

Sustainability Data Book 2020

Panasonic Corporation



Panasonic

About the Sustainability Data Book 2020

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 2020 (April 1, 2019 to March 31, 2020)

Organization: Panasonic Corporation and consolidated subsidiaries (Not included: Ficosa International S.A., consolidated subsidiaries since April 2017 respectively, and consolidated subsidiaries of this company.)

Data:

- Data concerning manufacturing business sites cover all the manufacturing business sites (totaling 259) 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 2020

Assurances

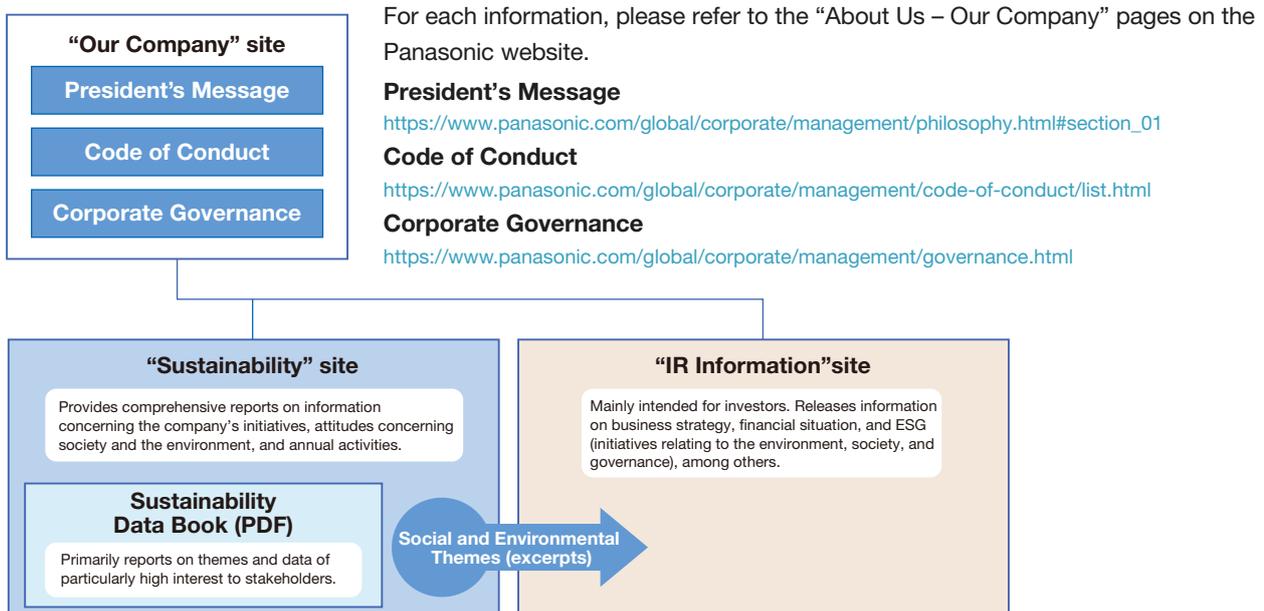
Main data relating to the environment have been assured by KPMG AZSA Sustainability Co., Ltd. For details on the indicators covered by the assurance, please refer to the Independent Assurance Report on P139

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, 2020

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: Kazuhiro Tsuga

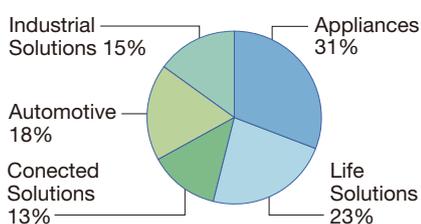
Common Stock: 258.9 billion yen

FY2020 Financial Result

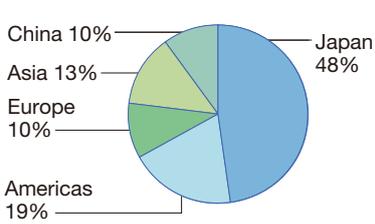
Net sales 7,490.6 billion yen **Operating profit** 293.8 billion yen **Profit before income taxes** 291.1 billion yen

Net profit attributable to Panasonic Corporation stockholders 225.7 billion yen **Number of Employees** 259,385

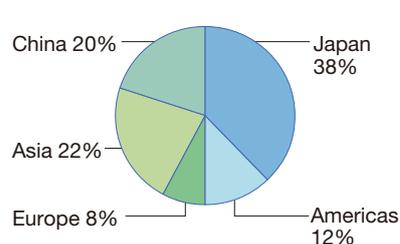
Sales by Segment (FY2020)



Sales by Region (FY2020)



Employees by Region (End of FY2020)



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, washing machines, Vacuum cleaners, microwave ovens, rice cookers, 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, 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, automotive switches, automotive audio systems, Advanced driver assistance systems(ADAS), Device and systems for electric automobiles, automotive mirrors, automotive-use batteries

Industrial Solutions

Relays, switches, power supply, industrial motors and sensors, small lithium-ion batteries, capacitors, coils, resistors, electronic circuit board materials, dry batteries, micro batteries, semiconductors, 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>

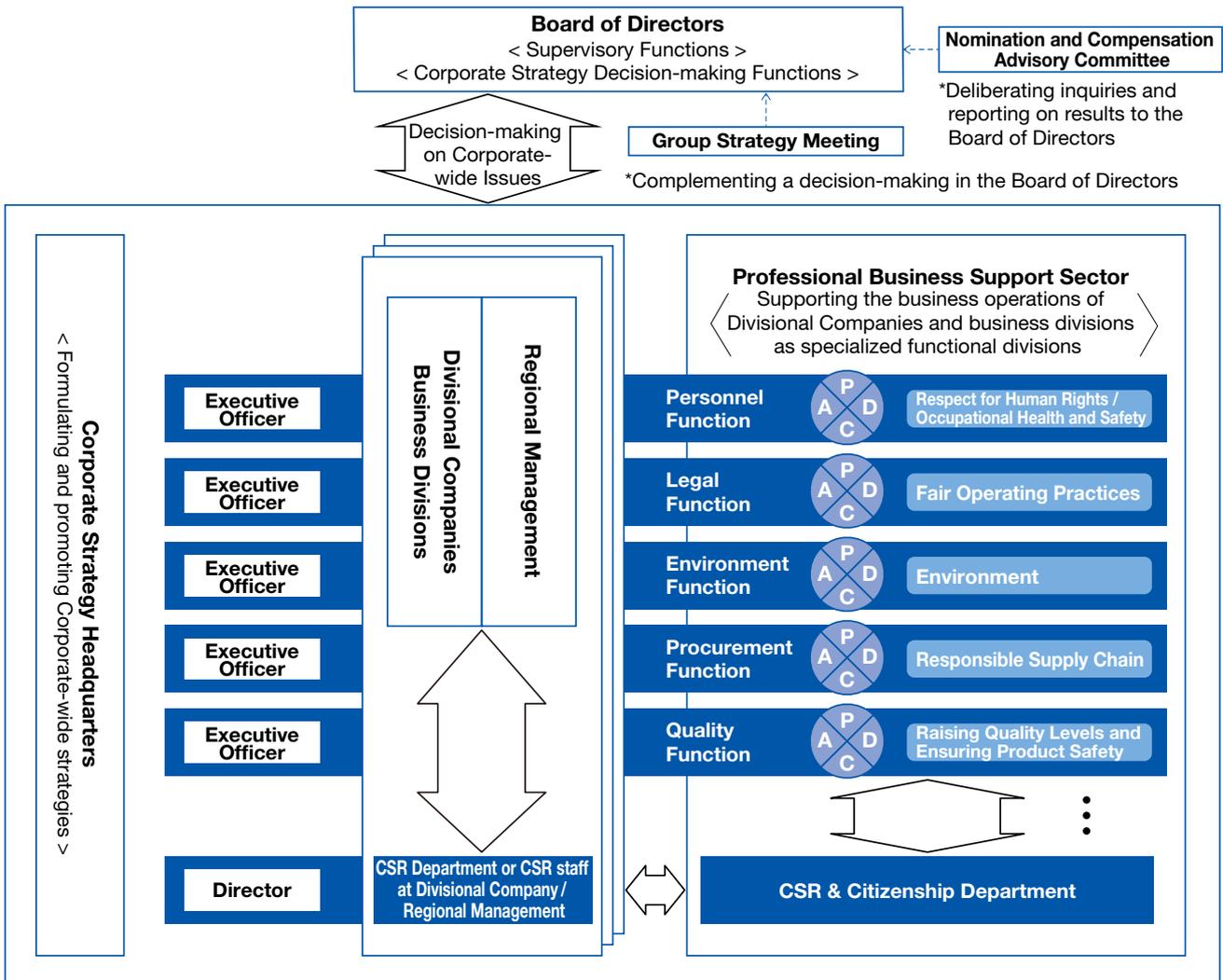
System for the Promotion of CSR Activities

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



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



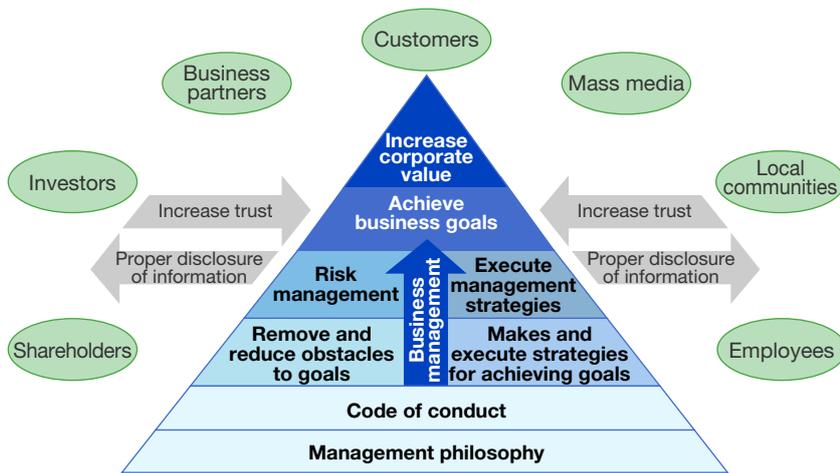
Risk Management

Fundamental Stance

Panasonic’s founder, Konosuke Matsushita, coined numerous aphorisms which are still used at the company: “Hardship now, pleasure later,” “The source of our failures is within us,” “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 “sources of failure”—that is 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

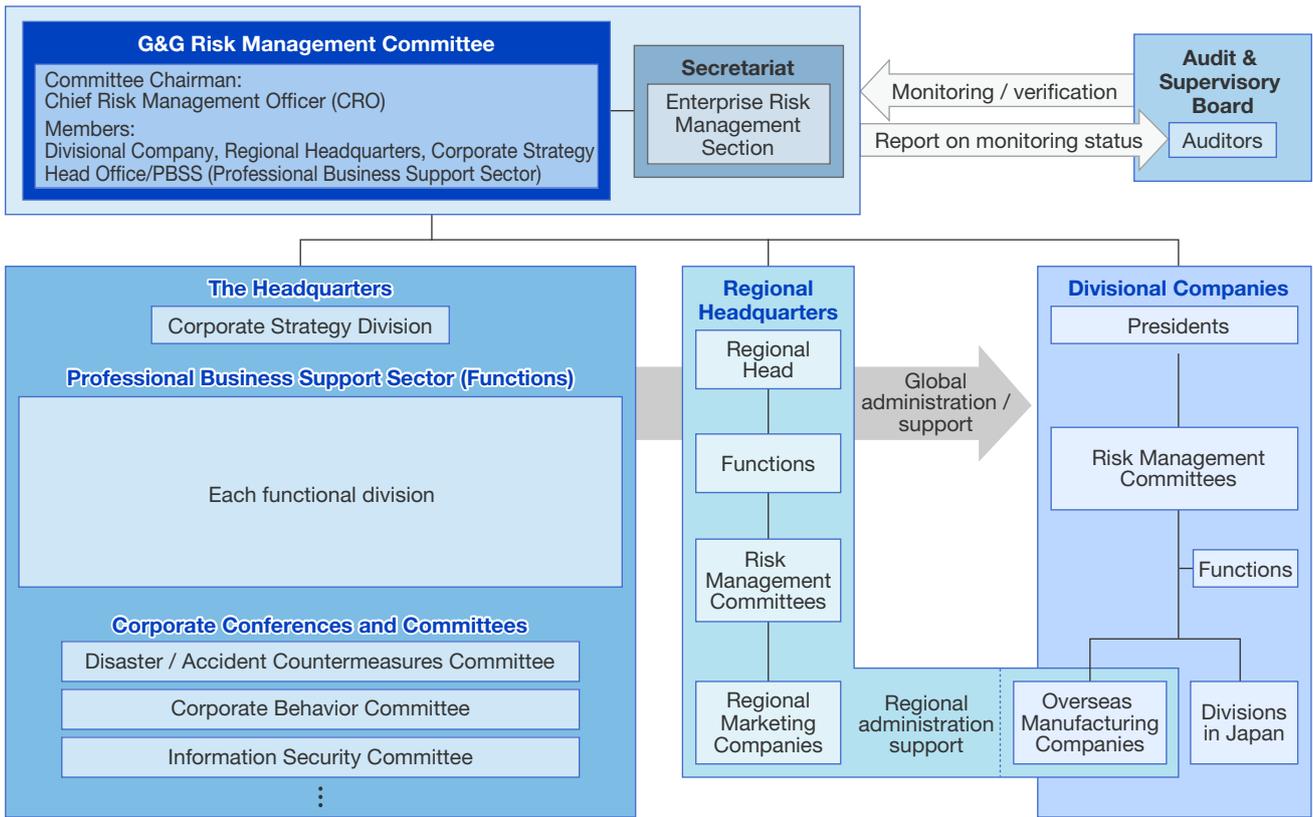


Organizational System

In April 2005, Panasonic established the Global & Group Risk Management Committee (G&G Risk Management Committee), which promotes risk management throughout the whole Panasonic Group. The Chief Risk Management Officer (CRO), who is nominated among the Senior Management, chairs the Committee, which is composed of Company Chief Risk Officers (CROs) and managers from regional headquarters, the Corporate Strategy Headquarters and functional divisions. The Enterprise Risk Management Section of the Legal and Regulatory Affairs Department serves as the Committee’s secretariat.

The G&G Risk Management Committee determines the important risks of the entire Group, based on the results of risk assessments conducted by each Divisional Company, the Panasonic Headquarters, and regional headquarters. This constitutes part of Panasonic’s corporate compliance with legal mandates. The Committee monitors the progress of action plans formulated by Group Companies, Panasonic Headquarters, and regional headquarters for countering important risks. Depending on the necessity, the Committee also provides instructions for realizing continuous improvement to functional divisions and various committees, as well as assistance to Divisional companies, Panasonic Headquarters, and regional headquarters. The activities of the G&G Risk Management Committee are reported regularly at Board of Director meetings, and Audit & Supervisory Board Members.

Panasonic Global and Group Risk Management Promotion Framework



Basic Framework

Panasonic has three levels of risk management: the G&G Risk Management Committee, seven Divisional Companies, and several business divisions. Each year, an assessment of the risks that could affect the business management of Divisional Companies and affiliated business divisions is undertaken using a single, global set of standards incorporating the potential impact on business operations, likelihood of risks, and other factors. Steps are then taken to identify important risks for Divisional Companies and to ensure that appropriate countermeasures are implemented. Taking into consideration these important risks for Divisional Companies, the G&G Risk Management Committee identifies and considers those risks that require specific attention from a Corporate-wide perspective. The Committee reports progress to the Board of Directors who evaluates progress on countermeasures as a means to improve and strengthen Corporate-wide risk management.

Basic Framework for Risk Management

	Plan		Do	Check	Action
G&G RM Committee	Risk assessment	Selecting corporate major risks and confirming measures	Promoting measures	Monitoring	Developing and promoting improvement measures
Companies/ Regional Headquarters	Risk assessment	Selecting Companies major risks and formulating measures	Promoting measures	Monitoring	Developing and promoting improvement measures
Divisions	Risk assessment	Selecting Divisions' major risks and formulating measures	Promoting measures	Monitoring	Developing and promoting improvement measures

The important risks of the entire Group for FY2020

- Natural disasters (earthquakes, tsunamis, weather-related disasters, etc.)
- Quality problem
- Serious fraud (cartels, bribery of public officials, accounting fraud)
- Cyberattacks
- Considerations to geopolitical risks in addition to strategic risks

The important risks of the entire Group for FY2021

- Pandemic
- Natural disasters (earthquakes, tsunamis, weather-related disasters, etc.)
- Bribery of public officials,
- Trade restrictions and economic sanctions
- Antitrust violation (cartels, etc.)
- Quality problem

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. It has established emergency response headquarters at every level of the Group, within the seven Divisional Companies, and within all business divisions. These headquarters are intended to maintain and improve Panasonic's initial response capabilities—including confirmation of the safety of employees and reporting among different emergency response headquarters on the degree of damage.

Coordinating with local municipalities, the task force conducts annual disaster preparedness and emergency evacuation training drills at each business site as needed.

In terms of procurement activities, we also manage the securing of replacement sourcing and the building up of inventory for emergencies, based on evaluations of the criticality and interchangeability of procured parts.

We strive to prepare for fire-related accidents and prevent their occurrence, based on the Global Fire Prevention Regulations, which include provisions for fire risk assessments, fire prevention equipment, fire-fighting equipment, self-defense fire brigades and fire extinguishing activities, fire recurrence prevention, independent inspections, fire prevention training, awareness raising, audits etc.

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. 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.



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: CO₂ 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 CO₂ 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.

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 CO₂ 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 16-17)

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

While the global attention being paid to the social issues surrounding the environment and energy is intensifying, the focus on the Sustainable Development Goals (SDGs) set by the United Nations and the Paris Agreement—through which a number of countries allied together to work towards global warming prevention—indicates the seriousness of these issues worldwide.

In the UN Climate Action Summit 2019, held in September 2019, companies, civic groups, and the national and local governments of various countries discussed actions to take preventive measures for global warming. As the closing remarks of the summit appealed to companies to take more ambitious actions and the like against climate change, society's expectations for the role of companies in resolving global social issues are now increasing more than ever.

Aware that society's expectations of the role of corporations in resolving these global social issues is rising, Panasonic formulated the Panasonic Environment Vision 2050 in 2017 to determine our own initiatives in responding 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 CO₂ 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 not only homes of individuals but also working or learning spaces, and spaces for living or leisure. It refers to all spaces relating to people’s lives.

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 a next-generation solar cell technology and 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 support systems for autonomous driving and utilize our IoT technology etc. to realize next-generation logistics/transport solutions that help arteries in the society flow more smoothly.

As part of our efforts to promote the utilization of clean energy throughout society, we built the ‘H₂ Kusatsu Farm’, a hydrogen energy station, in the Kusatsu Factory premises of Appliances Company in Kusatsu City, Shiga Prefecture. Towards Zero CO₂ 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 FY2019. Also, in HARUMI FLAG, a residential estate to be built at the post Tokyo 2020 athlete’s village site, a pure hydrogen fuel cell generator installed in each town block will provide electricity for communal facilities, such as exterior lights and air conditioners. Further, we plan to install residential fuel cells ‘ENE-FARM’ powered by hydrogen, which is reformed from city gas, in all approx. 4,000 houses in the town. This should reduce CO₂ emissions by 4,000 tons per year.



H₂ 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-CO₂ 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.¹⁾ at the same time, to promote manufacturing that does not emit CO₂ through increasing the amount of the “energy created” in our factories by utilizing photovoltaic power generation system, energy storage batteries, and the like.

Specifically to reduce CO₂ 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 zero CO₂ emission derived from energy sources in manufacturing through utilization of CO₂ credits to offset CO₂ emissions from fossil fuels, and the like.

In fiscal 2020, Panasonic Centroamericana S.A. (PCA), the dry-cell battery factory in Costa Rica, launched Costa Rica's first private-public project with the national government. As a part of this project, the factory was provided with 400 solar panels and 100% renewable energy electricity from the public power distribution company. The factory also utilizes CO₂ credits to achieve zero CO₂ emissions. As a result, the factory was certified as the 1st '100% renewable power factory' by Costa Rica government.

For realizing a zero-CO₂ factory, our respective factories across the world must devise means, because the appropriate types of energy conservation efforts depend on the characteristics of production in the factory, and the available renewable energy depends on regional characteristics. We will establish six zero-CO₂ factories across the world by adopting learning from internal and external precedents and combining them with factory-specific approaches by fiscal 2020. Furthermore, we will roll out this activity world-wide to steadily promote our Environment Vision 2050.

*1 Factory Energy Management System



Full view of Panasonic Centroamericana S.A.



Provided solar panels



Kick-off ceremony for the pilot project for decarbonation
President Nakanishi, PCA (left), the First Lady of Costa Rica (middle), and the Deputy Minister of Environment (right)

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 CO₂ emissions through our products and services, which indicates the amount of our efforts to reduce CO₂ emissions in order to bring forward the peak of total CO₂ emissions in whole society. When the size of contribution in reducing energy consumption is converted to CO₂ 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-CO₂ 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 CO₂ 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		FY2020		
Material Issues	Energy	Increase the ratio of total energy created to total energy used		Total energy created ^{*1} : total energy used ^{*2} = 1 : 8.5	1 : 9.0	
		Products & Services	Increase amount of energy created		Amount of energy created ^{*1} : 30 thousand GWh or more	26 thousand GWh
			Increase the size of contribution toward energy savings through products and services		Size of contribution toward energy savings through products and services ^{*3} : Direct ^{*4} : 25 thousand GWh or more Indirect ^{*5} : 2 thousand GWh or more	Direct: 28 thousand GWh Indirect: 2.3 thousand GWh
			Expand energy creation businesses			—
			Expand energy efficient products and services business, focusing on products and services utilizing IoT/AI			—
			Promote zero-CO ₂ model factories - Establish model factory using advanced hydrogen technology - Establish at least one zero-CO ₂ model factory in each region ^{*6}			—
		Factories	Increase the use of renewable energy through the generation of renewable energy on-site and procurement of renewable energy		Renewable energy generated on our sites ^{*7} : 40 thousand MWh or more	32 thousand MWh
			Promote energy efficiency in production - Reduce energy loss through IoT - Improve productivity through manufacturing innovation			—
			Create circular economy business models		Analysis of the development of circular economy options for existing businesses: 100%	—
		Resources	Reduce resource consumption and increase the use of sustainable materials		Recycled resin usage ^{*8} : 42 thousand tons or more (2019 to 2021 total)	13 thousand tons
Achieve Zero Waste Emissions from factories globally			Factory waste recycling rate ^{*9} : 99 % or more	98.9%		
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 Manufacturing Officer (CMO) (Yoshiyuki Miyabe Senior Managing Executive Officer, as of April 2020) 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 CMO, 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. This meeting is attended by the presidents of the Panasonic Corporation and the Companies along with other members of senior management, for reviews of policy directions, issues, and, particularly important measures to be adopted.

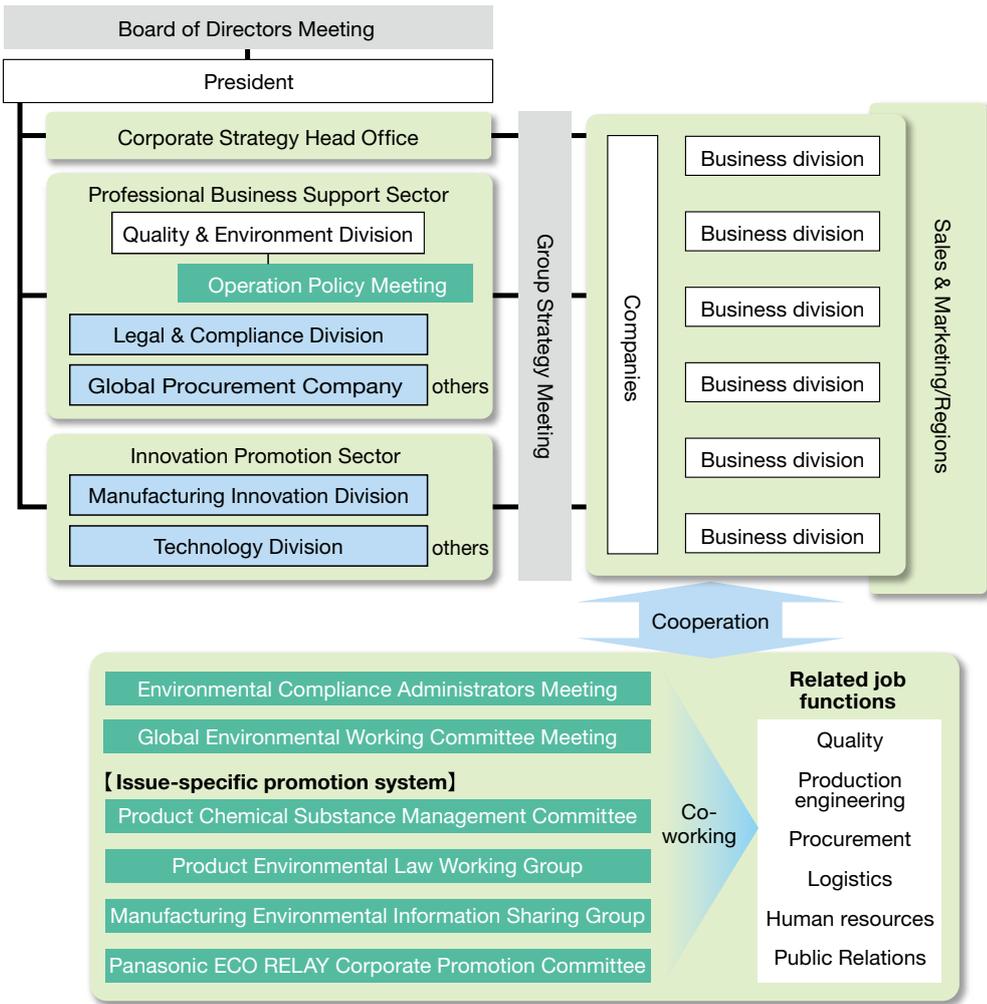
In fiscal 2017, the Environmental Compliance Administrators Meeting (held twice a year) attended by the executive officer in charge of environmental affairs and environmental compliance administrators at the Companies was newly established to accelerate decision-making for corporate-wide action in the 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 2021





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 non-manufacturing 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. Internal audits held by Companies are conducted in a precise manner at each site in order to improve its management procedures.



Training session for internal auditors

Acquired status of the ISO 14001 Certification (as of March 31, 2020)

Region	Number of certifications obtained*1		Total
	Manufacturing	Non-manufacturing	
Japan	14	12	26
North America & Latin America	15	0	15
Europe & CIS	10	2	12
Southeast Asia, & Oceania	41	9	50
China & Northeast Asia	55	1	56
India, South Asia, Middle East & Africa	8	1	9
Total	143	25	168

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

► Obtaining of ISO 14001 Certification

https://www.panasonic.com/jp/corporate/sustainability/pdf/eco_isolist2019.pdf



Environment: Environmental Risk Management

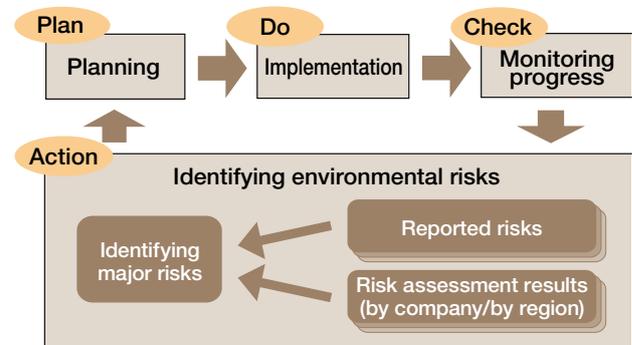
Group-wide Systems to Manage Environmental Risks

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 8), 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.

However, in fiscal 2019, we discovered three violations of environment-related legislation across the world. These cases were promptly reported to the respective authorities along with implementation of countermeasures against the causes of such violations and we have already corrected the issues in order to meet the standard requirements. We continue our efforts for thorough legal compliance and the prevention of any recurrence.

Case of Violations of Laws and Ordinances (e.g. excess of the standard legal level) in Fiscal 2020

Region	Environmental pollution					Other	Total
	Air	Water quality	Noise	Odor	Waste	Permission / Approval	
Global (including Japan)	2	0	0	0	1	0	3
(Japan)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

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 six hazardous substances (see page 58 “Chemical Substances Management”).

However, in fiscal 2020, four 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"> 1. Conduct historical surveys 2. Determine and install monitoring wells at the premises' borders 3. Analyze groundwater at the borders 4. Check possibility of pollution from external sources 5. Report to management department 6. Determine the external pollution dispersion prevention methods 7. Install the external pollution dispersion prevention methods 8. Install assessment wells 9. Begin assessments (monitoring)
Thorough pollution source elimination	<ol style="list-style-type: none"> 10. Conduct brief status check 11-1. Horizontal direction detailed analysis 11-2. Vertical direction detailed analysis 12. Determine the magnitude of pollution 13. Discuss the areas and methods of purification 14. Conduct purification and install pollution dispersion prevention measures 15. Monitor pollution source (groundwater) after purification 16. Report purification completion to management department

Soil and Groundwater Pollution Surveys and Remedial Measures for Fiscal 2020

Region	Number of sites that completed remedial measures	Number of sites currently taking remedial measures
Global (including Japan)	0	41
Japan	(0)	(35)

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^{*1} 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.

^{*1} 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. 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 18-19 for more details.

Strategy

We have identified risks and opportunities in the business areas of home appliances, housing equipment, and automotive that are deemed to be affected by climate change. The identified risks are categorized into those related to transition to a low-carbon economy and others related to physical changes caused by climate change, and then discussed by the category. Opportunities are also being investigated to create new businesses mainly in the areas of business operation, products, and services.

In addition, towards realization of the Environment Vision 2050, we analyzed the impact of climate change on our business based on the external scenarios, discussed the measures, and verified the business resilience in our strategy.

See pages 26-27 for more details.

Climate change risks (typical examples)

Type	Scope	Risk Description
Transition risk	Home appliances business	If product design does not meet the requirements of regulation because of enhanced requirements for energy efficiency in the regulations, sales opportunities may be lost.
Physical risks	Manufacturing	In the case of our production sites and/or supply chain operations are damaged from extreme weather, such as flooding, it may affect product sales and/or require a large investment to recover the facilities.

Climate change opportunities (typical examples)

Type	Scope	Opportunity Description
Business management	Manufacturing and renewable energy	- Install energy management system in factory production and promote to use renewable energy. - Advance development of fuel cell technology to generate power from hydrogen and supply hydrogen electrolytically generated from water, using renewable energy to forklifts equipped with fuel cells.
Products and services	Housing equipment business	As the government subsidy system for purchase of energy-efficient houses has been introduced, work focusing on development, sales, and dissemination of energy-efficient houses, collaborating with other companies to create better ideas, products and services.
	Automotive business	As the number of electric vehicles is increasing because the regulations for engine-mounted vehicles have been more stringent, expand high-performance automotive battery business, collaborating with other companies.

Scenario analysis overview

Scenario	Situations	Potential influence on the group
2°C Scenario	More stringent regulations: Introduction of carbon pricing	Minor effects on our businesses, because we have been working on reduction of CO ₂ emissions from products and production through taking various measures, including enhancing the energy-efficiency of existing products, creating new energy-efficient products, and rolling out zero-CO ₂ factories.
	More stringent: Changes/modifications in environmental regulations	Minor effects on our businesses, as we continuously understand up-to-date information on environmental laws and regulations in the world through close collaboration with regional headquarters and environmental departments in respective regions.
4°C Scenario	Increase of extreme weather	Minor effects on our businesses, as we continue to strengthen the risk management system, through formulating Business Continuity Plan (BCP), and Business Continuity Management (BCM) Guidelines based on the BCP.

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 8-10,21 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)^{*1} in October 2017.

*1 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.

See page 17 for more details on indicators for energy.

GHG emissions reduction targets (SBT accreditation)

	2030	2050
Emissions from business activities (Scope 1 and 2)	Reduce by 30% (compared to FY2014)	Zero
Emissions from use of our products (Scope 3)	Reduce by 30% (compared to FY2014)	

Environment: Climate Change Risks and Opportunities, and Resilience of Strategy through Scenario Analysis

eco
ideas

Identifying Risks (Typical Examples)

Risks concerning Transition to a Low-Carbon Economy

The energy efficiency standards for products are becoming increasingly demanding and products that do not meet such standards may be banned from sale. In concrete terms, meeting with a minimum energy performance standard (MEPS) is legally stipulated under the laws and regulations such as US federal law, the California State law, and the EU ErP Directive. Not only in advanced countries, the standard is also legally binding as mandatory in many developing countries and sales of non-standard products are prohibited. Many countries also adopt energy efficiency labeling programs, under which the products display their energy efficiency level so that customers are able to choose eco-conscious products more easily. Minimum energy performance standards and energy efficiency labeling programs for electric and electronic products significantly contribute to CO₂ reduction during product usage, which occupies the largest percentage in the product lifecycle. These standards and programs are constantly reviewed and discussed for amendments and their scope of the covered products in each country or region continue to expand. As standards and programs in different countries rely on different criteria and measurements, if our products fail to comply with the requirements at the product design stage, for which we constantly keep understanding the latest trend, we may miss sales opportunities in the markets of the products that required massive investment in their development. This is a potential risk that may cause significant business losses.

Physical Risks

As the Panasonic Group operates its business globally, its production sites face physical risks in their operations that may be hindered by abnormal weather conditions associated with global warming, such as flooding. Other than direct damage to factory buildings and facilities, losses from the cessation or suspension of operations must also be taken into account. If such a situation should occur, the costs required to restore the business becomes excessive.

Identifying Opportunities (Typical Examples)

Business Operation

Panasonic has adopted Factory Energy Management System (FEMS) at factory sites, and optimized energy consumption in production. (See page 42 for more details.) We also proactively promote to adopt renewable energy, such as solar cells, which is suited to regional features, at our sites across the world. Panasonic promotes utilization of renewable energy among customers by expanding the energy solution business in addition to the manufacturing business of solar cell modules. (See pages 42-43 for more details.) We are also working to establish practical fuel cell technologies to generate electricity from hydrogen, a clean source of energy. Verification test of fuel-cell forklifts powered by hydrogen electrolytically generated from water using renewable energy started in fiscal 2020. (See page 15 for more details on the verification test.) In addition, we are working on to increase the number of zero-CO₂ factories, assuming future demand from BtoB clients for manufacture of products using renewable energy.

Products and Services

In 2018, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) introduced a financial support system to promote energy-efficient housing. The system provide incentives in proportion to the expenses paid for installation and construction when building a new house with high energy efficiency, when building a new house with high energy efficiency, renovating a house with installation of thermal insulation, and/or installing energy-saving equipment. As we offer a wide range of energy-creation and energy-storage products, enforcement of the subsidy by the government has created great business opportunities for us. Collaborating in creating better ideas, products and services with other companies, we work on focusing on developing, selling, and are spreading highly energy-efficient houses widely.

Because more countries are employing environmental policies concerning reduction of greenhouse gas emissions, the regulations for engine mounted vehicles are tightening. As a result, vehicles are becoming more electrified and HVs and EVs are expected to become ever more common. Panasonic produces and sells high performance automotive batteries. As HVs and EVs spread in society, demand for such secondary batteries, the core component of such vehicles, is expected to increase. To obtain the business opportunity, we started full-scale operation of the automotive battery factory in the US in 2017, while also strengthening our partnerships with other companies.

Strategy

We believe that more and more clean energy will be used in every corner of society, instead of fossil fuels. We formulated the Environment Vision 2050 to achieve “a better life” and “a sustainable global environment” compatibly. In the vision, we aim to reduce the amount of the “energy used”, generate more amount of the “energy created” than is that of used, and replace purchased energy with the “energy created” by ourselves. In other words, the size of our contribution through the creation and utilization of renewable energy sourced from our products must exceed the amount of the “energy used” in our factories and by our products. This vision is incorporated within our business policy as our corporate goal for 2050. As a part of the targets for reducing GHG emissions, energy consumption reduction targets for 2030 and 2050 have been set as SBT-accreditation in line with the standards for 2°C increase scenario goal agreed in the Paris Agreement.

Scenario Analysis

World Energy Outlook 2017 (WEO2017) issued by the International Energy Agency (IEA) presents the New Policies Scenario (NPS=4 degree scenario), a set of policies to realize the targets set by various countries in the Paris Agreement, and the Sustainable Development Scenario (SDS=2 degree scenario) that could “hold the increase in the global average temperature to well below 2°C above pre-industrial levels” if executed.

Towards realization of Environment Vision 2050, we analyzed the impact of climate change on our business based on the said scenarios, discussed the countermeasures, and verified the resilience of our strategy.

Respective SDS and NPS were created on the assumption that the average temperature would rise 2°C or 4°C by 2100. Assuming that we continue the current business activities, we analyzed the impact of climate change on our business as of 2030.

SDS, the 2°C rise scenario, forecasts rapid changes in society to restrain greenhouse gas emissions by 2030. For example, the scenario estimates that an emission restriction measure possibly charging more than 100 dollars per one ton of CO₂ emissions, may be adopted. Using this 2°C rise scenario as a reference, we analyzed the impact from regulation changes on our business by 2030, assuming that there will be no major impact to the business from physical risks from climate change, such as water shortages and more frequent abnormal weather conditions.

At the same time, using NPS, the 4°C rise scenario, we analyzed the impact from physical changes due to climate change to our business by 2030, assuming that such impact from physical changes would be greater than that from regulation changes.

Results of the analyses based on the 2°C increase scenario suggest that the burden of CO₂ emissions would increase as carbon pricing is adopted by the major countries. However, effects of the burden are minor, as we have worked on reducing CO₂ emissions with our products through increase in their energy-efficiency and creating and selling energy-creating products, as well as reduction of CO₂ emission in manufacturing through roll-out of zero CO₂ model factories, to realize the Panasonic Environmental Vision 2050.

When we identify issues that need to be addressed, we gather latest information on relevant environmental regulations, using the data base on environmental regulations, and shared the information to relevant departments. In the case that taking some measures is necessary, we share the information and situation with Companies and Business Divisions, and relevant parties necessary take actions in due time. This ensures that those issues have minor effects on our businesses.

When referring to the 4°C rise scenario, we need to take account of the impact from the predicted increase in abnormal weather conditions, such as flooding and tropical storms, on the supply chain, and reduced economic activity in society. For example, we experienced large scale flooding in Thailand in 2011 and we suffered massive losses. Although we established a range of countermeasures in case of a recurrence, if some disaster hinders our business operations—or those of any party in the supply chain—sales will be affected and we would still need to direct significant funds to recover damaged facilities. To prepare for such situations, we create Business Continuity Plans (BCP) based on past experience of damage from abnormal weather conditions. At the beginning of 2012, we established the Business Continuity Management (BCM) Guidelines that focus on minimizing various risks related to factories and operations in accordance with the BCM System. As a means to reinforce disaster and accident countermeasures, we have established the Disaster/Accident Countermeasure Committee under the Global and Group Risk Management Committee, which is chaired by the Chief

Risk Management Officer (CRMO), comprising directors of the Professional Business Support Sector (PBSS) under the head office. The Disaster/Accident Countermeasure Committee is now establishing a readiness against a range of serious risks from natural disasters, such as earthquake and flooding, to large scale accidents, including fire and explosion. We have also established working groups dedicated to different types of risk under the Disaster/Accident Countermeasure Committee to create concrete measures against risks through liaison between related departments. In procurement, we are securing suppliers for alternative materials and maintaining emergency stocks by evaluating the criticality and replaceability of the procured materials and parts in advance. With such activities, the effects on our business is expected to be minimum.

We plan to undertake further analyses on impacts from climate change on the supply chain and on markets and production areas that may be sensitive to climate conditions. Changes in social movements and the underlying scenarios will be monitored by environment departments, and promotion of investment and collaboration will be monitored by respective Companies.

* Note that these scenarios presented by the IEA are merely potential prospects with a high degree of uncertainty. The analysis results obtained based on these scenarios are our forecasts developed from those scenarios and our own medium- to long-term future prospects may be different in actuality.

Environment: Environmental Information Systems



Integrated Management of Corporate Environmental Information

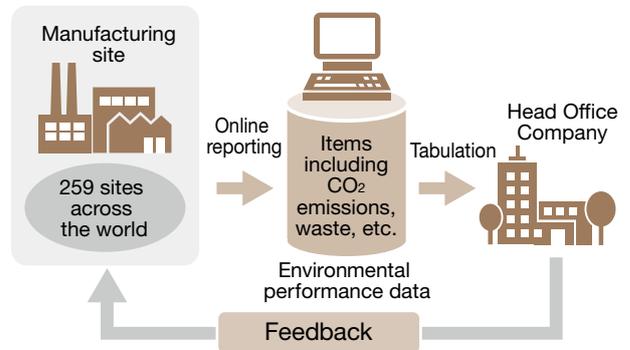
In order to implement the PDCA cycle for environmental sustainability management, it is essential to collect a significant amount of data, such as amounts of used energy, waste, valuables, discharged and transferred chemical substances, and used water, etc. at each business site in a prompt and accurate 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 CO₂ 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 CO₂ emissions by sharing the information and taking measures.

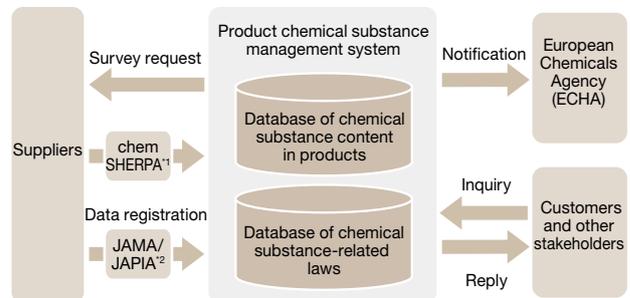
The Eco System (Factory) is also functioning as a scheme for sharing information on the status of compliance among sites across the world. In the event of complaints from local community residents or when a specific value exceeds ordinance-regulated levels, as soon as the person in charge at the business 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,^{*1} the new format for information handling of chemical substances in products led by the Ministry of Economy, Trade and Industry (METI). With the expansion of Panasonic automotive business, we also adopted the JAMA/JAPIA sheet,^{*2} the standard material data format for the Japanese automotive industry, in order to respond to increasingly complex and diverse regulations covering chemical substances used in products.

Mechanism of the Eco System (Factory)



Mechanism of the Product chemical substance management system



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

*2 A standardized datasheet for chemical compounds contained in automotive components in automotive industry.

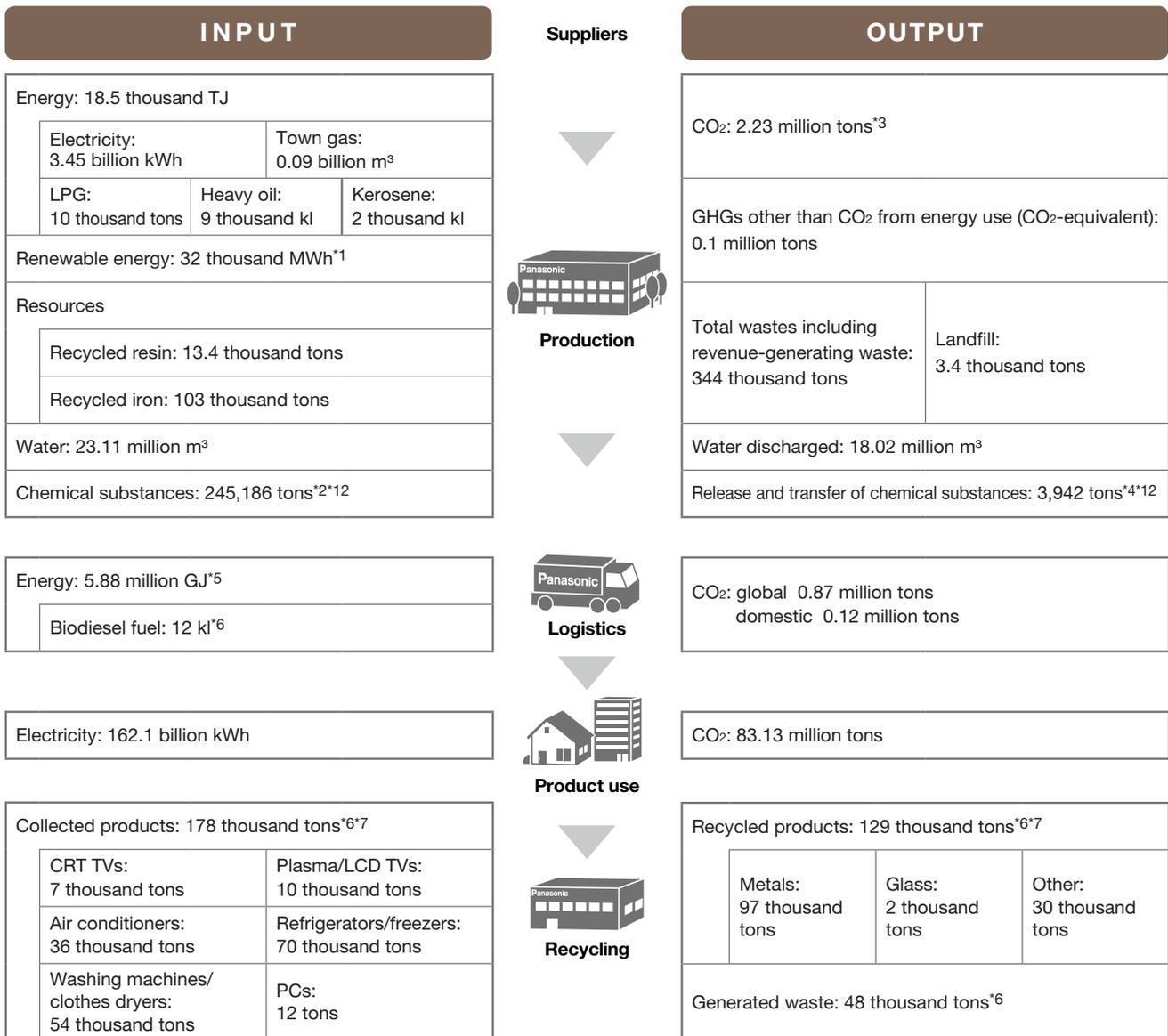


Environment: Overview of Environmental Impact and Environmental Accounting

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 CO₂ 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: 259 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^{*8} with large amounts of energy use and CO₂ emissions (b) associated therewith.

a = Annual power consumption of a model sold^{*9} x Sales quantity x product life^{*10}

b = Annual power consumption of a model sold^{*9} x Sales quantity x product life^{*10} x CO₂ emission factor^{*11}

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 4.3.1)” published by the Japanese Ministry of the Environment.

The latest figures from the “CO₂ Emissions from Fuel Combustion 2019 issued by the International Energy Agency (IEA) is used for the CO₂ 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 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, vending machines, 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.

*9 For each product category, the model that was sold in the largest quantity in the region was selected.

*10 Number of years during which spare parts for the product are available (defined by Panasonic).

*11 Regional CO₂ emission factors (kg-CO₂/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).

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

GHGs from the Whole Supply Chain (by Scope)

Category		Emissions(10,000 tons)	
		FY2019	FY2020
Scope 1 ^{*13}		44	39
Scope 2 ^{*14}		200	193
Scope 3 ^{*15}	1. Purchased goods and services	1,395	1,805
	2. Capital goods	86	72
	3. Fuel- and energy-related activities	26	24
	4. Upstream transportation and distribution	95.0	86.6
	5. Waste generated in operations	1.8	1.6
	6. Business travel	2.8 ^{*16}	2.2 ^{*16}
	7. Employee commuting	3.1 ^{*16}	3.0 ^{*16}
	8. Upstream leased assets	2.0 ^{*16}	1.5 ^{*16}
	9. Downstream transportation and distribution	2.0 ^{*16}	2.2 ^{*16}
	10. Processing of sold products	–	–
	11. Use of sold products	5,723	8,313 ^{*17}
	12. End-of-life treatment of sold products	125	118
	13. Downstream leased assets	–	–
	14. Franchises	–	–
	15. Investments	–	–

*13 Direct emissions from facilities owned and controlled by Panasonic (e.g. emissions from use of town gas or heavy fuel oil).

*14 Emissions from production of energy consumed at facilities owned and controlled by Panasonic.

*15 Other indirect emissions, excluding Scope 1 and Scope 2.

*16 Figures for Japan.

*17 From fiscal 2020, this includes the following products: lighting equipment, lamps, electric fans, electric showers, electric water heaters, which were not included in the scope. GHG emission from these products was 30.55 million tons.

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 2020

Environmental conservation in factories	
Investments*18	2,834 million yen
Expenses*18,*19	82 million yen
Economic benefit	658 million yen

*18 Includes all investments relating to environmental conservation. The difference or appropriate portions (divided proportionally) are not calculated.

*19 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 2020 (in physical terms)

Categories	Emission reduction	Reference indicator: environmental impact	
		Fiscal 2019	Fiscal 2020
CO ₂ emissions from production activities	0.12 million tons	2.35 million tons	2.23 million tons
Human Environmental Impact	70 thousand counts	536 thousand counts	466 thousand counts
Landfill of waste	-0.3 thousand tons	3.1 thousand tons	3.4 thousand tons
Water consumption	1.58 million m ³	24.69 million m ³	23.11 million m ³

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 2020

Electricity cost reduction from product usage (global)	
Reduced amount of electricity*20	28.6 billion kWh
Reduced electricity costs*21	545 billion yen

*20 Calculated under the same conditions as when determining the size of contribution in reducing CO₂ emissions through energy-saving products (see page 36-37).

*21 Electricity costs were set for each region based on IEA Statistics.

Panasonic is also engaged in research and development that will lead to new creation of environmental value. The R&D expenses related to environmental management were approx. 9.0 billion yen in fiscal 2020.

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 are 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 conducted various activities to further enhance our accreditation criteria by adding biodiversity and water conservation to existing items. This has in turn enabled the creation of a wider range of GPs. The products and services which have been developed from the conventional superb Green Products^{*1} starting from fiscal 2014, and which can accelerate the transition to a sustainable society, are newly defined as Strategic GPs.

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

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

Green Product Structure



Definition of Strategic GPs

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

(1) Products and services that reduce environmental impact with top-level environmental performance in the industry

(Energy-/Resources-/Water-saving products, etc.)

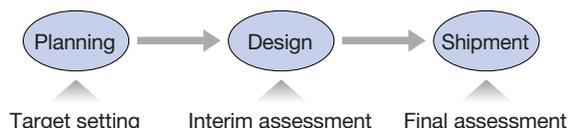
(2) Products and services whose promotion and dissemination lead to reducing environmental impact

(Recyclable or energy-creating products, energy-storing products, energy management systems, Smart Houses and Smart Cities, smart meters, products/services that support next-generation vehicles and environmental performances of stores, LED lighting, etc.)

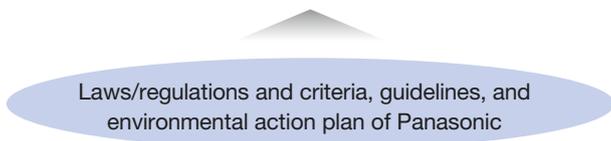
(3) Products and services that reduce environmental impact on a specific region, or support measures to address environmental impact

(Air filtration devices, water filters, environmental engineering service, etc.)

Products Assessment System



Product Environmental Assessment		
Items for assessment	Assessment criteria	
(1) Products	Prevention of global warming	CO ₂ emissions and energy saving
	Effective utilization of resources	Resource saving, light weight/downsizing, number of reused parts, durability, amount of recycled resources used, structure to recovery/recycling, etc.
	Water and biodiversity conservation	Water saving, consideration for biodiversity
	Comparison with competitors' products	
(2) Production process (of relevant products)	Prevention of global warming	CO ₂ emissions and energy saving
	Effective utilization of resources	Resource saving, mass of packaging materials to be wasted, amount of resources used, amount of waste from factories, etc.
(3) Packaging	Effective utilization of resources	Resource saving, light weight/downsizing, amount of foamed plastic used, amount of recycled resources used, etc.
(4) Instruction manual	Effective utilization of resources	Resource saving, light weight/downsizing, amount of recycled resources used
(1) (2) (3) (4)	Management of chemical substances	Panasonic'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.



*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. The sales ratio of Strategic GPs in fiscal 2019 accounted for approx. 25% of the total sales.

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 CO₂ 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^{*1} 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.

In fiscal 2020, further learning opportunities in Japan were provided to trainees from two factories which achieved excellent results in their energy-saving projects in Southeast Asia competition. These trainees visited factories and Eco-Products Exhibition to learn more about environmental initiatives in Japan with the objective to develop more environmental projects for their factories.

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 CO₂, waste, chemical substances, water, etc.



Trainees from Southeast Asia

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 support a Cross-Company Mutual Environmental Audit that is carried out by our factories located in the same region, crossing own company's boundary. In China, we increased the number of internal auditors to 53 in fiscal 2020 by providing trainings for in-house auditor, and audited 13 factories; as a result, we extracted points to improve at each audited factory. In Southeast Asia, the Cross-Company Mutual Environmental Audit is carried out among companies per country. In fiscal 2020, the audit was carried out in all six countries where our sites are located. 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)

*1 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: 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 CO₂ 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. 2013) and reach net zero by 2050, as well as reducing emissions from usage of our products by 30% by 2030 (vs. 2013). This last target obtained accreditation for the targets as a Science Based Target^{*1} (SBT) in October 2017.

^{*1} 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.

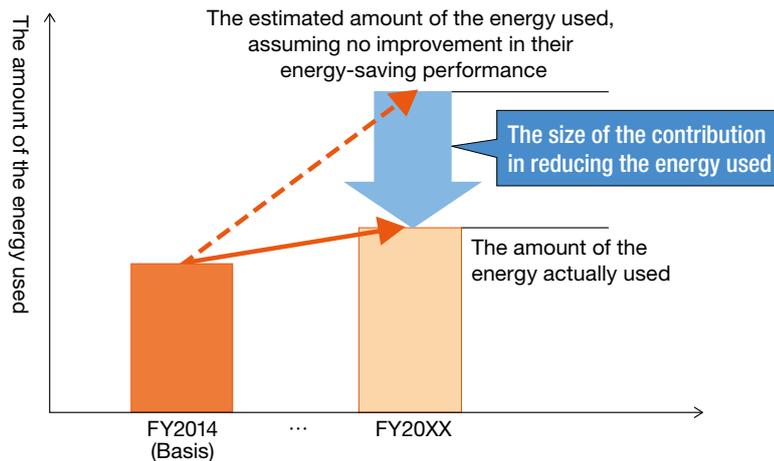
The fiscal 2020 result was 26 thousand GWh.

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”^{*2} and 2) the contribution by products and services except our finished products, as “indirect contributions.”^{*3}

The “size of the contribution in reducing the amount of the energy used” in fiscal 2020 was 30 thousand GWh. Of this, the direct contribution was 28 thousand GWh and the indirect contribution was 2.3 thousand GWh.

*2 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, vending machines, 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.

*3 Scope of the indirect contribution: Residential insulation materials, motors, etc.

Reduction of the amount of the energy used is also reduction in GHG emissions. The size of the contribution in reducing CO₂ emissions converted^{*4} from the size of the contribution in reducing the amount of the energy used was 16 million tons.

*4 CO₂ emission factors (kg-CO₂/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).

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: Global Warming Mitigation and Adaptation

Global Warming Mitigation

While people seek for affluent lifestyles, the acceleration of global warming caused by the increase in CO₂ emissions from people's daily lives and corporate activities is becoming a concern. Panasonic promotes measures to mitigate the progress of climate change and to minimize the impact by reducing the greenhouse gases emitted from its products and services as well as production activities.

As measures to mitigate the impact of our products and services, we offer energy-management products and solutions that link and control a range of energy-saving/creating/storing products.

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.

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 plan for Suita Sustainable Smart Town in September 2019, together with 13 other companies from different industries. 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.



AiSEG2 (with a 7-inch monitor)

Global Warming Adaptation

Panasonic is also making efforts for adaptation to address unavoidable impacts on the global environment that cannot be addressed by mitigation measures. Such adaptation is based on the matters indicated by the Intergovernmental Panel on Climate Change (IPCC) etc., focusing on the impact of climate change on the ecosystem, society, and the economy. Further, we understand that it is important for the measures to take account of regional feature, as impacts of climate change vary according to the region.

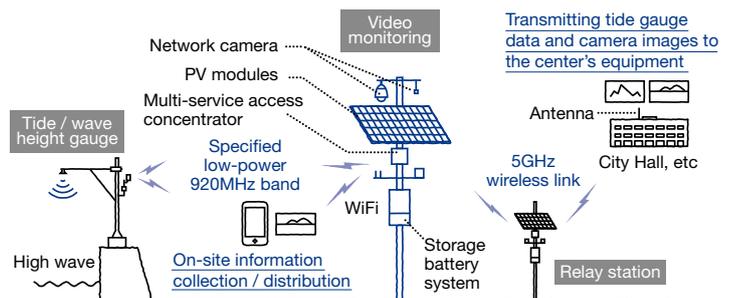
Our measures are currently implemented from the viewpoints of the following two aspects:

- (1) Activities to reduce the impact of climate change through our products, services, and solutions; and
- (2) Activities to reduce the impact on our corporate activities

Specific examples of (1) include the coastal monitoring system and the Green Air-Conditioner. Panasonic has developed the coastal monitoring system that sources power independently. This system always operates wireless network cameras and wireless transmission devices by photovoltaic power generation modules and storage batteries. It would contribute to preparing for high tides that are expected to increase due to climate change.



Coastal tsunami monitoring system in Higashi Matsushima City in Miyagi Prefecture



Coastal Tsunami Monitoring System Configuration

As for the Green Air-Conditioner, we commercialized it for the Olympic and Paralympic Games Tokyo 2020, etc. The green air conditioner was designed to provide relief from the summer heat in open spaces with dry-type mist made by mixing fine particles of water and air to minimize the sense of wetness, air curtains that create dome-shaped cooling spaces under shades, and the like. Also, in September 2019, following demonstration experiments that started in July, we launched sales of the compact Green Air-Conditioner Flex that can be installed with more flexible plumbing made of resin. Flex can not only be retrofitted with existing structures, but also be incorporated in the design of benches, public monuments, and the like. With these products, it is expected to reduce negative impacts on human life caused by global warming such as risks of heat stroke.

▶ Coastal tsunami monitoring system in Higashi Matsushima City in Miyagi Prefecture (An example of a coastal monitoring system) (Japanese)

<https://www2.panasonic.biz/es/solution/works/higashimatsushima.html>

▶ [Press release] Panasonic Launches Green Air Con Flex, Micro Mist Cooling System with Easy Installation

<https://news.panasonic.com/jp/press/data/2019/06/jn190625-2/jn190625-2.html>

As for (2), the first priority is to identify the issues to be addressed by assessing the impact of climate change on Panasonic. One such issue is the effect of water shortages on our production activities. Panasonic completed all water risk assessments for its production sites in fiscal 2018. As of now, we have not identify any visible water risk that may affect its business activities. For further details, please see Water Resource Conservation (Pages 56-57).



Green Air-Conditioner Flex



Nozzle unit



Installation image (Café)



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

Reducing the Amount of the Energy Used and CO₂ Emissions in Production Activities

Panasonic promote making its factories zero-CO₂ emission factories as a part of efforts towards the Environment Vision 2050. Zero-CO₂ 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 CO₂ 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-CO₂ emission model factories’, ‘increase the use of renewable energy’, and ‘promote production with energy minimum.’”

As a part of efforts to ‘promote zero-CO₂ emission model factories’ in fiscal 2020, Panasonic Centroamericana S.A. (PCA) in Costa Rica realized zero CO₂ emissions.^{*1}

In the area of ‘increasing the use of renewable energy’, the amount of renewable energy adopted at our sites^{*2} in fiscal 2020 marked 32 thousand MWh 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 thousand MWh.

As a part of efforts to ‘promote production with energy minimum’, each factory takes its own initiatives on the promotion. The fiscal 2020 investment to reduce the amount of energy used and CO₂ emissions by the efforts was 2.6 billion yen.^{*3}

These efforts in fiscal 2020 resulted in 18.5 thousand terajoules (TJ)^{*4} of the energy used in factories, which was reduced compared with the amount in fiscal 2019.

Until the completion of the “Environmental Action Plan Green Plan 2018”, we used all of the fixed CO₂ emission factors for calculating the amount of purchased electricity in each fiscal year. At formulating our Green Plan 2021, we replaced this fixed factors with factors by country and by fiscal year^{*5} and recalculated the CO₂ emissions, including those in previous years. With the calculation by the new factors, the CO₂ emissions in fiscal 2020 was 2.23 million tons.

In August 2019, Panasonic joined ‘RE100’,^{*6} 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 CO₂ emissions.

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’.

*1 See page 16 for relevant topics.

*2 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 non-manufacturing sites, excluding the amount of energy from heat pumps.

*3 The total amount includes all investments concerning reduction of the amount of the energy used and CO₂ emissions. Note that differences or proportions of the investment are not calculated.

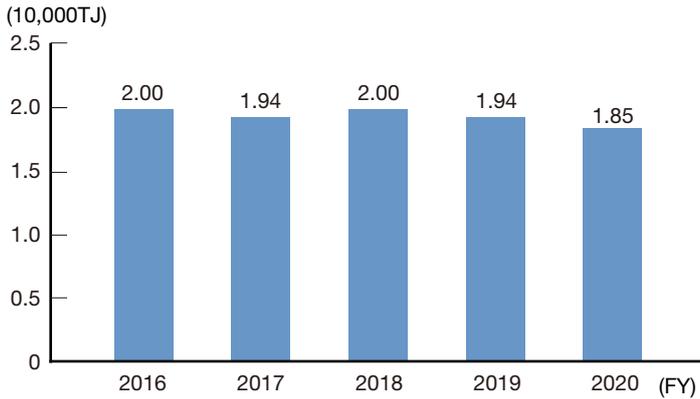
*4 In fiscal 2020, we reviewed the CO₂ emission factor to determine the amount of the energy used (TJ) in using electricity, and replaced 9.97 GJ/MWh of the thermal conversion factor for electricity (based on the Japanese Energy Conservation Act) with 3.6 GJ/MWh that is an energy unit. Because of the change, the amounts of the energy used in the preceding years were also recalculated with the new factors.

*5 The CO₂ emission factors (kg-CO₂/kWh) for purchased electricity per fiscal year are as follows: The factors by country defined in “IEA CO₂ Emissions from Fuel Combustion 2017” (Book 2017) were used for FY2014 and FY2016; Book 2018 for FY2017; and Book 2019 for FY2018, FY2019, and FY2020.

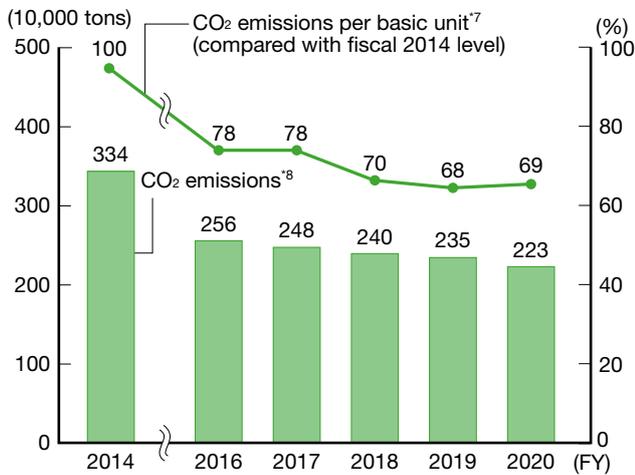
*6 Press release on August 30, 2019.

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>

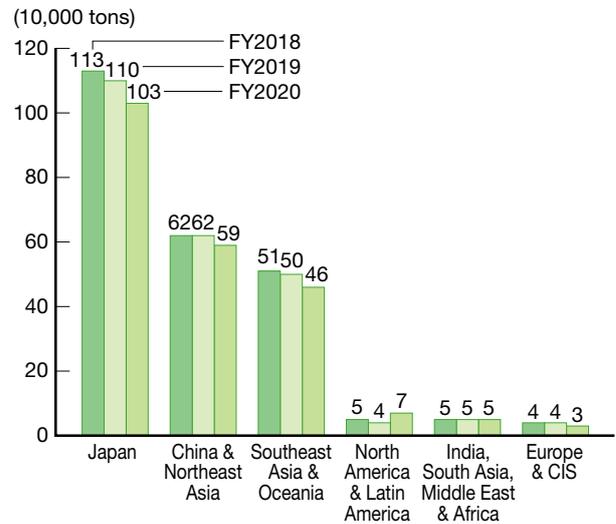
Energy Consumption in Production Activities



CO₂ Emission in Production Activities and CO₂ Emission Per Basic Unit



CO₂ Emission in Production Activities (by region)



*7 We calculated the improvement rate of the 'CO₂ emissions per basic unit' versus that of fiscal 2014, which was obtained by dividing CO₂ emissions by the revenue of all group companies.

*8 The CO₂ emission relevant to fuels was obtained by calculating with the factors stated in the "Guidelines for Calculation of Greenhouse Gas Emissions (version 4.6)".

Promotion of Zero-CO₂ 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-CO₂ emission factory in each region. We now have six zero-CO₂ emission factories across three regions.

In fiscal 2020, Panasonic Centroamericana S.A. (PCA) realized a zero-CO₂ emission factory by procuring power sourced from renewable energy, and the like, in addition to installing a solar photovoltaic system.

In Japan, Panasonic Eco Technology Center (PETEC), the Panasonic Group's home appliance recycling factory, realized a zero-CO₂ emission factory in fiscal 2019. In the North America & Latin America region, we realized total four zero-CO₂ emission factories: three in Panasonic Brazil (PANABRAS)'s sites in San José dos Campos, Manaus, and Extrema, and one in PCA. In the Europe & CIS region, Panasonic Energy Belgium N.V. (PECBE) realized a zero-CO₂ emission model factory. In addition to roll-out of the zero-CO₂ emission model factory within the region, we will promote increase the number of zero-CO₂ emission factories in other regions.

Promotion in Reducing the Amount of the Energy Used and CO₂ Emissions in Factories

To ensure steady progress in reducing the amount of energy used and CO₂ 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 CO₂ 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)⁹, 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>

⁹ 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 CO₂ emissions are being proactively continued in each factory. Several factories in such activities were awarded the Energy Conservation Grand Prize 2019. One of the awards our factories won was the ECCJ (Energy Conservation Center, Japan) Chairman's Prize in the Energy Conservation Best Practices category under the Energy Conservation Grand Prize 2019 for the following activity.

Tsu Factory, Life Solutions Company, Panasonic Corporation

'Roll-out of Energy-Saving Practices corporate-wide including overseas factories through integration of energy-saving and Business Continuity Planning (BCP) led by the factory'



Received the Energy Conservation Grand Prize

This is an example of activities conducted in Tsu Factory, which is a mother factory for wiring equipment. A range of energy-saving measures integrating with BCP have been promoted in the factory, and their best practices and expertise accumulated in the energy saving activities are rolled out to our other factories not only in Japan, but also overseas. Their cross-border collaboration with other departments and other companies, a solar photovoltaic system that was adopted in the factory as the BCP measures, and the like were highly evaluated by the ECCJ.

In fiscal 2019, Manufacturing Innovation (MI) Division won the Grand Prize of the Minister of Economy, Trade and Industry (METI Energy-Saving Category) under the Energy Conservation Grand Prize 2018 for 'a Smart EMS (Energy management system)', an automatic energy saving management system. The 'Smart EMS' was rolled out to the factory of Panasonic Energy (Wuxi) in China by MI Division and adopted at the factory. In the factory, huge amount of the energy is used for air conditioning, because in the process of manufacturing electrode plate for batteries, maintaining low humidity environment is required to ensure the product quality. However, with the Smart EMS, some 13% of reduction in the amount of the energy used in the process was realized. This is because Smart EMS's energy saving automatic control, unlike the conventional manual control at certain condition, enables control of air conditioning without excessive or loss of energy used, by optimizing the amount of energy to be used, utilizing the automatic control function with AI that follows required load fluctuation. We will continue to roll out this technology more widely to other factories across the world to achieve reducing significant amount of CO₂ emissions.



Adoption of Smart EMS

Activities for Increasing Amount of Renewable Energy Use

In order to increase the amount of renewable energy use, Panasonic is actively promoting to adopt use of renewable energy suited to features of the region such as energy from photovoltaic cells in its sites across the globe. Representative examples of adoption of renewables in fiscal 2020 are adoption of solar photovoltaic systems in both China and Japan.

In China, we are working on adopting photovoltaic generation systems including Panasonic HIT[®] Photovoltaic Modules through a Panasonic third-party leasing scheme. Panasonic Industrial Devices (Qingdao) Co., Ltd. (PIDQD) adopted a 701 kW generator in April 2019. Panasonic Manufacturing (Shanghai) Co., Ltd. (PMFSH) adopted a 792 kW generator in June

2019. Further, Panasonic Potevio Mobile Communications Beijing Co., Ltd. (PMCB) adopted a 398 kW generator in September 2019, and produced 239 MWh in the second half of fiscal 2020, which supplied some 21% of the energy used in the site.

In Japan, an additional 330 kW photovoltaic system was adopted at Panasonic Eco Technology Center (PETEC), a home appliance recycling factory. Combined with the existing photovoltaic system, PETEC is now equipped with a photovoltaic power generation capability of 624 kW, which supplies some 9% of annual power consumption. Along with other energy-saving measures, including procuring electricity sourced from renewable energy and utilizing a non-fossil fuel certificate, as well as a credit to offset fossil fuel-derived CO₂ emissions, PETEC has been a zero-CO₂ emission factory since fiscal 2019.

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 2020 for the entire company^{*10} reached 32 thousand MWh.^{*11} We are steadily making progress towards the 'target of generating 40 thousand MWh 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 CO₂ emissions, aiming to adopt a photovoltaic power generation system at sites where the system adoption is feasible by fiscal 2021.

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

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

*10 The total amount of the adoption includes the amount of the renewable energy adopted at non-production sites.

*11 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 non-manufacturing sites, excluding the amount of energy from heat pumps.



Photovoltaic power generation system at PIDQD



Photovoltaic power generation system at PMFSH



Photovoltaic power generation system at PMCB



Photovoltaic power generation system at PETEC

Approach towards the CO₂ Emissions Trading Scheme in China

In China, an Emissions Trading Scheme (ETS) that targets at more than 1,700 companies in the power industry was implemented in December 2017. This scheme became stricter in 2019 and the trading volume is also increasing. As we have many business divisions located in China, we continue to take measures for the possible effects of the scheme on our businesses and the possibilities that Panasonic may be a target in the light of risks and opportunities, by making use of our strength in terms of reducing CO₂ emissions in production activities we have conducted.

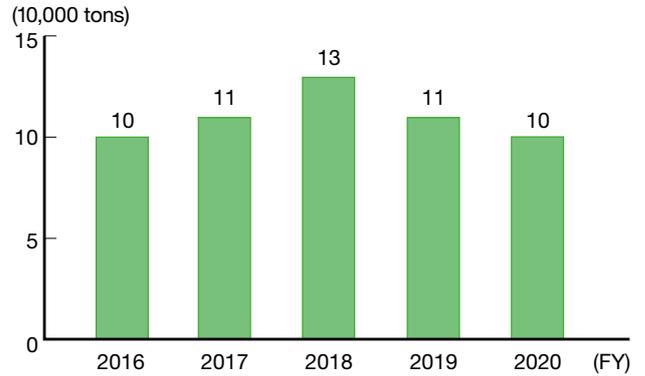
Reducing the Emissions of GHGs Other than CO₂ from Energy Use

GHGs other than CO₂ from energy use emitted by Panasonic include nitrogen fluoride (NF₃) and sulfur hexafluoride (SF₆) 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 CO₂ from energy use (CO₂-equivalent; hereinafter the same) in fiscal 2020 amounted to 100 thousand tons, which was 10 thousand tons less than the previous fiscal year.

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

Emissions (CO₂-equivalent) of GHGs Other than CO₂ from Energy Use in Production Activities*12

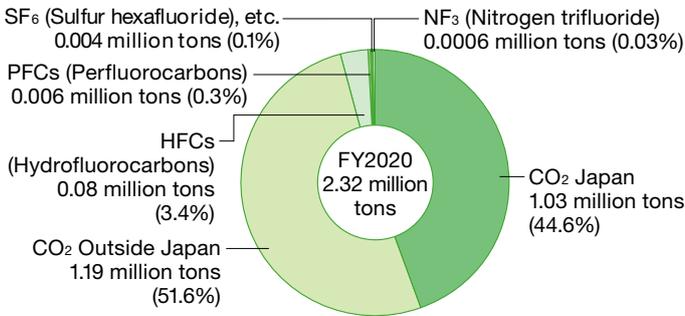


Breakdown of Total GHG Emissions (by gas and by scope)

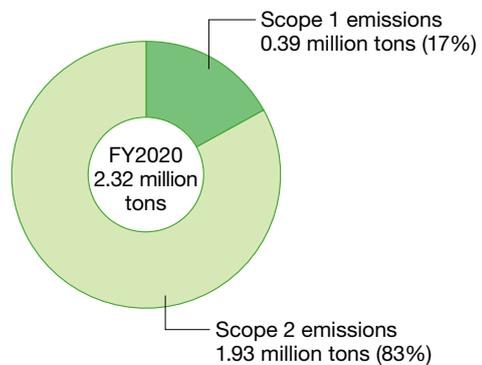
Our GHG emissions, including emissions from energy sources and other sources, reached 2.32 million tons in fiscal 2020, the breakdown being 17% for Scope 1 emissions*13 and 83% for Scope 2 emissions*13 (see page 31 for Scope 3 emissions).

*13 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 (CO₂-equivalent) in Production Activities (by category)



Breakdown of Total GHG Emissions (CO₂-equivalent) in Production Activities (by scope)



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 the 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.

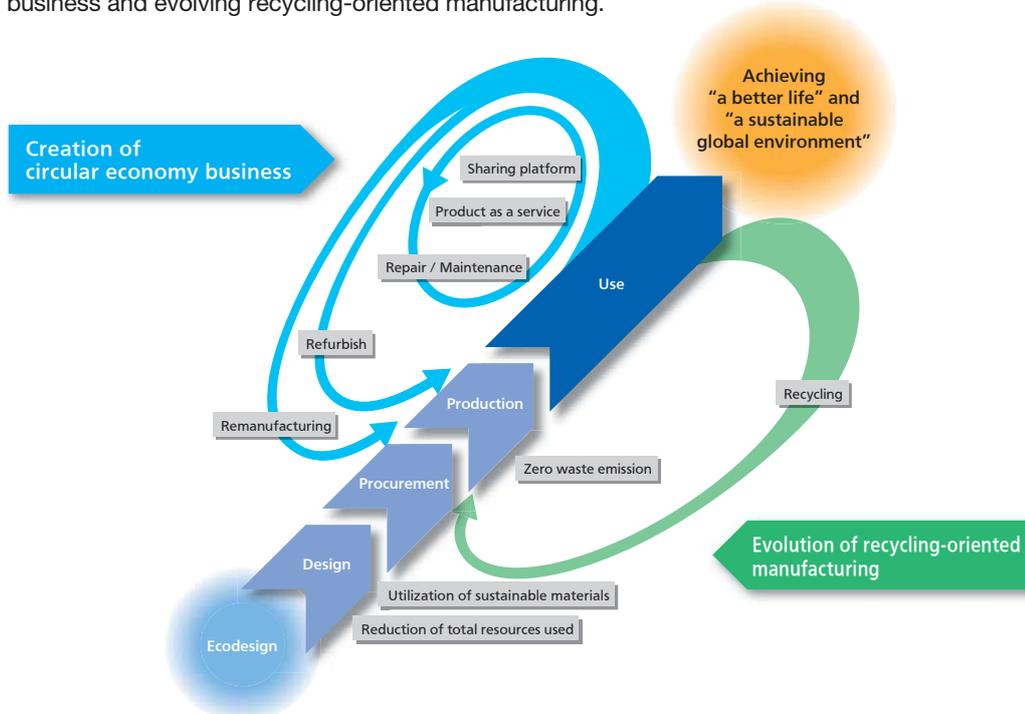
In order to realize the new value of using only product functionalities, instead of using or owning the whole product, we will strive to create circular economy businesses. These include a "Sharing service", where multiple users use the same individual product, a "Product as a service" where services 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 reduction of the total resources used, utilization of circulative resources, zero waste emission, and recycling. Furthermore, we will develop recycling-oriented manufacturing to a higher level by using new 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 business and the circular economy, and then, to shift the existing business to circular economy businesses based on the mapping.

Next, we aim to use 42 thousand tons or more of recycled resin (cumulative from FY2020-2022), by further developing the actions needed to achieve necessary component features, securing stable amounts of supplied components, improving the use of components in manufacturing, and developing recycling technologies.

Furthermore, as Zero waste emission activities are important in utilizing resources, we will continue to work toward achieving 99% or more for factory waste recycling rate at each factory in fiscal 2020.

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^{*1} and at Hiyoshi Station. On top of this, 30 IoT-linked electrically-assisted bicycles have been made available to residents of the town and employees at commercial facilities in a trial project to study how to operate and manage an IoT-linked electrically-assisted bicycle service.

Moreover, as a model for "products as a service," we have implemented a scheme to provide display cases with refrigerators/freezers, combined with a refurbishment service for those refrigerators and freezers:

This service to provide refrigeration does not involve marketing equipment to supermarkets, convenience stores or other food retailers. Instead, it is aimed at offering "food refrigeration" as a value. The refurbishment scheme focuses on inspecting and repairing display cases that have been used at retail chain stores and which will then be reused 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.

Furthermore, 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^{*2} 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 are also seeking to create new value from factory waste in the form of totally new products, through creative design. To date, waste from manufacturing processes for clothing 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. 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 businesses based on a circular economy model. To achieve this, we are working on analysis of the development of circular economy options for existing businesses indicated in the Green Plan 2021, in accordance with the guidelines we established 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/JP/>)

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

Evolution of Recycling-Oriented Manufacturing

We use many kinds of resources, including iron (27% 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.

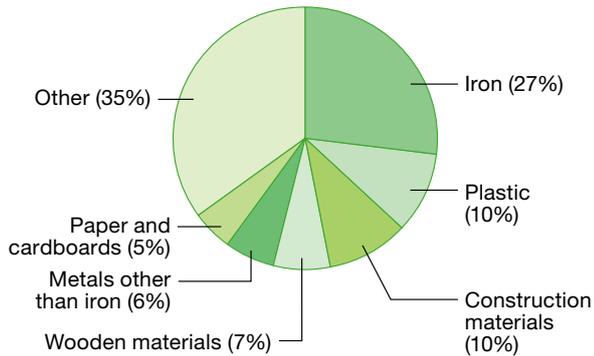
Furthermore, we are clarifying recycled resource use by identifying the volume of each type of resource used across the Panasonic Group. For example, in the case of recycled resin, we used approx. 13,400 tons of recycled resin in our products in fiscal 2020. We are developing the necessary actions to 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 as described here. In addition, we are developing materials with less environmental impact, such as resins that combine plant-derived materials, and incorporating them in products.

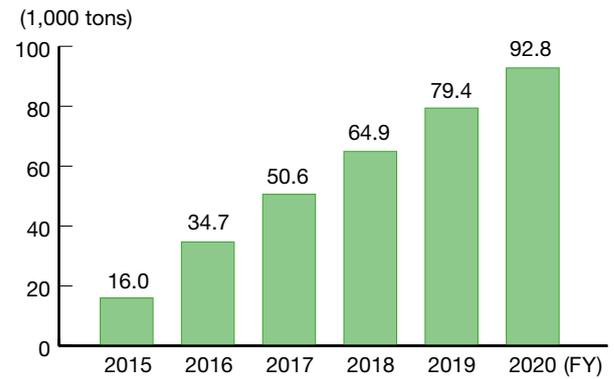
As for the factory waste recycling rate^{*3}, we had traditionally set different targets for Japan and countries outside Japan according to the relevant local infrastructures. However, given increased awareness of the importance of zero waste emission activities, we have set a globally standardized target 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 2020 was 98.9% compared to our target of more than 99%, falling short of the target (see page 50). We will analyze the issues and introduce measures to achieve the target in the future.

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

Breakdown of Input Virgin Resources Used in Fiscal 2020 (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/reduce.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.

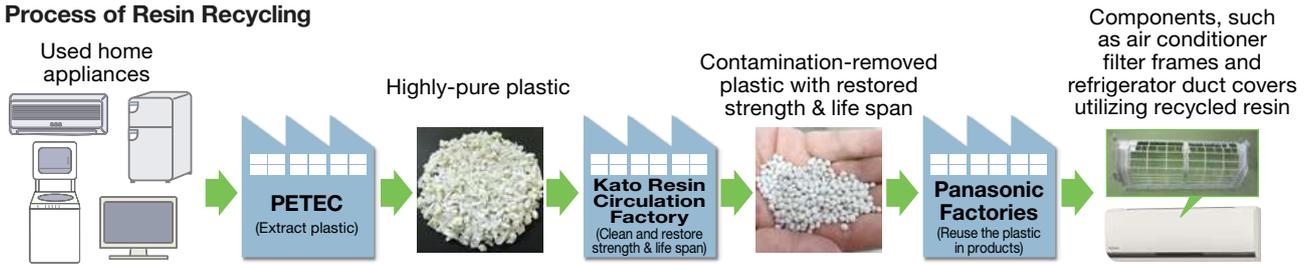
► Our approaches to Resources Recycling
https://www.panasonic.com/global/corporate/sustainability/eco/resource_sp.html



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 for improving the purity of recycled resins. Recycled resin is generally weaker in strength and has a shorter life than new resin. 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. The new eco-friendly PP resin with cellulose fiber is currently used in structural components for cordless stick-type vacuum cleaners, contributing to their principal feature of lighter weight. We have also succeeded in developing a technology for blending resin with more than 55% cellulose fiber and technology to produce white products in fiscal 2020. The technology has been used to create reusable cups, jointly with Asahi Breweries, Ltd. 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>

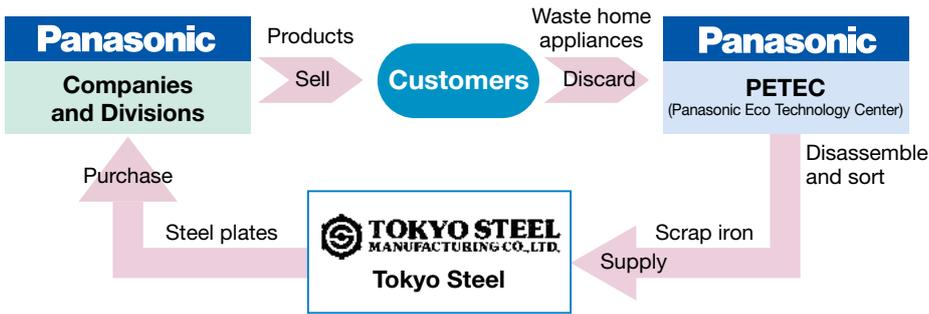
▶ Started providing an environment-friendly reusable cup utilizing a high-density cellulose fiber molding material

<https://news.panasonic.com/jp/topics/166351.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 is supplied to Tokyo Steel’s Okayama Plant, where the scrap iron is processed into electric steel plates.^{*4} 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 tons per month. In fiscal 2019, it reached over 2,700 tons, 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 CO₂ 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, CO₂ emissions reduction, and stabilization of procurement prices.

*4 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^{*5} 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 2020 was 98.9%, 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^{*6} prepared by each region, following our long-standing approach toward CO₂ reduction activities.

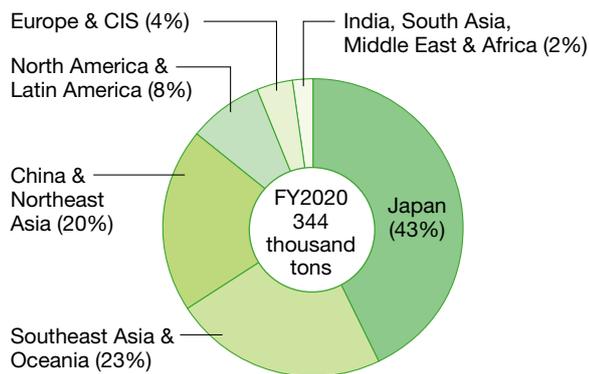
*5 Definition by Panasonic: Recycling rate of 99% or higher. Recycling rate = Amount of resources recycled/(amount of resources recycled + amount of landfill).

*6 A chart-format summary of comparisons between “before and after” implementation of waste reduction and recycling measures.

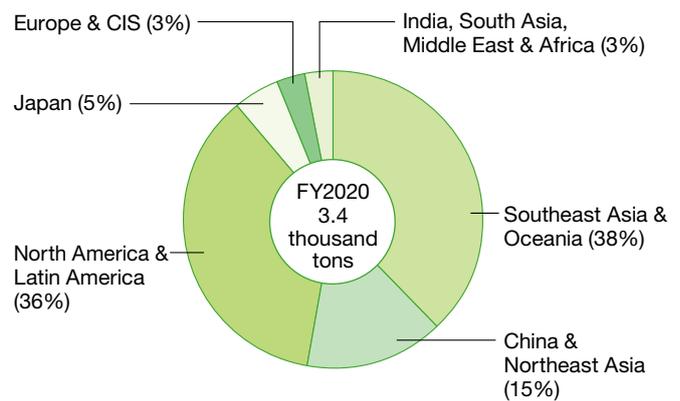
Amount and Recycling Rate of Total Wastes Including Revenue-generating Waste



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 2020 (by category)

(1,000 tons)

Items	Total wastes	Recycled	Landfill
Metal scrap	141	141	0.5
Paper scrap	38	38	0.05
Plastics	41	38	1
Acids	22	14	0.09
Sludge	12	9	0.5
Wood	30	26	0.06
Glass/ceramics	6	5	0.2
Oil	22	20	0.06
Alkalis	19	17	0.03
Other ^{*7}	14	12	0.9
Total	344	320	3.4

*7 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 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 2020 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.

FY2020 Results

Japan	Processed approx. 177,570 tons of four kinds of used home appliances
Europe	Collected approx. 25,811 tons of used electronic products
USA	Collected approx. 450 tons 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^{*1}, 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 324 designated collection sites (shared by Group A and Group B) and 29 recycling plants, based on consignment from Group A manufacturers (17 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)^{*2} 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 2020, we recycled approx. 177,570 tons of the four specified used home appliances.



Machine to turn over air conditioner outdoor units at PETECK

Although the statutory recycling rate^{*3} is being raised in phases, Panasonic recycling factories 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.

PETEC is promoting high grade plastic recycling using the plastic recognition equipment. See page 48 for more details.

*1 Air conditioners, TVs, refrigerators/freezers, and washing machines/clothes dryers.

*2 PETEC is a company fully invested by Panasonic, and PETECK and CETEC are joint ventures between Mitsubishi Materials Corporation and Panasonic.

*3 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/>

► PC Recycling

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

Recycling Efforts in the Europe / CIS Region

In 2019, we collected approx. 25,811 tons^{*4} 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 Europe has been assigned within Panasonic Group as the global lead function on CE. From April 2020 onwards, a 'Global Circular Economy Project' at Panasonic aims to develop and implement pilot business cases.

The French Circular Economy law, adopted in February 2020, is pushing ahead of the EU legislation, which implies the potential for a different legislative situation across EU Member States. Panasonic Group organizations with business in France have started preparations and take all necessary actions to comply with the French CE related obligations. 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. The WEEE collection target increased in 2019 from 5% to 10%. To tackle low waste stream volume, a federal operator was established to coordinate regional schemes and invest in infrastructure. 14 members (including Panasonic) are registered as members of the collective organization EPR E-WASTE RECYCLING (WEEE scheme). To increase the access to WEEE, the WEEE scheme concluded additional contracts in 2019 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.

^{*4} Calculated by multiplying the weight of collected products per collection system by Panasonic market share in terms of weight per collection system.

Promoting Recycling Activities 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 43 companies across 20 states and the District of Columbia. The cumulative total of collection by MRM has exceeded 1 billion lbs. (approximately 450 thousand tons) since its inception in 2007. With the changes in Panasonic's business strategies in the US in 2016, 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 61,500 tons of primary and rechargeable batteries in the U.S. and Canada since the organization's inception. In terms of accessibility, 86% of US

residents live within 10 miles of a Call2Recycle collection site. A collection site is any person or organization that collects batteries. This includes public (retailers and municipalities) and private (hospitals, military bases, businesses and government agencies) sites. Call2Recycle has more than 30,000 public and private collection sites throughout the U.S. and Canada.

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 which was established with the mandate to standardize operations and bring about economies of scale on a national basis through 3,211 collection sites. They are now responsible for managing all the provincial programs with the exception of Alberta and the two territories, as these three programs are under the direct jurisdictions of their governments and not industry. The currently active provincial EPR programs have proven to be very effective in diverting e-waste as reflected in last year's totals, where 110,770 tons in Canada were collected.

As the number of heavy CRT televisions entering the e-waste stream is on the decrease and the trend of light weighting of our products continues, coupled with the maturing of these programs collection weights are on a decrease year over year. It is therefore apparent that a new measurement/target must be agreed upon as weight collection alone is no longer a valid indicator of program performance.

Initiatives in China

In China, through the Executive Committee of Foreign Investment Companies (ECFIC) and other organizations, 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 and reviewing our response.

International Collaboration 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 in Hanoi, Ho Chi Minh, Hai Phong, Thanh Hoa, Vinh, Danang, and Can Tho. In 2019, 8 tons of e-waste were collected and sent to licensed recyclers for proper treatment.

Australia

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

Panasonic Australia is a member of the EPSA, a co-regulatory arrangement approved by the Australian government to fulfill its obligation under the national scheme. Between January 2019 and December 2019, 1,188 tons of e-waste were recycled. In March 2020, Panasonic Australia announced it will exit the Australian Television market. This decision will result in significant reduction in Panasonic's obligations under this scheme.

Panasonic Australia has played an active role with the Australian Battery Stewardship Council in designing a Stewardship program for battery recycling which, pending Government approval, will commence implementation in 2020.

Other Southeast Asia countries

Regulators in Malaysia, Thailand, and Singapore are also gearing towards the global trend of mandating responsible end-of-life product recycling. Discussions with regulators and industry bodies are in progress. Such examples include Malaysia Department of Environment-Japan International Cooperation Agency (JICA) e-waste management mechanism development project and Thailand local industry association.

Through such engagements between the government and industry bodies, Panasonic hopes to contribute to the formulation of sustainable e-waste management policy in each country.

Recycling 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.

Recently, Government of India has come up with Battery recycling Rules draft for managing efficient recycling of batteries of all types. We are reviewing the draft rules with different business stakeholders and industry associations for preparation of appropriate inputs to be sent to Government before the final rules are published in gazette.

Recycling Initiatives 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 published in February 2020. For many years, Panasonic has been continuing discussions with the government through industry groups (ELETROS/ABINEE), proactively participating in collection campaigns in various major cities, and has contributed to the formulation of the decree. As one of the main members of a waste home appliance management body (ABREE), we also started actions in advance in preparation for the establishment of a reverse logistics system (a system to collect used products) which will start in 2020, aiming for 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. We also conduct activities at local elementary schools on a regular basis to raise awareness about recycling.

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.

In Argentina, we are participating in the Latin American Battery Association (ALPIBA) and engaging in continuous discussions with the government for effective legislation on the regulation of dry cell batteries.



Environment: Water Resource Conservation

Approaches to Water Resource Conservation

It is said that available fresh water is only about 0.01% of the Earth's total water resources. In addition, the World Economic Forum, host of the Davos meetings, has stated in its annual report on global risks that the water crisis continues to be one of the top risks with global impact, in view of the increase in water consumption to be caused by future economic growth and population increases.

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 13). 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>

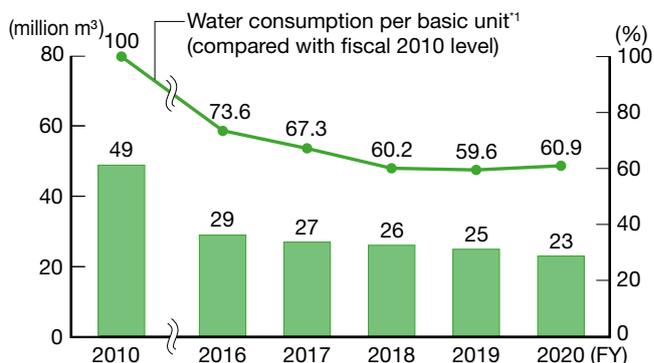
Initiatives for Water Resource Conservation through Production Activities

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 2020 resulted in 23.11 million m³, which is reduced by 6.4% versus the fiscal 2019. The water used at our factories per basic unit of production^{*1} got worse year-on-year due to effects of structural reform, and the like. Our use of recycled water^{*2} in fiscal 2020 was 4.4 million m³, accounting for 19% of the total amount of water used. The amount of discharged water in fiscal 2018, 2019, and 2020 resulted in 20.47 million m³, 19.25 million m³, 18.02 million m³, respectively.

*1 Water used at factories per basic unit of production = Water used at factories / Production volume.

*2 The calculation excludes the water circulating for a single purpose (e.g. water in a cooling tower).

Water Consumption in Production Activities and Water Consumption Per Basic Unit



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

FY2019 Breakdown of Water Consumption (by region)

(10,000 m³)

Region	Consumed	Consumed			Discharged	Discharged	
		Municipal water/ industrial water	Groundwater	Rivers/lakes		Sewer systems	Waterways
Japan	1,414	465	949	0	1,194	177	1,017
China & Northeast Asia	460	459	1	0	312	243	69
South East Asia, & Oceania	352	306	46	0	248	171	77
North America & Latin America	37	22	15	0	20	17	3
Europe & CIS	22	10	13	0	21	10	11
India, South Asia, Middle East & Africa	24	2	22	0	7	7	0
Total	2,311	1,265	1,045	0	1,802	625	1,177

In Panasonic's Industrial Solutions Company (at 76 sites), which uses the highest amount of water in Panasonic group, 13.64 million m³ of water was actually used, which is reduced by 6.6% versus the fiscal 2020. However, the achievement rate for reduction of the amount of water used per basic unit was 98.7%, which did not reach the target due to reduction of the production volume caused by the effects of COVID-19. In the Automotive Company (at 13 sites), the actual amount of the water used was 702 thousand m³ compared to the target of 586 thousand m³, mainly because of effects caused by production increase of automotive batteries in a new factory.

Panasonic Industrial Devices (Qingdao) Co., Ltd. is located in Qingdao, China, where water shortage is their concern. In the factory, water is used to treat hydrochloric gas produced during manufacturing processes of electrostatic capacitance-type touch panels. In order to take measures for increase in the amount of water to use because of product expansion, expansion, they introduced a system in which alkaline drainage water discharged in other processes. With the system, efficient neutralization of the treated alkaline water, i.e. acid water has become possible, which has contributed to reduction in the amount of used water. Panasonic continue our efforts to conserve water resources.



Panasonic Industrial Devices (Qingdao) Co., Ltd.



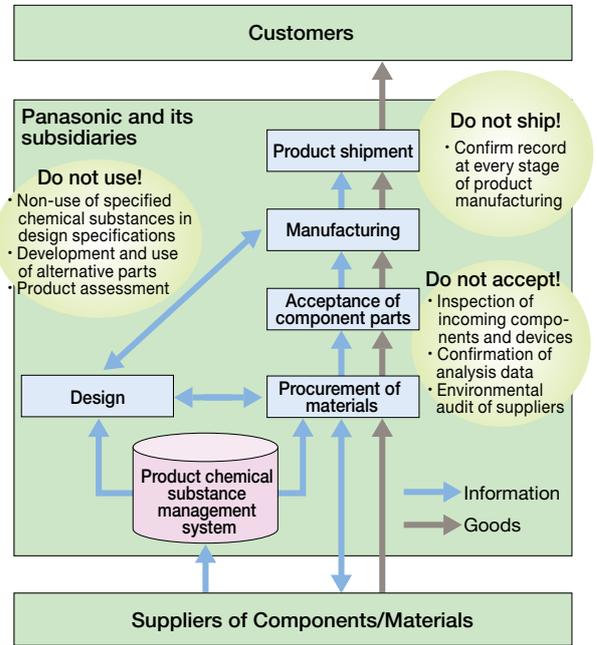
Environment: Chemical Substance Management

Approaches to Reduce the Environmental Impact of Chemical Substances

In order to prevent contents of hazardous substances prohibited under the EU RoHS Directive^{*1}, published in 2002 and revised in 2011, and the like to Panasonic products, it is important not on to pay attention to the contents at the stage of product design, but also to ensure that specified substances are not contained in products to purchase.

Therefore, Panasonic has rolled out the “Do not accept! Do not use! Do not ship!” campaign throughout the each production process from designing to shipment inspection in production activities at business sites across the world since October 2005. Specifically, as for the stage of inspection for incoming components, we have established a mechanism to check and analyze whether specified chemical substances are included by introducing an analyzer. In addition, we have supported to establish a Product Chemical Substances Management Structure, by periodically conducting environmental audits for suppliers of components/materials which may have high risks of containing specified chemical substances.

Specified chemical substance management system

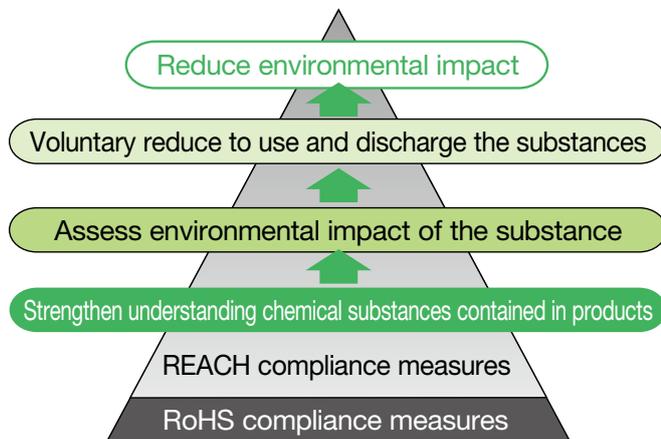


Meanwhile, as represented by the enforcement of the REACH regulation^{*2} in the European Union, the world is moving toward the goals agreed at the World Summit on Sustainable Development (WSSD) held in 2002, which is to produce and use all chemical substances in a manner that minimizes their impact 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.

*1 Directive on the Restriction of the use of certain Hazardous Substances in electrical and electric equipment

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

Process to Reduce the Environmental Impact of Chemical Substances



To promote our initiatives clearly, we set forth our Chemical Substances Management Rank Guidelines, which prohibit or specify certain substances for management in terms of our products and factory activities. Companies in the Panasonic Group are requested to follow the Guidelines, and suppliers are also requested for support as necessary. In fiscal 2013, we added Level 3 to the Chemical Substances Management Rank Guidelines (For Products) to review the timing for the prohibition of further substances that may adversely affect humans and the environment, in addition to the current and forthcoming prohibitions.

Chemical Substances Management Rank Guidelines (For Products) and relevant documents, which prohibit or specify certain substances for management, can be downloaded from the website shown below (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 of the revision of these Guidelines.
	Level 2	(1) Substances other than those specified as the Level 1 Prohibited Substances that will 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 reviewed for prohibition by legislation etc., and the clarification of substitution-related issues as well as the timing for prohibition is reviewed by the Panasonic Group in light of future legislation trends.
Manage		Substances whose consumption needs to be monitored 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: Covered legislation and chemical substances include: Class I Specified Chemical Substances under the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.; 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

	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		
	1990	1995	2000	2005	2010	2015		
Social trends								
Panasonic								
All products		1992: Discontinued use of PVC resin in packaging materials		March 2003: Discontinued use of lead in solders globally ^{*3}	October 2005: Discontinued use of six RoHS substances globally ^{*3}	March 2009: Discontinued use of PVC in internal wiring of new products to be sold in Japan ^{*3}	March 2011: Discontinued use of PVC in internal wiring of new products globally ^{*3}	July 2018 Discontinue use of the four phthalates specified by the RoHS Directive in new products globally
Individual products	1991: Released mercury-free manganese dry cells	1992: Released mercury-free alkali dry cells	1995: Discontinued use of CFC refrigerant in refrigerators globally	2002: Discontinued use of HCFC refrigerant in air conditioners (Japan)	2004: Refrigerators in Japan market became fluorocarbon-free (Japan)	2006: Released lead-free plasma display panels	2010: Released fluorocarbon-free freezers using CO ₂ refrigerant and compatible display cases	2013: Released air conditioners using new refrigerant R32 with low Global Warming Potential (GWP) (Japan)
Chemical substances used at factories		1996: Discontinued use of chlorinated organic solvents	1997: Began identification work for PRTR	1999: Launched the “33/50” reduction activity ^{*4}	2004 (Japan): Achieved Voluntary Action Plan Reduced use by 75% Reduced release and transfer amount by 62% compared to fiscal 1999 level	2010 (Global): Achieved Voluntary Action Plan Reduced release and transfer amount of key-reduction target substances by 46% compared to fiscal 2006 level		

^{*3} Excluding applications where the quality such as safety cannot be ensured, or applications where the material is designated by laws and regulations.

^{*4} A reduction activity that promotes cutbacks in the use, release, and transfer of chemical substances by 33% in three years and by 50% in six years, compared to the fiscal 1999 level.

Management of Chemical Substances in Products

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

Keep understanding updated 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)

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.

► 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/cmattachments/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

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 CO₂ as a refrigerant which has extremely low effects on ozone depletion and global warming, and has sold a home water heater using the low CO₂ refrigerant since 2001. Although the low CO₂ 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



OCU-CR2001MV, a fluorocarbon-free freezer using CO₂ refrigerant



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

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 CO₂ refrigerant, and has delivered CFC-free freezers and refrigeration showcases to supermarkets and convenience stores with the CO₂ 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.



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

Restriction on Use of Phthalates

Phthalates are often used in PVC products, and the use of four phthalates⁵ 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,^{*6} 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>

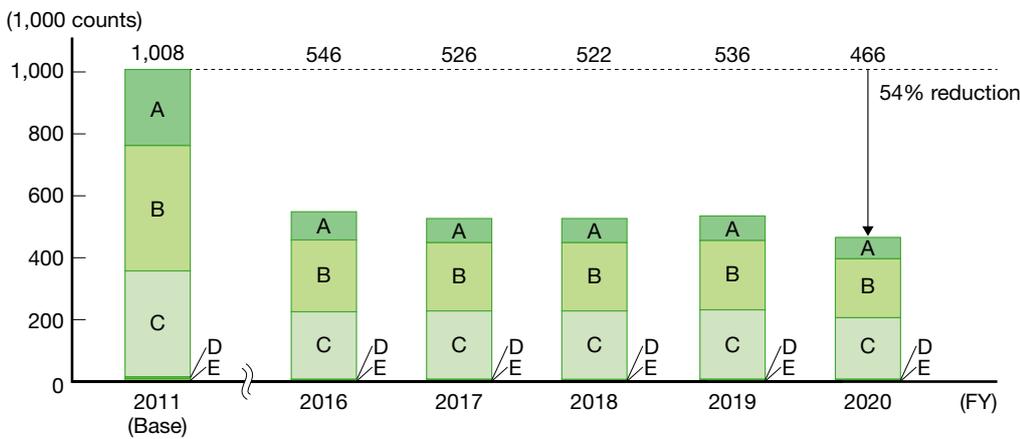
*6 Human Environmental Impact = Hazardousness factor x Release and transfer amount.

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.

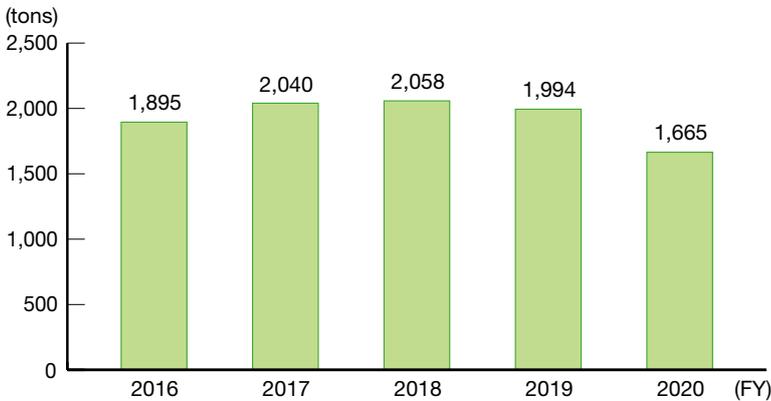
Human Environmental Impact



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

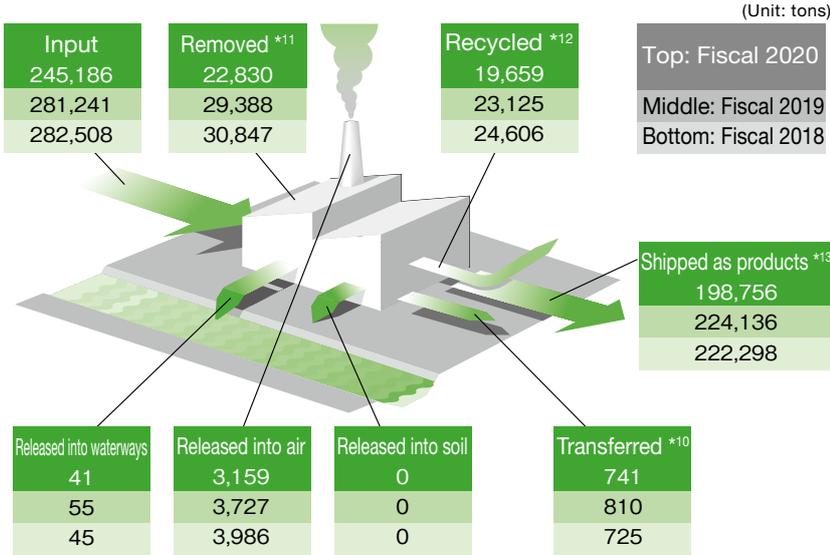
In fiscal 2020, we were able to reduce Human Environmental Impact by 54% compared to fiscal 2011 by substituting highly hazardous substances in paints, improving yields, promoting recycling, introducing substances with low-solvents and hazards, and improving processes, including reviewing the amount 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.

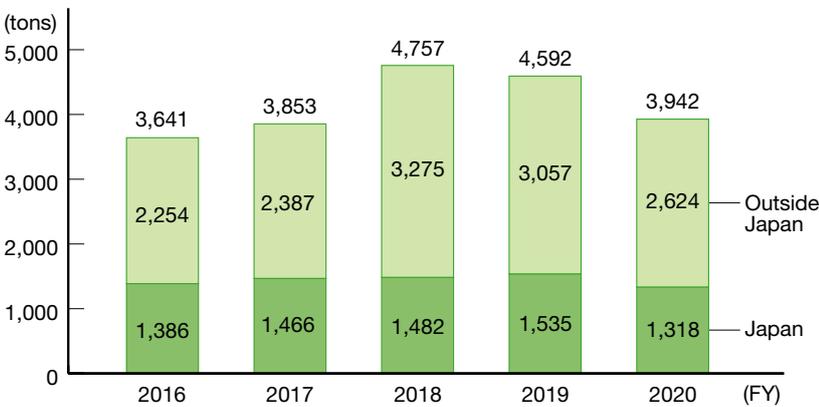
*¹⁰ Includes substances transferred as waste, as well as those discharged into the sewage system. Recycled amount which is free of charge or accompanies treatment cost under the Waste Management Law is included in "Recycled." (Different from the transferred amount reported under the PRTR Law.)

*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

Approaches to Biodiversity

Business management and human life in our society is founded on the ecosystem services—a multitude of blessings from nature provided by our natural capital, including soil, air, water, and animals and plants. In achieving the Sustainable Development Goals (SDGs) and realizing societies where people and nature live harmoniously, which is the long-term goal of the United Nations Convention on Biological Diversity, measures to address climate change, resources recycling, and biodiversity have been recognized as being closely linked each other.

The year 2020 is the final year for the Aichi Biodiversity Targets of the UN Convention on Biological Diversity, and IPBES^{*1} has already published a report stating that blessings from nature, i.e. ecosystem services, are deteriorating on a global scale and that the targets relevant to the protection of nature and sustainable use of nature cannot be achieved if no drastic measures are taken. However, transformative changes across the economy, society and other areas reportedly hold potentials of achieving the targets by 2030 or later.

To date, Panasonic have properly understood the impact of our business activities on biodiversity and made efforts to achieve our target of contributing to its conservation. We formulated our “Green Plan 2021” to work towards realizing “a better life” and “a sustainable global environment” compatibly as stated in the “Panasonic Environmental Vision 2050”. The conservation of biodiversity in the “Green Plan 2021” is in line with the “Biodiversity Action Plan (BAP)” under the Convention on Biological Diversity. We formulated the plan with targets set for 2030 and later, based on the reviewed results of our past activities, and the status of the achievement, considering global trends.

We consider that in conducting our business activities, taking actions by the companies involved in the entire supply chain is important for the conservation of biodiversity. Therefore, focusing on ‘sustainable procurement of raw materials’, we have decided to continue ‘to use land’ considering conservation of biodiversity at all our sites and ‘to provide products and services’ that contribute to biodiversity which we have worked so far. We will continue to work on conserving biodiversity through efforts focusing on business activities in the three targets and at the same time through social contributions.

*1 IPBES : Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services

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 of 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. 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)

In fiscal 2020, the total procurement of timber and wood materials was approx. 320,000 m³. By category, this breaks down to 82.2% in Category 1 ‘Priority’ procurement standards (Difference from the previous fiscal year + 2.9 points), 17.8% in Category 2 ‘Acceptable’ (Difference from the previous fiscal year – 2.9 points), and 0% in Category 3 ‘Avoiding’ (Difference from the previous fiscal year +/- 0 points). Ever since the formulation of our “Green Procurement Guideline”, we have worked on to achieve zero procurement for the Category 3, and have achieved zero procurement for the Category 3 consecutively since fiscal 2015. We will continue our efforts and maintain zero procurement for the Category 3.

Green Procurement Guidelines for Wood Consulted and Formulated with WWF



At the end of every fiscal year, we confirm the progress status, and review and discuss the measures for the subsequent fiscal year.

▶“Green Procurement Guidelines for Wood”

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

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.

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 endangers 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>

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) 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’”



ABINC Certification
(Excellence Award)



Three-star rating in Shiga
Biodiversity Action Certification
Program³



Panasonic Appliances Company's Sustainable Forest

² 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).

³ 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>

The Matsumoto Factory of the Automotive & Industrial Systems Company^{*4} obtained rank A in the JHEP Certification^{*5} in September 2015. The certification is updated annually through assessment and our biodiversity preservation activities for greening are maintained continuously.

*4 The company name: Automotive & Industrial Systems when it received the certification

*5 A quantitative biodiversity assessment method developed by Ecosystem Conservation Society Japan based on the Japan Habitat Evaluation and Certification Program (HEP) used for environmental assessments.

Initiatives for Products and Services

In collaboration with Bird Life International, an international NGO, we have formulated a third-party evaluation method in order to provide customer with information on our product that contribute to conservation of biodiversity. Using this method, we have evaluated products which are closely linked to biodiversity. In addition, 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.

In addition, Panasonic has developed Sustainable Smart Towns (SSTs) in Fujisawa City and Yokohama City in Kanagawa Prefecture. We are currently planning to develop another SST in Suita City in Osaka Prefecture. In Fujisawa SST, the guidelines for developing community adopts the idea of biodiversity for greening towns as well as plans for reducing greenhouse gas emission, in order to establish sustainable towns by planting indigenous trees as the base in the towns, and by forming ecological networks that coexist in communities. The guidelines is used to develop a sustainable town. Furthermore, in terms of conservation of forest resources, Panasonic Life Solutions Company is working on reducing its use of natural resources. Information relevant to flooring products (wooden flooring materials) are on the following website.

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

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^{*6} for some 20 years through collaboration with WWF Japan. Main activity at present is continual supply of MSC- and ASC-certified^{*7} sustainable seafood^{*8} to employees' canteens that started for the first time in Japan at Panasonic headquarters in March 2018. This fiscal year, we formulated a scheme to drastically reduce the cost and workload involved in CoC certification^{*9} for catering companies, and supported other companies in adopting the scheme and acquiring the CoC certification; as a result, five catering companies (cumulative total reaching 11 companies) obtained the CoC certification, and two other companies (cumulative total of 5 companies) adopted the sustainable seafood to their canteens. As of fiscal 2020, in Panasonic, 30 new sites adopted the sustainable seafood to the canteens, increasing the cumulative total to 42 sites. In fiscal 2021, in addition to adoption of the sustainable seafood at all of our employees' canteens, we plan to challenge starting up a network among user companies of sustainable seafood. Through the supply of sustainable seafood at employees' canteens, we are promoting to transform consumer behavior of our employees to contribute to SDG 14 'Conservation of richness of marine life', as well as to make biodiversity mainstream. As these activities were highly evaluated, we won a champion in the Initiative Category of the 1st Japan Sustainable Seafood Award, and certified as a partnership project of the Japan Committee for UNDB (United Nation Decade on Biodiversity) in 2019.



Champion in the Initiative Category of the 1st Japan Sustainable Seafood Awards



Fried oysters using ASC certified oysters harvested from Tokura in the Minami-Sanriku coastal region (Northeast of Japan)

*6 Including supports for the conservation of the tidal flats in Ariake Sea (2001 to 2006) and the Yellow Sea Ecoregion (2007 to 2015).

*7 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.

*8 Seafood that has been certified sustainable production with MSC and ASC certification and managed under CoC certification

*9 CoC is the acronym for Chain of Custody. Certification on securing management and traceability in processing, distribution, and marketing.

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

Panasonic actively participates in Keidanren Committee on Nature Conservation, aiming to promote activities for biodiversity collaborating with industrial sectors, as well as activities for conservation of biodiversity on a global scale through NGOs and NPOs. Through the Keidanren Nature Conservation Fund which collects donations from corporation including donations from Panasonic and individual persons, Keidanren Committee on Nature Conservation (KCNC) provided support worth approx. ¥4.2 billion for 1,490 NGO projects in Japan and overseas in cumulative total till fiscal 2020. Panasonic not only supports the projects initiated by KCNC in funding and participation, but also fulfills responsibilities to check progresses of the projects through visiting the local sites of the projects, and the like.

In fiscal 2020, we visited the Galapagos Islands, a World Natural Heritage site, where scalesia shrub and tree (family Asteraceae), which are endangered species listed in the Red List, grow, in order to observe local conservation activities, and plant scalesia trees there. Although KCNC has supported the project for conservation of scalesia for 20 years, only 1% of the scalesia species has been recovered. Local researchers of the Charles Darwin Foundation for the Galapagos Islands explained that continuously increasing the number of scalesia is necessary because scalesia serves as habit for endemic species in Galapagos.



Scalesia trees planted by KCNC project

Involvement in the Japan Business Initiative for Biodiversity with Other Companies

Panasonic involves in the Japan Business Initiative for Biodiversity (JBIB) and the Biodiversity Conservation Committee of the Japan Association of Industries and Environment (JAIE). We try to properly grasp global trends and risks in biodiversity, referring to the post-Aichi Biodiversity Targets and the like, and policies set by the government in Japan; and give the feedback to our businesses. In addition, JBIB conducted a workshop to raise awareness on marine plastic issues for high school students, collaborating with the member companies including us.

In involving in the Biodiversity Working Group of four Electrical and Electronic Industry Associations^{*10}, we took up marine plastic issues which have had an impact on marine life in fiscal 2020. With the cooperation of Arakawa Clean Aid Forum, NPO, the working group cleaned up the banks of the Arakawa River, and added a case example of the marine plastic issue to "Let's Try Biodiversity," a booklet with collected examples of biodiversity conservation activities. Furthermore, regarding Keidanren's 'industry-specific plastic-related target', aiming to 'conduct activities to address marine plastic waste issues that would contribute to conservation of biodiversity' in the field except products and factories,, we will summarize that even an activity such as cleaning up around own workplace contributes to reduce marine plastic wastes, and will promote such activities to raise awareness on marine plastic wastes to the member companies of the four associations.

As a member company supporting the 'Declaration of Biodiversity by Keidanren, and the like' for the 2020 Biodiversity COP15, we independently submitted our action policy and case examples of activities, aiming to have more attention to our global activities on conservation of biodiversity. Additionally, we are participating in the Clean Ocean Material Alliance (CLOMA) to accelerate innovation in solving marine plastic waste issues.



"Let's Try Biodiversity!" for Marine plastic waste issues

^{*10} Four industry associations: The Japan Electrical Manufacturers' Association (JEMA), Japan Electronics and Information Technology Industries Association (JEITA), Communications and Information Network Association of Japan (CIAJ), and Japan Business Machine and Information System Industries Association (JBMIA).

Protection of Natural Monuments in Collaboration with Citizens Groups

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.

PERJ is working on conservation of 'itasenpara bitterling', a designated species as natural monument, engaging in the Yodo River and Johoku Wand Conservation Activity as a partner of the Citizens' Network for Conservation of Itasenpara bitterling in the Yodo River System. Specifically, the activities are to conserve biodiversity including clean-up of wastes at

the Yodo River Wand^{*11}, a precious natural habitat remains in Osaka City, eradication and researches of non-native species, and conservation of endangered species such as 'itasenpara bitterling'.

Also, PERJ's following activities are highly evaluated: continued clean-up in Tsurumi Ryokuchi Park and Nakanoshima Park, and contribution to nurturing persons who will play important roles in environmental activities for the next generation, in cooperation with local businesses, universities nearby, and citizens groups. As a result, PERJ won the Osaka City Environmental Award in February 2020.

*11 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.

▶ Panasonic ECO RELAY Japan (Japanese)

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

▶ Panasonic ECO RELAY Japan won the Osaka City Environmental Award

<https://panasonic.co.jp/citizenship/activity/2020/03/post-81.html>



PERJ activities



Itasenpara bitterling

Summary of Contributions to the Aichi Biodiversity Targets and the SDGs (FY2011–2020)

	Activities	Aichi Biodiversity Targets	SDGs
Green procurement for wood	<ul style="list-style-type: none"> · Wood procurement based on the "Green Procurement Guidelines for Wood" to eliminate procurement of illegal wood, zero since 2014 	1. Promotion and awareness 4. Production and consumption	12. Responsibilities to produce and to use 15. Conservation of richness of life on land
Land use	<ul style="list-style-type: none"> · Woodlands and biotopes made considering conservation of biodiversity at our sites where ecological networks are connected with surrounding areas (for use in environmental education & awareness-raising activities) · Kusatsu site (ABINC certification) · Matsumoto Factory (JHEP certification) · Two locations in Osaka Prefecture 	1. Promotion and awareness 5. Protection of natural habitats 9. Eradication of non-native species 11. Nature reserve areas 14. Ecosystem services	15. Conservation of richness of life on land
Products & services	<ul style="list-style-type: none"> · Low insect attract lighting equipment 'Tafna-Ray' · Ballast water treatment system · Guidelines for planting, considering biodiversity in SST (Implementation to eradicate invasive non-native species) · Fit Floor flooring (using recycled wood) 	5. Protection of natural habitats 9. Eradication of non-native species 19. Knowledge and technologies	9. Making infrastructures for industry & innovation 11. Making towns where the residents are willing to live a life longer. 12. Responsibilities to produce and consume 14. Conservation of richness of marine life 15. Conservation of richness of life on land
Social contribution activities	<ul style="list-style-type: none"> · Adoption of sustainable seafood at employee canteens (MSC/ASC certified seafood) · Conservation activities at undeveloped woodland at Unitopia Sasayama · Conservation activities of 'itasenpara bitterlings' at Wando of the Yodo River System · Tree planting and conservation activities through 'Nagaki no Mori' project (aiming for long-term forest conservation), Wakayama Prefecture. There are many other activities conducted by PERJ in Japan as well as overseas such as planting and CSR activities. · Support for conservation activities through donation, and participation in supporting programs 	1. Promotion and awareness 4. Production and consumption 5. Protection of natural habitats 6. Prevention of overfishing	14. Conservation of richness of marine life 15. Conservation of richness of life on land 17. Achievement of the target through collaboration with partnerships (Targets for contribution by ripple effects.) 1. Eradication of Poverty 13. Concrete actions for climate change



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 CO₂ emissions, resource recycling, chemical substance management, and biodiversity conservation.

Activities for Green Procurement

Since the publication of the “Green Procurement Standards” in 1999, we have been promoting the manufacture of eco-conscious products in partnership with our suppliers. In the “Green Procurement Standards”, we set up groups of suppliers who support our Environmental Policy in supplying products and goods in order to materialize the targets in supplier collaboration in our “Green Plan 2018”. In addition to cooperation in ‘reducing environmental loads in supplier’s business operation areas’ and ‘sharing achievements through collaboration with us’, we are asking our suppliers to ‘seek the cooperation of upstream business partners’ to expand the scope of activities of reducing environmental load throughout the entire supply chain. As a result, we have achieved our targets in almost all items.

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.

Also, based on the Green Procurement Standards, we have been conducting the Green Procurement Survey, where we monitor the implementation status of our suppliers regarding our requests, to promote environmental impact reduction activities more effectively with our suppliers. In fiscal 2013, we conducted a trial survey targeted at our major global suppliers. We received responses from 415 companies, and were able to confirm the level of activity in areas such as environmental management system development, thorough implementation of chemical substance management, reduction of greenhouse gas emissions, promotion of resource recycling, and biodiversity conservation. From fiscal 2014, we have replaced surveys conducted on a group-wide scale with surveys at a site level as a means of communication with our suppliers.

In China, seminars on our CSR Procurement Policy and Chinese environmental regulations were held in September 2016 for more than 400 suppliers in Guangzhou, Dalian, and Shanghai. By calling for exhaustive implementation of CSR through the supply chain by using the CSR self-assessment checklist as well as sharing China’s latest environmental regulations, we are making efforts to grasp the risks and reduce environmental impacts across the supply chain. In fiscal 2018, self inspection using the CSR self-assessment checklists was expanded to other Asian countries besides China to gain a wider understanding of environmental impact from our business activities.

In response to the enhancement of 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 2020, we assessed the environmental quality assurance systems of 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 3¹), 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 2019 data is 18.05 million tons, roughly 8 times the GHG emissions of our own production activities.

*1 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^{*2} 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 (CO₂ 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 (CO₂ 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	FY2016	FY2017	FY2018	FY2019	FY2020
Number of proposals	933	622	354	820	772
CO ₂ reductions derived from proposals	484,532 tons	253,265 tons	58,448 tons	30,499 tons	280,000 tons
Use of recycled resources derived from proposals	19,153 tons	18,421 tons	2,671 tons	80 tons	100 tons
Reduction in resources used derived from proposals	21,243 tons	20,224 tons	1,090 tons	3,027 tons	19,900 tons

Collaboration with Environmental NGOs

In fiscal 2016, Panasonic started asking its suppliers (approx. 7,000 in number) in China, where a large number of its production sites are located, to fill in and submit 'a CSR self-assessment sheet'. At the end of fiscal 2019, the 'CSR self-assessment sheet' from all existing suppliers were collected. Since fiscal 2019, we have implemented an on-site CSR and environment inspections of key suppliers (approx. 20 companies), in collecting their 'CSR self-assessment sheet' at the same time.

In face of rising social demand in China for suppliers to take necessary actions for environmental issues, providing guidance for the suppliers has become an important issue from points of CSR. For this reason, in the CSR and environmental inspections conducted in China, we conduct an audit focusing on suppliers' actions for environmental issues, in addition to conducting the CSR audit. Through the CSR and environmental inspections, we have asked our suppliers to improve their condition, if necessary, and also have conducted follow-up inspections.

At the same time, we are working on to improve our suppliers' actions in terms of environment through communications with Institute of Public and Environmental Affairs (IPE), China's environmental NGO. In the Green Supply Chain ranking (CITI Index) of suppliers' among major business corporations published by IPE since fiscal 2015, Panasonic has been rated in high ranks every year. In fiscal 2020, Panasonic was ranked as the sixth in IT industry classification and the 1st in overall ranking in Japanese-affiliated company classification.

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	

Era	Year	Panasonic Group	World	Japan
	2004	<ul style="list-style-type: none"> Environmental Vision and Green Plan 2010 revised PCB Management Office established Superior GP Accreditation System launched 		<ul style="list-style-type: none"> Prohibited manufacturing and use of products containing asbestos in principle
	2005	<ul style="list-style-type: none"> Participated in Expo 2005 Aichi, Japan as an official sponsor Green Plan 2010 revised Continued with the nationwide Lights-out Campaign 3R Eco Project launched Completed the elimination of specified substances (6 substances) in products Matsushita Group's Green Logistics Policy established CF Accreditation System introduced Panasonic Center Osaka opened Eco & Ud HOUSE opened Installed the first commercial household fuel cell cogeneration system in the new official residence of the Japanese Prime Minister Won the first place in Nikkei Environmental Management Survey 	<ul style="list-style-type: none"> Kyoto Protocol entered into force 	<ul style="list-style-type: none"> Expo 2005 Aichi, Japan held National campaign against global warming "Team -6%" launched Marking for the presence of the specified chemical substances for electrical and electronic equipment (J-Moss) established
	2006	<ul style="list-style-type: none"> Environmental specialist position established ET Manifest introduced into all manufacturing sites of Panasonic in Japan Realized lead-free plasma display panels and introduced them to the market Full-fledge introduction of biodiesel fuel in logistics 	<ul style="list-style-type: none"> Restriction of Hazardous Substances (RoHS) Directive took effect in EU 	<ul style="list-style-type: none"> Relief Law for Asbestos Victims enacted Energy Conservation Law revised: new cargo owner obligations, widened product scope of its application, and top runner standard revision
	2007	<ul style="list-style-type: none"> Energy conservation activities at our factories in Malaysia approved as CDM project by the U.N. A new environmental mark 'eco ideas' introduced Panasonic Center Beijing opened Environmental Forum in China held "Declaration of Becoming an Environmentally Contributing Company in China" announced Panasonic 'eco ideas' Strategy announced 	<ul style="list-style-type: none"> The Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) released Registration, Evaluation, Authorisation and Restriction of Chemicals entered into force in EU Framework for CO₂ reduction agreed at Heiligendamm Summit (G8) The Bali Road Map for the post Kyoto Protocol agreed at COP13 Administration on the Control of Pollution Caused by Electronic Information Products (China RoHS) came into effect 	<ul style="list-style-type: none"> 'Cool Earth 50' announced by Prime Minister Abe '21st Century Environment Nation Strategy' formulated 'The Third National Biodiversity Strategy of Japan' formulated 'Ministerial ordinance partially amending the Enforcement Regulation of the Waste Management and Public Cleansing Law' promulgated 'Domestic Emissions Trading Scheme Review Committee' established 'The Second Fundamental Plan for Establishing a Sound Material-Cycle Society' formulated
	2008	<ul style="list-style-type: none"> Established the Corporate CO₂ Reduction Promoting Committee Held environmental exhibitions, 'eco ideas' World Home Appliances Company announced environmental statement in which named its Kusatsu site as 'eco ideas' Factory Announced 'eco ideas' Declaration in Europe Established Environmental Strategy Research Center 	<ul style="list-style-type: none"> G20 (conference of key countries' environmental and energy ministers) held Hokkaido Toyako Summit held 	<ul style="list-style-type: none"> Cool Earth Promotion Program announced by Prime Minister Fukuda Mislabeling incident of waste paper pulp percentage Long-term Energy Demand and Supply Outlook announced Japan's Voluntary Emission Trading Scheme started
	2009	<ul style="list-style-type: none"> Opened the 'eco ideas' House to demonstrate a lifestyle with virtually zero CO₂ emissions throughout the entire house Announced the Asia Pacific 'eco ideas' Declaration Announced 'eco ideas' factories (in Czech, Malaysia, Thailand, and Singapore) Sanyo Electric joined the Panasonic Group 	<ul style="list-style-type: none"> China WEEE law promulgated New framework for countermeasures against global warming on and after 2013 (post-Kyoto Protocol), the Copenhagen Accord, was adopted at the COP15 (Copenhagen conference) Seeking to emerge from the Lehman collapse, countries throughout the world accelerated actions for the Green New Deal 	<ul style="list-style-type: none"> Energy Conservation Law amended: Covered area expanded from factories to commercial sector facilities Flat-panel TV and clothes dryer added as covered products under the Home Appliance Recycling Law 'Eco point' system started
2010s	2010	<ul style="list-style-type: none"> Announced "Vision looking to the 100th anniversary of our founding in 2018" Announced new midterm management plan, "Green Transformation 2012 (GT12)" Announced 'eco ideas' Declarations (Latin America, Asia Pacific, and Russia) Established 'eco ideas' Forum 2010 in Ariake, Tokyo Commenced business of Factory Energy Conservation Support Service Announcement of Green Plan 2018 	<ul style="list-style-type: none"> COP10 held in Nagoya—Nagoya agreement made APEC meeting held in Yokohama Ruling party lost in US midterm election—changes in anti global warming policy Cancun agreement made in COP16—Post-Kyoto framework still to be discussed 	<ul style="list-style-type: none"> Draft legislation of Basic Law of Global Warming Countermeasures submitted but remained in deliberation Obligatory greenhouse gas emissions reduction started as a part of Tokyo Emissions Trading Scheme Waste Management and Public Cleansing Law amended: self treatment regulations tightened Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (CSCL) and Law concerning Pollutant Release and Transfer Register (PRTR) amended
	2011	<ul style="list-style-type: none"> Announced North America & Taiwan 'eco ideas' Declarations Announced establishment of Panasonic Dadi Dowa Summit Recycling Hangzhou Co., Ltd. Announced the Fujisawa Sustainable Smart Town Project Established Corporate Electricity Saving Division that bridges functions across the organization 	<ul style="list-style-type: none"> Rare earth prices soared Revised RoHS directives enforced in EU COP17 (Durban Climate Conference): Agreement made on long-term future of the scheme, and the second commitment period for the Kyoto Protocol (Japan announced non-commitment) 	<ul style="list-style-type: none"> Home appliance eco-point incentive program finished The Great East Japan Earthquake Revised Air Pollution Control Act and Water Pollution Control Act enforced Act on Special Measures Concerning Procurement of Renewable Electric Energy by Operators of Electric Utilities enacted (Feed-in tariff system to be enforced July 2012)
	2012	<ul style="list-style-type: none"> Business reorganization due to full acquisition of Panasonic Electric Works and SANYO Electric Commenced sales of Resources Recycling-oriented Product series Terminated production of household incandescent light bulbs Establishment of Environmental Management Group, Environment & Quality Center, Global Manufacturing Division Communication of 'eco ideas' Declaration (Vietnam) 	<ul style="list-style-type: none"> United Nations Conference on Sustainable Development (Rio +20) "Doha Climate Gateway" adopted at COP 18 Doha 2012, to lay down a future legal framework in which all nations can participate by 2020 and onwards Revised WEEE Directive implemented in Europe 	<ul style="list-style-type: none"> The Recycle Resource Project, national campaign by Ministry of the Environment, commenced 2012 Japan Tax Reform Bill enacted (Environment tax came into force in October 2012) Feed-in tariff for recyclable energy put into effect

Era	Year	Panasonic Group	World	Japan
	2013	<ul style="list-style-type: none"> Announced new midterm management plan Cross-Value Innovation 2015 Announced new brand slogan "A Better Life, A Better World" PETEC's home appliance recycling reached a cumulative total of 10 million units Announced 'eco ideas' factory (Philippines) 	<ul style="list-style-type: none"> Phase I of the Kyoto Protocol ends. Japan's target expected to be achieved in combination with forest CO₂ absorption and application of the Kyoto Protocol mechanisms. GRI announced G4, the next guidelines for CSR reports Minamata Convention on Mercury to internationally regulate import and export of mercury adopted at UN conference IPCC Fifth Assessment Report (Working Group 1) announced the possibility of human activity being the principal cause of global warming observed since the mid-20th century is "extremely high." Global average surface temperature is expected to rise as high as 4.8°C COP 19 Warsaw reaffirmed participation of all nations in the future framework of the Convention for 2020 and later. Nations were asked to submit emission pledges well in advance of 2015 	<ul style="list-style-type: none"> Home Appliance Recycling Law for small household appliances enforced Basic Plan for Establishing a Recycling-Based Society implemented Keidanren's "Action Plan Towards Low-Carbon Society" started (until FY 2021) Amended Law Concerning the Rational Use of Energy and Amended Law Concerning the Promotion of the Measures to Cope with Global Warming established. Amended Act on the Rational Use and Management of Fluorocarbons promulgated (June) Voluntary Action Plan by the electric and electronics industry terminated. Achieved improvement by 48% in CO₂ emissions per basic unit in average actual production output for fiscal 2009-2013 (compared with fiscal 1991 level) to the target of 35% Japan announced in November its fiscal 2021 reduction target of 3.8% over fiscal 2006 and registered this with UNFCCC Office (but with a possible review of the tentative target, which does not include possible resumption of nuclear power plant operations)
	2014	<ul style="list-style-type: none"> Panasonic DADI DOWA Summit Recycling Hangzhou Co., Ltd., started operation Opening of Fujisawa Sustainable Smart Town Announced Eco Declaration (Southeast Asia & Pacific) Communication of housing & town development at the International Greentech & Eco Products Exhibition & Conference (IGEM) (Malaysia) 	<ul style="list-style-type: none"> Targets for product environmental regulations in Europe begin to shift from energy saving to resource efficiency and environmental impact EU Parliament reelection results in the appointment of Mr. Jean-Claude Juncker as President of the European Commission. Review of the circular economy package was decided. IPCC 5th Assessment Report analyzed that the current multiple ways to achieve control of global temperature rise to less than 2°C cannot be materialized unless the target becomes nearly zero by the end of the century. Attention to "adaptation" is growing. COP12 Convention on Biodiversity, PyeongChang concluded the interim assessment of the Aichi Biodiversity Targets as "progress has been made but remains inadequate" COP 20 (Peru) reached agreement on the policy of developing reduction targets based on common rules for publication of "a new legal framework beyond 2020 applicable to all Parties" 	<ul style="list-style-type: none"> The amended Energy Conservation Act was enforced, incorporating action on power conservation during peak periods into existing qualitative reduction targets Phase II of the Commitment to a Low Carbon Society, a voluntary program promoted by Keidanren as measures against global warming, was newly established in response to government request, setting the target year to 2030 Toyota Motor launched fuel-cell vehicle MIRAI into the commercial market
	2015	<ul style="list-style-type: none"> Won Zayed Future Energy Prize 2015 Wonder Japan Solutions (Tokyo) held for the first time Announced the introduction of indirect contributions through housing, automotive, and B2B solutions in the size of contribution in reducing CO₂ emissions Announced the Tsunashima Sustainable Smart Town development project, together with Yokohama City and Nomura Real Estate Development Company 	<ul style="list-style-type: none"> Paris Agreement on the international legal framework for global warming control from 2020 and later was adopted at COP21 (Paris) 2030 Agenda for Sustainable Development was adopted at the UN Summit, focusing chiefly on sustainable development goals (SDGs) 	<ul style="list-style-type: none"> Draft proposal to cut greenhouse gases by 26% over 2013 levels as its 2030 greenhouse gas reduction target announced by the Japanese government COOL CHOICE, a new nationwide movement for greenhouse gas reduction, started
	2016	<ul style="list-style-type: none"> Establishment of Environmental Management Department, Quality & Environment Division Announced R&D 10-Year Vision Revised Green Plan 2018 Announced participation in Future Living Berlin, the first Smart City project in Germany Announced collaboration with Tesla Motors for solar batteries 	<ul style="list-style-type: none"> G7 Toyama Environment Ministers' Meeting held; ministers representing the G7 nations and the EU discussed policies on seven themes including resource efficiency and 3R, biodiversity, climate change, and related measures UK decided to leave the EU (Brexit) in a national referendum GRI announced "GRI Standard," the new guidelines for CSR reports COP 22 held in Marrakesh, Morocco. Agreement reached on establishing a rulebook to make the Paris Agreement effective by 2018 Donald Trump won the US presidential election COP 13, the 13th meeting of the Conference of the Parties on Biological Diversity, held in Cancun, Mexico 	<ul style="list-style-type: none"> The 2016 Kumamoto Earthquake The Plan for Global Warming Countermeasures was decided by the Cabinet. Direction of Japan's global warming countermeasures to achieve the Intended Nationally Determined Contributions under COP 21 was clarified. Long-term goal of reducing greenhouse gas emissions by 80% by 2050 was set Act on Promotion of Global Warming Countermeasures was amended; focuses on promoting the enhancement of Cool Choice, the reinforcement of international cooperation, and regional global warming countermeasures
	2017	<ul style="list-style-type: none"> Announcement of Panasonic Environment Vision 2050 Opening of Tsunashima Sustainable Smart Town 	<ul style="list-style-type: none"> France, UK, and China announced the prohibition of sales of gas and diesel cars and the conversion to EVs in the future 	<ul style="list-style-type: none"> Revision of the Charter of Corporate Behavior delivering on the SDGs through the realization of Keidanren Society 5.0
	2018	<ul style="list-style-type: none"> Announcement of Monozukuri (Manufacturing) Vision Achievement of zero-CO₂ factories at Panasonic Eco Technology Center Co., Ltd. (PETEC), Panasonic Energy Belgium N.V. (PECBE), and Panasonic do Brazil (PANABRAS) 	<ul style="list-style-type: none"> COP24 was held. The policy based on the Paris Agreements to be uniformly applied to all member countries was adopted 	<ul style="list-style-type: none"> The fifth Basic Environment Plan was decided by the Cabinet. Set up six cross-field strategies utilizing the concepts of SDGs
	2019	<ul style="list-style-type: none"> Announcement of Green Plan 2021 Participation in 'RE100', an international initiative for the use of 100% renewable energy as electricity used in business operations 	<ul style="list-style-type: none"> UN Climate Action Summit was held. Rising trend of achieving net zero greenhouse gas emissions, with a target of limiting global temperature rise to 1.5°C COP25 was held in Spain. The statement urging governments to increase the GHG reduction targets was adopted 	<ul style="list-style-type: none"> G20 Osaka Summit was held. "Osaka Blue Ocean Vision", which aims to further reduce pollution caused by marine plastic wastes, was shared

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 supports the fundamental principles of the United Nations Universal Declaration of Human Rights, the International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work, and the OECD Guidelines for Multinational Enterprises. The main parts of these principles are embodied in the Panasonic Code of Conduct.

Panasonic is also taking an active approach to reflecting ideas concerning global human rights in its management, including by making reference to the Guiding Principles on Business and Human Rights, which were adopted by the UN Human Rights Council in June 2011.

In fiscal 2016, Panasonic complemented the Code of Conduct by setting a “Global Human Rights and Labor Policies” and by implementing a management system for complying with that policy. The management system comprises several elements, including self-assessment checklists for properly identifying risks and evaluating potential impacts on human rights, as well as a manual outlining the procedures for correcting the risks that have been identified and for carrying out continuous improvement.

Going forward, in addition to efforts conducted with its employees, Panasonic will continue to cooperate with its suppliers throughout the world to fully understand laws and labor practices in different countries and to respect human rights.

Policy

As a company doing business globally, Panasonic believes in the fundamental principle of treating interactions not only with its employees but all stakeholders with the maximum degree of concern and respect for their human rights. Panasonic’s human rights policies are expressly outlined in the Panasonic Code of Conduct and the Global Human Rights and Labor Policies. These policies covers items concerning issues including working hours; wages; humane treatment; prohibition of discrimination; protection of privacy; concern for the human rights of foreign workers, trainees, and younger laborers; and the freedom of association and labor-management dialogues.

▶ Panasonic Code of Conduct, Chapter 3: Employee Relations

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

Education

Panasonic conducts regular training concerning its Code of Conduct—which sets forth its policies on the respect for human rights—including training for new hires or for newly promoted employees.

We also conduct “Overseas Employee / Pre-Overseas Appointment Training” for employees on assignment from Japan and posted at overseas subsidiaries. This training aims to provide education on human rights issues that demand particular attention overseas, including fair treatment, the prohibition of employment discrimination, and respect for union activities.

In 2019, we investigated human rights risks at more than 100 electronics and electric companies in China. 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 personnel from each department attend the annual Global CSR Meeting, where they discuss forced labor and human rights problems, and report to each managers.

Responsible Executive and Framework

The Chief Human Resources Officer (CHRO) is Executive Officer Shigeki Mishima (as of August, 2020).

The departments responsible for the respect of human rights consist of the Human Resources & Industrial Relations Department established at the Panasonic Headquarters, the human resources departments located in each of the seven

Panasonic Divisional Companies* (Appliances, Life Solutions, Connected Solutions, Industrial Solutions, Automotive, US, and China & Northeast Asia), and all business divisions and affiliated companies under the Panasonic umbrella.

*as of April, 2020

Human Rights Support Desk

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 concern by employees, including temporary staff, who report cases of harassment, including sexual harassment, harassment towards sexual and gender (LGBT*), harassment based on power differentials, or related to pregnancy, childbirth, or childcare leaves. During consultations, we safeguard privacy and carefully handle the concerns, while confirming the employee's needs. We also ensure that the employee and any other parties involved in fact-checking the case are protected from retaliation.

Furthermore, alongside the obligations to prevent harassment based on power differentials stipulated in the 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 points. 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.

In addition, we have established a global hotline (with service in 28 languages) for our employees and external business partners. Reports can be made to this hotline whenever compliance violations (including human rights-related violations) are noticed or suspected. The hotline uses an external, unaffiliated system that does not identify the person making the report.

*LGBT: An acronym for lesbian, gay, bisexual, and transgender

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 Hours," which was jointly issued in September 2017 by economic organizations, including the Japanese Business Federation, and various industry organizations such as 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. The JEITA CSR Committee, which Panasonic chairs, works with the EU, the OECD, and the ILO to promote the project on "Responsible Supply Chains in Asia".

▶ Joint Declaration on Rectifying Correcting Business Practices That Lead to Long Working Hours

<https://www.keidanren.or.jp/en/policy/2017/071.html>

▶ The Responsible Supply Chains in Asia programme

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

Respect for Human Rights: Performance Evaluation

As a company doing business globally, Panasonic strives to respect human rights based on international standards, the laws and regulations of each country or region as well as Panasonic Code of Conduct.

Furthermore, since 2007, Panasonic has been conducting Overseas Human Resources and Labor Assessments aiming to identify, comprehend, and resolve issues in personnel management and labor management overseas. The checklist used in the survey contains around 300 items, including those concerning proper implementation of labor management; compliance with local labor laws, employment systems, and business practices; as well as identification of negative influential factors on business and of latent risks that could cause labor-related issues.

After the local affiliate has conducted a self-assessment based on the checklist, an assessor who belongs to a Divisional Company or business division in Japan performs an audit. Efforts to resolve problems identified via these assessments are undertaken primarily by Lead Assessor (mainly managers in charge of human resources), who strive to raise the level of labor management.

Furthermore, since fiscal 2015, Panasonic has implemented risk assessment and improvement efforts based on a “Self-Assessment Checklist” related to labor and human rights issues.

Because issues regarding working hours management have been observed at some companies through these self-assessments, we are striving to implement improvement plans to solve these issues such as revisions to the organization of personnel, work management methods, and equipment automation.

In addition, Panasonic receives audits from the clients that we supply. We were audited over 25 times in fiscal 2020, and we are engaged in correcting and improving the areas that our clients have indicated as potentially problematic in terms of human rights and labor standards. These efforts include reviewing our work regulations and management methods.

Key Issues and Countermeasures

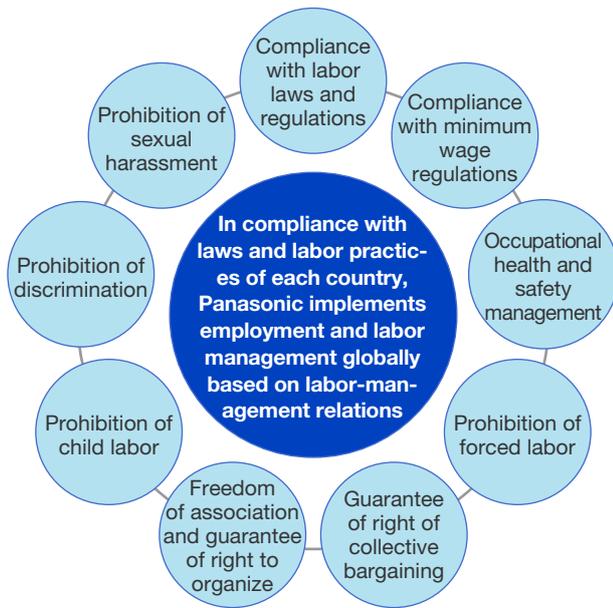
Social trends indicate an increase in the rate of consultations about harassment based on power differentials (such as bullying and verbal harassment). The most common reason for Panasonic employees to consult with the Human Rights Support Desk also concerns harassment based on power differentials. As part of our goal to create harassment-free workplaces, we have distributed educational materials to all our workplaces coinciding with the June 2020 statutory revisions, while also striving to impart fundamental knowledge and foster an awareness of this issue that will change behaviors. Efforts in this area include implementing training to improve employee awareness, as well as conducting ongoing educational activities.

Respect for Human Rights: Efforts Concerning Fundamental Human Rights

Panasonic's Structure for the Respect of Fundamental Human Rights

The major structure of the fundamental human rights that Panasonic commits to respect is shown in the following diagram:

Structure of the Fundamental Human Rights that Panasonic Respects



Prohibition of Forced Labor, Effective Abolition of Child Labor, and Attention to Young Workers

When recruiting employees, Panasonic strives to protect fundamental human rights and engages in recruitment activities that comply with the laws and regulations of the countries in which it operates. Panasonic also prohibits forced labor, labor against the will of any employee and child labor. In order to prevent child labor, we have notably added age verification items into the “Self-Assessment Checklist” used when individuals join the company. As risks of child labor are considered to be particularly high in China and other Asian countries, Panasonic is thoroughly implementing age checks in these regions. We do not make employees under the age of 18 engage in heavy labor and offers them consideration and support so that they may have opportunities to receive a proper education.

For information on suppliers, please see Responsible Procurement Activities.

http://www.panasonic.com/global/corporate/sustainability/supply_chain.html

Providing Employment Opportunities for Young People

Panasonic holds a Professional Internship Program (PIP) twice annually through industry-university cooperation.

PIP has the following three goals:

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

In our Group companies in China as well, we offer internship programs and accept university students at business sites during their long holidays. This provides opportunities for students to learn about actual business challenges and to propose ideas for solutions.

Employing Foreign Workers

Because of the high human rights and labor-related risks faced by migrant and foreign workers, Panasonic has introduced a verification system aiming to ensure that Panasonic-affiliated entities are not allowing temp agencies to collect any fees and are not retaining workers' passports or other identification documents. This verification system also ensures that temp agencies are providing workers with written employment contracts, including terms of employment, in the workers' native languages.

Panasonic recruits employees and accepts temporary workers based on the laws and regulations of their respective country, so that no employees have to work against their will or are unduly subjected to disadvantageous working conditions.

Prohibition of 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 work in an active manner, 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, drafted for the purpose of promoting fair recruitment selection by the "Hellowork" public employment stability office established by the Japanese government.

Regarding employee discipline, Panasonic has, among other work regulations, provisions mandating the respect for human rights, forbidding illegal behavior, and forbidding sexual harassment in the workplace. Disciplinary measures are to be taken in the event of a violation of any one of these provisions, as expressly stated in the Employee Work Regulations.

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:

- Establishment, publication, and thorough implementation of policies on sexual harassment
- Distribution of leaflets and manuals on sexual harassment
- Seminars and training on sexual harassment, harassment based on power differentials, and workplace culture revitalization
- Carrying out management-level training on harassment
- LGBT-related training
- Distribution of educational materials to increase employees' awareness regarding

Managing Working Hours

Based on labor-related laws and labor-management agreements (labor agreements, etc.) in the respective countries, Panasonic has established provisions in its work regulations related to elements including appropriate working hours, break times, overtime work, holidays and leave. In addition, Panasonic strives for the optimal placement of personnel, so that excessive overtime is not exclusively imposed on certain employees. We also engage in comprehensive employee mental and physical health management, such as by offering additional health checks in the rare event that an employee has worked excessive hours.

We have also established our own working-hours management system to ensure compliance with Japanese labor laws, and since fiscal 2018, we have been engaged in programs for all employees, including management, that are meant to eliminate excessive overtime above 80 hours per month and to have all employees leave work every day by 8 p.m.

Wage management

Panasonic has established Corporate-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. We have also adopted, in our employee wage regulations, provisions for adequate wages, commuting allowances and other expenses, bonuses, other compensation paid on occasional bases, retirement and allowance.

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 being 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 related to 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 through pay statements and electronic data, and pays them directly.

In cases where the laws of the country in question do not prohibit monetary disciplinary action, Panasonic recognizes the validity of such disciplinary action, and does not prohibit it. However, this is all predicated on the procedures for such actions as well as the monetary amounts involved being established within legal limits, taking into account the impact on the recipient's life, as well as such measures being codified in internal regulations and made well known to employees. The Japanese law does not prohibit monetary discipline, but Panasonic's disciplinary rules within Japan do not include monetary disciplinary measures.

The 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 rights to organize, to collectively bargain and to strike.

In addition, even in countries and regions where the formation of labor unions is not permitted by laws, regulations, or conventional labor practices, the Panasonic Code of Conduct stipulates the de facto promotion of issue resolution through labor-management dialogues, which are the goals of the principles of the freedom of association and the right to collective bargaining. In addition, Panasonic expressly lists these dialogues as one of the conditions for doing business with suppliers in its Standard Purchase Agreement and demands suppliers comply with this condition.

Standard Purchase Agreement (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>

Standard Purchase Agreement (Excerpts)

(Demand on Suppliers to Respect Human Rights)

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

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, and 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. In addition, we respects the right of non-regular employees to join a labor union if they choose to do so. At Panasonic, important management issues

are discussed in advance with labor unions, and 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 Corporation-level Management-Labor Committee includes notably the Panasonic Group President, the Executives Officer in charge of human resources as well as the head of the PGU Central Executive Committee, and is held once per month. The Corporation-level Labor-Management Council includes the Panasonic Group President and Executives as deemed necessary, as well as the head of the PGU's Central Executive Committee and other members as required.

As per the Labor-Management Agreement, there is no pre-defined minimum notification period to give when a crucial matter for consideration has arisen, such as a structural change. However, Panasonic internal bylaws establish a basic rule that this period should be one month plus one week prior to the date that discussions are to begin. In addition, after the company has issued a proposal, there will be 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 2020, 29 employee representatives and 20 company representatives assembled in Munich, Germany; exchanged information and held fruitful discussions on matters concerning including management strategy and, business issues.

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

China

The unionization rate among private companies in China varies among different groups of firms, but nearly all Panasonic affiliated companies have organized labor unions (gōnghuì) and are actively engaged 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 important management decisions. Panasonic is thus focusing its efforts on building good relations between labor and management, which we consider the basis for business development. In 2019, we deliberated on issues including remuneration, employee benefits, KPI management, and employee disciplinary actions. 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.

Efforts to Protect the Rights of Children

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

- Programs supporting employees raising children
https://www.panasonic.com/jp/corporate/sustainability/diversity/work_life_balance.html
- Providing products that support people raising children
https://www.panasonic.com/jp/corporate/technology-design/ud/products/declining_birth_rate.html
- Safe and secure, child-friendly product design that is conscious of healthy development
https://www.panasonic.com/jp/corporate/technology-design/ud/pdf/KIDSDESIGN_pamphlet2020.pdf (Japanese only)
- 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/jp/corporate/sustainability/citizenship.html>

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

Support for at-home learning: Panasonic Kids' School

<https://www.panasonic.com/jp/corporate/sustainability/citizenship/pks.html> (Japanese only)

Respect for Human Rights: Initiatives Relating to Global Standards, Legislation, Regulations, and So Forth

State of Efforts Relating to the ILO Core Labour Standards

Panasonic supports the fundamental principles of the United Nations Universal Declaration of Human Rights, the International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work, and the OECD Guidelines for Multinational Enterprises. The major parts of these principles are embodied in the Panasonic Code of Conduct. Panasonic's Headquarters and each regional headquarters serve as bases for the collection of information on critical changes in legal requirements related to human rights and labor, and every one of our business sites works to ensure and strengthen our compliance with them.

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)

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

https://www.panasonic.com/global/corporate/sustainability/human_rights/approach/#freedom

Prohibition of forced labor

No. 29 (Forced Labour Convention)

No. 105 (Abolition of Forced Labour Convention)

▶ "Prohibition of Forced Labor, Effective Abolition of Child Labor, and Attention to Young Workers"

https://www.panasonic.com/global/corporate/sustainability/human_rights/approach/#labor

Effective abolition of child labor

No. 138 (Minimum Age Convention)

No. 182 (Worst Forms of Child Labour Convention)

▶ "Prohibition Forced Labor, Effective Abolition of Child Labor, and Attention to Young Workers"

https://www.panasonic.com/global/corporate/sustainability/human_rights/approach/#labor

Rejection of discrimination in employment and occupation

No. 100 (Equal Remuneration Convention)

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

▶ "Prohibition of Discrimination"

https://www.panasonic.com/global/corporate/sustainability/human_rights/approach/#discrimination

Initiatives for the Prevention of Slavery and Human Trafficking

Modern slavery can occur in various forms including servitude, forced, compulsory labor and human trafficking, all of which include the deprivation of a person's (an adult or child's) liberty by another (collectively "modern slavery"). The following sets out the procedures Panasonic has put in place that aim to prevent modern slavery from occurring within our business or supply chain.

Panasonic is committed to a work environment that is free from modern slavery, in accordance with the laws and regulations of the respective countries in which we operate.

We have a zero-tolerance approach to modern slavery and we are committed to acting ethically and with integrity in all our business dealings and relationships. We are committed to implement and enforce effective systems and controls to ensure modern slavery is not taking place anywhere in our own business or in any of our supply chains. We will not knowingly use modern slavery in any of our products and/or services supplied. Additionally, we use guidelines (see below) and Standard Purchase Agreements with suppliers to require that they not utilize slave labor.

Our Business and Key Risk Areas

Our Business

Panasonic's business is organized into five key business segments: (as of April, 2019)

- Appliances
- Life Solutions
- Connected Solutions
- Automotive
- Industrial Solutions

Our Supply Chain

Our supply chain includes the sourcing of raw materials and minerals. For more details, please refer to "Responsible Minerals Procurement." https://www.panasonic.com/global/corporate/sustainability/supply_chain/minerals.html

Our Key Risk Areas

Modern slavery risks are believed to be especially high in certain regions of the world. We are aware there are greater human rights and labor-related risks in areas where migrant foreign workers are widely employed. Panasonic is actively implementing a program of enhanced checks in these regions to ensure compliance with local legislation.

Due Diligence Process for the Prevention of Modern Slavery and Human Trafficking

As part of our initiative to identify and mitigate risks, we have taken a number of actions to verify the absence of modern slavery in our supply chain, including the following:

Panasonic Code of Conduct

This includes requirements on ensuring the respect for human rights and that Panasonic will not employ people against their will.

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. Panasonic also prohibits forced labor, including child labor. In order to prevent child labor, we have included age verification in the 'Self-Assessment Checklist' which is used when individuals join the company. The risk of child labor is thought to be especially high in China and elsewhere in Asia and Panasonic is implementing age verification in these regions. Panasonic does not allow employees under the age of 18 to engage in overtime work and heavy labor, and offers them consideration and support so that they have opportunities to receive education.

Training

We conduct training for all new, permanent staff on our Basic Business Philosophy and Code of Conduct. This includes training on compliance with local laws, including employment laws, and respect for basic human rights with emphasis on not employing persons against their will.

Confidential Whistle-Blowing

We protect whistle blowers by providing an anonymous whistle-blowing hotline for employees. Employees are regularly reminded of the whistle-blowing hotline and are encouraged to use it if they suspect any potentially illegal behavior or practice.

Procurement Policy

Panasonic's Procurement Policy expresses our basic philosophy and views on procurement, including human rights and labor health and safety.

▶ "Procurement Policy"

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

For Suppliers

We ask our suppliers to meet our CSR requirements, including the respect of human rights and the health and safety of workers.

Panasonic Supply Chain CSR Promotion Guidelines (Excerpts)

1-1 Prohibition of Forced Labor

Suppliers shall employ all workers of their own free will with no worker being subject to forced labor.

Specific action items

- Suppliers shall not engage in forced, bonded (including debt bondage) or indentured labor, involuntary or exploitative prison labor, slavery or trafficking of persons.
- Suppliers shall not impose unreasonable restrictions on workers' freedom on entering or exiting workplace or dormitories.
- Suppliers shall provide written notice to a worker about his/her working conditions in the national language before signing the formal contract (in the case of a foreign worker, prior to departing from his/her original country).
- Suppliers are prohibited to make any unfair changes of the contract in the working country, when the contract had been concluded in the original country.
- Suppliers shall permit workers to terminate their employment freely.
- Suppliers, manpower supply companies, and staffing agents shall not retain any government-issued identification card, passport, working permit (unless such holdings are required by law), immigration application, and any other similar documents.
- Suppliers, manpower supply companies, and staffing agents shall not collect any recruitment fees from workers.
- Suppliers shall inform workers of all items deducted from their salaries.
- Suppliers shall request and confirm that manpower supply companies and staffing agents comply with all of the above items.

▶ "For Suppliers"

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

Standard Purchase Agreements (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 business activities are undertaken.

CSR Self-Assessments for Suppliers

We request our suppliers to conduct CSR self-assessments. The checklists used for these self-assessments includes questions that address all the issues related to modern slavery, including the confirmation of worker ages in order to prevent child labor, prohibitions against the collection of fees or retention of worker passports or identification documents by recruitment agencies and the requirement to provide employment contracts (including terms of employment) in workers' native languages. For details, please see Responsible Procurement Activities: Ensuring CSR among Suppliers.

https://www.panasonic.com/global/corporate/sustainability/supply_chain/suppliers.html

Continuous Improvement Activities for the Future

Some of Panasonic's supply chains fall in high-risk areas, and we are very much aware that there are serious risks in those areas with respect to human rights and labor. We ask suppliers to hire workers based on the respective laws and regulations of each country in order to ensure that they are not employed against their will. Given the complexity of these supply chains, completely eradicating modern slavery at all our suppliers will take time and effort. For this reason, we are

committed to making sustained initiatives against the problem of modern slavery.

Panasonic will continue to promote compliance with our own CSR policies and applicable laws and regulations, in cooperation with our suppliers, through the ongoing implementation of CSR self-assessments and follow-up activities.

Initiatives Relating to Compliance with SA8000

SA8000 is an international standard concerning labor and human rights that has been issued by the US NGO Social Accountability International. The standard provides voluntary requirements for employers to fulfill, including concerning the rights of workers 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 are publicly available from the following websites:

1. Child Labor

▶ "Prohibition of Forced Labor, Effective Abolition of Child Labor, and Attention to Young Workers"

https://www.panasonic.com/global/corporate/sustainability/human_rights/approach.html#labor

2. Forced or Compulsory Labor

▶ "Prohibition of Forced Labor, Effective Abolition of Child Labor, and Attention to Young Workers"

https://www.panasonic.com/global/corporate/sustainability/human_rights/approach.html#labor

3. Health and Safety

▶ "Occupational Health and Safety"

https://www.panasonic.com/global/corporate/sustainability/health_safety.html

4. Freedom of Association & Right to Collective Bargaining

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

https://www.panasonic.com/global/corporate/sustainability/human_rights/approach.html#freedom

5. Discrimination

▶ "Prohibition of Discrimination"

https://www.panasonic.com/global/corporate/sustainability/human_rights/approach.html#discrimination

6. Disciplinary Practices

▶ "Prohibition of Discrimination"

https://www.panasonic.com/global/corporate/sustainability/human_rights/approach.html#discrimination

7. Working Hours

▶ "Managing Working Hours"

https://www.panasonic.com/global/corporate/sustainability/human_rights/approach.html#hours

8. Remuneration

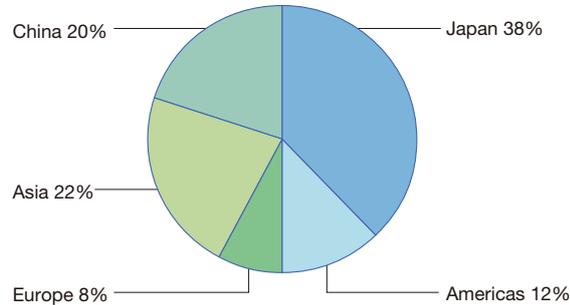
▶ "Managing Wages"

https://www.panasonic.com/global/corporate/sustainability/human_rights/approach.html#wages

Human Resources Development and Promotion of Diversity

Numbers of Employees

Total Consolidated Number of Employees Globally: 259,385 (as of the end of March 2020)



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. At Panasonic, we believe that it is essential to create an organizational culture in which all individual employees can fully deploy their talents regardless of age, gender or nationality. Thus, we regard the promotion of diversity 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 a rewarding work environment.

In fiscal 2011, Panasonic compiled this thinking into a Global Diversity Policy as below. Since then, this policy has been implemented globally.

Global Diversity Policy

Panasonic Group is now one of the world's leading business groups which offer a wide variety of products in electronic business areas related to our daily lives. With an aim to contribute to progress in society and to enrich people's lives through manufacturing, every employee plays a leading role in their job and promoting business activities of Panasonic.

Panasonic is a collection of people with various backgrounds, such as in terms of region, culture, and history, who possess diverse capabilities, as well as diverse traits in terms of various factors including gender, age, race, belief, religion, nationality, sexual orientation, and gender identity. Each person has various different ideas, and by sharing these ideas across countries and business areas, we can create more innovative values. Thus, Panasonic will continue to be a Group which always gathers wisdom and spurs innovation with the concerned efforts of all. We have a strong hope that using our diverse mindsets and viewpoints we can deliver products and services like no other in the world to our customers.

In order to achieve this, it is important to give a chance for success to motivated people of all countries and regions, regardless of their gender, nationality or any other characteristics. We have expanded our diversity activities to make the best of the individuality and abilities of each employee and to support their success towards the group on a global basis. We will continue to take up the challenge of becoming "No.1 in Diversity Promoting Activities in each country and region."

Responsible Executive and Framework

The Chief Human Resources Officer (CHRO) is Executive Officer Shigeki Mishima. The departments responsible for these matters consist of the Strategic Human Resources Department, Industrial Relations Department, and the Office for A Better Workstyle at Panasonic Headquarters, plus the human resources departments in each of the seven Panasonic Divisional Companies (Appliances, Life Solutions, Connected Solutions, Automotive, Industrial Solutions, US and China & Northeast Asia) and in all business divisions and affiliated companies under the Panasonic umbrella. (As of August 2020)

Organizational structure for Diversity and 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.

Performance Evaluations

Panasonic believes in “individuals and an organization in constant evolution” as an engine of growth. We believe that it is crucial to combine the individual strength of each employees—who all are eager to work and to challenge themselves—in order to fully realize the potential of the organization. Therefore, in order to accomplish this, Panasonic strives to create an organization that is open and broad-minded.

Putting this belief into action, we conduct surveys of employees’ opinions—both in Japan and abroad—to understand the 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.

List of Awards

Randstad Award 2019: Overall fifth place, second place in the industry

The Randstad Award is based on a survey of companies by an independent organization, using common global standards. The awards are granted to the companies found to have the best employer brand (based upon the appeal of a company as an employer).

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 candidate selection criteria, processes and IT policies globally. This contributes to our efforts to discover the most suited candidates, regardless of age, gender, or nationality, 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. The Corporate Division has established the Talent Management Committee as a venue to openly discuss and examine management candidates. The President, Divisional Company Presidents, the CHRO, 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.

Performance-Linked 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 at higher levels of management.

In addition, the amount of each individual's bonus is determined based on the previous fiscal year's performance of the jobs of which the individual was in charge.

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.

In particular, 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 is evaluated by considering the performance of the entire Panasonic Group and of the executive's area of responsibility, based on indicators including sales, operating profit and free cash flows. Panasonic's restricted share-based compensation plan replaced the prior stock option-based compensation plan in 2019 and allots a fixed number of shares every year to each executive. The plan's objective is to incentivize improvement of the company's corporate value over the long term, as well as to further align interests with our shareholders.

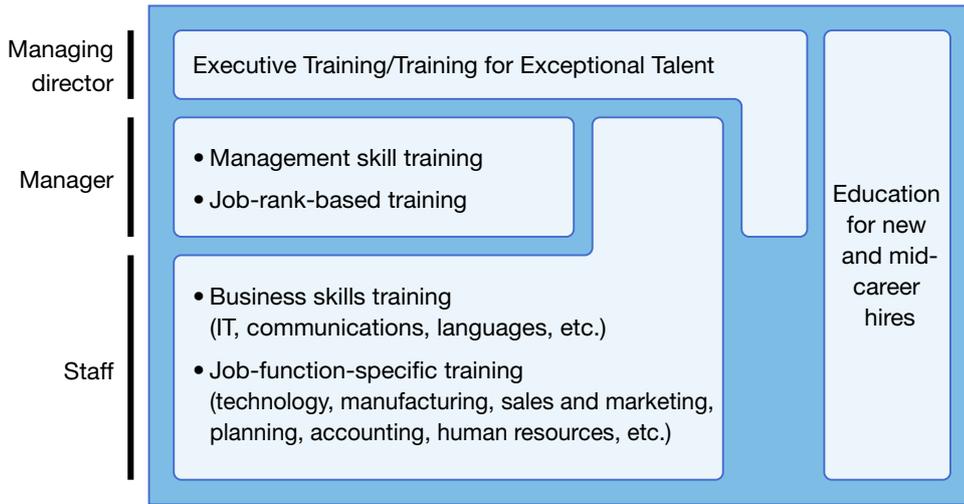
HR Development and Diversity: Human Resources Development

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.

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 releasing free training content on our corporate intranet with a view to stimulating self-driven study, making study a daily habit, boosting personal growth, and better achieving organizational targets. This is part of Panasonic’s efforts to further accelerate employees’ independent professional development. We will keep working to further enhance and expand training in many dimensions, including by offering online training options.

- Number of employees in attendance

In fiscal 2020, the amount of time employees spent at the HRDC in Japan was 206,372 person-days*.

* Person-days = Number of people × Number of days

Global Human Resources Development

Panasonic has established 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 strives to place its employees wherever in the world they can best display their abilities. For example, Panasonic began full implementation of a program called “Working In Japan” in 2007, with the aim of accelerating the development of talent from overseas through the experience of working in Japan.

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.

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

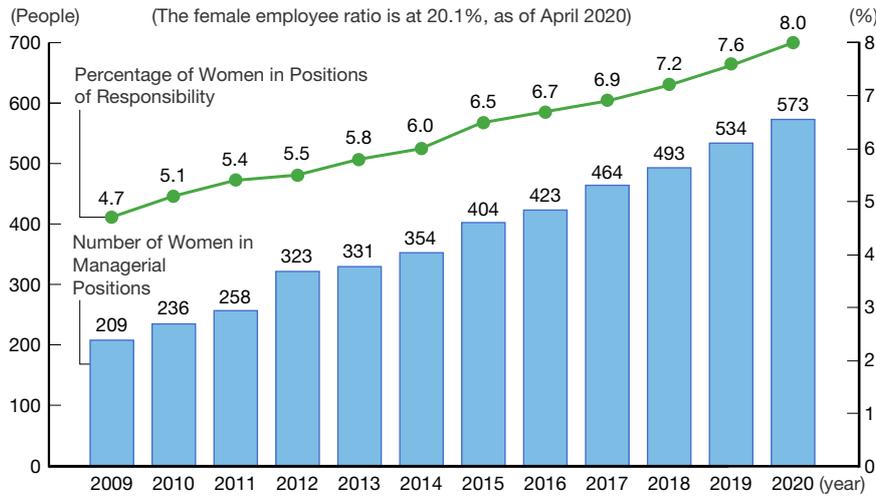
A “Role/Grade System” has been implemented at Panasonic Corporation (Panasonic in Japan) and some Japanese affiliates. This system determines work/role grades for employees according to the size of the work or role they currently perform and constitutes the basis for employee benefits. The aim of this 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.

HR Development and Diversity: Diversity

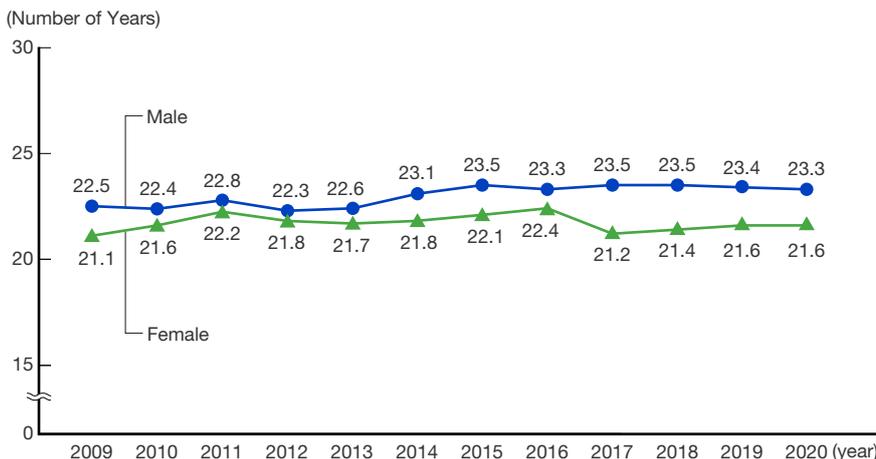
To leverage the knowledge capital of society to the greatest extent possible, Panasonic believes that it is crucial to take advantage of all forms of diversity in the workplace whether in terms gender, age, nationality, or any other factor. We have implemented a “Role / Grade System” that determines 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, a female Director was appointed in 2013, and currently two of the eight Directors are female. 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. 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.

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



Average tenure length



Diversity and Inclusion in the United States

Diversity naturally generates creativity and innovation in the workplace. Panasonic North America (PNA) is committed to building and maintaining a workforce as diverse as the communities we serve. The Diversity & Inclusion (D&I) program at PNA includes the Business Impact Groups (BIGs), Women Connect, Veterans Group, PRISM (supporting LGBTQ), and Level Up (Millennials) launched in 2019. Our newest BIG is called the Black Employee Network which recently launched in June 2020. These groups are just one way that we support the recruitment, retention and internal advancement of a diverse workforce.

Our efforts in I&D have led us to receive many awards including



Woman Engineer Magazine
Top 50 Employers



STEM Workplace Diversity Magazine
Top 50 Employers



Minority Engineer Magazine
Top 50 Employers

Here at PNA, 40% of our employees within underrepresented groups hold leadership positions throughout North America, and that number is improving every year. In addition, 17% of our leadership in North America is female. The insights and contributions made by our female leaders help move us forward. “Applying the same assumptions and methodology in calculation, underrepresented groups in leadership positions remained the same across FY19 and FY20 (40% both years). While women in leadership positions increased 1% YoY (16% in FY19 and 17% in FY20)”

In 2017, our Talent team worked with the Marketing organization to produce a video called Wall of Inclusion. We invited employees in Newark & Harrison, NJ to create Post-It notes explaining what they love about working in a diverse environment. The video allowed an opportunity to see how these notes were used to create a Panasonic Logo mural, but also gave many employees a moment on camera to share all that they gain from our commitment to continuous efforts in Diversity & Inclusion initiatives.

View our Wall of Inclusion video here. <https://vimeo.com/237451786/7239079828>

Work-Life Management

Realizing Diversity in Working Styles—e-Work*

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. Going forward, we plan to continue building a work environment even more favorable to efficient work activities. We aim to increase productivity and improve the work-life balance of employees through a number of flexible working styles.

*The term “e-work” refers generally to working from home, mobile work, work at satellite offices, remote conferencing, and other such initiatives.

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

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 2020, individuals with disabilities represented 2.33% of Panasonic Corporation workforce in Japan, while the figure for the whole Group was 2.35% (exceeding the legally mandated employment rate of 2.20%).

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
Panasonic Corporation	2.04%	2.15%	2.16%	2.15%	2.18%	2.15%	2.15%	2.20%	2.33%
Key Group Companies	2.11%	2.21%	2.24%	2.46%	2.50%	2.24%	2.47%	2.49%	2.58%
Group (whole)	2.06%	2.17%	2.18%	2.21%	2.23%	2.16%	2.17%	2.22%	2.35%

Special Subsidiaries (employee figures are as of June 2020)

Company Name	Year of Establishment	Number of Employees (Number of Persons with Disabilities)	Description of Business
Panasonic Kibi, Co., Ltd.	1980	84 (40)	Assembly of video camera LCD units, video accessories
Panasonic Katano Co., Ltd.	1981	40 (34)	Assembly of avionics products, inspection and packaging of AV accessories
Panasonic Associates Shiga Co., Ltd.	1994	63 (36)	Assembly of electronic circuits (for massage chairs, shavers, etc.)
Panasonic Ecology Systems Co., Ltd.	1980	47 (27)	Assembly of ventilating fan parts, printing of user manuals
Panasonic Heart Farm Associates Co., Ltd.	1998	71 (40)	Growing / selling orchids, distribution of company-internal mail
Harima Sanyo Industry Co., Ltd.	1982	40 (22)	Assembly of vacuum cleaner parts, maintenance of internal environment
Panasonic Associates Tottori Co., Ltd.	1992	55 (22)	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. As increasing numbers of people desire to continue working into their later years, social attitudes are changing. This has economic ramifications, in terms of retirement and pension benefits—specifically, the need for many employees to continue to work during the gap between when they officially retire and when they start to receive pension payouts—as well as ramifications in terms of the emergence of older workers as a potential resource. Since legal revisions are also underway, we are striving to ensure that everyone who wishes to continue working beyond the age of 60 has the opportunity to do so, and we are fine-tuning the conditions of our Next Stage Partner Program to accommodate this change. We are also offering economic support for employees who wish to retire early 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 has made contributions to the policy working group for a corporate LGBT evaluation index held from December 2015 to May 2016 as a secretariat member.

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.

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). The systems implemented at company sites consist primarily of the Panasonic Occupational Safety and Health Management System (OSHMS), which incorporates the content of OHSAS 18001, supplemented with our own unique perspective. Panasonic also obtains and renews external OHSAS 18001 certifications for sites in each country where customer companies request it.

Through the use of OSHMS, all employees have specific targets aiming to promote engagement in health and safety-related activities, based on clearly defined roles and responsibilities. The system also involves periodic reviews and activities evaluations by business sites directors.

With the coming expiration of OHSAS18001, 136 of the 140 global sites that acquired the certification as of the end of 2019 are preparing to transition to ISO 45001. We are aiming to obtain the new certification in March 2021.

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.

April 1, 2013

President Kazuhiro Tsuga, Panasonic Corporation

Education

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.

Headquarters Training and Numbers of Trainees (Fiscal 2020)

Name of Training	Period/Time	Number of Trainees
Occupational Health and Safety Personnel Training (Introduction)	3 days	25
Course on Human Resources Basic Roles	3 hours, 15 minutes	46
ISO45001 Internal Auditor Training	2 days	—
Lectures on Machinery and Equipment Safety Standards	2 days	24
Training Before Sales Praxis	55 minutes	795
Career Hires Introductory Training	60 minutes	451
Occupational Health and Safety Seminar for Executives and Plant Managers	2 days	18
Occupational Health and Safety Seminar for HR Personnel	2 days	16
Occupational Health and Safety Seminar for Production Engineering Manager	2 days	21

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

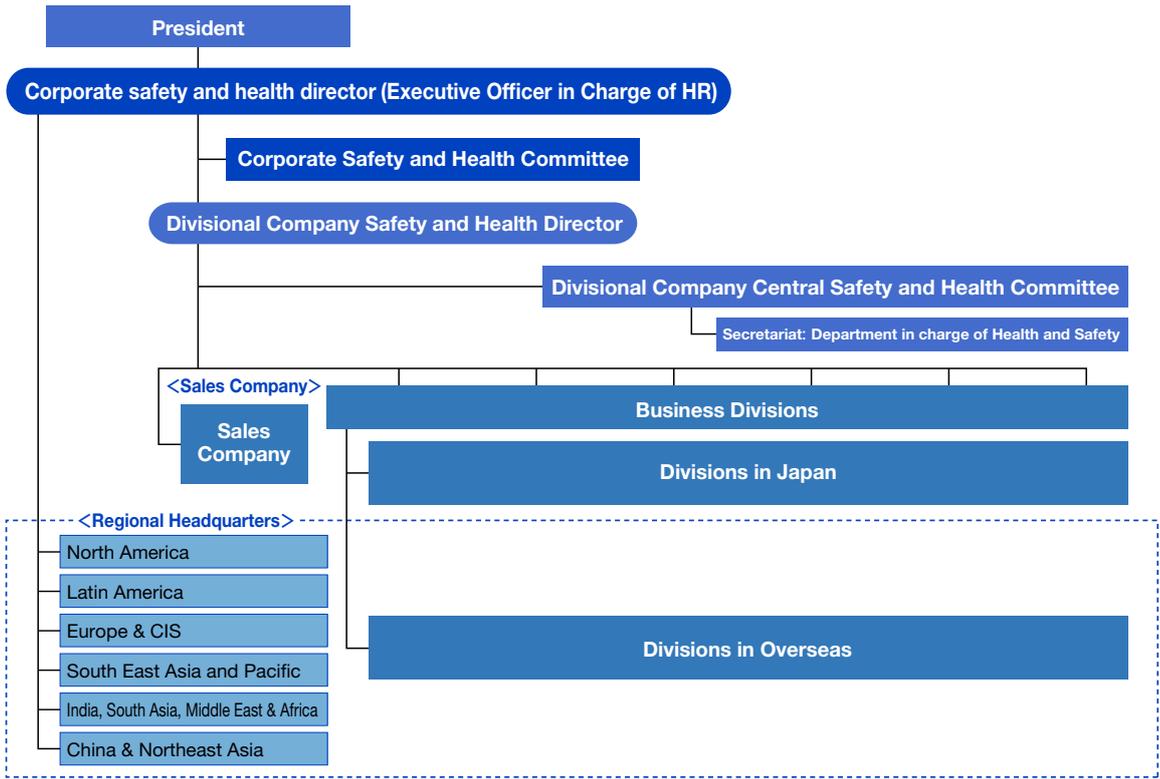
In September of each year, Panasonic holds its Employee Personal Health and Occupational Health and Safety Forum—where employees from all business sites can learn good examples of personal health and occupational health and safety promotion activities from each other. At the Forum, Panasonic awards business 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.

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 2020)

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)



To continually maintain and improve its occupational health and safety activities, Panasonic has also built the Occupational Safety and Health Management System (OSHMS) and provided various related regulations for all business sites worldwide.

Occupational Health and Safety Support Desk

Panasonic has established the following support desk 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.

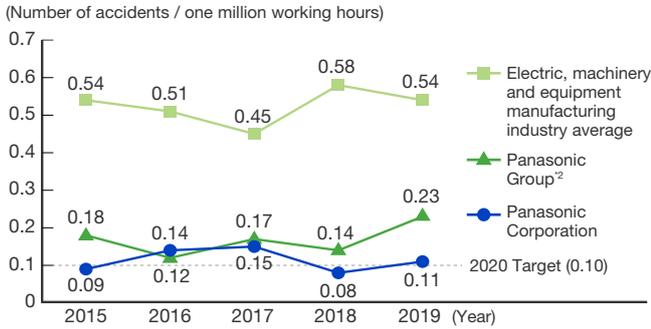
* EAP: Employee Assistance Program

Company Clinic

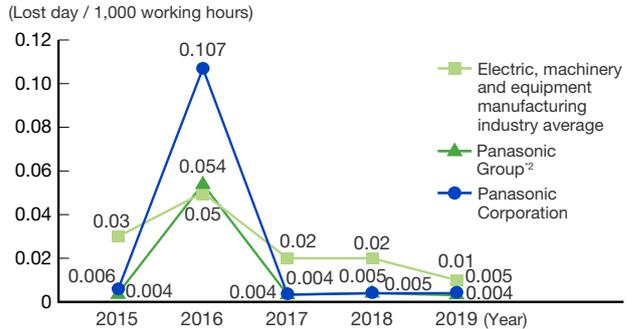
Full-time physicians and occupational health personnel are deployed to company clinics to provide a health support that performs functions such as handling illnesses that manifest during work, consulting on mental and physical health, preventing lifestyle-related diseases, and helping in smoking cessation.

Incidence of Occupational Accidents and Responses

Lost-Time Injury Frequency Rate*¹ (Number of accidents that require time off from work per one million working hours)



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



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

Number of Fatal Accidents (Global)³

2015	2016	2017	2018	2019
0	1 (Japan: An employee)	0	1 (Overseas: A local employee)	1 (Japan: Temporary staff)

*1 Excludes employees stationed overseas, temporary employees, and onsite contractor employees

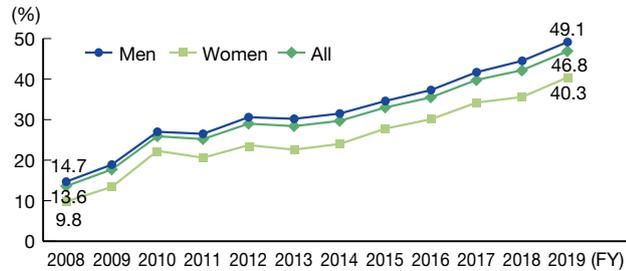
*2 The period from 2014–2017 excludes PanaHome, while 2018 includes it. The data also exclude temporary employees and onsite contractor employees.

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

Health key performance indicators

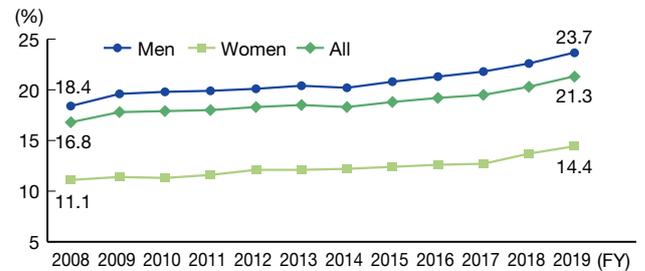
Rate of awareness of steps walked

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



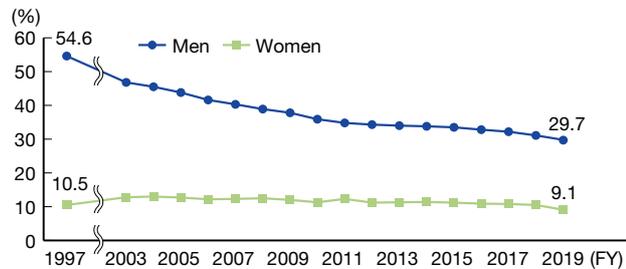
Exercise rate

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



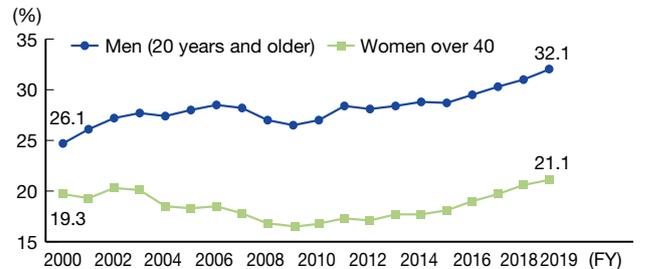
Smoking rate

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 25% and among women by 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.

Promoting Three-Year Occupational Accident Prevention Plans

In an effort to prevent the most common occupational accidents—such as getting caught in, pulled into, sliced by, or scraped by equipment and falling in halls or stairwells, among others—Panasonic has adopted Corporate-wide initiatives, and each business site is working to formulate implementation plans for fiscal 2019–2021.

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.

Panasonic Group strives to ensure that employees at all business sites take the Stress Check Test—as part of the Stress Check System—through efforts such as combining the Stress Check Test with regular health checkups. 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

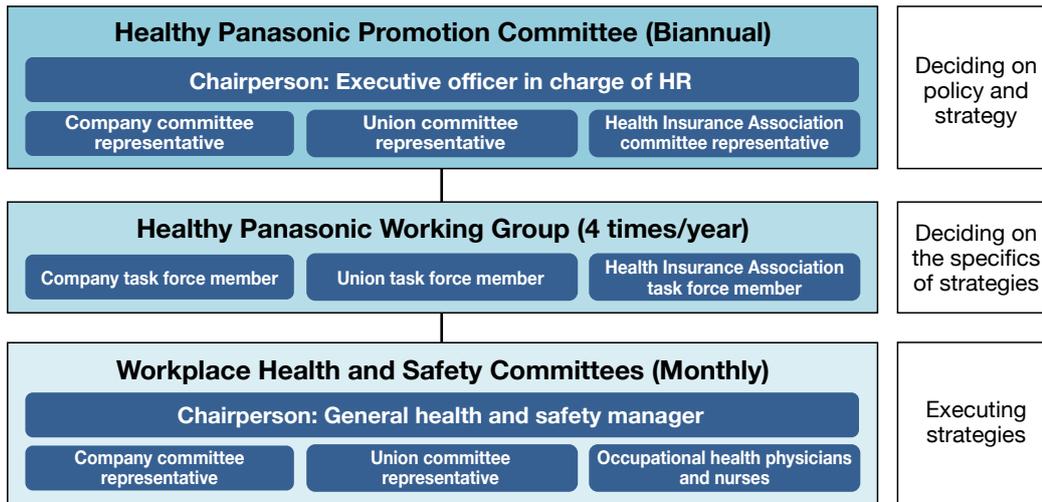
We are promoting “Healthy Panasonic”, a Corporate-wide campaign for healthy lifestyles started in FY2002 that targets all employees, labor unions and health insurance organizations. To ensure sustainable growth, and as the average employee age advances, Panasonic aims to prevent falls, reduce the risks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

Promotional Framework

As of August 2020, 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.

Health Promotion Initiatives

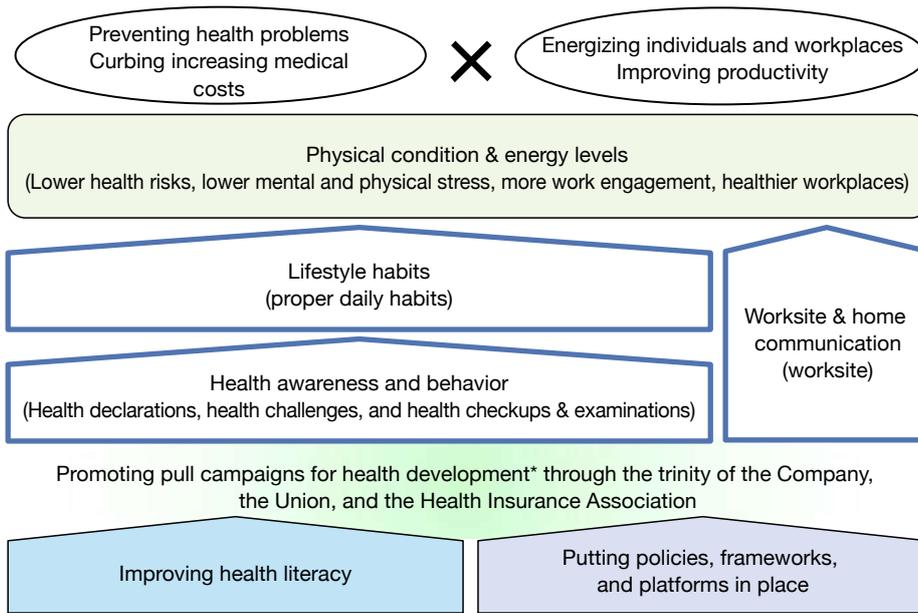
As an initiative to raise employees' health awareness, we hold a No Smoking Day (June 1st) and Health Improvement Day (October 1st) every year for the entire Group, and in fiscal 2020, 92% and 79% of business sites took measures to prevent passive smoking, quit smoking, eat well and exercise. Around 40,000 employees participated in 181 business units (each Health and Safety Committee) at AJTA, a sports competition that is being conducted for building physical strength and improving communication. 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 55% of all Panasonic Group employees use these services and apps.

In terms of improvements to work environment, Panasonic promotes non-smoking workplaces and certifies 67 workplace cafeterias across Japan through the internal Health Improvement Cafeteria Certification System. Thanks to these certifications, 78% 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.

Starting in fiscal 2020, Panasonic will further expand the scope of its activities through a new initiative called “Healthy Panasonic: One Step Towards the Future”. This initiative aims to raise health awareness among individuals and encourages them to take charge of their own health. In fiscal 2021, our theme is "making exercise a habit," as we encourage employees to build more physical stamina.

Overview of “Healthy Panasonic” from FY2020



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

Panasonic also supports HIV/AIDS prevention and provides support to those patients and their families. Based on the ideas that AIDS prevention is possible only with the correct knowledge and that this information can help avoid unnecessary worry and workplace confusion, Panasonic fundamentally prioritizes education and awareness-raising activities for its employees. Moreover, in its HR management practices, Panasonic places primary importance on protecting the human rights of those infected with HIV/AIDS, with its four principles being maintaining the confidentiality of personal information, prohibiting discrimination in HR-related matters, forbidding HIV testing without consent, and conducting educational and awareness-raising activities.

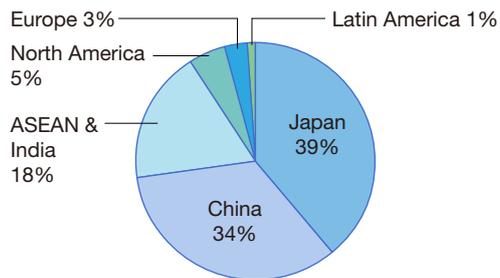
Responsible Supply Chain

Overview of Supply Chain

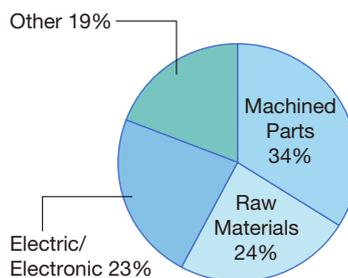
Panasonic does business with approximately 10,000 companies worldwide.

Around 70% of these business partners are located in Japan and China. Industry-wise, 34% of them supply machined parts. Panasonic 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, satisfactory 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 labor, occupational health and safety, green procurement, clean procurement, compliance and information security.

Panasonic considers the CSR initiatives in our procurement department vitally important, and we regularly conduct 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) standards and to business performance, we conduct regular evaluations of suppliers' CSR initiatives.

Regarding 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 Organisation for Economic Cooperation and Development's (OECD) Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas.

Through these efforts, we are working towards the creation of 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. Panasonic requests all suppliers to carry out CSR self-assessments. We conclude Standard Purchase Agreements including CSR requirements and then start trading only with suppliers that confirmed meeting our standards.

Panasonic also conducts CSR self-assessments of existing suppliers, and provides guidance for improvement or awareness-raising activities according to the assessment results.

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. We released in 2004 "Clean Procurement Declaration" aiming for "a more stringent sense of moderation and ethics" in our relationships with suppliers. We strive to carry out procurement activities in accordance with such our standards.

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.

We have created a global hotline to act 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://panasonic.ethicspoint.com>

- ▶ Our Company (Clean Procurement Declaration)

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

Education

We provide training to our personnel to disseminate fundamental knowledge on our approach to CSR and procurement compliance—including for instance prohibition of forced or child labor. We aim to develop human resources who can fulfill our responsibility to society in the context of procurement operations.

CSR procurement training is divided into two stages: CSR First Grade, which is meant to provide specialized knowledge so that buyers can solve issues when they arise on-site, and CSR Second Grade, which is meant to instill basic knowledge on how to carry out day-to-day procurement tasks while complying with CSR requirements.

In order to be certified as a professional buyer, procurement staff must both take CSR Second Grade classes and pass their test.

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Number of times training for CSR 1st grade was held	1	2	2	1	2
Number of students who attended the above training	10	12	11	9	12
Number of times training for CSR 2nd grade was held	2	4	5	7	6
Number of students who attended the above training	99	174	248	278	194

Responsible Executive and Framework

The executive in charge of procurement is Yoshiyuki Miyabe, Senior Managing Executive Officer and Chief Manufacturing Officer (CMO) (as of August 2020).

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 meetings attended by the personnel in charge of procurement functions in each Divisional Company and business division.

Responsible Supply Chain: Enforcement of CSR for Suppliers

Enforcement of the Panasonic Supply Chain CSR Promotion Guidelines

As a result of a continuous dialogue with our stakeholders such as client companies and NGOs, the Panasonic Group issued the Panasonic Supply Chain CSR Promotion Guidelines, Rev. 1 in March 2016. Based on international standards and industry-specific approaches, the Guidelines are intended as CSR requirements that we expect our suppliers to follow. Furthermore, in order to reflect frequent changes in social expectations, we revised these Guidelines and released the Panasonic Supply Chain CSR Promotion Guidelines, Rev. 2 (“Procurement Guidelines”) in July 2018.

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 and child labor, appropriate working hours and payment of wages, humane treatment and elimination of discrimination, and 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 trade 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 have been created in Japanese, English, and Chinese and have been published on our website. We are also distributing them to all our suppliers via email to ensure thorough awareness.

Going forward, we hold supplier meetings as necessary to revise the Panasonic Supply Chain CSR Promotion Guidelines and the CSR self-assessments sheets and ensure a thorough CSR enforcement 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>

Related Links

- ▶ The Freedom of Association and Respect for the Right to Collective

<https://www.panasonic.com/global/corporate/sustainability/humanrights/approach.html#freedom>

- ▶ Initiatives for the Prevention of Slavery and Human Trafficking

https://www.panasonic.com/global/corporate/sustainability/human_rights/global_standards.html#anti-slavery

Requests to Suppliers for CSR Self-Assessments

In fiscal 2016, we began requesting that our suppliers conduct a CSR self-assessment of their initiatives related to human rights, health and safety, the environment, and ethics, and we have been requesting these self-assessments annually ever since.

Based on our Procurement Guidelines, we requested CSR self-assessments from approximately 5,000 suppliers, mostly in China, Southeast Asia, and India in fiscal 2017; from around 2,000 suppliers, primarily in Japan, in fiscal 2018; from approximately 3,000 new and existing suppliers in fiscal 2019; and we requested these self-assessments from all new suppliers in fiscal 2020.

These self-assessments include items to confirm the prohibition of child labor and the prevention of forced labor. Panasonic requests its suppliers to employ workers according to the laws and regulations of their respective countries, to ensure that no workers engage in labor against their will.

Based on the results of the self-assessments, we visit suppliers, verify conditions on the ground and hold interviews as necessary. In fiscal 2018, we checked conditions on the ground at four suppliers in Thailand and three in China. We identified issues related to occupational health and safety in both Thailand and China as well as environmental issues in China, and requested that corrections be made. We will continue to request self-assessments from our suppliers and communicate with them about CSR-related matters. We will strive to take swift corrective actions when any issue is identified and aim to build up a sound supply chain.

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.

- ▶ Collaboration Across the Supply Chain

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

- ▶ ECO-VC Activity Proposal and Application Guidelines

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

Responsible Supply Chain: Responsible Minerals Procurement

Panasonic's Basic Stance on Responsible Minerals Procurement

Panasonic took a basic stance on conflict minerals in 2012 and reviewed it in April 2018, based on recent social trends with regards to responsible minerals procurement.

Panasonic recognizes that the procurement of certain minerals (notably tin, tantalum, tungsten, gold and cobalt) from states in conflict-affected areas and high-risk areas (hereinafter referred to as "target areas") carries a risk of funding organizations that are involved in illegal or unethical activities, including human rights abuses such as child labor, harsh working conditions, environmental destruction and corruption. 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..

At the same time, there are companies and individuals in the target areas who are conducting lawful business activities. Therefore, while we remain mindful of our obligation to avoid using minerals associated with illegal or unethical practices, we strive to ensure that legitimate companies' and individuals' business activities and livelihoods are not compromised by such efforts.

To this end, it is necessary for us to work in partnership with a wide range of stakeholders, in various countries, including governments, industry associations, companies and NPOs that are taking measures to build 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 to conduct due diligence efforts in the entire supply chain, including through green certifications of upstream mining companies, smelters and refineries clean, and by disseminating information on smelters and refineries among downstream enterprises.

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.

Responsible Minerals Procurement System

With the Chief Manufacturing Officer (CMO) 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 presenter to survey briefings held by 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 2020, the Panasonic Group as a whole surveyed around 3,600 suppliers on conflict materials and collected responses from 92% of them (as of the end of February 2020). 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 328 smelters and refineries present in the supply chain of minerals used in

our products. Among these, 82% have received the “Conformant Smelter” certification (which is delivered to smelters/refineries that pass RMI’s audit).

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, 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 2020, 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.

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

Beginning in 2011, Panasonic has been participating 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 of JEITA’s Responsible Minerals Procurement Working Group to obtain audit certification for smelters and refineries that have not yet participated in the RMAP, and we continued these efforts in 2019.

Furthermore, Panasonic joined the Responsible Minerals Initiative (RMI) in July 2017, with the aim of learning the latest industry trends and promoting best practices regarding procurement activities. In 2018, we attended the RMI Annual Conference held in the US. In addition, Panasonic started participating in the RMI’s Cobalt Workgroup in 2018.

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

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 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 our business sites around the world observe and practice the Panasonic Code of Conduct, and we hire an external auditing firm to conduct an internal control audit.

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, handle and prevent these risks.

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

Panasonic established the Basic Management Objective as a core management philosophy, initially introduced by Panasonic’s founder Konosuke Matsushita, which states that “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.” In order to put our management philosophy into practice, we adopted the Panasonic Code of Conduct, which includes elements from international norms including the OECD (Organisation for Economic Co-operation and Development) Guidelines for Multinational Enterprises. We have translated the Code of Conduct into 22 languages, and communicate to all our Directors and employees globally our basic stance as a company in terms of our aspirations for the Panasonic brand and how we answer to social expectations in terms of corporate social responsibility (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 to share annual compliance policies with Divisional Companies and regional headquarters, 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 other authorities that have any effect on our business.

Compliance Training

Panasonic conducts e-learning for new hires and newly promoted employees as needed and provides a variety of educational materials on compliance to increase training and awareness throughout the year.

We adopted a Compliance Guidebook to serve as a tool for putting into practice compliance-related items in 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 cartels.

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.

Corporate-wide compliance e-learning conducted in fiscal 2020 focused on the theme of the Panasonic Code of Conduct and was available to all employees. Approximately 145,000 employees participated in the e-learning.

Responsible Executive and Framework

Panasonic's General Counsel (GC), Executive Director Laurence Bates, is in charge of fair operating practices (as of August 2020).

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 managers and other persons responsible for supervising various other functions in our Companies, business divisions, and regional headquarters outside Japan.

Whistleblowing System

In August 2018, Panasonic integrated its existing whistleblower hotlines for compliance-related issues to create a unified global hotline. The new hotline started addressing issues that included inappropriate use of funds, embezzlement, conflicts of interest, quality fraud, bribery, competition law violations and harassment. 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 fiscal 2020, we received approximately 760 reports and requests for consultation, mostly through the abovementioned hotline. For all the contacts received through our global hotline, support desks coordinated with relevant divisions to investigate, check, and respond to claims.

In July 2019, Panasonic adopted two new internal regulations: the "Internal Reporting and Investigation Rules", and the "Rules on the Prohibition of Retaliatory Behavior against Whistleblowers, and Others". The former—to quickly detect and resolve violations of laws and corporate regulations—establishes operational procedures and systems for reporting suspected violations, appropriately receiving notifications, and investigating and correcting any violation. Through the abovementioned second new regulation, we will prevent retaliation against whistleblowers, case investigators, investigation collaborators, and others, while making clear that the provisions of the Panasonic Code of Conduct safeguard whistleblowers and similar parties. By doing so, we will encourage whistleblowing and ensure appropriate investigations into these cases.

Fair Operating Practices: 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” in 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. Our auditors conducts an audit of internal control.

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. See the section titled “Fair Operating Practices: Compliance Programs” for more information on our corruption prevention strategies.

In the event that Panasonic becomes aware of any serious violations of laws or corporate regulations, we stop the violating behavior immediately, and in addition to reporting to executive management, we consider countermeasures after verifying facts and analyzing the causes of the violation in relevant divisions. We report on such matters to the Board of Directors as necessary and correct the violations swiftly and across the entire company, based on the resolution of the Board.

Fair Operating Practices: Compliance Programs

Panasonic is carrying out Corporate-wide compliance programs addressing the implementation of measures for mitigating the risk of competition law violations, as well as the risk of bribery and corruption. In fiscal 2019, we put forward the following initiatives to strengthen our compliance infrastructure worldwide, with a focus on anti-bribery efforts:

- **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 when the General Counsel visits international Divisional Companies to discuss compliance with local managers.
- **Compliance awareness and culture:** Panasonic created a comic book covering bribery and corruption prevention and distributed it to all employees. We also created a leaflet explaining our global hotline. Furthermore, we added questions on compliance to the Awareness Survey given to all employees. In fiscal 2020, there were approximately 161,000 survey respondents.
- **Education and awareness:** Panasonic offered Corporate-wide e-learning on compliance to all employees, with fiscal 2020 participants numbering approximately 145,000. 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, Panasonic has unified its reporting system by establishing a global hotline. We immediately conduct internal investigations when potentially illegal activities are identified through hotline notifications, reporting or through related audits. After confirming the facts surrounding illegal activities through these internal investigations, Panasonic immediately addresses the violations, while seeking out 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 2021 Global Compliance Policy Action Plan and in each Company's particular initiatives.
- **Strengthening survey practices:** In fiscal 2019, divisions of the Panasonic headquarters conducted compliance audits for bribery and corruption risks to quickly identify, prevent, and handle these risks. Starting in fiscal 2020, Panasonic intends to periodically conduct compliance audits at all new locations and to follow up on points discovered in such audits. Additionally, on July 1, 2019, we updated our Corporate-wide whistleblowing and investigation systems with new global regulations: Regulation Concerning Whistleblower Reports and their Investigations, and Regulation Concerning the Prohibition of Retaliatory Treatment toward Whistleblowers. (For details, see the chapter on Whistleblowing Systems.)

Moreover, in fiscal 2020, while continuing to improve last year's initiatives, Panasonic is promoting new projects, including the establishment of a separate compliance committee. This committee will discuss and give direction to focal points regarding risks and compliance infrastructure at the management level.

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 high 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 discovers 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

Ensuring Transparency of Political Contribution Funds

Regarding political donations, the Japan Business Federation 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.”) Panasonic abides by this policy and makes political donations as a part of its corporate social responsibilities.

When making donations, Panasonic complies with the Political Funds Control Act, all other relevant legislation, and with its own strict rules.

In Japan, the legal duty of disclosing political fund income and expenditures falls on political groups. These disclosures are publicly available from the Official Gazette or from official prefectural bulletins.

They are also available on the web.

*November 2019 Official Gazette (2018 political contribution data):

https://www.soumu.go.jp/main_content/000664153.pdf#page=1

(2019 data are scheduled for disclosure in November 2020)

*Japanese Only

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, Panasonic adopted on July 1, 2019 new global regulations that apply to all Panasonic Group employees and executives. These regulations include the Global Anti-Bribery/Anti-Corruption Policy, Rules on Third-Party Intermediary Risk Management for Anti-Bribery/Anti-Corruption, Rules on Gift and Hospitality for Anti-Bribery/Anti-Corruption, and Rules on Conflict of interest. We will also introduce processes for reviewing new risks to discover bribery and corruption risks before transactions take place when starting or renewing dealings with “Third-Party Intermediaries”.

Panasonic enacted the Global Anti-Bribery/Anti-Corruption Policy 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 prohibits facilitation payments and acts considered bribery or corruption in connection with political contributions, donations, or sponsorships; lobbying; hiring and recruitment; mergers, acquisitions, and joint ventures. The Policy also specifies procedures for preventing bribery and corruption.

Panasonic enacted Rules on Third-Party Intermediary Risk Management for Anti-Bribery/Anti-Corruption as general rules

for identifying, reviewing, selecting, and registering intermediary sellers and special subcontractors, as well as for initiating and terminating transactions with such parties. 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.

With the Rules on Gift and Hospitality for Anti-Bribery/Anti-Corruption, Panasonic adopted specific procedures for prohibiting the provision or receipt of gifts or entertainment, including meals, hospitality, and travel costs, in relation to public officials or business partners. These procedures are meant to prevent the risks related to these acts of bribery or corruption.

Preventative Regulations on Conflict of Interests stipulate provisions for the prevention, identification, management, and rectification of actions that involve, or may involve, a conflict in terms of individual benefit versus the Company's benefit. The regulations offer specific examples of actual or potential conducts that entail a conflict of interest.

To ensure full compliance with these new global regulations on bribery and corruption prevention, Panasonic will continue raising awareness and promoting efforts Corporate-wide.

Fair Operating Practices: Measures Taken Against Counterfeit Goods

While most counterfeit goods reportedly originate from China, they are spreading worldwide, being catalyzed by the growth of the internet. In recent years, counterfeit goods have also expanded from consumer products to B2B products. Not only does this lead to quality concerns (accidents and injuries) for all customers, but it also leads to economic loss (reduced tax revenue and reduced incentives for companies to develop new products) and security issues (national security threats and funding opportunities for criminal/terrorist organizations) for society.

In its efforts to eradicate counterfeit goods, Panasonic implements extensive measures globally to protect both our customers and society. These measures target various stages of counterfeit goods production and distribution, including manufacturers, major trade shows, importers/exporters, wholesalers and distributors.

Our brand is an irreplaceable asset that is testimony to the trust and satisfaction our customers and society place in us, so we will resolutely continue to respond to counterfeit goods that illegally display our brand.

Specific countermeasures

- Providing information to government authorities and urging them to expose factories producing counterfeit goods.
- Preventing negotiations for counterfeit goods at major trade shows in China.
- Carrying out training for identifying counterfeit products (by knowing marks of authenticity) at customs offices in each country and encouraging measures to halt these products at the border.
- Preventing the sale of counterfeit goods in each country (in stores, through online sites, etc.).
- Raising market awareness about counterfeit goods by collaborating with relevant authorities in various countries.
- Urging countries with insufficient legal systems and practices to make improvements to these frameworks.
- Pursuing civil lawsuits against vendors of counterfeit product to prevent further manufacture and sale of counterfeit products.
- Producing educational videos for consumers, promoting education about intellectual property, and preventing the purchase of counterfeit products.



Vietnamese authorities disposing of counterfeit products

Counterfeit consumer products

Batteries



Home electronics



Counterfeit B2B products

Automatic doors



Wiring devices



Electronic parts



Motors



Fair Operating Practices: 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.

In regions across the world, Panasonic is promoting the efforts of the AEO system, including, for example, by participating in the Customs Trade Partnership Against Terrorism (CTPAT) at Panasonic Corporation of North America (PNA).

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

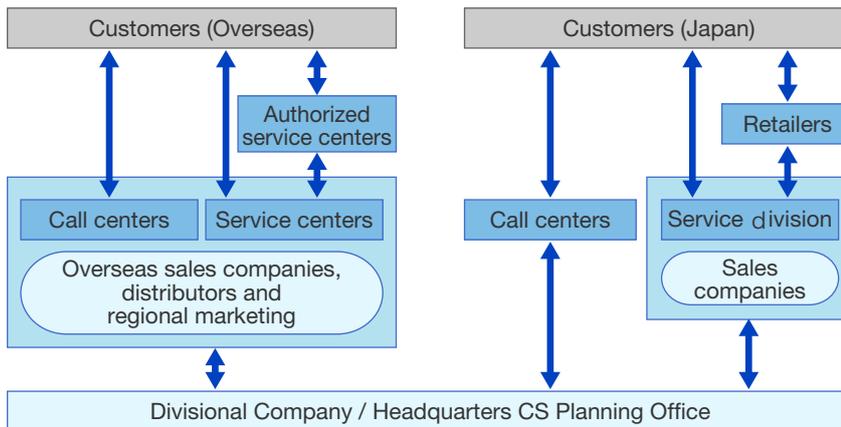
Responsible Executive and Framework

The executive officer in charge of CS is Executive Vice President of Appliances Company Akira Kono (as of August, 2020).

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



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.

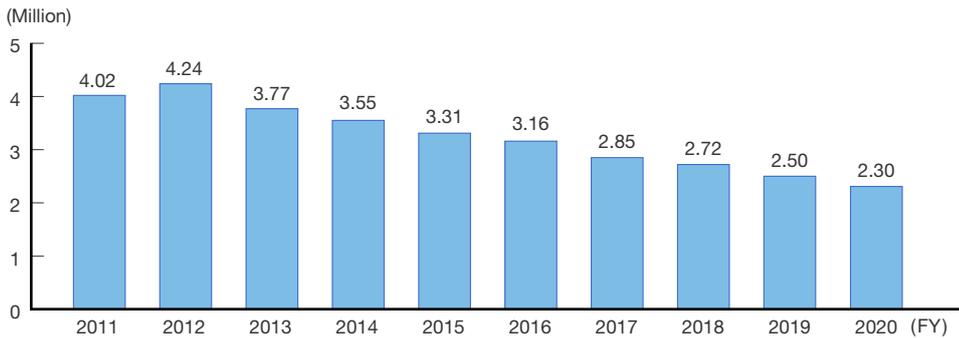
In recent years, the company has also been undertaking initiatives to use Facebook and other social media outlets to post various types of useful information in a timely manner, such as when the seasons change, and to entice customers to visit relevant FAQ pages using LINE's autoreply service.

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



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 at-home 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: 104 locations throughout Japan (as of April 2020)

Number of Service Locations of Panasonic LS Techno Service Co., Ltd.: 43 locations (as of April 2020)

Initiatives for Improving Repair Service Windows

With the goal of making it more convenient for customers requesting repairs, 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.

Customers can get a diagnosis from our website before applying 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.

Panasonic has also established a comprehensive consultation system for digital cameras through the LUMIX Concierge Service—which offers consultation, repair, and cleaning services—at the new LUMIX GINZA TOKYO.

These efforts demonstrate that Panasonic is working to provide service offerings that mesh with customer lifestyles and life stages, including one-stop service.

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 handling for the returns of our products for the convenience of our customers.



LUMIX GINZA

Number of Repair Service Centers (FY2020)

Region	Number of Repair Service Centers
Japan	147
North America	1,250
Latin America	1,000
Europe & CIS	550
Southeast Asia & Pacific	1,750
India, South Asia, Middle East & Africa	500
China & Northeast Asia	3,550

*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-oriented 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 to its corporate customers (partners) with problems regarding construction, installation, and 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, audio, 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.

Management Indicators

Panasonic has established common global management items whose goal is to deliver higher levels of service quality by setting targets. It periodically measures its success at achieving those targets and strives to make improvements based on the results. The company is also engaged in creating new standards and indicators with the aim of optimizing service costs.

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.

The website below describes Panasonic's other customer relations initiatives:

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

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 to reach out to all employees, including quality officers and design officers at each Divisional Company and in each division, to communicate product safety-related information on every Panasonic product. This enables employees to promptly provide up-to-date safety information to customers.

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.

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—held on June 27, 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)

<https://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

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

Regulations

Quality Management System

To establish self-sufficient quality assurance processes in each Divisional Company, Panasonic published 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. We have also revised the Guidelines to comply with ISO 9001-2015.

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 and internal audits to verify the progress of these systems at every level (Group, Divisional Company, business site, etc.), as part of the Company's commitment to continuous quality improvement.

Panasonic strives to evolve in accordance with each of its business sectors. We have established standards designed with the aim of continuously improving quality in each sector—including consumer electronics, automotive, housing, devices, BtoB solutions, and pharmaceuticals—by specifying which portions of the P-QMS apply Corporate-wide and which portions apply to specific businesses.

Education

Panasonic holds training twice each year for all quality managers in each Divisional Company, business divisions and overseas subsidiaries designed to teach employees about Panasonic quality, with aim to thoroughly spread Panasonic's approach to quality among employees. In November of each year, Panasonic also holds its Quality Control Circles World Conference to improve the quality control skills of on-site employees through the horizontal expansion of Quality Control (QC) activities, by which employees learn methods for solving problems in the workplace. At the 56th conference, held in fiscal 2019, 28 quality control circles were picked from a total of 4,565 Corporate-wide circles to compete in a quality control grand prix.



A scene from the Quality Control Circle World Conference

To establish a workplace culture that makes product safety the top priority in our manufacturing processes, Panasonic holds product safety training lectures to train product safety experts. To further ensure that this culture reaches all group employees, we conduct educational activities on product safety, such as by providing employees with self-paced learning opportunities, including through the "Fundamentals of Product Safety" e-learning program, and by holding Product Safety Forums, where employees can consider product safety-related issues through cases seen inside and outside the company.



Product Safety Learning Square

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).

In fiscal 2020, 9,589 employees visited the Product Safety Learning Square. This represented a significant increase over the previous year's number of 6,286 employees, thanks to enthusiastic promotional efforts that featured exhibits and displays at 11 business sites. The visitors—ranging from new hires to executive managers—learned about accidents from the customer's perspective and renewed their resolve to never allow another accident to happen.

In order to further spread and establish P-QMS globally among all manufacturing personnel in the Group, Panasonic also rolled out English- and Chinese-language versions of P-QMS e-learning material.

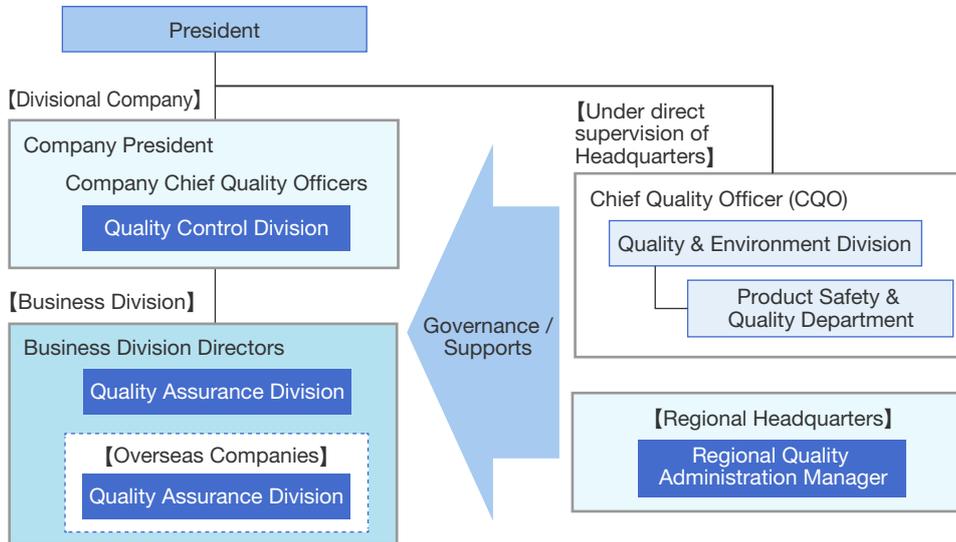
In order to further spread and establish P-QMS among all manufacturing associates in the group, Panasonic also provided e-learning to 3,804 managers, roughly 90% of the managers at all divisions in companies in Japan.

Responsible Executive and Framework

As of August 2019, the Chief Quality Officer (CQO) is Executive Officer Hiroto Uehara.

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



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 2020, the Working Group looked at an analysis of quality issues extending to the level of management and covering major concerns from fiscal 2019. 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 international standards (e.g. ISO, IEC) that must be followed when developing products.

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 fiscal 2020, the Working Group also shared and deliberated 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 (PCSS) Edition 9 Ver. 01.

Global Safety Standard Certifications Obtained

Personal care robot safety certification ISO 13482^{*1} acquired: January 2017

In February 2014, Resyone—a robotic device for nursing care that combines the functionality of a bed and a wheelchair—was the first device worldwide to acquire the global safety standard ISO 13482. Resyone PLUS, which improved on Resyone's convenience, safety, and aesthetics, acquired certification based on ISO 13482 in January 2017.

See: <https://sumai.panasonic.jp/agefree/products/resyoneplus/> (Japanese only)

Road vehicle functional safety standard ISO 26262^{*2} acquired: February 2012

Panasonic acquired process certification in the ISO 26262 road vehicle functional safety^{*3} 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 (Japanese only)

*1 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.

*2 An international standard for road vehicle functional safety that was published on November 15, 2011. The standard sets out four Automotive Safety Integrity Levels (ASILs): ASIL A through ASIL D.

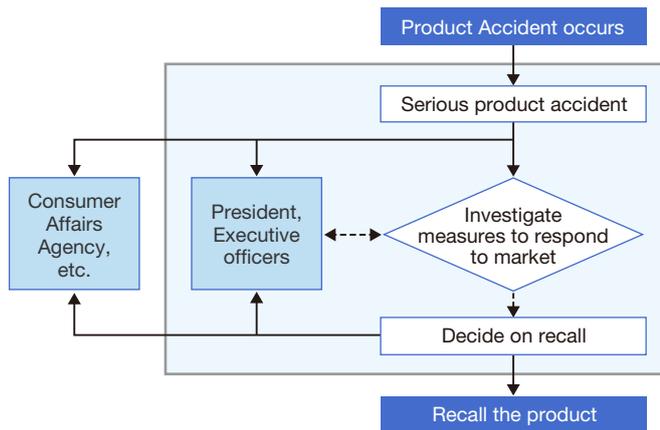
*3 Safety achieved through the working (functioning) of electric or electronic devices, such as microcomputers. Functions include the detection of malfunctions, safe stop controls, and user warnings.

Quality and Product Safety: 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, 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, which then consider how to respond to the situation.

Product Accident Response Flowchart



Serious Product-Related Accident Information

In Japan, Panasonic publicly reports serious product accidents^{*1}, accidents suspected of being caused by products^{*2}, and accidents for which it has been determined that it is unclear whether a product was the cause^{*3}, based on the Consumer Product Safety Act and Panasonic's basic policies, as laid out in its Autonomous Code of Conduct for Product Safety.

*1 "Serious product accidents" are 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 "Accidents suspected of being caused by products" are defined as follows:

- 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 it has been determined that it is unclear whether a product was the cause"

Panasonic publicly releases information on accidents for which the 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

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

Quality and Product Safety: List of Awards

1) Recipient of several Product Safety Awards from METI*, including the “METI Minister’s Award”, and the “Director-General for Technology Policy Coordination and Industrial and Product Safety’s Award”

(For more details, see: https://www.meti.go.jp/product_safety/ps-award/3-consumer/h30_award.html#anc-1-1 (Japanese only))

- METI Minister’s Award, Large Manufacturer and Importer Category: Laundry and Cleaner Division, Appliance Company, Panasonic Group
- Director-General for Technology Policy Coordination and Industrial and Product Safety’s Award, Large Retailer Category: Panasonic Homes

* This awards program was launched by the Ministry of Economy, Trade and Industry (METI) in 2007 with the aim of encouraging private enterprises to make a greater commitment to improving product safety, as well as to firmly establish the value of product safety in society as a whole.

2) IAUD Design Award

Panasonic received the IAUD Gold Award for seven consecutive years until 2018 and its "Communication of Panasonic Universal Design" won the Grand Award in 2017.

(URL <https://www.panasonic.com/global/corporate/technology-design/ud.html>)

Product Security

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 Education of Employees

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 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

When information on a product security issue (vulnerability information, etc.) is obtained, the information will be verified in cooperation with the relevant division. If it is confirmed that a product has a security issue, we provide an update or a countermeasure to ensure the security of the product. Additionally, verification mechanisms will be reviewed to prevent reoccurrence.

Information Security and Protection of Personal Information

Promoting Information Security Across the Globe

Panasonic is well aware of the importance of protecting personal information and other information entrusted by its customers. To prevent data leaks and data tampering, the company has created a system to manage information security as part of its effort to enforce global rules and ensure information security through the implementation of organizational, technological, and physical security management policies. Panasonic periodically conducts internal information security audits and reviews 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.

The list of ISO27001 certified sites

<https://www.panasonic.com/global/corporate/sustainability/security/iso27001.html>

Information Security Training

To raise employee awareness and knowledge about information security and to ensure proper information management, Panasonic provides all employees with position-appropriate information security training, including education for employees who handle customer or personal information.

Personal Information Protection and Compliance

As Panasonic's IoT business grows, its employees are increasingly likely to handle customer lifelogs and other personal data from all around the world. Therefore, Panasonic strives to improve its data management to provide a higher level of privacy protection, while bolstering its efforts to comply with local laws and meet its social accountability responsibilities.

Panasonic Privacy Policy

Panasonic Corporation (hereinafter referred to as "Panasonic") aims to ensure the satisfaction of customers and gain their confidence by providing superior products and services, guaranteeing transparency based on the Basic Business Philosophy.

To achieve these goals, Panasonic will strive to establish a better relationship not only with our customers but also stakeholders such as business partners, shareholders, employees, etc.

As part of its efforts, Panasonic will implement the following policies to protect and handle Personal Information appropriately.

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.

External Recognition

Major Recognition in the CSR and Environmental Fields

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 20 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

Panasonic Corporation has been a constituent of the MSCI ESG Leaders Indexes (formerly MSCI Global Sustainability Indexes), one of the world's leading indexes for ESG investment that values enterprises focusing on environmental, social and governance factors, for 10 consecutive years. In addition to the above, Panasonic has become a constituent of the MSCI Japan ESG Select Leaders Index since its inception in July 2017. These are the indexes of MSCI Inc. of the United States.

☞ MSCI website <https://www.msci.com/esg-indexes>



2020 CONSTITUENT MSCI JAPAN ESG SELECT LEADERS INDEX

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 4rd 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 190 purchasing categories and 150 countries. The Gold Rating places Panasonic among the top 5% of eligible corporations worldwide for sustainability performance.

CDP 2019

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 2020. Panasonic Corporation received the highest rating of "A (Leadership)" out of the eight grades in recognition of its efforts for climate change such as reducing CO₂ emissions and setting medium- to long-term targets, and its information disclosure.



CLIMATE

Environmental Brand Survey by Nikkei BP Eco Management Forum

Panasonic Corporation was ranked 5th in the ranking of the Environmental Brand Survey conducted in 2019 by Nikkei BP Eco Management Forum. The company received high evaluations in the areas such as energy saving, creation, and storage; resources recycling; as well as environmental communication.

Fiscal 2020 Awards in the Environmental Field

Environmental activities by Panasonic gained recognition again in fiscal 2019, with various awards received globally.

Major Awards and Achievements in the Environmental Field (Fiscal 2020)

Category	Presenter and awards	Award title	Recipient companies and details (URL)
Products & Services	Energy Conservation Center Japan (ECCJ) Energy Conservation Grand Prize 2019	ECCJ Chairman's Prize in the Product/Business Model category	Smart Energy Systems business division, Appliances Company, Panasonic Corporation (Joint award with NORITZ Corporation, and GASTER Co., Ltd. Home fuel cell PEFC (Polymer electrolyte fuel cell) type 'Ene-farm' https://news.panasonic.com/jp/topics/167909.html
		ECCJ Chairman's Prize in the Product/Business Model category	Panasonic Homes Co., Ltd. Housing air conditioning system 'Air LOHAS' https://news.panasonic.com/jp/topics/167909.html
	Japan Electrical Manufacturers' Association (JEMA) The 69th (2019) Electrical Industry Technical Achievement Awards	Excellent award in the Heavy Electric Equipment category	Automotive & Industrial Systems Company, Panasonic Corporation Development of FA servo motor MINAS A6 Family https://www.panasonic.com/jp/corporate/technology-design/award/list/2019.html
		Incentive award in the Heavy Electric Equipment category	Panasonic Ecology Systems Co., Ltd. Development of thermal power conversion system for houses, which balances energy efficiency and less maintenance. https://www.panasonic.com/jp/corporate/technology-design/award/list/2019.html
		Excellent award in the committee activity	Eco Solutions Company (current Life Solutions Company), Panasonic Corporation (Joint award with other organization) Solar power generation subcommittee's Virtual Power Plant (VPP) of home photovoltaic (PV) power generation system https://www.panasonic.com/jp/corporate/technology-design/award/list/2019.html
	Japan: Association for Resilience Japan The 6 th Resilience Award	Highest award in the Corporate industry sector	Appliances Company, Panasonic Corporation Home fuel cell 'Ene-farm' with a hybrid storage cell system https://news.panasonic.com/jp/topics/168189.html
	United States: Environmental Protection Agency Energy Star Awards	Partner of the Year Sustained Excellence	Panasonic North America For continued leadership and superior contribution to ENERGY STAR in the environmental protection field through outstanding energy efficiency https://na.panasonic.com/us/news/panasonic-earns-2020-energy-starr-partner-yearsustained-excellence-award
	United States Green Electronics Council (GEC) EPEAT	Bronze certification	Panasonic North America Scanner: KV-S5046H, KV-S5076H, KV-S1026C-MKII, KV-S1037X, and so forth. https://na.panasonic.com/us/news/four-additional-panasonic-scanners-receivepeat-bronze-rating
Japan Institute of Design Promotion 2019 Good Design Award	Good Design Award, and so forth	Panasonic Corporation Recharger for EV·PHEV [ELSEEV hekia S] Home fuel cells cogeneration system FC-70JR13R, and so forth. https://news.panasonic.com/jp/topics/167112.html	
Production Activities	Energy Conservation Center Japan (ECCJ) Energy Conservation Grand Prize 2019	Natural Resources and Energy Agency Commissioner's prize in the Examples of Energy Savings category (Joint implementation field)	Panasonic Environmental Systems & Engineering Co., Ltd. (Joint award with Primearth EV Energy Co., Ltd., MAEKAWA MFG. Co., Ltd., Toyota Tsusho Corporation., and Takasago Thermal Engineering Co., Ltd.) Activities for high energy efficiency using heat at a new factory for storage lithium-ion batteries, Primearth EV Energy Co., Ltd. https://news.panasonic.com/jp/topics/167909.html
		ECJJ Director award in the Examples of Energy Saving category	Tsu factory, Life Solutions Company, Panasonic Corporation Roll-out of energy saving activities worldwide under the Business Continuity Plan by initiatives of a mother factory. https://news.panasonic.com/jp/topics/167909.html
	Japan: Nikkan Kogyo Shinbun Smart Factory AWARDS 2019	Smart Factory AWARD 2019	Niigata factory, Lighting Division, Life Solutions Company, Panasonic Corporation https://news.panasonic.com/jp/topics/165965.html
	Japan: Shikoku Bureau of Economy Trade and Industry (ET) under the Ministry of Economy, Trade and Industry (METI) Award for 2019 Energy Efficient Month in Shikoku region	Best factory for Efficient Energy Management award	Tokushima Factory, Sanyo Electric Co., Ltd. https://www.s-ea.jp/iinkai/katuyou/2020shouene_jyushou_meibo.pdf
Japan: Tokushima prefecture 2019 Climate Change Award	Climate Change Award	Tokushima Factory, Sanyo Electric Co., Ltd. Tentative link https://www.pref.tokushima.lg.jp/jigyoshanokata/kurashi/shizen/5038521/	
Environmental activities	Japan: The 1 st Japan Sustainable Seafood Award	Initiative Award	Brand Communication Division, Panasonic Corporation 'Japan's first continuous adoption of sustainable seafood to on-site canteens' Expanding the promotion of the project to contribute to achieve SDGs by transforming consumer behavior of employees at on-site canteens https://news.panasonic.com/jp/topics/167459.html
	Japan: Ministry of Environment The 1 st ESG Finance Award	Bronze award in the Environment Sustainable Industry field	Panasonic Corporation http://www.env.go.jp/press/107759.html
Environmental Communication	Japan: FUJISANKEI COMMUNICATIONS Group The 46 th Advertising Award	Grand Prix in the Media Mix field	Panasonic Corporation Campaign for sharing household chor https://www.fujisankei-g.co.jp/koukoku-taisho/archive/48/pdf/P12_13.pdf
	Japan: Dentsu Advertising Award Council The 72 th Dentsu Advertising Award	Sogo sho (Best Award)	Panasonic Corporation https://adawards.dentsu.jp/prize/list/71/

Content Index: RBA Code of Conduct

Panasonic adheres to The Responsible Business Alliance (RBA) Code of Conduct Version 6.0 as follows.

	Standards	Location of Information at Sustainability Website or Other Relevant Websites, and Notes (URL)	Management System	Location of Information at Sustainability Website or Other Relevant Websites, and Notes (URL)
A Labor	1) Freely Chosen Employment	Prohibition of Forced Labor, Effective Abolition of Child Labor, and Attention to Young Workers https://www.panasonic.com/global/corporate/sustainability/human_rights/approach#labor	1) Company Commitment	Respect for Human Rights - Policy https://www.panasonic.com/global/corporate/sustainability/human_rights.html#policy
	2) Young Workers	Employing Foreign Workers https://www.panasonic.com/global/corporate/sustainability/human_rights/approach#foreign		
	3) Working Hours	Managing Working Hours https://www.panasonic.com/global/corporate/sustainability/human_rights/approach#hours	2) Management Accountability and Responsibility	Respect for Human Rights - Responsible Executive and Framework https://www.panasonic.com/global/corporate/sustainability/human_rights.html#structure
	4) Wages and Benefits	Managing Wages https://www.panasonic.com/global/corporate/sustainability/human_rights/approach#wages	3) Legal and Customer Requirements	Respect for Human Rights - Management System https://www.panasonic.com/global/corporate/sustainability/human_rights.html#management
				Respect for Human Rights - Initiatives Relating to Global Standards, Legislation, Regulations, and So Forth https://www.panasonic.com/global/corporate/sustainability/human_rights/global_standards
	5) Humane Treatment	Prohibition of Discrimination https://www.panasonic.com/global/corporate/sustainability/human_rights/approach#discrimination	4) Risk Assessment and Risk Management	Respect for Human Rights - Management System https://www.panasonic.com/global/corporate/sustainability/human_rights.html#management Respect for Human Rights: Performance Evaluation https://www.panasonic.com/global/corporate/sustainability/human_rights/performance.html
	6) Non-Discrimination	Prohibition of Discrimination https://www.panasonic.com/global/corporate/sustainability/human_rights/approach#discrimination	5) Improvement Objectives	Respect for Human Rights: Performance Evaluation https://www.panasonic.com/global/corporate/sustainability/human_rights/performance.html
	7) Freedom of Association	The Freedom of Association and Respect for the Right to Collective Bargaining https://www.panasonic.com/global/corporate/sustainability/human_rights/approach#freedom	6) Training	Respect for Human Rights - Education https://www.panasonic.com/global/corporate/sustainability/human_rights.html#education
			7) Communication	Respect for Human Rights - Management System (to employees) https://www.panasonic.com/global/corporate/sustainability/human_rights.html#management
				Respect for Human Rights - Policy (to employees) https://www.panasonic.com/global/corporate/sustainability/human_rights.html#policy
			8) Worker Feedback and Participation	Respect for Human Rights - Management System https://www.panasonic.com/global/corporate/sustainability/human_rights.html#management
				Respect for Human Rights: Performance Evaluation https://www.panasonic.com/global/corporate/sustainability/human_rights/performance.html
			9) Audits and Assessments	Respect for Human Rights - Management System https://www.panasonic.com/global/corporate/sustainability/human_rights.html#management
				Respect for Human Rights: Performance Evaluation https://www.panasonic.com/global/corporate/sustainability/human_rights/performance.html
10) Corrective Action Process			Respect for Human Rights - Management System https://www.panasonic.com/global/corporate/sustainability/human_rights.html#management	
			Respect for Human Rights: Performance Evaluation https://www.panasonic.com/global/corporate/sustainability/human_rights/performance.html	
11) Documentation and Records			Respect for Human Rights - Management System https://www.panasonic.com/global/corporate/sustainability/human_rights.html#management	
12) Supplier Responsibility	Responsible Supply Chain: Enforcement of CSR for Suppliers https://www.panasonic.com/global/corporate/sustainability/supply_chain/suppliers			
B Health and Safety	1) Occupational Safety	Management System *The respective standards are covered within the occupational health and safety management system implemented at each company location. Please also refer to the following websites for relevant information. Occupational Health and Safety https://www.panasonic.com/global/corporate/sustainability/health_safety.html#management https://www.panasonic.com/global/corporate/sustainability/health_safety.html https://www.panasonic.com/global/corporate/sustainability/health_safety/performance.html	1) Company Commitment	Occupational Health and Safety - Policy - Panasonic Code of Conduct https://www.panasonic.com/global/corporate/sustainability/health_safety.html#policy Occupational Health and Safety - Policy - Panasonic Occupational Safety and Health Policy https://www.panasonic.com/global/corporate/sustainability/health_safety.html#policy
	2) Emergency Preparedness		2) Management Accountability and Responsibility	Occupational Health and Safety - Responsible Executive and Framework https://www.panasonic.com/global/corporate/sustainability/health_safety.html#structure
	3) Occupational Injury and Illness		3) Legal and Customer Requirements	Occupational Health and Safety - Policy - Activity Guidelines for Occupational Safety and Health 1. Legal and regulatory compliance https://www.panasonic.com/global/corporate/sustainability/health_safety.html#policy
	4) Industrial Hygiene		4) Risk Assessment and Risk Management	Occupational Health and Safety - Policy - Activity Guidelines for Occupational Safety and Health 5. Removal and reduction of hazards and potential causes of damage https://www.panasonic.com/global/corporate/sustainability/health_safety.html#policy
	5) Physically Demanding Work		5) Improvement Objectives	Occupational Health and Safety - Policy - Activity Guidelines for Occupational Safety and Health 6. Setting goals and formulating and implementing a plan for occupational safety and health management https://www.panasonic.com/global/corporate/sustainability/health_safety.html#policy
	6) Machine Safeguarding		6) Training	Occupational Health and Safety - Policy - Activity Guidelines for Occupational Safety and Health 8. Education and training https://www.panasonic.com/global/corporate/sustainability/health_safety.html#policy Occupational Health and Safety - Management System https://www.panasonic.com/global/corporate/sustainability/health_safety.html#management

	7) Sanitation, Food, and Housing		7) Communication	Occupational Health and Safety - Management System (to employees) https://www.panasonic.com/global/corporate/sustainability/health_safety.html#management		
	8) Health and Safety Communication			Occupational Health and Safety - Policy - Panasonic Code of Conduct (to employees) https://www.panasonic.com/global/corporate/sustainability/health_safety.html#policy		
				Occupational Health and Safety - Policy - Panasonic Occupational Safety and Health Policy (to employees) https://www.panasonic.com/global/corporate/sustainability/health_safety.html#policy		
			8) Worker Feedback and Participation	Occupational Health and Safety - Policy - Activity Guidelines for Occupational Safety and Health 4. Definitions of roles, authorities, and responsibilities, and organizational maintenance https://www.panasonic.com/global/corporate/sustainability/health_safety.html#policy		
				Occupational Health and Safety - Responsible Executive and Framework https://www.panasonic.com/global/corporate/sustainability/health_safety.html#structure		
				Occupational Health and Safety: Incidence of Occupational Accidents and Responses https://www.panasonic.com/global/corporate/sustainability/health_safety.html#accidents		
				Occupational Health and Safety: Safety: Health key performance indicators. https://www.panasonic.com/jp/corporate/sustainability/health_safety.html#health		
			9) Audits and Assessments	Occupational Health and Safety - Policy - Activity Guidelines for Occupational Safety and Health 7. Auditing, and review by management https://www.panasonic.com/global/corporate/sustainability/health_safety.html#policy		
			10) Corrective Action Process	Occupational Health and Safety - Policy - Activity Guidelines for Occupational Safety and Health 7. Auditing, and review by management https://www.panasonic.com/global/corporate/sustainability/health_safety.html#policy		
			11) Documentation and Records	Occupational Health and Safety - Management System https://www.panasonic.com/global/corporate/sustainability/health_safety.html#management		
			12) Supplier Responsibility	Responsible Supply Chain: Enforcement of CSR for Suppliers https://www.panasonic.com/global/corporate/sustainability/supply_chain/suppliers		
C Environmental	1) Environmental Permits and Reporting	Panasonic Environment Vision 2050 https://www.panasonic.com/global/corporate/sustainability/eco/vision.html	1) Company Commitment	Environmental Policy https://www.panasonic.com/global/corporate/sustainability/eco.html		
		Environmental Management Systems https://www.panasonic.com/global/corporate/sustainability/eco/governance/ems.html				
	2) Pollution Prevention and Resource Reduction		Eco-conscious Products and Factories https://www.panasonic.com/global/corporate/sustainability/eco/gp_gf.html	2) Management Accountability and Responsibility	Environmental Governance https://www.panasonic.com/global/corporate/sustainability/eco/governance.html	
			The Amount of the Energy Used and Energy Created in Factories https://www.panasonic.com/global/corporate/sustainability/eco/co2/site.html		Environmental Management Systems https://www.panasonic.com/global/corporate/sustainability/eco/governance/ems.html	
			Business of Factory Energy Conservation Support Service https://www.panasonic.com/global/corporate/sustainability/eco/co2/service.html	3) Legal and Customer Requirements	Environmental Governance https://www.panasonic.com/global/corporate/sustainability/eco/governance.html	
			Green Logistics https://www.panasonic.com/global/corporate/sustainability/eco/co2/logistics.html		Environmental Management Systems https://www.panasonic.com/global/corporate/sustainability/eco/governance/ems.html	
			Resources https://www.panasonic.com/global/corporate/sustainability/eco/resource.html		Environmental Risk Management https://www.panasonic.com/global/corporate/sustainability/eco/governance/risk.html	
			Creation of Circular Economy Business https://www.panasonic.com/global/corporate/sustainability/eco/circular_economy_business.html		Environmental Information Systems https://www.panasonic.com/global/corporate/sustainability/eco/governance/it.html	
			Evolution of Recycling-Oriented Manufacturing https://www.panasonic.com/global/corporate/sustainability/eco/resource/circular_economy_business.html		4) Risk Assessment and Risk Management	Water Resource Conservation https://www.panasonic.com/global/corporate/sustainability/eco/water.html
			Global Initiatives for Used Product Recycling https://www.panasonic.com/global/corporate/sustainability/eco/resource/recovery.html			Environmental Governance https://www.panasonic.com/global/corporate/sustainability/eco/governance.html
		Water Resource Conservation https://www.panasonic.com/global/corporate/sustainability/eco/water.html		Environmental Management Systems https://www.panasonic.com/global/corporate/sustainability/eco/governance/ems.html		
	3) Hazardous Substances	Chemical Substance Management https://www.panasonic.com/global/corporate/sustainability/eco/chemical.html		Environmental Risk Management https://www.panasonic.com/global/corporate/sustainability/eco/governance/risk.html		
	4) Solid Waste		Eco-conscious Products and Factories https://www.panasonic.com/global/corporate/sustainability/eco/gp_gf.html	5) Improvement Objectives	Environmental Information Systems https://www.panasonic.com/global/corporate/sustainability/eco/governance/it.html	
			Resources https://www.panasonic.com/global/corporate/sustainability/eco/resource.html		Environmental Policy https://www.panasonic.com/global/corporate/sustainability/eco.html	
			Evolution of Recycling-Oriented Manufacturing https://www.panasonic.com/global/corporate/sustainability/eco/resource/recycling_oriented_manufacturing.html	6) Training	Environmental Management Systems https://www.panasonic.com/global/corporate/sustainability/eco/governance/ems.html	
		Global Initiatives for Used Product Recycling https://www.panasonic.com/global/corporate/sustainability/eco/resource/recovery.html	Environmental Risk Management https://www.panasonic.com/global/corporate/sustainability/eco/governance/risk.html			
	5) Air Emissions		Eco-conscious Products and Factories https://www.panasonic.com/global/corporate/sustainability/eco/gp_gf.html		Human Resource Development https://www.panasonic.com/global/corporate/sustainability/eco/hr.html	
			Chemical Substance Management https://www.panasonic.com/global/corporate/sustainability/eco/chemical.html	7) Communication	Environmental Policy (to employees, suppliers, and customers) https://www.panasonic.com/global/corporate/sustainability/eco.html	
	6) Materials Restrictions		Chemical Substance Management https://www.panasonic.com/global/corporate/sustainability/eco/chemical.html		Collaboration Across the Supply Chain (to suppliers) https://www.panasonic.com/global/corporate/sustainability/eco/supplychain.html	
			Biodiversity Conservation https://www.panasonic.com/global/corporate/sustainability/eco/biodiversity.html	Environmental Communication (to customers, and suppliers) https://www.panasonic.com/global/corporate/sustainability/eco/communication.html		
		Collaboration Across the Supply Chain https://www.panasonic.com/global/corporate/sustainability/eco/supplychain.html		Environmental Governance https://www.panasonic.com/global/corporate/sustainability/eco/governance.html		
7) Water Management			8) Worker Feedback and Participation	Environmental Management Systems https://www.panasonic.com/global/corporate/sustainability/eco/governance/ems.html		
		Water Resource Conservation https://www.panasonic.com/global/corporate/sustainability/eco/water.html		Environmental Risk Management https://www.panasonic.com/global/corporate/sustainability/eco/governance/risk.html		
				Environmental Information Systems https://www.panasonic.com/global/corporate/sustainability/eco/governance/it.html		

8) Energy Consumption and Greenhouse Gas Emissions	Panasonic Environment Vision 2050 https://www.panasonic.com/global/corporate/sustainability/eco/vision.html	9) Audits and Assessments	Environmental Governance https://www.panasonic.com/global/corporate/sustainability/eco/governance.html
	Eco-conscious Products and Factories https://www.panasonic.com/global/corporate/sustainability/eco/gp_gf.html		Environmental Management Systems https://www.panasonic.com/global/corporate/sustainability/eco/governance/ems.html
	Energy https://www.panasonic.com/global/corporate/sustainability/eco/co2.html		Environmental Risk Management https://www.panasonic.com/global/corporate/sustainability/eco/governance/risk.html
	Energy-saving/creating/storing Products https://www.panasonic.com/jp/corporate/sustainability/eco/co2/product.html	10) Corrective Action Process	Environmental Information Systems https://www.panasonic.com/global/corporate/sustainability/eco/governance/it.html
	The Amount of the Energy Used and Energy Created in Factories https://www.panasonic.com/global/corporate/sustainability/eco/co2/site.html		Environmental Governance https://www.panasonic.com/global/corporate/sustainability/eco/governance.html
	Global Warming Mitigation and Adaptation https://www.panasonic.com/global/corporate/sustainability/eco/co2/solution.html		Environmental Management Systems https://www.panasonic.com/global/corporate/sustainability/eco/governance/ems.html
	Business of Factory Energy Conservation Support Service https://www.panasonic.com/global/corporate/sustainability/eco/co2/service.html		Environmental Risk Management https://www.panasonic.com/global/corporate/sustainability/eco/governance/risk.html
	Green Logistics https://www.panasonic.com/global/corporate/sustainability/eco/co2/logistics.html	11) Documentation and Records	Environmental Information Systems https://www.panasonic.com/global/corporate/sustainability/eco/governance/it.html
	Collaboration Across the Supply Chain https://www.panasonic.com/global/corporate/sustainability/eco/supplychain.html		Environmental Policy https://www.panasonic.com/global/corporate/sustainability/eco/policy.html
		12) Supplier Responsibility	Collaboration Across the Supply Chain https://www.panasonic.com/global/corporate/sustainability/eco/supplychain.html
D Ethics	1) Business Integrity	Preventing Bribery and Corruption https://www.panasonic.com/global/corporate/sustainability/fair_practices/fairtrade#decrease	1) Company Commitment Fair Operating Practices - Policy https://www.panasonic.com/global/corporate/sustainability/fair_practices.html#policy
	2) No Improper Advantage	Policy https://www.panasonic.com/global/corporate/sustainability/fair_practices.html#policy Preventing Bribery and Corruption https://www.panasonic.com/global/corporate/sustainability/fair_practices/fairtrade#decrease	2) Management Accountability and Responsibility Fair Operating Practices - Responsible Executive and Framework https://www.panasonic.com/global/corporate/sustainability/fair_practices.html#structure
	3) Disclosure of Information	Panasonic Code of Conduct Chapter 2. II-5. Information Disclosure https://www.panasonic.com/global/corporate/management/code-of-conduct/chapter-2.html#section2-5	3) Legal and Customer Requirements Panasonic Code of Conduct Chapter 2. II-3. Compliance with Laws, Regulations and Business Ethics (3) Thorough Observation of Relevant Laws and Regulations https://www.panasonic.com/global/corporate/management/code-of-conduct/chapter-2.html#section2-3
	4) Intellectual Property	Panasonic Code of Conduct Chapter 2. I-1. Research and Development (3) Respect for Intellectual Property Rights https://www.panasonic.com/global/corporate/management/code-of-conduct/chapter-2.html#section1-1	4) Risk Assessment and Risk Management Fair Operating Practices - Management System https://www.panasonic.com/global/corporate/sustainability/fair_practices.html#management
	5) Fair Business, Advertising and Competition	Responsible Publicity and Advertising https://www.panasonic.com/global/corporate/sustainability/communication.html	5) Improvement Objectives Fair Operating Practices - Performance Evaluation https://www.panasonic.com/global/corporate/sustainability/fair_practices.html#management
	6) Protection of Identity and Non-Retaliation	Whistleblowing Systems https://www.panasonic.com/global/corporate/sustainability/fair_practices/whistleblowing.html	6) Training Fair Operating Practices - Compliance Training https://www.panasonic.com/global/corporate/sustainability/fair_practices.html#education
	7) Responsible Sourcing of Minerals	Responsible Supply Chain: Response Regarding Conflict Minerals https://www.panasonic.com/global/corporate/sustainability/supply_chain/minerals.html	7) Communication Fair Operating Practices - Management System (to employees) https://www.panasonic.com/global/corporate/sustainability/fair_practices.html#management Fair Operating Practices - Policy (to employees) https://www.panasonic.com/global/corporate/sustainability/fair_practices.html#policy
	8) Privacy	Information Security and Protection of Personal Information https://www.panasonic.com/global/corporate/sustainability/security	8) Worker Feedback and Participation Fair Operating Practices - Performance Evaluation https://www.panasonic.com/global/corporate/sustainability/fair_practices/performance.html Fair Operating Practices - Whistleblowing Systems https://www.panasonic.com/global/corporate/sustainability/fair_practices/whistleblowing.html
E Management Systems	1) Company Commitment	Our Unchanging Management Philosophy and Sustainability https://www.panasonic.com/global/corporate/sustainability/management/philosophy.html Panasonic Code of Conduct https://www.panasonic.com/global/corporate/management/code-of-conduct/list.html	9) Audits and Assessments Fair Operating Practices - Performance Evaluation https://www.panasonic.com/global/corporate/sustainability/fair_practices/performance.html 10) Corrective Action Process Fair Operating Practices - Performance Evaluation https://www.panasonic.com/global/corporate/sustainability/fair_practices/performance.html 11) Documentation and Records Fair Operating Practices - Management System https://www.panasonic.com/global/corporate/sustainability/fair_practices.html#management 12) Supplier Responsibility Responsible Supply Chain: Enforcement of CSR for Suppliers https://www.panasonic.com/global/corporate/sustainability/supply_chain/suppliers
	2) Management Accountability and Responsibility	System for the Promotion of CSR Activities https://www.panasonic.com/global/corporate/sustainability/management/structure.html	
	3) Legal and Customer Requirements	System for the Promotion of CSR Activities - Respecting Global Standards, Norms, Guidelines, and Initiatives https://www.panasonic.com/global/corporate/sustainability/management/structure.html#guideline	
	4) Risk Assessment and Risk Management	Risk Management https://www.panasonic.com/global/corporate/sustainability/management/riskmanagement.html	
	5) Improvement Objectives	*Please refer to 5) Improvement Objectives of each section, A through D.	
	6) Training	Compliance Training (Training on the Code of Conduct) https://www.panasonic.com/global/corporate/sustainability/fair_practices.html#education	

7) Communication	Our Unchanging Management Philosophy and Sustainability (to employees) https://www.panasonic.com/global/corporate/sustainability/management/philosophy.html
	Panasonic Code of Conduct (to employees) https://www.panasonic.com/global/corporate/management/code-of-conduct/list.html
	Sustainability Initiatives website (to customers) https://www.panasonic.com/global/corporate/sustainability.html
	Responsible Supply Chain - Policy (to suppliers) https://www.panasonic.com/global/corporate/sustainability/supply_chain.html#policy
	Responsible Supply Chain: Enforcement of CSR for Suppliers (to suppliers) https://www.panasonic.com/global/corporate/sustainability/supply_chain/suppliers
8) Worker Feedback and Participation and Grievance	Risk Management - Organizational System https://www.panasonic.com/global/corporate/sustainability/management/riskmanagement.html#structure
	Risk Management - Increasing Risk Sensitivity https://www.panasonic.com/global/corporate/sustainability/management/riskmanagement.html#education
9) Audits and Assessments	Fair Operating Practices - Management System (checks on the status of observance and practice of the Code of Conduct) https://www.panasonic.com/global/corporate/sustainability/fair_practices.html#management
	Fair Operating Practices - Performance Evaluation (checks on the status of observance and practice of the Code of Conduct) https://www.panasonic.com/global/corporate/sustainability/fair_practices/performance.html
10) Corrective Action Process	Fair Operating Practices - Management System (checks on the status of observance and practice of the Code of Conduct) https://www.panasonic.com/global/corporate/sustainability/fair_practices.html#management
	Fair Operating Practices - Performance Evaluation (checks on the status of observance and practice of the Code of Conduct) https://www.panasonic.com/global/corporate/sustainability/fair_practices/performance.html
11) Documentation and Records	*Please refer to 11) Documentation and Records of each section, A through D.
12) Supplier Responsibility	Responsible Supply Chain - Management System https://www.panasonic.com/global/corporate/sustainability/supply_chain.html#management

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, 2019 to March 31, 2020 included in its Sustainability Data Book 2020 (the “Data Book”) for the fiscal year ended March 31, 2020.

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 ₂ -equivalent) in Production Activities (Scope 1 emissions)	44
Logistics domestic	30	Breakdown of Total GHG Emissions (CO ₂ -equivalent) in Production Activities (Scope 2 emissions)	44
Scope 3 11. Use of sold products	31	Amount of Total Wastes Including Revenue-generating Waste	50
Energy Consumption in Production Activities	41	Water Consumption in Production Activities	57
CO ₂ Emissions in Production Activities and CO ₂ Emission Per Basic Unit	41	Release/Transfer of Substances Requiring Management (Total)	65
Emissions (CO ₂ -equivalent) of GHGs Other than CO ₂ from Energy Use in Production Activities	44		

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 two 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.
Osaka, Japan
August 11, 2020

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

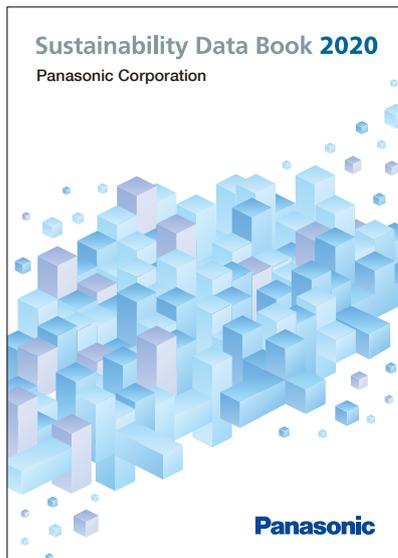
► <https://www.panasonic.com/global/corporate/sustainability.html>

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



Panasonic

Inquiries

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