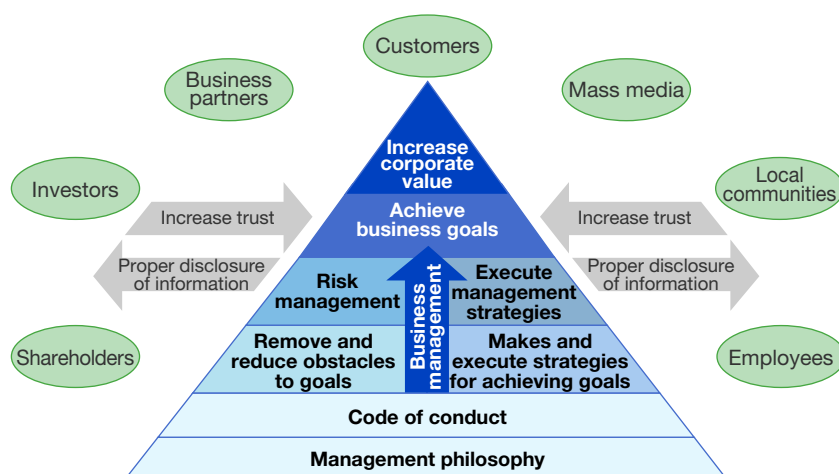
# Risk Management

## Fundamental Stance

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 conduct Corporate-wide risk management activities covering our operations around the world, with the aim of taking preemptive actions to eliminate any factors that could impede the accomplishment of business goals.

At Panasonic, 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. Furthermore, by disclosing appropriate risk information to the public, improving management transparency, and reducing risks through preemptive measures, Panasonic gives its customers and other stakeholders—as well as local communities and the public as a whole—greater confidence in its organization.

## Role of Risk Management in Business Management

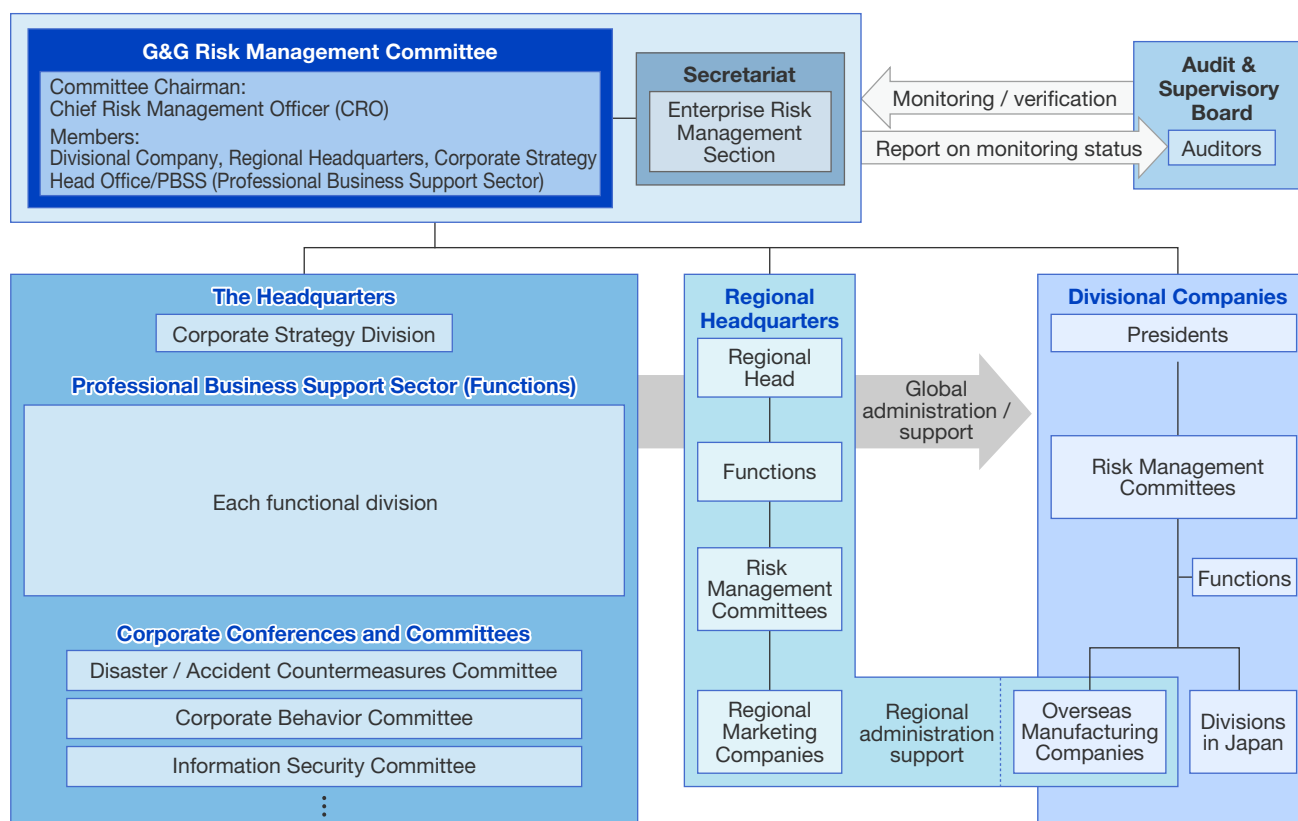


## Organizational System

Panasonic first established the Global and Group Risk Management Committee (G&G Risk Management Committee) in April 2005, which promotes risk management across the entire Panasonic Group. This committee is chaired by the Chief Risk Management Officer, who is nominated by Senior Management, and is composed of Company Chief Risk Officers (CROs) and managers from regional headquarters, the Corporate Strategy Headquarters, and functional divisions. The Enterprise Risk Management Office serves as the committee's secretariat.

The G&G Risk Management Committee identifies critical risks for the entire Group based on the results of risk assessments conducted by Panasonic Headquarters, regional headquarters, and Divisional Companies. This is part of Panasonic's corporate compliance with legal requirements. The committee also monitors the progress of countermeasures based on the action plans against major risks formulated by Panasonic Headquarters, regional headquarters, and Divisional Companies and promotes continuous improvement by providing direction to various functional divisions and committees and support to Panasonic Headquarters, regional headquarters, and Divisional Companies. The activities of the G&G Risk Management Committee are regularly reported at management meetings and Board of Director meetings, and Corporate Auditors also observe and oversee monitoring alongside the Board of Directors.

## Panasonic Global and Group Risk Management Promotion Framework (as of August 2021)



## Basic Framework

At Panasonic, risk management is divided into three levels: the G&G Risk Management Committee, the Divisional Companies, and business divisions. Risk assessment for the Group as a whole involves an annual cycle in which comprehensive assessment of risk factors (both internal and external) that could potentially impact business operations are identified, evaluated, and then ranked by countermeasure priority. The individuals responsible for the relevant areas are at the cores of the teams who draw up and execute plans, monitor the status of countermeasures, and execute initiatives for continuous improvement with regard to the risks that were identified as critical based on this list.

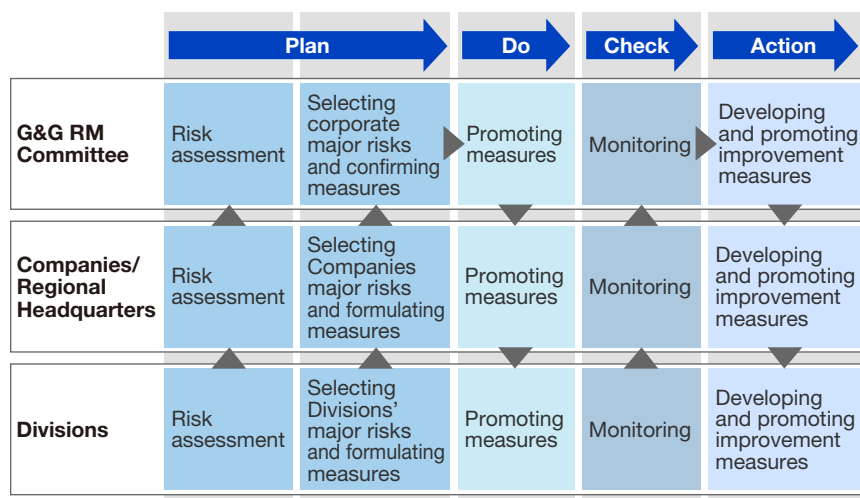
Panasonic has also established a risk management committee (or equivalent body) for each Divisional Company and regional headquarters, which will conduct a risk assessment similar to that done on the Corporate-wide level, with countermeasures against those risks being taken against critical risks and works to reduce their impact on business or sales. These bodies report risks that have the potential to impact the Panasonic Group as a whole to the G&G Risk Management Committee so that Panasonic can make Corporate-wide efforts to reduce those risks.

Given the significant changes in the risk environment throughout the world in the previous fiscal year, Panasonic has revisited its approach to risk management. To begin with, while conventionally the level of importance had been determined based on financial impact and frequency of occurrence when choosing corporate major risks, due to the recent more extreme impacts of the pandemic and other disasters, this assessment now also takes human lives into account. This selection process also now includes risk assessment items and evaluation standards for risks that can impact society to be more aligned with calls for greater corporate social responsibility (CSR) as well as societal demands related to SDGs, ESGs, and the like. Panasonic is working especially hard on the latter of these in our risk management activities, approaching this as an opportunity for Panasonic to serve society while simultaneously striving to bolster compliance with laws, regulations, and the like.

As a result of this review, Panasonic has selected the following list of seventeen corporate major risks for FY2022 and has been drafting and implementing plans for countermeasures against them. We have also tried to make the countermeasures for natural disasters more concrete and specific, dividing them into earthquakes/tsunamis and flooding/landslides. With regard to Panasonic's response to climate change, we are working to approach it as both an opportunity and a loss,

striving to bolster growth due to technical innovation and business creation that will occur in light of societal trends related to the environment while also making sure that we are able to keep up in compliance with carbon restricting regulations and policies when it comes to our products, services, and business activities. We are also identifying risks and implementing preemptive countermeasures for risks that make keep things from going according to plan as Panasonic Corporation makes the transition to being a holding company beginning in FY2023.

### Basic Framework for Risk Management



### FY2022 Critical Corporate-wide Risks Set at end of July

- Response to climate change
  - Infectious diseases/pandemics
  - Earthquakes/Tsunami
  - Floods and landslide disasters
  - Any bribery involving government officials
  - Antimonopoly Act violations
  - Trade regulations/Economic sanctions
  - Cyberattacks
  - Quality issues
- and more  
in total 17

### Increasing Risk Sensitivity

The G&G Risk Management Committee systematically educates and raises awareness among Panasonic Group employees to ensure the thorough dissemination of knowledge regarding basic policies on risk management and for these to be put into practice. In addition to disseminating information to all employees through internal communications on its activities (selected important risks of the entire Group and the progress of measures for handling those risks), the G&G Risk Management Committee provides annual seminars on risk assessment for managers in charge of risk management promotion. The Committee aims to increase their skill level in order to increase the effectiveness of risk assessments by explaining Panasonic's basic policy on risk management as well as the content of the "Risk Management Guidelines."

In addition, to prevent risks from worsening after they have manifested and responses have been insufficient, the Committee issues "Guidelines for Business Unit Directors on Responding to Risk Occurrences" to the business unit directors and ensures that these Guidelines are thoroughly put in place. The Committee provides training on matters such as the essentials of risk management and how to respond when risks have manifested for newly appointed presidents of overseas affiliates and for employees who are about to be posted overseas in order to improve their ability to handle risks on the ground.

We have established global hotlines as a mechanism for employees to report potential risks regarding matters such as compliance violations, various forms of workplace harassment and improprieties in procurement processes. Employees and suppliers are able to report any perceived problem independently and at any time, with assurance that their privacy will be protected. The company has also established a mechanism by which all employees can voluntarily report latent

compliance-related risks in the workplace through annually conducted compliance awareness surveys. Feedback concerning reported risks is channeled back to each workplace for them to handle.

## Policies on Business Continuity Management (BCM) and Business Continuity Plans (BCP)

As a public entity of society and as part of its management philosophy, Panasonic has established that it will contribute to the progress and development of society as well as the well-being of people by working to improve the quality of life of society through its products. Since 2005, Panasonic 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), whose goal is to prevent a halt to the supply of products or the provision of services when contingencies such as disasters occur, or, in the rare event that services have halted, 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. This is why Panasonic believes it is critical that our BCM includes not only our Group Companies but our supply chain as well.

### Major Efforts

Based on our Risk Management Regulations and Corporate-wide Emergency Response Regulations, we established the Guidelines on Business Continuity Management (BCM) and have formulated BCPs for each business site. The BCM 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.

For this reason, we have conducted a hazard survey in several countries around the world 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 four Companies and have put priority measures in place, both within our own Group and in our supply chain. We also strive to obtain information on disasters and incidents, and try to respond swiftly in real time, both in order to confirm the safety of our employees and to provide uninterrupted supply to customer companies.

Forecasts indicate a high probability of a major earthquake in Japan, directly under the Tokyo metropolitan area or in the Nankai Trough, within the next 30 years. In response to these predictions, Panasonic has established a cross-Company task force to promote earthquake resistance and disaster responses, based on the latest government damage predictions. The task force conducts annual Corporate-wide disaster-preparedness training drills.

Further, given the fact that flooding happens in a variety of locations every year due to super tropical storms and cloudbursts owing to extreme weather due to global warming in recent years, while we are bolstering drills to defend against flooding, we have also conducted flooding risk surveys for each business site and is working to bolster its defenses.

Panasonic is also working to maintain and improve its capacity for initial response by conducting Corporate-wide disaster drills annually. This includes establishing an emergency response headquarters at every level across the Group, within all Divisional Companies, and within all business divisions, and confirmation of the safety of employees and reporting among different emergency response headquarters. Coordinating with local municipalities, the Panasonic conducts annual disaster preparedness and emergency evacuation training drills at each business site as needed. Since FY2021, drills have been conducted under the assumption that many may be working from home when a disaster occurs and so have been conducting drills using remote meetings, anticipating the teleworking environments being used to help prevent the spread of the coronavirus.



## COVID-19 Response

Panasonic has established Corporate-wide Emergency Response Regulations for handling serious impacts to business continuity from events such as natural disasters and epidemic diseases. Based on these Regulations, we created a Corporate-wide Emergency Response Headquarters when the World Health Organization (WHO) declared COVID-19 a public health emergency on January 31 2020. The Headquarters consists of nine teams covering personnel, sales, procurement, distribution, and other areas, with one secretariat serving as the central, fact-gathering contact point. We also established response centers in each Divisional Company engaged in business operations. The secretariats of these response centers coordinate with the Emergency Response Headquarters and implement response measures.

In particular, these responses include reporting essential matters to executive officers from the perspective of maintaining employee health and ensuring business continuity. At the same time, we are making Corporate-wide announcements and using other types of communication to help secure the health and safety of employees and stakeholders. Concrete measures also include reducing the number of employees in offices by utilizing remote working options—as urged by both social and government bodies—while also formulating and disseminating guidelines for preventing infection in the workplace.

We have also thoroughly surveyed suppliers and products that would be impacted by the crisis, including identifying possible issues and securing alternative suppliers and switching to alternative supply locations. Cognizant of the need to support our suppliers' subcontractors as well, we have raised our level of information coordination to greater heights. At present, we have ensured the continuity of nearly all our supply requirements.

# Fair Operating Practices

## Management System

As our business activity expands globally, the frequency of improprieties increases, due not only to deliberate 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.

Panasonic has adopted a clear set of rules for compliance with the law and corporate ethics. We strive to achieve thorough adherence to these rules, with the aim of promoting fair operating practices in all countries and regions of the world, and to realize a sustainable society. This is embodied in the “Panasonic Code of Conduct,” which incorporates the requirements of the OECD (Organisation for Economic Co-operation and Development) Guidelines for Multinational Enterprises, among other norms.

We have a global network of legal departments, the Executive Director in charge of compliance with Panasonic Code of Conduct, as well as managers in charge of export management and other persons responsible for supervising various other functions in our Divisional Companies, business divisions, and regional headquarters outside Japan.

Panasonic implements compliance programs and training throughout the year to enable employees to address each risk item. We also strive to enhance awareness of ethical and legal compliance issues among employees. Once each year, we review how all our business sites around the world observe and practice the Panasonic Code of Conduct, and the results of these audits are also subject to audits by an outside auditing authority as part of Corporate-wide monitoring.

In addition, we have established hotlines for whistleblowers in our domestic and foreign business sites, as well as for our business partners in order to prevent misconducts and take immediate corrective actions. 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 recurrence.

Besides initiatives aimed at correcting issues identified at the business site level, we also bring those issues together centrally at our Headquarters and comprehensively reflect them in Corporate-wide policies, with considerations to external factors such as social expectations. We repeat this process regularly in the pursuit of continuous improvement. We currently carry 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

In order to put our management philosophy of “contributing to the progress and development of society and the well-being of people worldwide through our business activities” into practice, Panasonic has established the Panasonic Code of Conduct, which includes elements from the OECD (Organisation for Economic Co-operation and Development) Guidelines for Multinational Enterprises. This has been translated into 22 languages and shares with all our directors and employees globally the “Panasonic brand image to pursue” and the Company’s basic approach to responding to social demands regarding corporate social responsibilities (CSR).

## Panasonic Code of Conduct (Excerpts)

The Panasonic Code of Conduct defines our efforts to establish fair business practices as a public entity of society.

### Chapter 1: Our Core Values

#### An Enterprise as a Public Institution

Since our business is dependent on our customers and other stakeholders, we must remember that “an enterprise is a public institution,” that must strive to fulfill its social responsibilities. In addition to listening to stakeholders’ opinions, we must conduct our business activities transparently in order to be accountable. In short, we must continue to be fair, truthful, honest and swift in taking action to comply with our social responsibilities.

► Panasonic Code of Conduct, Chapter 1: Our Core Values

<https://www.panasonic.com/global/corporate/management/code-of-conduct/chapter-1.html>

## Chapter 2: Implementing the Code in Business Operations

### II-3. Compliance with Laws, Regulations and Business Ethics

#### 1. Compliance with Laws, Regulations and Business Ethics

We will conduct business with integrity, a law-abiding spirit, and the highest ethical standards.

We will fulfill our tasks by always observing not only applicable laws and regulations, but also the highest standards of business ethics. Compliance with laws, regulations and business ethics in all our business activities is essential to the survival of our business.

#### 2. Fair and Sincere Action

We will respect free and fair competition, and abide by all applicable antitrust (competition law) and other laws and regulations. All of our transactions shall be properly and fairly recorded.

We will not engage in bribery of any kind. We will be sensitive to, and shall abide by laws and regulations and social ethics that govern the offer of benefits of any kind, including gifts, meals and entertainment. In the same manner, we will not receive personal benefits from any of our stakeholders.

Moreover, we remain steadfast in our attitude to oppose any illegal group or organization.

#### 3. Thorough Observation of Relevant Laws and Regulations

To ensure that all employees observe applicable laws and regulations and respect their spirit, we will establish appropriate in-house codes and promote employee understanding through seminars and training.

#### 4. Prompt Redress and Strict Treatment for Violations of Laws and Regulations

If we suspect that our activities violate applicable laws, regulations or business ethics, we will report such information to a superior, or to the legal affairs section or other relevant section, or via an in-house notification hotline.

Whistleblowers shall be protected from dismissal, demotion, or any other retaliatory treatment because of their well-intentioned reporting of possible violations of any law or regulation. We will ensure thorough and confidential treatment of information reported.

Once we have established that a law or regulation has been violated, we will immediately seek to remedy the violation, take appropriate action and prevent it from recurring.

► Panasonic Code of Conduct, Chapter 2: Implementing the Code in Business Operations II-3. Compliance with Laws, Regulations and Business Ethics  
<https://www.panasonic.com/global/corporate/management/code-of-conduct/chapter-2.html#section2-3>

## Communication

Panasonic aims to make compliance and fair business practices the norm at all business sites globally, through the legal departments and the Executive Director in charge of compliance with Panasonic Code of Conduct. Based on the idea that compliance awareness from top executives is of the utmost importance, we aim to disseminate compliance knowledge across export managers and other individuals with various job functions and responsibilities at Divisional Companies, as well as within certain business divisions and at regional headquarters. Specifically, we notably use Direct Report Meetings, which legal managers of Divisional Companies and regional headquarters participate, to share annual compliance policies, while carrying out various programs addressing compliance throughout the year.

(For further details, refer to Compliance Training). We also contact and notify the persons responsible for legal affairs at our Divisional 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.

## Compliance Training

Panasonic provides training for new hires and newly promoted employees as needed through a variety of educational materials on the Panasonic Code of Conduct that all employees are required to adhere to and compliance awareness throughout the year.

We have assembled a Compliance Guidebook to serve as a tool for putting into practice items that have to do with compliance with the Code of Conduct. The Guidebook explains 54 topics that Panasonic considers critical from a compliance perspective, explaining each of them through examples in a way that is easy to understand. The Guidebook addresses how employees at Panasonic can stay in compliance with the law in the course of their daily work and answer societal expectations, covering topics including the prevention of bribery, corruption and violations to antitrust laws.

We also implement e-learning on compliance for sales, procurement, engineering, and other functional divisions at each

Divisional Company, covering a variety of laws that involve antitrust laws including those targeting with cartels, export controls, and copyright laws.

The Panasonic Group carries out programs throughout the year, aiming to instill a global awareness of ethical and legal compliance while also boosting our 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 scandals and legal violations.

Furthermore, senior management, including the President, Divisional Companies' Presidents, division managers, and regional managers, clearly express Panasonic's policies and stances on ethical and legal compliance as they strive to fully communicate the importance of compliance at all our business sites.

## Responsible Executive and Framework

Panasonic's General Counsel (GC), Executive Director Laurence Bates, is in charge of fair operating practices (as of August 2021).

In order to ensure the dissemination of compliance and fair business practices at the business site level throughout the world, we have legal departments, the Executive Director in charge of compliance with Panasonic Code of Conduct, as well as export control managers and other persons responsible for supervising various other functions in our Companies, business divisions, and regional headquarters outside Japan.

We report to the Board of Directors on our activities addressing critical compliance risks and major investigations.

## Whistleblowing System

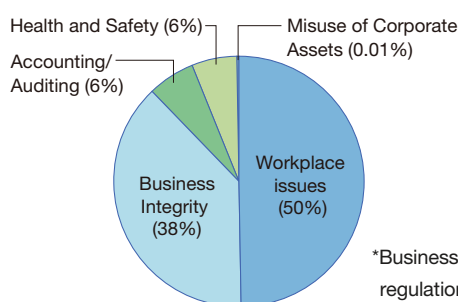
Panasonic has established a global hotline as a Corporate-wide integrated reporting mechanism and has been receiving reports about a broad range of compliance concerns. We also have an Equal Employment Opportunity Office in Japan available for consultation about fair treatment in the workplace, sexual harassment, and power harassment, as well as an Auditor Reporting System for company accounting and auditing issues.

The Panasonic Code of Conduct stipulates that "Whistleblowers shall be protected from dismissal, demotion, or any other retaliatory treatment that results from their legitimate reporting of possible violations of any law or regulation. We will ensure the thorough and confidential treatment of all reported information." Retaliation against whistleblowers is strictly forbidden, and their confidentiality is assured through anonymous reporting.

In July 2019, Panasonic adopted two new internal regulations: Internal Reporting and Investigation Rules and Rules on the Prohibition of Retaliatory Behavior against Whistleblowers and Others. The former establishes systems for reporting and whistleblowing related to compliance issues and then investigating and correcting violations. The latter prohibits retaliation against employees including whistleblowers, those participating in the investigation, and the investigation team, clarifies the protections in place for whistleblowers and similar parties stipulated by the Panasonic Code of Conduct, and is intended to ensure that the internal whistleblowing system is legitimately run.

In FY2021 we received approximately 570 reports and requests for consultation, with 80% of those coming through abovementioned global hotline. Of all reports and requests received, roughly half were related to issues in workplaces (refer to the chart below). Of all the reports and requests received in FY2021, approximately 27% were substantiated (excludes anything still under investigation as of May 31, 2021). 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 (FY2021)



\*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 the understanding of compliance policies, the effectiveness of measures, and the degree of adherence, once a year we conduct checks on the status of observance and practices of the Panasonic Code of Conduct at all our business sites around the world.

More specifically, at each Divisional Company, a director/executive officer is appointed to be in charge of ensuring adherence to the Code of Conduct. Education and training are conducted regarding the Code of Conduct; written pledges regarding the observance of the Code of Conduct 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 Corporate-wide monitoring.

## Grave Violations and Corrective Measures

Panasonic and its US subsidiary, Panasonic Avionics Corporation (PAC), were subject to an audit by the US Securities Exchange Commission (SEC) and the US Department of Justice (DOJ; collectively, "US authorities") in connection to 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, which we have since paid. We are taking this matter seriously and managing operations to prevent further recurrences.

In the event that Panasonic becomes aware of any serious violations of laws or corporate regulations, we stop the violating behavior immediately, and then consider countermeasures after sufficiently investigating facts and causes. We report on such matters to the Board of Directors as necessary and consider countermeasures of the violations swiftly and across the entire Group based on the resolution of the Board.

With no serious violations subject to fines found in FY2021, we have not paid any fines for such violations.

## Compliance Programs

Panasonic is carrying out Corporate-wide compliance programs addressing the implementation of measures for mitigating the risks such as competition law violations and bribery and corruption. In fiscal 2021, we put forward the following initiatives to strengthen our compliance infrastructure worldwide:

- **Executive-level participation:** The management team, consisting of the President, Divisional Company Presidents, regional directors, and the General Counsel, issued compliance memoranda for all employees and discussed compliance at Board of Directors' meetings and other executive conferences. Another example of executive management's direct involvement in compliance is that the General Counsel discuss compliance with management teams of Divisional Companies and different regions.
- **Compliance awareness and culture:** Panasonic created comic books meant to give employees a deeper understanding of how to think about cartel prevention and how to be careful about personal information and privacy of customers. These comics has been translated into 20 languages and distributed globally. We also created a leaflet explaining our global hotline. Furthermore, we added questions about compliance to the Awareness Survey given to employees worldwide. In FY2021 we received approximately 140,000 survey responses.
- **Training and awareness:** Panasonic offered Corporate-wide e-learning on compliance worldwide.  
FY2019: "Serious wrongdoing" -- Roughly 140,000 in attendance  
FY2020: "Panasonic's Code of Conduct" -- Roughly 140,000 in attendance  
FY2021: "Conflict of interests, Accounting wrongdoing" -- Roughly 140,000 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 Whistleblowing Systems section above. We immediately conduct internal investigations when potential violations are identified through hotline notifications, 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 implementing disciplinary actions towards all relevant parties.
- **Compliance Operating Reviews:** Each Divisional Company's management works with the General Counsel to share issues and deliberate on countermeasures against important legal and compliance risks at each Company. We incorporated the results of these discussions in the fiscal 2022 Global Compliance Policy Action Plan and in each Company's particular initiatives.

- **Strengthening Investigational Functions:** On July 1, 2019, we updated our Corporate-wide whistleblowing 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 Whistleblowing Systems.)

Moreover, FY2021, while continuing to improve previous initiatives, Panasonic has also introduced new rules for escalating serious compliance concerns.

## Preventing Cartels

Panasonic takes very 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 very 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 amount of penalties and compensation for damages, and might lose our designation in public procurement.

### Basic Policies

We have established the following basic policies in an effort to prevent cartels, collusive bidding, and other such violations.

- Contact with competitors is allowed only in absolutely necessary cases and subject to prior approval.
- Agreements and exchanges of information with competitors regarding prices, quantity, and other competition-related matters are strictly prohibited.
- Anyone who encounters behaviors that may give rise to suspicions of cartel 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, whereby 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 for the purpose of preventing behaviors that could lead to cartels or bid rigging or cause suspicion of such activities, which apply to all Group employees. These rules include items such as the following:

- Prohibition of agreements or exchanges of information regarding product pricing, quantity, performance or specifications that may cause suspicions of cartels or bid rigging
- Prior approval system under which contact with competitors requires 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, through the stipulations in the Panasonic Code of Conduct, 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 this 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 new 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 corruption 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 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 intermediary sellers or



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 Gift 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 Conflict of Interest**

Any situation where 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 job are defined as "conflicts of interest" in this rules, and in addition to the rules regarding prevention, identification, management and correction, the rules also offer specific examples of actual or potential conducts that may create conflicts of interest.

We have also introduced processes for reviewing new risks to discover bribery and corruption risks before transactions take place when starting or renewing dealings with Third-Party Intermediaries. 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 Corporate-wide.

Panasonic also released a Clean Procurement Declaration in 2004. Its aim is to prevent any abuse of their priority position and build healthy relationships with business partners to make sure transactions are fair. Panasonic then conducts procurement following its Code of Conduct.

For more details, refer to the section "Responsible Supply Chain" (P.104).

Panasonic has established the "Guidelines for Anti-Bribery and Anti-Corruption (For Business Partners)" that Panasonic's business partners are required to follow with regard to compliance with anti-corruption laws and prevent bribery, corruption, or other improprieties in connection with Panasonic business.

#### **For Business Partners <Regarding Anti-bribery and Anti-Corruption>**

Panasonic is committed to preventing bribery and corruption in its global operations. (For details, refer to "Preventing Bribery and Corruption" above.)

Panasonic has established the "Guidelines for Anti-Bribery and Anti-Corruption (For Business Partners)" which explain Panasonic's expectation that business partners comply with all anti-corruption laws and do not engage in bribery, corruption, or other improprieties in connection with Panasonic's business.

The cooperation of Panasonic'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.

"Guidelines for Anti-Bribery and Anti-Corruption (For Business Partners)" -- ENGLISH (PDF file)

[https://www.panasonic.com/jp/corporate/sustainability/pdf/Guideline%20of%20Anti-bribery%20and%20Anti-Corruption\\_en.pdf](https://www.panasonic.com/jp/corporate/sustainability/pdf/Guideline%20of%20Anti-bribery%20and%20Anti-Corruption_en.pdf)

"Guidelines for Anti-Bribery and Anti-Corruption (For Business Partners)" -- JAPANESE (PDF file)

[https://www.panasonic.com/jp/corporate/sustainability/pdf/Guideline%20of%20Anti-bribery%20and%20Anti-Corruption\\_jp.pdf](https://www.panasonic.com/jp/corporate/sustainability/pdf/Guideline%20of%20Anti-bribery%20and%20Anti-Corruption_jp.pdf)

"Guidelines for Anti-Bribery and Anti-Corruption (For Business Partners)" -- CHINESE (PDF file)

[https://www.panasonic.com/jp/corporate/sustainability/pdf/Guideline%20of%20Anti-bribery%20and%20Anti-Corruption\\_cn.pdf](https://www.panasonic.com/jp/corporate/sustainability/pdf/Guideline%20of%20Anti-bribery%20and%20Anti-Corruption_cn.pdf)

## **Compliance Risk Assessments**

To prevent the risk of bribery or corruption, risks are first assessed and then the compliance auditing department visit high risk sites to conduct audits regularly.

## **Ensuring Transparency of Political Contribution Funds**

Panasonic 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."

("In order to maintain democratic politics in a proper manner, matching costs are required, and it is important for businesses to make political donations as part of their social contribution.")

When making donations, Panasonic complies 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 surrounding political contributions, including reporting and confirmation by multiple responsible executives 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

[https://www.soumu.go.jp/senkyo/seiji\\_s/seijishikin/](https://www.soumu.go.jp/senkyo/seiji_s/seijishikin/)

(Panasonic is mentioned on the last page, the third row from the bottom)

[https://www.soumu.go.jp/senkyo/seiji\\_s/seijishikin/contents/SS20201127/006410\\_18.pdf](https://www.soumu.go.jp/senkyo/seiji_s/seijishikin/contents/SS20201127/006410_18.pdf)

## Anti-counterfeit Activities

With the globalization of business and an increased utilization of internet commerce, we observed a significant increase in online issues associated with fake/counterfeit Panasonic products. The issues are not only consumer products, but also BtoB products. To that end, we are working hard to address and eliminate issues associated with fake/counterfeit products globally. Counterfeit goods are inferior in terms of quality and it might cause the safety issues. They also undermine the Panasonic brand by betraying customers' trust. In addition, imitations also harm a healthy society because they create economic losses: Fake products manufactures, and sellers tend to have been implicated with smuggling and they don't pay the taxes properly. Thus, it leads to a decrease in tax revenue. If imitations become widely spread out, it reduce the business incentive to develop new products which will be used for consumers' benefit and it gives a huge negative impact on society in view of motivation for innovation as well. Fake products also present security issues that could include the potential funding of criminal and terrorist organizations. Moreover, confiscated counterfeit goods are treated as garbage and they are burned by incinerator and or buried to the land, which also has a big impact on the environment. The fake products are not only safety issue, but also the social issues, thus, we have a zero tolerance policy with regard to counterfeit products. Eliminating counterfeit goods should be considered a Corporate Social Responsibility. Here are some global examples of Panasonic's anticounterfeiting measures.

### Examples of actions

- Collaboration with the governmental authorities such as providing information so that they can find out and raid the factories where the counterfeit goods are manufactured.
- Conducting the training on how to differentiate counterfeit products from genuine products at Customs offices in each country and police officials so that they can obtain the sufficient knowledge about Panasonic products and they can stop the suspicious products at the border and the market globally.
- Actions at stores and EC-malls to stop the sale of counterfeit goods in each country.
- Consumer awareness actions by collaborating with relevant authorities and industry groups in various countries.
- Consumer awareness action by using the new approach of "Video clip."
- Lobbying activities to develop legal systems and practices to make the better law enforcement.
- Civil lawsuits against vendors of counterfeit products.
- IP education for students at junior-high and high schools.

## Trade Compliance

Panasonic is bolstering compliance with each country's import/export and trade-related regulations, including but not limited to security export controls and customs laws.

In Japan, the Authorized Economic Operator (AEO) system provides simpler and expedited customs procedures for business operators that have established cargo security management and legal compliance frameworks. Such operators receive 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.

# Information Security and Protection of Personal Information

## Management System

Panasonic is well aware of the importance of protecting personal information and other information entrusted by its customers. To prevent information leakage and tampering, we have established an information security management system. We have also enacted the code of conduct titled “Use and Control of Information,” the information security management policy, management rules, and guidelines. We have been working to ensure information security, such as accurate recording of information, appropriate management, use and disposal of information, and prevent theft, leakage and falsification of information, throughout group companies by implementing organizational, technical, and physical security measures. Panasonic periodically conducts internal information security audits and review to evaluate how it handles information, working in this way to implement improvements. In the unlikely event that an incident occurs, Panasonic has reporting and support systems in place to minimize harm, and it works to uncover the cause of such incidents to prevent their recurrence.

► List of ISO27001 certified division in Panasonic Corporation

<https://www.panasonic.com/global/corporate/sustainability/security/iso27001.html>

## Policy

Earning the trust and satisfaction of our customers with our products and services is the core of our management philosophy. In line with this goal, we recognize that the information and personal information we receive from our customers, business partners, and other stakeholders are significant assets to everyone involved and valuable management resources to Panasonic. Therefore, it is important to protect and handle this information appropriately, and we are striving to ensure its protection and handling.

## Training on Information Security

Panasonic conducts necessary information security training every year to raise the awareness and knowledge of each employee. We provide training for the appropriate management of information and targeted attack training for all employees, stratified training upon beginning employment, when promoted, etc., and training for those who handle personal information and other information entrusted by its customers.

## 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 Panasonic’s IoT business grows, its employees are increasingly likely to handle customer lifelogs and other personal information worldwide. Therefore, Panasonic is striving to improve its information management to provide a higher level of privacy protection.

Additionally, to comply with the EU General Data Protection Regulation (GDPR), the California Consumer Privacy Act (CCPA), 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 Privacy Policy

1. Panasonic will appoint a personal information protection manager in each organization where personal information is handled, whose role will be to manage such information appropriately.
2. Panasonic will collect personal information with the consent of individuals after specifying the purpose of use, contact for inquiries, etc.
3. Panasonic will use personal information only within the scope of the purpose of use consented to by the information subject.
4. Panasonic will not provide or disclose personal information to any third party without prior consent from the information subject except when prescribed by laws and regulations.
5. Panasonic will respond properly to inquiries from the individuals about his/her personal information.

6. In order to prevent any unauthorized access to, and loss, destruction, falsification, or leakage of personal information, Panasonic will manage personal information safely and make efforts to guarantee and enhance its information security.
7. In addition to complying with the relevant laws and regulations, Panasonic will continue to improve its personal information protection activities, taking environmental changes into consideration.

Please check the following site for public information and requests for disclosure of personal information based on the "Personal Information Protection Law". (Japanese only)

<https://www.panasonic.com/jp/privacy-policy.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 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 21 consecutive years since its launch.

And Panasonic has become a constituent of the FTSE Blossom Japan Index\* since July 2017 when FTSE launched it.

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 has been a constituent member for 11 consecutive years. In addition to the above, Panasonic has been a constituent member of the MSCI Japan ESG Select Leaders Index\* since its inception in July 2017, and it was also selected to be a constituent member in the MSCI Japan Empowering Women (WIN) Select Index\* in 2021.

MSCI website <https://www.msci.com/esg-indexes>



2021 CONSTITUENT MSCI JAPAN  
ESG SELECT LEADERS INDEX

2021 CONSTITUENT MSCI JAPAN  
EMPOWERING WOMEN INDEX (WIN)

THE INCLUSION OF Panasonic Corporation IN ANY MSCI INDEX, AND THE USE OF MSCI LOGOS, TRADEMARKS, SERVICE MARKS OR INDEX NAMES HEREIN, DO NOT CONSTITUTE A SPONSORSHIP, ENDORSEMENT OR PROMOTION OF Panasonic Corporation BY MSCI OR ANY OF ITS AFFILIATES. THE MSCI INDEXES ARE THE EXCLUSIVE PROPERTY OF MSCI. MSCI AND THE MSCI INDEX NAMES AND LOGOS ARE TRADEMARKS OR SERVICE MARKS OF MSCI OR ITS AFFILIATES.

#### GPIF S&P/JPX Carbon Efficient Index\*

Panasonic 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 Pension Investment Fund (GPIF) since 2018.

#### EcoVadis

Panasonic has again been awarded a Gold Recognition Level in sustainability performance in a survey conducted by EcoVadis for a 6th consecutive year. EcoVadis operates a collaborative platform that allows companies to monitor sustainability performance within their global supply chain to improve the environmental and social performance of their global suppliers, with coverage for 200 purchasing categories and 160 countries. The Gold Rating places Panasonic among the top 5% of eligible corporations worldwide for sustainability performance.

#### CDP 2020

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 2021. Panasonic Corporation received the third rating of "B" out of the eight grades in recognition of its efforts for climate change such as reducing CO<sub>2</sub> emissions and setting medium- to long-term targets, and its information disclosure.



#### ESG Brand Survey by Nikkei ESG Management Forum

Panasonic Corporation was ranked 6th in the ranking of the ESG Brand Survey conducted in 2020 by Nikkei ESG Management Forum. The company received high evaluations in the areas such as effective utilization of resources and responses to climate change, in addition to the traditional energy-saving home appliances.

## Fiscal 2021 Awards in the Environmental Field

Environmental activities by Panasonic gained recognition again in fiscal 2021, with various awards received globally.

### Major Awards and Achievements in the Environmental Field (Fiscal 2021)

Category	Presenter and awards	Award title	Recipient companies and details (URL)
Products & Services	Japan: Energy Conservation Center Japan (ECCJ) Energy Conservation Grand Prize 2020	Minister's Prize, the Ministry of Economy, Trade and Industry in the Product Category/Business Model Category (Architecture field)	Housing System Business Division, Panasonic Corporation Vacuum Insulated Glass Glavenir <a href="https://news.panasonic.com/jp/topics/204094.html">https://news.panasonic.com/jp/topics/204094.html</a>
		Natural Resources and Energy Agency Commissioner's prize in the Product Category/Business Model Category (Business field)	Appliances Company, Panasonic Corporation (Joint award with Toho Gas Co., Ltd., Aisin Seiki Co., Ltd., Yanmar Energy System Co., Ltd., Tokyo Gas Co., Ltd., and Osaka Gas Co., Ltd.) Super-high efficiency GHP air conditioner GHP XAIR III <a href="https://news.panasonic.com/jp/topics/204094.html">https://news.panasonic.com/jp/topics/204094.html</a>
		ECCJ Chairman's Prize in the Product/Business Model category	Heating and Cooling Solutions Business Division, Appliances Company, Panasonic Corporation EcoCute with IoT-linked heat storage and resilient functions <a href="https://news.panasonic.com/jp/topics/204094.html">https://news.panasonic.com/jp/topics/204094.html</a>
	Japan: Japan Electrical Manufacturers' Association (JEMA) The 69th (2020) Electrical Industry Technical Achievement Awards	Excellent award in the Home Electrical Appliances category	Panasonic Ecology Systems Co., Ltd. Development of self-cleaning range hood to offers even greater convenience <a href="https://www.panasonic.com/jp/corporate/technology-design/award/list/2020.html">https://www.panasonic.com/jp/corporate/technology-design/award/list/2020.html</a>
		Incentive award in the Home Electrical Appliances category	Appliances Company, Panasonic Corporation Development of a high-performance and stylish floor-standing air conditioner with the industry's thinnest profile <a href="https://www.panasonic.com/jp/corporate/technology-design/award/list/2020.html">https://www.panasonic.com/jp/corporate/technology-design/award/list/2020.html</a>
		Incentive award in the Home Electrical Appliances category	Panasonic Switchgear Systems Co., Ltd. Development of residential distribution panelboard with HEMS, Smart Cosmo, with multi-channel communications <a href="https://www.panasonic.com/jp/corporate/technology-design/award/list/2020.html">https://www.panasonic.com/jp/corporate/technology-design/award/list/2020.html</a>
	Japan: Association for Resilience Japan The 7th Resilience Award	Highest award in the Corporate Industry Sector	Appliances Company, Panasonic Corporation Household fuel cell, Ene-Farm, with maximum readiness for disasters – Development of power generation and hot water supply functions for power outages <a href="https://news.panasonic.com/jp/topics/204160.html">https://news.panasonic.com/jp/topics/204160.html</a>
	Japan: Ministry of the Environment FY2020 Environment Minister's Award for Promotion of a Recycling-Based Society	Corporation with Excellent 3R Activities	Panasonic Corporation (Joint award with Asahi Breweries, Ltd.) "Tumbler in the forest" utilizing 55% cellulose fiber <a href="https://news.panasonic.com/jp/topics/204010.html">https://news.panasonic.com/jp/topics/204010.html</a>
	Vietnam: Ministry of Industry and Trade of Vietnam (MOIT) Most Energy Efficient Products 2020 Award	Most Energy Efficient Products	Panasonic Appliances Vietnam Co., Ltd. Washing machine (Three top loading types, one front loading type) <a href="https://tietkiemnangluong.com.vn/top-runner/">https://tietkiemnangluong.com.vn/top-runner/</a>
	Japan: Japan Institute of Design Promotion 2020 Good Design Award	Good Design Award	Panasonic Corporation Air-Conditioner, Rain gutter KAKU, Business Model Revalue Project, etc. <a href="https://news.panasonic.com/jp/topics/203967.html">https://news.panasonic.com/jp/topics/203967.html</a>
Production Activities	Japan: Energy Conservation Center Japan (ECCJ) Energy Conservation Grand Prize 2020	Natural Resources and Energy Agency Commissioner's prize the Energy Conservation Best Practices Category (CGO, Corporations, etc. field)	Kato Factory, Kitchen Appliances Business Division, Appliances Company, Panasonic Corporation Comprehensive energy-saving measures in an integrated production factory led by factory management <a href="https://news.panasonic.com/jp/topics/204094.html">https://news.panasonic.com/jp/topics/204094.html</a>
		ECCJ Chairman's Prize in the Energy Conservation Best Practices category	Panasonic SPT Co., Ltd. Aiming to be an energy-saving model factory through installation of a unique and highly efficient production facility <a href="https://news.panasonic.com/jp/topics/204094.html">https://news.panasonic.com/jp/topics/204094.html</a>
	Japan: Japan Electrical Manufacturers' Association (JEMA) The 69th (2020) Electrical Industry Technical Achievement Awards	Excellent award in the Manufacturing category	Manufacturing Innovation Division, Panasonic Corporation Development of a cellulose fiber resin for home appliances <a href="https://www.panasonic.com/jp/corporate/technology-design/award/list/2020.html">https://www.panasonic.com/jp/corporate/technology-design/award/list/2020.html</a>
Environmental Communication	Japan: Fujisankei Communications Group The 49th Advertising Award	Excellent award in the Media category Panasonic Corporation	Panasonic Corporation EVOLTA NEO "Triathlon Challenge" <a href="https://www.fujisankei-g.co.jp/koukoku-taisho/archive/49/pdf/P23.pdf">https://www.fujisankei-g.co.jp/koukoku-taisho/archive/49/pdf/P23.pdf</a>
		Excellent award in the Creative category	Panasonic Corporation Parcel Drop Box "Imagine by the sound" <a href="https://www.fujisankei-g.co.jp/koukoku-taisho/archive/49/pdf/P35.pdf">https://www.fujisankei-g.co.jp/koukoku-taisho/archive/49/pdf/P35.pdf</a>
	Japan: BtoB Advertising Association Japan The 41st (2020) Japan BtoB Advertising Awards	METI Minister's Award in the Poster category	Panasonic Corporation TOKYO LIGHT UP <a href="http://www.bbba.or.jp/jigyo/sogo/2020sogof.html">http://www.bbba.or.jp/jigyo/sogo/2020sogof.html</a>
		Gold Award in the Magazine Advertisement category	Panasonic Corporation "Toward Sustainable Society and Life" Photographer series <a href="http://www.bbba.or.jp/jigyo/sogo/2020sogof.html">http://www.bbba.or.jp/jigyo/sogo/2020sogof.html</a>



## Independent Assurance Report by KPMG AZSA Sustainability Co., Ltd.



## Independent Assurance Report

To the Board of Directors of Panasonic Corporation

We were engaged by Panasonic Corporation (the “Company”) to undertake a limited assurance engagement of the environmental performance indicators listed in the table below (the “Indicators”) for the period from April 1, 2020 to March 31, 2021 included in its Sustainability Data Book 2021 (the “Data Book”) for the fiscal year ended March 31, 2021.

Table: The Indicators subject to the independent assurance and corresponding page numbers in the Data Book

Indicators	Pages	Indicators	Pages
Renewable energy	30	Breakdown of Total GHG Emissions (CO <sub>2</sub> -equivalent) in Production Activities (by scope) (Scope 1 emissions)	43
Logistics domestic	30	Breakdown of Total GHG Emissions (CO <sub>2</sub> -equivalent) in Production Activities (by scope) (Scope 2 emissions)	43
Scope 3 11. Use of sold products	31	Amount of Total Wastes Including Revenue-generating Waste	51
Energy Consumption in Production Activities	40	Water Consumption in Production Activities	57
CO <sub>2</sub> Emission in Production Activities and CO <sub>2</sub> Emission Per Basic Unit	40	Release/Transfer of Substances Requiring Management (Total)	65
Emissions (CO <sub>2</sub> -equivalent) of GHGs Other than CO <sub>2</sub> from Energy Use in Production Activities	43		

### The Company's Responsibility

The Company is responsible for the preparation of the Indicators in accordance with its own reporting criteria (the “Company’s reporting criteria”), as described in the Company’s website.

### Our Responsibility

Our responsibility is to express a limited assurance conclusion on the Indicators based on the procedures we have performed. We conducted our engagement in accordance with the ‘International Standard on Assurance Engagements (ISAE) 3000, Assurance Engagements other than Audits or Reviews of Historical Financial Information’ and the ‘ISAE 3410, Assurance Engagements on Greenhouse Gas Statements’ issued by the International Auditing and Assurance Standards Board. The limited assurance engagement consisted of making inquiries, primarily of persons responsible for the preparation of information presented in the Data Book, and applying analytical and other procedures, and the procedures performed vary in nature from, and are less in extent than for, a reasonable assurance engagement. The level of assurance provided is thus not as high as that provided by a reasonable assurance engagement. Our assurance procedures included:

- Interviewing the Company’s responsible personnel to obtain an understanding of its policy for preparing the Data Book and reviewing the Company’s reporting criteria.
- Inquiring about the design of the systems and methods used to collect and process the Indicators.
- Performing analytical procedures on the Indicators.
- Examining, on a test basis, evidence supporting the generation, aggregation and reporting of the Indicators in conformity with the Company’s reporting criteria, and recalculating the Indicators.
- Visiting one of the Company’s production sites selected on the basis of a risk analysis.
- Evaluating the overall presentation of the Indicators.

### Conclusion

Based on the procedures performed, as described above, nothing has come to our attention that causes us to believe that the Indicators in the Data Book are not prepared, in all material respects, in accordance with the Company’s reporting criteria as described in the Company’s website.

### Our Independence and Quality Control

We have complied with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. In accordance with International Standard on Quality Control 1, we maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

*KPMG AZSA Sustainability Co., Ltd.*

KPMG AZSA Sustainability Co., Ltd.  
Osaka, Japan  
August 10, 2021

## Reports on Business Activities of Panasonic

Please visit our Sustainability website for the detailed information on our CSR and environmental initiatives, and IR Information website for our business strategies and financial data intended for shareholders and investors.

### Sustainability website

► <https://www.panasonic.com/global/corporate/sustainability.html>

Sustainability Data Book [PDF] is also available on this website

### IR Information website

► <https://www.panasonic.com/global/corporate/ir/annual.html>

Annual Report, covering management strategy; financial situation; and ESG (initiatives relating to the environment, society, and governance) among others, is also available





**Inquiries**

CSR & Citizenship Office / Quality & Environment Division

Panasonic Corporation

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