Environmental Report

Environmental Management

Vision and Basic Policies on the Environment

In 2012, Casio established the Casio Environmental Vision 2050, a long-term environmental management policy that looks ahead to the year 2050, and launched a range of initiatives. In 2021, Casio undertook a complete review of the policy to ensure that it does not fall behind the drastic and rapid changes surrounding the environment, and restructured the Casio Group Environmental Principles, which comprise the following elements.

・Casio Group Environmental Vision
・Casio Group Basic Policies on the Environment
・Casio Group Environmental Action Guidelines
・Casio Green Targets 2024

Building on the same shared principles, this restructuring unifies all of the elements, from the Casio Group Environmental Vision at the top, down to the Casio Green Targets 2024, which are targets for separate environmental initiatives taken by each organization. The restructuring also ensures that long-term policies and short-term initiatives are integrated and consistent.
Positioned just below the Vision, the Casio Group Basic Policies on the Environment establish long-term approaches for addressing the three material environmental issues of realizing a decarbonized society, building a recycling society, and living in harmony with nature. Next, the Casio Group Environmental Action Guidelines establish a course of action for each value chain from a life-cycle perspective. Finally, Casio Green Targets 2024 includes target and KPI for 3 years to be set according to the functions of each organization based on the long-term goals of key environmental issues, and will be promoted in a clear positioning.

Casio Group Environmental Principles

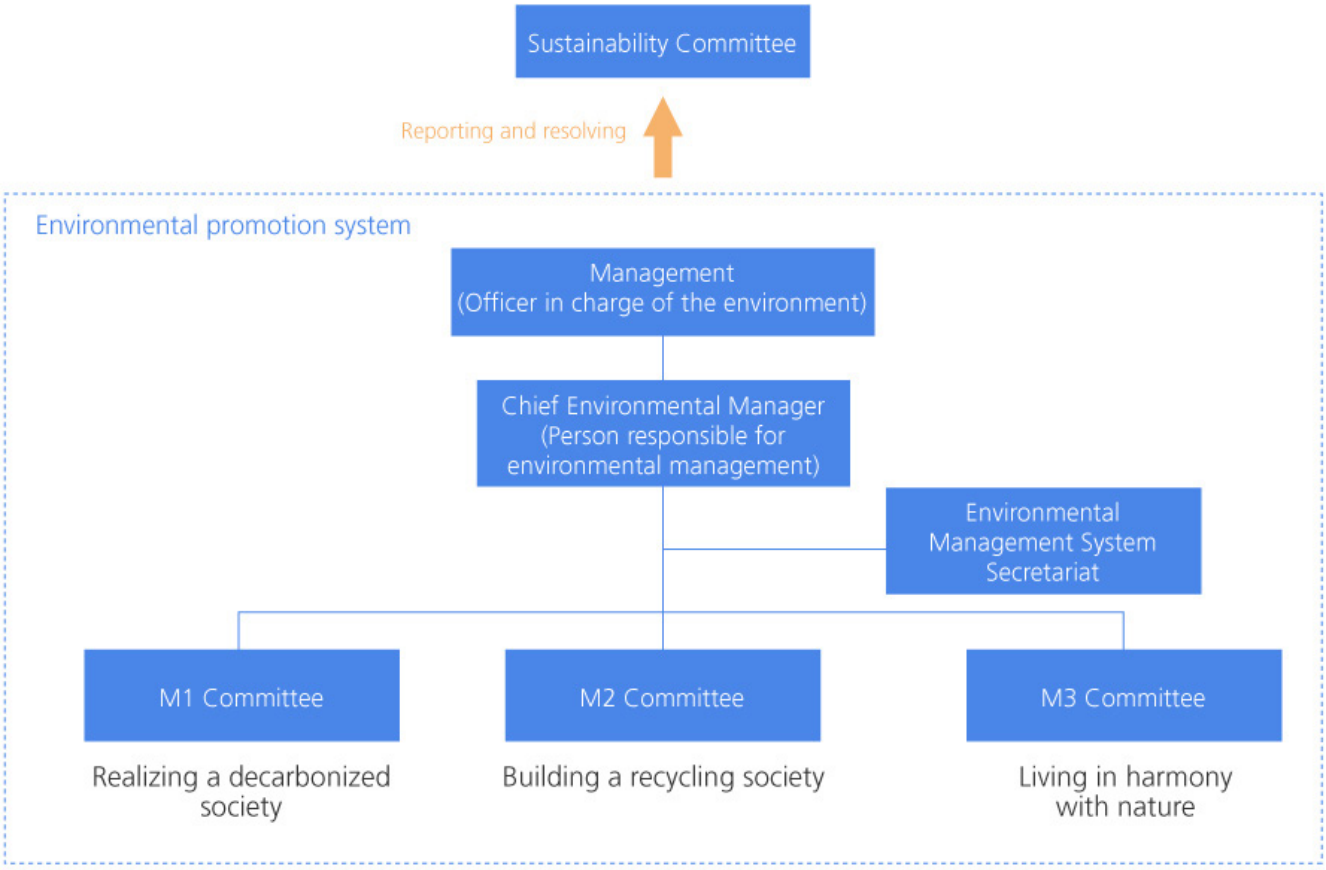
Casio Group Environmental Principles

Casio Group Environmental Vision	A healthy global environment is the foundation of all economic activity. Casio is reducing environmental impact across its business activities to help build a resilient, sustainable world for future generations to enjoy.
Casio Group Basic Policies on the Environment	To achieve the Casio Group Environmental Vision, Casio is proactively focusing on three material issues and taking a defined long-term approach to each. **Material issues** (1) Realizing a decarbonized society: Reduce greenhouse gas emissions to zero by 2050 (2) Building a recycling society: Minimize business waste, minimize use of newly mined resources, maximize collection of used products/packaging (3) Living in harmony with nature: Preserve and sustainably use biodiversity
Casio Group Environmental Action Guidelines	To fulfill the Casio Group Basic Environmental Policy, Casio has categorized business activities into seven life-cycle stages and established a specific course of action to guide efforts at each stage.  Seven stages and courses of action 1. Planning/Development: Leverage design to reduce environmental impact and develop products/services utilizing environmentally friendly technologies and materials (to offer environmental value) 2. Procurement: Collaborate with suppliers to reduce environmental impact when procuring parts and raw materials 3. Manufacturing: Minimize environmental impact of Group sites and the entire supply chain 4. Distribution: Reduce environmental impact by cutting greenhouse gas emissions from product delivery, etc. 5. Marketing/Sales: Reduce environmental impact by marketing for environmental value and using online marketing 6. Product Use/Services: Reduce environmental impact from product use and after-sales services 7. Collection/Recycling: Maximize collection/recycling of used products and packaging
Casio Green Targets 2024	Casio has identified efforts to make at each stage of business activity and will pursue them to achieve its targets and KPIs for the three years through fiscal 2025. The targets and KPIs are based on the long-term approaches to addressing the material issues set out by the Basic Policies on the Environment, and they will be updated every three years.

Implementation System

In 2016, Casio started to integrate its environmental management system into a group-wide system. First, the ISO 14001 certifications for the three main sites of Casio Computer Co., Ltd.—the headquarters, the Hamura R&D Center, and the Hachioji R&D Center—were integrated under ISO 14001:2015 certification in 2017. In addition, the company established committees to handle its three areas of material environmental goals and, as necessary, set up working groups underneath them in which committee members participate and engage in activities related to their respective areas. The system was changed to a materiality-based, top-down structure rather than the previous structure, which was based on individual departments and bottom-up. Casio will continue to manage environmental activities effectively as an entire Group using ISO 14001.

We intend to integrate each fiscal year's efforts to achieve the Casio Green Targets 2024 into the work of these committees, a step which would dovetail ISO 14001 committee activities into the core business of each organization.



Promote effective environmental activities based on materiality in order to improve environmental performance of Casio as an entire Group

Translate into contribution to SDGs through steady implementation of materiality

Environmental goals under the SDGs

List of ISO 14001 Certified Sites

Certified and registered site		Date acquired	Remarks
Casio Computer Co., Ltd.	Headquarters (including seven sales sites)	December 2000	In April 2017, Casio integrated ISO 14001 certifications for these 3 sites
	Hamura R&D Center	October 2000	
	Hachioji R&D Center	October 2000	
Yamagata Casio Co., Ltd.	Headquarters	November 1997	
Casio Business Service Co., Ltd.	Headquarters	January 2000	
Casio Techno Co., Ltd.	Headquarters	May 2020	
Casio Human Systems Co., Ltd.		December 2001	
Casio Computer (Hong Kong) Ltd.		November 2020	
Casio (Thailand) Co., Ltd.		July 2012	
Casio Taiwan Co., Ltd.		October 2007	
Casio Electronics (Shenzhen) Co., Ltd.		February 2002	
Casio Electronic Technology (Zhongshan) Co., Ltd.		October 2006	
Casio Electronics (Shaoguan) Co., LTD.		January 2018	
Casio Timepiece （Dongguan） Co., Ltd.		September 2019	

* The percentage of Group employees at sites with ISO certification has reached 76.0%.

Environmental Education

Casio provides employees with environmental education in order to promote environmental activities smoothly. In addition to general education to raise awareness and promote understanding of the environment, each committee and working group identifies the competencies required for each activity at the beginning of the fiscal year and provides specific education in accordance with an annual plan for those who need to upgrade their competency following an evaluation of the competency of each committee member.

Realizing a Decarbonized Society

Approach and Policy

Social Issue

The increasing intensity of harmful weather events in recent years has been attributed to rising greenhouse gas emissions. River flooding and landslides caused by heavy rains have impacted livelihoods and taken lives, and economic losses continue to rise around the world. There is now a growing crisis awareness, not only in international political arenas such as the United Nations, but also in the business world, and in the financial sector in particular.

In 2015, the Sustainable Development Goals (SDGs) were established as part of the 2030 Agenda for Sustainable Development adopted at the United Nations Sustainable Development Summit, and the Paris Agreement was adopted at the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (COP21). The objective of the Paris Agreement is to keep a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. To achieve that goal, the agreement set out the target of net zero emissions of greenhouse gases by the second half of this century.

Moreover, in October 2018, the Intergovernmental Panel on Climate Change (IPCC) released the Special Report on Global Warming of 1.5°C, which is based on scientific knowledge and stresses that many of the impacts of climate change could be avoided by limiting global warming to 1.5°C above pre-industrial levels instead of 2°C. In addition, the Working Group I Report component of the IPCC Sixth Assessment Report released in August 2021 states, “It is unequivocal that human influence has warmed the atmosphere, ocean and land. Widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred.”

In this way, international awareness has evolved from “global warming” to “climate change,” and now to “climate crisis.” Based on this heightened understanding, Casio has revised its social mission from “helping to achieve a low-carbon society” to “helping to build a decarbonized society,” making this its long-term target in accordance with the Paris Agreement long-term climate goal.

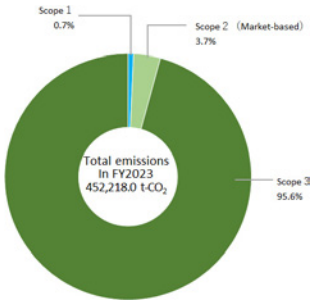
In April 2021, based on the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD),*1 Casio strengthened its governance relating to climate change, formulated strategies based on climate-change risk and opportunity analysis, and disclosed climate-related financial risk information. In 2022, Casio conducted a scenario analysis to identify risks and opportunities and assess the impacts.

Information Disclosure Based on TCFD Recommendations

*1 TCFD: Established by the Financial Stability Board (FSB), an international body that monitors and makes recommendations about the global financial system, this initiative aims to help companies understand and disclose the financial impact of their climate change risks and opportunities.

Importance for the Casio Group

Greenhouse gas emissions related to the Casio Group include direct emissions from the entire Group (Scope 1) and indirect emissions associated with the Group's overall energy use (Scope 2), as well as emissions from the value chain such as procurement and manufacturing of raw materials, logistics, sales, and product disposal (Scope 3). Scope 3 accounted for 95.6% of total emissions in fiscal 2023.



Based on this, Casio has set targets for Scope 3 in addition to Scope 1 and 2, and is implementing measures to contribute to a decarbonized society.

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

RE100

In 2020, in order to gain a more detailed understanding of its greenhouse gas emissions and contribute to a decarbonized society based on objective indicators, Casio revised its criteria for calculating greenhouse gas emissions and its medium- to long-term targets to bring them into line with scientific knowledge.

Casio then requested the Science Based Targets initiative (SBTi),*2 an international initiative, to validate its revised calculation criteria and medium-term targets. In April 2021, the SBTi recognized that Casio's approach is in line with Well-Below 2°C and validated that Casio's criteria and targets are based on scientific evidence.Moreover, in December 2021, Casio joined RE100,*3 an international initiative that promotes the use of 100% electricity from renewable energy sources in business activities, and has been making various efforts to reach this target.

*2 SBTi

An initiative promoted by several international NGOs (CDP, the United Nations Global Compact, World Resources Institute [WRI] and the World Wide Fund for Nature [WWF]) to encourage private companies and other organizations to set science-based targets for greenhouse gas emission reduction and help achieve the goals of the Paris Agreement. The SBTi provides validation of science-based greenhouse gas reduction targets that comply with the Paris Agreement.

*3 RE100

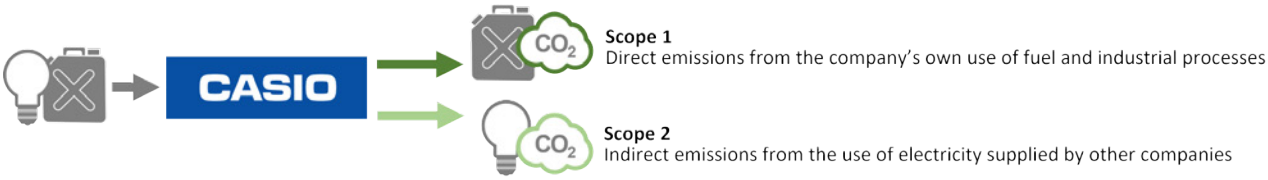
RE100 is an international initiative operated by The Climate Group, an international environmental NGO, in partnership with the Carbon Disclosure Project (CDP). It is composed of companies that are working toward using 100% electricity from renewable energy sources in their business activities.

Greenhouse Gas Emissions from the Entire Group (Scope 1 and 2)

Approach and Policy

The Casio Group has a variety of sites in addition to production sites, including R&D centers that mainly conduct testing and research and offices that carry out sales, maintenance, and overall Group management. Energy is used for the activities at each site, producing GHG emissions.

As these emissions are covered by Group-wide direct emissions (Scope 1) and indirect emissions associated with use of energy (Scope 2), Casio has set targets for Scopes 1 and 2 and is promoting Group-wide reductions.

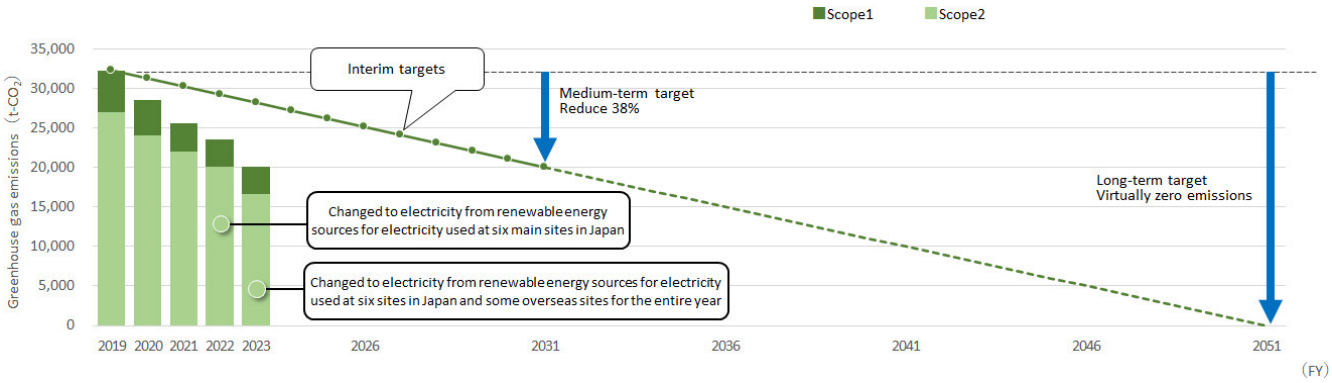


Targets and Performance

The Casio Group has set the following long-term and medium-term targets for Scope 1 and 2 emissions and is carrying out emission reduction activities.

	Scope 2 calculation method	Scope 1 + Scope 2 combined target		
		Base year	Target year	Reduction rate for target year
Long-term target	Market-based	-	FY2051	Virtually zero emissions
Medium-term target	Market-based	FY2019	FY2031	38%

Casio has also set interim targets for each fiscal year and is confirming the status of achievement.



In fiscal 2022, Casio switched the electricity used at six sites in Japan to electricity from renewable energy sources, starting midway through the fiscal year, in order to reduce GHG emissions. In fiscal 2023, Casio switched the electricity used at some overseas sites to electricity from renewable energy sources for the entire year, in addition to the sites in Japan that were switched during fiscal 2022, and achieved the interim targets. As a result, in fiscal 2023, Casio achieved a rate of reduction on par with the medium-term target. Aside from their emissions-reduction effect, these steps were considered necessary to address future trends such as rising costs related to the use of renewable energy and changes in the scale of the group's activities.

Evaluation ◎: All targets met, ○ : Most targets met, △ : Remaining issues outweigh results, × : No progress made

Medium and long-term targets	FY2023 Targets	FY2023 Performance	Evaluation	FY2024 Targets
Long-term target: Reduce to zero the total volume of Casio Group's greenhouse gas emissions (Scopes 1 and 2) by FY2051	Reduce the market-based greenhouse gas emissions (Scopes 1 and 2) of group companies by 12.7% compared to FY2019.	Reduced 38% compared to FY2019	○	Reduce the market-based greenhouse gas emissions (Scopes 1 and 2) of Casio Group by 16% compared to FY2019.
Medium-term target: Reduce the total volume of Casio Group's market-based greenhouse gas emissions (Scopes 1 and 2) by 38% compared to FY2019 by FY2031.				

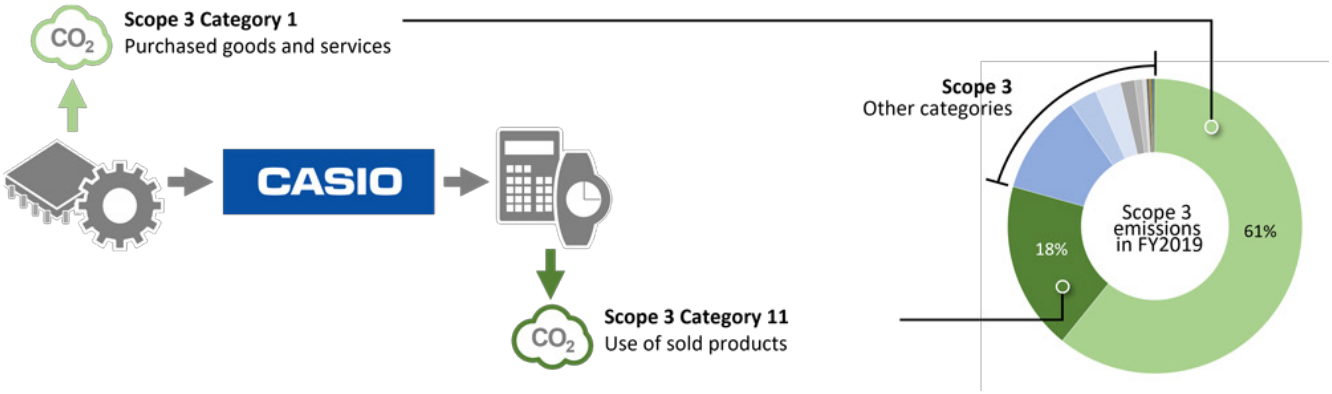
Greenhouse Gas Emissions from the Value Chain (Scope 3)

Approach and Policy

Emissions from the value chain related to Casio's business activities are classified and calculated for each Scope 3 category. Casio has set targets for categories with particularly large emissions and is working to reduce Scope 3 emissions overall.

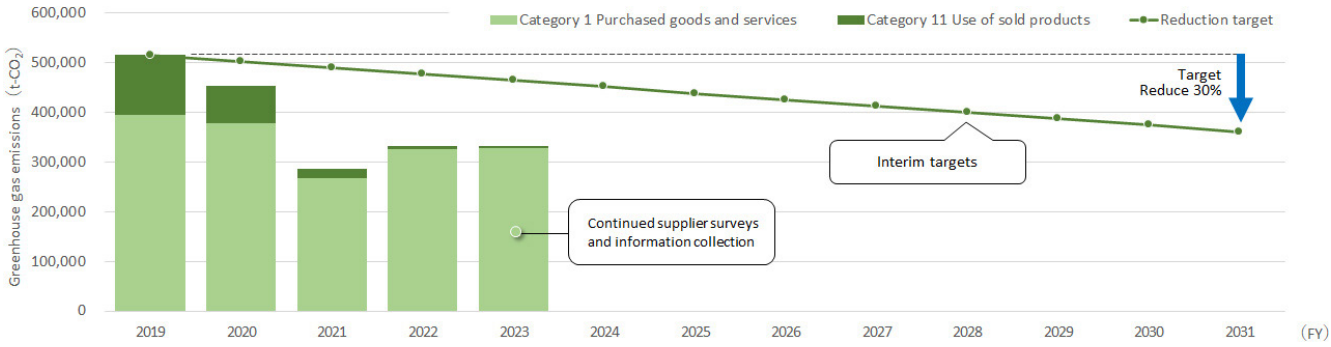
Targets and Performance

Casio has set targets for Scope 3 emission reductions with fiscal 2019 as the base year. GHG emissions associated with purchased goods and services (Category 1) and use of sold products (Category 11) accounted for more than three-quarters of total Scope 3 emissions as of fiscal 2019. Casio has set the following targets with a focus on these emissions and is carrying out emission reduction activities.



Casio has also set interim targets for each fiscal year and is confirming the status of achievement.

Target categories	Base year	Target year	Reduction rate for target year
Category 1: Purchased goods and services Category 11: Use of sold products	FY2019	FY2031	30%



Emissions in Category 1 (purchased goods and services) have continuously trended somewhat higher since fiscal 2021. This is likely the result of the downward trend in the impact of COVID-19 and the ongoing increase in product manufacturing activities. Since emissions associated with raw materials purchased from the supply chain account for the largest portion of Category 1 emissions, Casio is working to address the supply chain as a key measure. In fiscal 2022, Casio started carrying out supply chain surveys on GHG emissions reductions and collecting information.

Emissions in Category 11 (use of sold products) have continued to decrease significantly since fiscal 2020. It is thought that this can mainly be attributed to a decrease in sales of product groups with relatively high GHG emissions related to use by customers from fiscal 2020 onward due to Casio's business strategy.

The actual total of Category 1 and 11 emissions for fiscal 2023 saw a rate of reduction exceeding the fiscal 2031 target, mainly due to a significant reduction in Category 11.

However, careful monitoring of the achievement of interim targets for each fiscal year will continue to be required, as there may still be changes in the impact of COVID-19 from fiscal 2022 onward, which could also result in changes to Casio's business strategy.

Evaluation ◎: All targets met, ○ : Most targets met, △ : Remaining issues outweigh results, × : No progress made

Medium and long-term targets	FY2023 Targets	FY2023 Performance	Evaluation	FY2024 Targets
Reduce greenhouse gas emissions from purchased goods and services (Category 1) and the use of sold products (Category 11) by 30% by FY2031, compared to FY2019	Move forward with survey of supply chain	Conducted supply chain survey	○	Aggregate results of the FY2023 supply chain survey and consider response

Analysis and Disclosure of Climate Change Risks and Opportunities Based on the TCFD Recommendations

In October 2010, Casio set a target of achieving net zero greenhouse gas (GHG) emissions from its business activities by fiscal 2051.

In April 2021, Casio's GHG emissions reduction target for fiscal 2031 was validated as consistent with the Well-Below 2°C scenario based on scientific evidence by the Science Based Targets initiative (SBTi), an international organization that reviews GHG reduction targets.

Casio is working to reduce GHG emissions and address global warming in accordance with long-term targets validated by internationally respected organizations.

Meanwhile, global warming is intensifying the severity of climate change around the world, and this is expected to have a major impact of corporate performance over the long term. If warming proceeds unchecked, the weather disasters that have already become apparent will be even more severe. Moreover, sea levels are expected to rise, having a significant impact on business sites located in coastal areas.

Casio's business partners in the supply chain may also be affected by these developments, and disruptions to parts procurement, logistics, and other business operations can be expected.

In April 2021, Casio announced its support for the recommendations of the TCFD, which sets out standards for disclosure on business impacts related to climate change, and began disclosing information on the impact of climate change on its business activities. In the second year of disclosure, Casio decided to identify risks and opportunities involved in the long-term impacts of climate change using the scenario analysis method, to assess the impact of these risks and opportunities, and to consider the measures to be taken in response.

Casio held five rounds of scenario analysis between February and May 2022 for its four core businesses: timepieces, education, electronic musical instruments, and systems equipment. Casio appointed core staff from product planning, mechanical design, procurement, logistics, and sales and marketing divisions covering the entire value chain to conduct the analysis and contracted an outside expert to facilitate the process.

Since discussions faced some limitations due to the need to hold the main sessions online to prevent the spread of COVID-19, voluntary meetings were set up for further study of each product item. As a result, the assessments of impact became more varied in each session due to the differences in provision of value to users, market, and strategy between businesses.The final session closed with presentations to the officers responsible for each business and the officer responsible for finance and investor relations.

The results of the sessions were compiled by the Sustainability Promotion Office and, after deliberation by the Board of Directors, "Results of Assessment based on Scenario Analysis" was added to the section on Information Disclosure Based on TCFD Recommendations on Casio's Sustainability website.
Casio will continue to carry out scenario analysis on a regular basis in the future to raise the level of precision as well as to further enhance the quality and quantity of information disclosed.

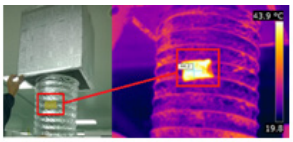
Business Sites Initiatives

Initiatives at Casio (Thailand) Co., Ltd.

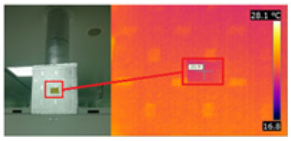
Using insulation to reduce energy use

The company reduced the air-conditioning cooling load by installing insulation around the exhaust ports of the reflow system and dryer to block heat conduction and this has helped to reduce greenhouse gas emissions.

Reflow systems insulation



Before installation
(surface temperature 44.2C)



After installation
(surface temperature 21.9C)

Surface temperature decreased from 44.2°C to 21.9°C.

Introducing buses to reduce CO_2 emissions

The company has 40 buses that it provides for employees to use for their daily commute. Employees use these commuting buses and this has helped to reduce greenhouse gas emissions.

Commuting buses at Casio
(Thailand)

Installing a unique solar system

Casio (Thailand) has installed its own photovoltaic system to take advantage of the tropical sunlight. Electric power generated by the solar panels is used to power electric roof fans to draw heat out of buildings, as well as for powering daytime lighting in a warehouse and agitating a reservoir for oxygenation.

Solar panels

Electric rooftop exhaust fans
for heat discharge

Daytime warehouse lighting

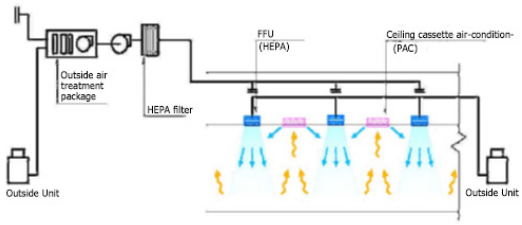
Reservoir agitator
for air circulation

Initiatives at Yamagata Casio Co., Ltd.

Introducing the latest energy-saving air-conditioning systems

A new watch plant that started operations in May 2018 uses the latest energy-saving air-conditioning systems, such as an air-conditioning system with several air-conditioners with FFUs[*1] and ceiling cassettes, zoning and separate air-conditioning for clean rooms. These systems enable efficient operation according to the production situation.

*1 FFU: Fan-filter unit. A system that passes air sucked in by the fan through a filter to purify it before sending it out as clean air.



Air-conditioning system at Yamagata Casio

Clean room
with latest air-conditioning system

Initiatives at Hachioji R&D Center

The Hachioji R&D Center has installed automatic blinds and grows a green wall of vegetation at its facility to reduce CO_2 emissions. The automatic blinds calculate the location of the sun, use sensors to detect the strength of the sunlight, and open and close automatically, thereby reducing the cooling and heating load. Since 2012, the Center has also grown a green wall of vegetation as a summertime energy-saving measure in an effort to reduce the cooling load even more. Through a process of trial and error to balance watering, fertilization, and sunlight, currently, the green wall (planted with two kinds of morning glories) grew splendidly to a size of 8.5 meters wide by 10 meters tall. Local residents even stopped by to take photos of it. This initiative to grow a green wall of vegetation has entered Hachioji's Green Wall of Vegetation Contest in the “organization grouping” since 2017 and won awards two years running, including the first place award in 2017.

Green wall of vegetation
at the Hachioji R&D Center

Award certificate and first place gift

Installation of LED Lighting

Casio is installing LED lighting at its business sites to reduce electricity consumption. Thus far, it has installed LED lighting at many Casio sites, including the Hatsudai Head Office, Hamura R&D Center, Hachioji R&D Center, Yamagata Casio, Casio Electronics (Shenzhen) Co., Ltd., Casio (Thailand) Co., Ltd., Casio America, Inc., and Casio Electronics (Shaoguan) Co., Ltd., and other sites. The installed LED lighting has brought about substantial CO2 emissions reductions.

LED lighting in
Casio Electronics (Shenzhen)'s lobby

LED lighting in
Casio (Thailand)'s plant

LED lighting in
Yamagata Casio's plant

Logistics Process Initiatives

Casio is actively reducing its environmental impact by striving to reduce CO_2 and waste emissions arising from logistics. In order to reduce CO_2 emissions in the logistics process, Casio is promoting the following three action plans.

- **Shortening transport distances:** Considering and promoting direct shipping to distribution centers in Japan from manufacturing sites outside Japan and direct shipping to business partners in quantity lots
- **Promoting a modal shift:** Actively using modes of transport with low environmental impact such as rail for transport between sites
- **Improving loading efficiency and reducing transport volume:** Improving the packaging design of electronic dictionaries, musical instruments electronic cash registers, and other products, and reducing the volume of packaging

Four products obtain Eco Rail Mark certification

On February 28, 2013, Casio obtained Eco Rail Mark certification from the Railway Freight Association for four products: clocks, digital pianos, electronic keyboards and electronic cash registers.
The Eco Rail Mark indicates that a product or company is proactively addressing global environmental issues by using rail freight transport. Rail transport produces about one-thirteenth of the CO_2 emissions of commercial trucking, making it an environmentally friendly method of transport with a low environmental impact.
The criteria for certification are utilization of rail for at least 30% of land freight transport for distances of 500km or more for a product, and utilization of rail for at least 15% of land freight transport for distances of 500km or more for a company.
Casio obtained Eco Rail Mark certification as a company in October 2009 and successfully obtained product certification as a result of further expanding rail transport due to the relocation, amalgamation and closure of business sites.

Casio now actively uses rail mainly for inhouse transport from its logistics center in Saitama Prefecture to distribution centers in Osaka and Fukuoka. Going forward, Casio will make active efforts to reduce environmental impact by pursuing environmentally friendly transport.

Eco Rail Mark

Promoting a modal shift to rail transport

Environmentally friendly rail containers

Building a Recycling Society

Approach and Policy

Social Issue

Rapid economic growth brings with it problems such as the depletion of natural resources, the destruction of nature due to extraction of resources, and pressure on landfill sites for waste and pollution around them, accompanying the increase in resources consumed. In this situation, the 3Rs (Reduce and Reuse waste and Recycle resources) have become increasing important in order to utilize the world's finite resources effectively. In recent years, moreover, the low effective utilization rate for waste plastic and environmental pollution caused by ocean plastic waste have become issues of global concern.

Recognizing this social background, Casio is moving ahead with various initiatives, including activities in its own business as well as activities that include suppliers and cover the entire product lifecycle.

Importance for the Casio Group

Amid more widespread depletion of natural resources and the destruction of nature caused by the extraction of resources, investment in new natural resources for manufacturing products not only exacerbates the depletion of resources, but can also increase the impacts on the environment and ecosystem. These impacts may also lead to risks such as increases in the cost of raw materials.

The recycling rate of the waste produced by Casio's business activities has reached more than 80% over the past few years. However, about 15 or 20% of waste is still disposed of in the environment without being recycled. This includes plastics and other waste which remain in the environment for long periods of time, and their impact on environmental pollution and ecosystems is a cause for concern.

The same concerns that apply to the waste produced by our own business activities apply to the disposal of products after use by customers. It can be said that proactive efforts to ensure recycling them into resources are required. For the Casio Group, which operates a broad range of consumer businesses, this is also important in terms of securing customer trust.

Targets and Action Plan

Casio is working to build a recycling-oriented society both through product initiatives and initiatives in business activities.

In product initiatives, the company has set a target for expanding the number of Casio Green Star Products, a designation which indicates environmentally friendly product manufacturing through the various stages from development and design to use of the product by customers, to recycling after use.

In initiatives in business activities, Casio has set a target of zero emissions* of waste produced by its business activities. As part of its efforts to achieve zero emissions, Casio has set targets for reducing the amount of waste produced by its business activities and increasing the recycling rate of such waste. In addition, the Company has set a target for reducing water usage in business activities. Casio is also working on this issue by taking initiatives for voluntary collection and recycling of used products and components disposed of as a result of product use.

* Casio Group's definition of zero emissions: Landfill disposal rate = (final landfill disposal amount ÷ amount of waste generated) × 100 is 1% or less.

Medium-Term targets and Performance

Evaluation ◎: All targets met, ○ : Most targets met, △ : Remaining issues outweigh results, × : No progress made

	Medium and long-term targets	FY2023 Target	FY2023 Performance	Evaluation	FY2024 Targets
Product initiatives	Increase Casio Green Starproduct sales ratio to 90% by FY2026	Maintain the Casio GreenStar product sales ratio at 80% or more	Casio Green StarProduct salesratio: 74.3%	○ *2	Raise the Casio Green Starproduct sales ratio at 80%or more
Initiatives in Business Activities	Achieve zero emissions*1 of waste at business sites by FY2031	Reduce the amount ofwaste generated by entireCasio Group (includingvaluable waste) by at least 3% compared to FY2020	Reduced waste generated by Casio Group (including valuable waste) by 34.3% compared toFY2020	◎	Reduce the amount of waste (including valuable waste) generated by entire Casio Group by at least 4% compared to FY2020
		Achieve a recycling rate*3 for Casio Group site waste ofat least 96%	Recycling rate for Casio Group: 93.9%	○ *2	Achieve a landfill disposal rate*4 for Casio Group site waste of at least 4% or less
	—	Reduce water usage for Casio Group by at least 3%compared to FY2020	Reduced waterusage for Casio Group by 23.9% compared toFY2020	◎	Reduce water usage for Casio Group by at least 4% compared to FY2020

*1 Casio Group's definition of zero emissions:Landfill disposal rate =(final landfill disposalamount ÷ amount of waste (including valuable waste) generated) × 100 is 1% or less.

*2 ○ evaluation determined based on at least 80% achievement of the target figure.

*3 Recycling rate = (amount of valuable waste generated + amount of resources recycled) ÷ (amount of valuable waste generated + amount of recycled + final landfill disposal amount) x 100

*4 Considering carefully the consistency of the indicators between the medium- and long-term targets, CASIO has decided that the entire group use the landfill disposal rate instead of the recycling rate as an indicator starting with the target for FY2024.

Product Initiatives

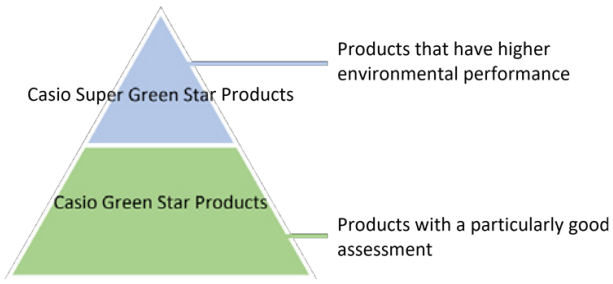
Approach and Policy

Casio pursues product development with consideration for environmental impact throughout the product lifecycle, from the product development and design stage, to use by customers, to disposal and recycling after use.

Casio began its own product assessment program in 1993, commencing assessment of the environmental impact of new products and certifying those that met certain standards as Casio Green Products This process produced a large number of environmentally friendly products.

In 2009, Casio began its program to certify Casio Green Star Products under more rigorous assessment standards. In 2016, a further program to certify Casio Super Green Star Products under even higher assessment standards was also commenced. Since then, Casio has continued to develop products with consideration for environmental impact.

Product environmental assessment items	
1. Promotes recycling	7. Recyclability of batteries
2. Designed for recycling	8. Recycling label on batteries
3. Components of Products canbe separated,disassembled	9. Regulatory compliance
4. Improved recycling	10. Components of packaging can be separated, desassembled
5. Improved energy efficiency	11. Regulated use of packaging materials
6. Regulated use of chemical substances	12. Preserves the natural environment

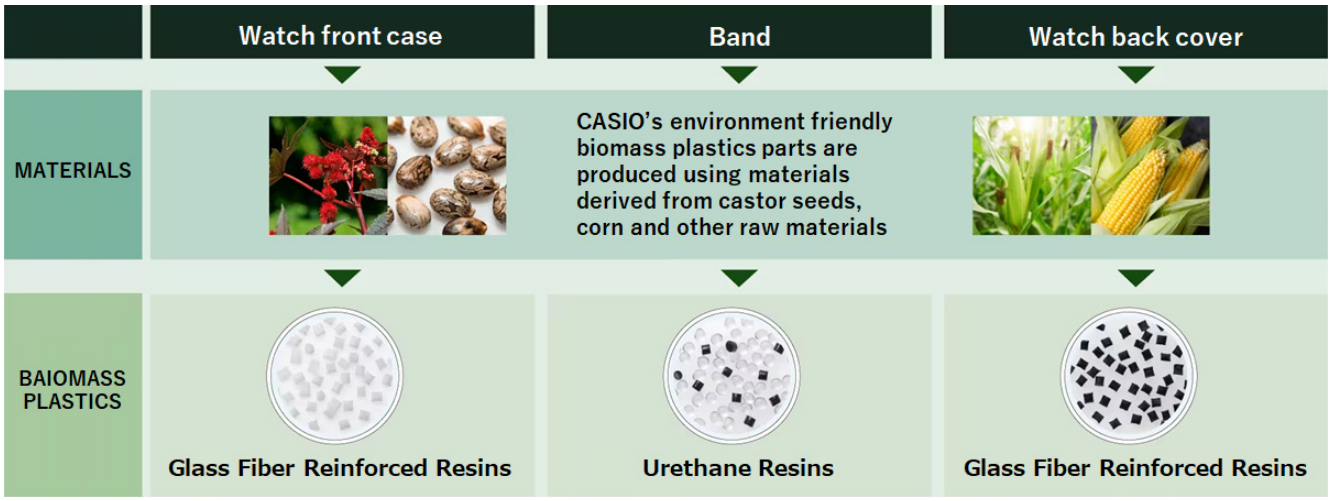


Click here to see products certified as Casio Green Star Products and Casio Super Green Star Products to date.

Casio takes measures to consider environmental impact for each product, and these are expected to have a positive effect on building a recycling-oriented society.

PRO TREK/G-SHOCK using environment friendly biomass plastic

PRO TREK/G-SHOCK series using biomass plastic parts launched in 2022

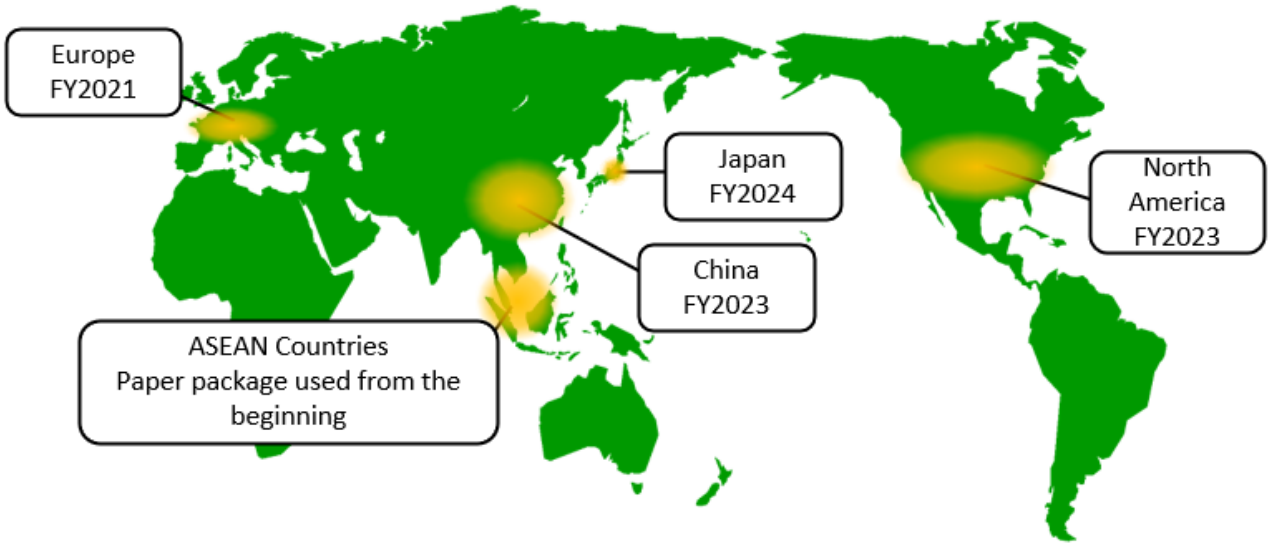


Packaging materials using recycled paper as main raw material

Initiatives in Calculator Product Packaging

Casio is reducing the use of plastic packaging by introducing paper packaging in calculator products line.

Following the introduction of paper packaging in some emerging markets of ASEAN, where paper packaging was already being used, the introduction of paper packaging began in Europe in 2020, North America and China in 2022, and full-scale introduction into Japan started in June 2023.



In contrast to conventional plastic packaging, which allows consumers to see the product from the outside, paper packaging does not allow the product to be seen. Casio has taken this into consideration in packaging design by, for instance, including a picture of the product and printing the product name and category in large lettering so that users will avoid misidentifying it. Casio has also given consideration to efficiency of transport by making the packaging as compact as possible.

Previous package
Transparent plastic package
showing the product

New package
Paper package with the picture
faithfully reproducing
the product design

Initiatives in Watch Product Packaging

Watch Product Packaging Initiatives

For watch products, Casio is working to change the product packaging for each product group to packaging made primarily of recycled paper or recycled plastic.

Initiatives in Casio Collection (General Watches)

Starting in 2021 Casio switched to packaging that uses recycled paper as a raw material and decreased the amount of plastic used by 82% compared to conventional packaging (used by Casio).

Paper packaging

Initiatives in PRO TREK series

In addition to adopting packaging made from recycled paper, Casio uses inks made from plant-based raw materials which release fewer volatile organic compounds than conventional petroleum solvent-based inks.

Initiatives in MY G-SHOCK

Each MY G-SHOCK, which allows customers to build their own custom watch by selecting the components, is cradled inside a special pulp-molded case packaged in a plastic-free exterior paper box.

Initiatives in G-SHOCK 40th Anniversary Model “Adventurer's Stone” Series

This 40th Anniversary G-SHOCK model, and the mineral-inspired series to which it belongs, use pulp-molded paper packaging. Casio also uses vegetable oil inks for the printing on the outer box.

Initiatives in G-SHOCK FROGMAN 30th Anniversary Model

This model is not only made with biomass resin components, but also comes in special packaging made from laminated paper board.

Initiatives in G-SHOCK 40th Anniversary Edition “Flare Red”

The 40th Anniversary Edition “Flare Red MTG-B 3000 FR / GWG-2040 FR” G-SHOCK watches are packaged in an inner box made from 100% recycled plastic. The outer box is made of recycled paper and printed on with plant-based inks which release fewer volatile organic compounds than conventional petroleum solvent-based inks.

Initiatives Related to Product Usage

Each watch model supports Casio's original solar power system that reduces battery usage.

Tough Solar

This original Casio solar-charging system employs solar panels that convert light even from fluorescent lamps and other sources, combined with an internal rechargeable battery. It generates ample power for smooth operation of power-hungry functions, from measurements to radio wave reception, Bluetooth® connectivity, lights, and alarms. Also includes a Power-Saving function that automatically engages when the watch is left for a certain period in a dark location.

Solar-Assisted Charging

Use USB charging for training functions such as GPS tracking and heart rate monitor, as well as smart functions such as notifications and step tracker. Time display is powered solely by solar charging, even when battery runs low.

Solar Charging

Time display is powered solely by solar charging, even when the battery runs low.

USB Charging

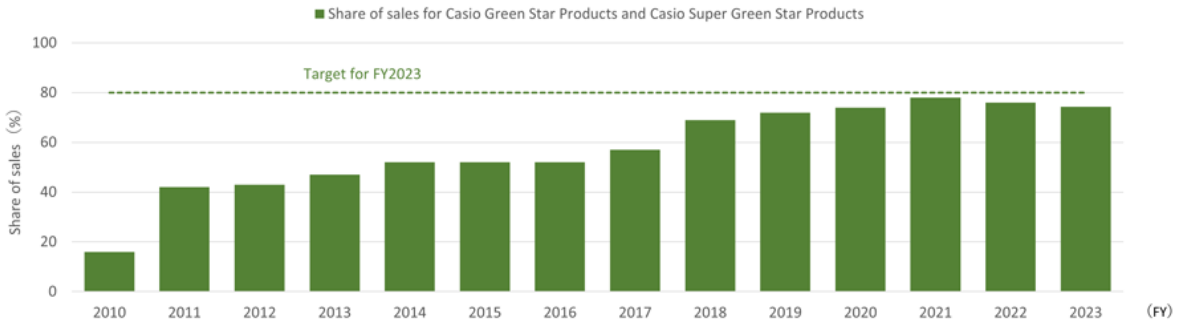
For training functions and smart functions, use a USB cable for charging.

Solar Charging System

Converts light from fluorescent lamps and other sources with a solar-charging system that reduces the need for regular battery replacement.

Targets and Performance

Casio has set a target for Casio Green Star Products and Casio Super Green Star Products to account for 90% of sales by FY 2026. Casio has also set target figures for each fiscal year and is verifying the status of achievement.



Evaluation ◎: All targets met, ○ : Most targets met, △ : Remaining issues outweigh results, × : No progress made

Medium and long-term targets	FY2023 Target	FY2023 Performance	Evaluation	FY2024 Targets
Increase Casio Green Star Products' share of sales to 90% by fiscal 2026	Maintain the Casio Green Star Products' share of sales at 80% or more	Casio Green Star Products' share of sales: 74.4%	○	Raise the Casio Green Star Products' share of sales at 80% or more

Initiatives in Business Activities

Casio's efforts to promote resource recycling are guided by its targets to achieve zero emissions of waste and reduce water usage by the Group. As part of its efforts to achieve zero emissions, Casio strives to reduce the amount of waste generated by its business activities and to increase the waste recycling rate, as well. The company is also taking initiatives for voluntary collection and recycling of used products.

Reducing and Recycling Waste

Approach and Policy

The Casio Group has set a zero-emissions targets for waste generated by its business activities and is working hard to recycle resources. As part of its initiatives for achieving zero emissions, Casio has set targets for reducing waste generated from its business activities and for promoting the recycling of such waste.

Targets and Performance

Casio has set targets for each fiscal year and is verifying the status of achievement. For FY 2023, Casio set targets to reduce the amount of generation of waste (including valuables) by at least 3% compared to fiscal 2020 and to achieve a recycling rate of 96% or higher.

In fiscal 2023, continuing efforts to reduce emissions at each Group site allowed Casio to achieve its fiscal 2023 target for total reduction of wastes and valuable wastes.
Meanwhile, Casio has been able to closely approach its recycling rate target by implementing countermeasures primarily at sites with low recycling rates and sharing information on good practces that contribute to improvement

Evaluation ◎: All targets met, ○ : Most targets met, △ : Remaining issues outweigh results, × : No progress made

Medium and long-term target	FY2023 Target	FY2023 Performance	Evaluation	FY2024 Target
Achieve zero emissions *1 of waste at businesssites by FY2031	Reduce the amount of generation of waste(including valuable waste) by entire Casio Group by at least 3% compared to FY2020	Reduced the amount of waste(including valuable waste) generated by Casio Group by 34.3% compared to FY2020.	◎	Reduce the amount of waste (including valuable waste) generated by Casio Group by at least 4% compared to FY2020.
	Achieve a recycling rate *2 for Casio Group sitewaste of at least 96%	Achieved 93.9% recycle rate for entire Casio Group	○ *3	Achieve a landfill disposal rate for entire Casio Group site of at least 4% or less

*1 Casio Group's definition of zero emissions:

Landfill disposal rate = (final landfill disposal amount ÷ amount of waste generated [including valuable waste]) × 100 is 1 or less.

*2 Recycling rate = (Amount of valuable waste generated + Amount recycled) ÷ (Amount of valuable waste generated + Amount recycled + final landfill disposal amount) ×100

*3 ○ evaluation determined based on at least 80% achievement of the target figure.

*4 Casio had been using the recycling rate as an indicator for the entire group, but in order to stay consistent with its medium-to-long-term targets and after scrutinizing indicators for the entire group,

Reducing water usage

Approach and Policy

Water resources are essential in maintaining human activities. However, in recent years, water-related risks, including increasing demand due to population growth and decreasing supply due to climate change, have become a cause for concern, and Casio business activities could face similar risks.

The Casio Group uses a limited amount of water in production activities, to wash a few of the components in production activities. Use for applications such as air conditioning and domestic-type use account for the majority of the water used by the Casio Group. The domestic-type use of water is important in terms of maintaining hygienic at its sites.

When Casio conducted an evaluation of water stress levels[*1] with a focus on access to water for hygiene at production sites with relatively high water usage, one out of all the Group's production sites was found to be under water stress. Despite the relatively low level of overall water stress, Casio has set a target of continually reducing water usage for the entire Group, and is working to reduce risk related to use of water resources.

*1 The Baseline Water Stress indicator presented in WRI Aqueduct Water Risk Atlas 3.0. Casio assessed sites where the Baseline Water Stress is High or more as under water stress.

Targets and Performance

Casio has set targets for each fiscal year and is verifying the status of achievement. For FY 2023, the company set a target of reducing water use by at least 3% compared to FY 2020.

In addition to the water used in production activities, a large proportion of the Casio Group's total water use comes from water used daily by employees at its facilities. In fiscal 2023, as the effects of the COVID-19 pandemic have Despite this trend, Casio continued to reduce the amount of water used at each site, so there was only a slight increase in total water consumption compared to the previous year and achieved the target.

Evaluation ◎: All targets met, ○ : Most targets met, △ : Remaining issues outweigh results, × : No progress made

FY2023 Target	FY2023 Performance	Evaluation	FY2024 Target
Reduce water usage for Casio Group by at least 3% compared to FY2020	Reduced water usage for Casio Group by 23.9% compared to FY2020	◎	Reduce water usage for Casio Group by at least 4% compared to FY2020

Collection and Recycling

Recycling of Products and Packaging in Compliance with Laws and Regulations

Casio recycles products and packaging at the end of their useful life, complying with laws and regulations around the world.

Major environmental laws and regulations related to Casio products

Recycling of End-of-life Products

In disposing of end-of-life products, Casio complies with laws and regulations in various countries and regions around the world, including the Small Home Appliance Recycling Law in Japan, the Waste from Electrical and Electronic Equipment (WEEE) Directives in the EU, the Electronic Equipment Recycling Laws of China and other countries and regions around the world.

Product Recycling in Europe

European recycling regulations include the Waste Electrical and Electronic Equipment (WEEE) Directive, the Battery Directive and the Packaging Directive.
These regulations provide a framework under which manufacturers collect and recycle end-of-life products and are obliged to bear the costs of doing so.
Casio fulfills its obligations by participating in collection and recycling organizations with government authorization.

Recycling of Containers and Packaging

Casio complies with the laws and regulations on recycling for each country and region in its processing of containers and packaging, including the Act on the Promotion of Sorted Collection and Recycling of Containers and Packaging in Japan, the Packaging and Packaging Waste Directive in the EU, the RoHS in China, the regulations concerning hard plastic containers in each U.S. state, and the packaging collection programs of each Canadian province.

Product recycling efforts

The collection of used products includes activities that are performed to comply with relevant laws, and activities that are performed by Casio voluntarily. This section introduces Casio's voluntary activities.

Recycling with No Waste Disposal

Living in Harmony with Nature

Approach and Policy

Social Issues

The Kunming-Montreal Global Biodiversity Framework (GBF) was adopted at the 15th Conference of the Parties to the Convention on Biological Diversity (CBD/COP15) held in Montreal Canada in December 2022. This framework is the successor to the Aichi Biodiversity Targets (in place until 2020) and lays out international targets for 2030. The most noteworthy aspect of the GBF is the aim to build a “nature-positive world by 2030.” Alongside “carbon neutrality” and “circular economy,” this aim rounds out the three key phrases for addressing environmental problems. These three phrases are intimately related to solving the problems facing the global environment, which is the foundation for human society, and the international community recognizes the need to address societal transformation in an integrated manner.

In parallel with the move to adopt the GBF, TNFD is being considered to succeed TCFD as a new guideline for disclosing corporate financial information. The release of the official version (v1.0) in September 2023 is expected to encourage investment by companies in helping the world to become nature positive. In light of these international investment trends, delays in recognizing and responding to the company's business risks related to biodiversity and natural capital will have a negative impact, while preemptively harnessing the company's core business to contribute to the goal of becoming nature positive, thereby generating profit, will have a positive impact.

Importance for the Casio Group

The GBF shows that Casio needs to take actions which will have a more direct impact on restoring biodiversity. But indicators that will be effective enough to measure the degree of achievement are still being developed. However, waiting for these will cause the company to fall behind. So, Casio must first look at the current state of decline in biodiversity and what can be done to reverse it, and think about solutions in light of its own strengths.

Casio possesses hardware and software technologies refined as it created compact electronic devices over the years, as well as unique ideas that are difficult to imitate and management decisions which support those ideas. This has allowed Casio to deliver products to the world that have surprised other companies. Casio recognizes that it is expected to create new businesses that attract the attention of investors around the world by channeling these characteristics toward the goal of restoring biodiversity.

Targets and Action Plan

Casio formulated the Biodiversity Guidelines in March 2011 and the Paper Procurement Policy in 2015. At the time, these were formulated in the context of the Aichi Targets. But years have passed since then, and Casio needs to review them in light of the requirements TNFD or the GBF adopted last year at CBD/COP15. Casio is also in the process of reconstructing its future management vision, so it will revise the guidelines and policy in line with the vision based on international trends.

Casio Group Biodiversity Guidelines

Basic Policy

The Casio Group recognizes that its existence and business activities depend on the benefits afforded by biodiversity, and that these activities also have an impact on biodiversity. Casio emphasizes biodiversity preservation activities as well as efforts to fight climate change. By including biodiversity preservation in environmental management and creating a system for implementation, the Casio Group is working to build a more sustainable world.

Specific Initiatives

1. Business Activities:

Casio will help to build a more sustainable world by creating and providing products and services that encourage consumers to care more about the environment. This will be done by learning from nature and developing technologies that utilize this wisdom.

・Facilitating a paperless society
・Contributing to resource saving by developing original technology
・Developing products with care for nature

2.Impact Assessment:

Casio will survey and analyze its impact on biodiversity through activities including R&D, design, procurement, manufacturing, logistics, sales, product use, disposal, and recycling, and at its office and plant locations. It will establish improvement measures and implement them starting with areas of highest environmental impact and benefit.

・Actively taking initiatives for proper procurement of parts (leather, wood, paper, etc.) and materials (mineral resources, etc.) that depend on ecosystem services.
・Conducting questionnaire surveys across the supply chain in order to check ecosystem protection efforts for parts and materials that make up products.
・Establishing impact assessment methods (checklists and indices) for the Casio Group

3. Information Disclosure:

Casio will strive to improve social awareness of biodiversity, by actively disclosing the results of its environmental activities.

4. Community Involvement:

Casio will actively support activities that contribute to biodiversity preservation by NPOs and NGOs, government agencies, and local citizens.

5. Full Employee Participation:

Casio is aiming for activities that involve the participation of all employees, by increasing understanding of biodiversity preservation, and training employees to act on their own initiative.

Casio Group Paper Procurement Policy

Purpose: To preserve biodiversity by protecting and sustainably using the forest resources which provide the raw material for paper.

Scope: All paper products procured by the Casio Group worldwide

Policy: Casio will procure paper for use in its business activities according to the following standards:

1. Paper must be made from trees harvested in accordance with the laws and regulations governing the logging area concerned.
2. Products must not come from companies that are destroying any forest with high conservation value or that are a source of serious environmental or social issues.
3. Priority must be given to reliable certified paper or recycled paper.

Target and Performance

Evaluation ◎: All targets met ○ : Most targets met △ : Remaining issues outweigh results × : No progress made

Theme	Medium and long-term targets	FY2023 Targets	FY2023 Performance	Evaluation	FY2024 Targets
Living in harmony with nature	Increase the use ofsustainable paperto 100% by FY2031	Examine re-setting of medium and long-term targets	Collected and analyzed world trends	△	Examine re-setting of medium and long-term targets

Structure

In 2015, Casio identified three environmentally material issues. To address one of these, “Living in harmony with nature,” the third environmentally material issue, Casio established the “M3 committee,” which is an objective of the ISO 14001 environmental management system, in 2017. The M3 committee is driving Casio's adoption of paper from certified forests for product catalogues used in Japan. It conducted a biodiversity survey of Casio's main business sites in Japan, leading to the discovery of rare plants already growing on the company's property, species found on the Red Lists published by Japan's Ministry of the Environment. The committee is considering the medium- and long-term targets, but as a short-term action plan managed under ISO14001, it is working to make efforts to promote biodiversity mainstream within the group by promoting measures emphasizing employee volunteerism, such as protections teams for rare plants, caring for the Casio Forest, and river cleanup activities.

With growing public expectations for Casio to show leadership on social issues through its business activities, Casio will strive to further link its efforts for mainstreaming biodiversity to the core operations of its business divisions, carry out an education campaign (WILD MIND GO! GO!) to encourage biodiversity mainstreaming outside of the company, and further expand and strengthen initiatives that promote grassroots volunteerism among employees.

Contributing Through Casio's Business to Social Issues Related to Biodiversity

Lateco Label Writer Reduces Plastic Waste

The issue of plastic waste in the oceans has become increasingly important as a global environmental problem. Ocean waste includes discarded petroleum-derived fishery materials, as well as waste such as disposable plastic containers and packaging originating on land that flow into the ocean via rivers. It is becoming clear that such waste has an impact on marine ecosystems, and there are concerns about its impact on the marine products used as food. For its new Lateco label writer, Casio redesigned the conventional model to minimize wasteful margins on the edge of the tape, while creating a tape cartridge that can be reused. As a result, the amount of plastic waste generated by using Lateco has been significantly reduced compared to previous Casio models.

This initiative was recognized in 2021 when Lateco tape won Eco Mark Award 2021 Best Product. The product is also registered with the Plastics Smart Campaign of Japan's Ministry of the Environment.

Lateco product information (in Japanese)

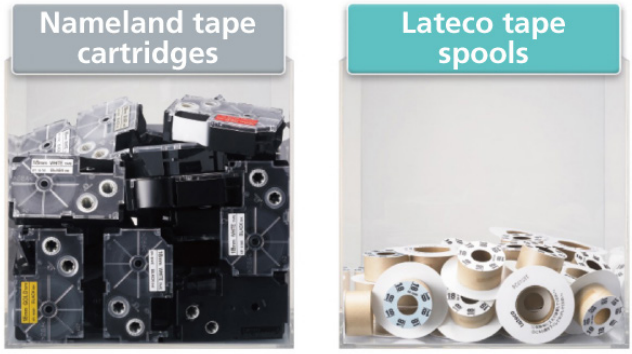
Eco Mark Award 2021 Best Product (in Japanese)

Plastics Smart Campaign at Japan's Ministry of the Environment

EC-K10

EC-P10

Plastic waste is significantly reduced when changing the tape Cartridge is reused



	Nameland tape cartridge	Lateco tape spool
1 piece	25 g	0.6 g
400 pieces	1,006 g	24 g
100 pieces	2,514 g	60 g

Plastic waste
Reduced by approx. 97%*

Conventional model waste versus Lateco

* Nameland 18-mm tape cartridge waste compared to Lateco 18-mm tape spool waste

Conventional model waste versus Lateco

As a partner in the Plastics Smart Campaign by Japan's Ministry of the Environment, in March 2022 Casio also concluded an agreement on collaboration to reduce plastic waste with Higashine City, Yamagata Prefecture. This followed an earlier agreement we concluded with the town of Hayama in Miura District, Kanagawa Prefecture in March 2021. Hayama is implementing an environmentally mindful initiative called the Hayama Clean Program. This initiative has much in common with Casio's recognition of the issue of plastic waste and the initiatives it is taking to reduce it. By concluding this agreement, Casio will work on mutual cooperation and further promotion. Yamagata Casio, a Casio group company, is also taking part in the agreement with Higashine City and has plans to participate in a variety of activities in Higashine City in the future.

Komagane City in Nagano Prefecture, ktk INC., and Casio aim to bring about a resource-recycling society by collaborating to reduce plastic waste.

Agreement on Collaboration to Reduce Plastic Waste concluded with Higashine City, Yamagata Prefecture

Agreement on Collaboration to Reduce Plastic Waste concluded with Hayama (in Japanese)

Three-Party Agreement with Komagane City in Nagano Prefecture and ktk INC. (in Japanese)

Employee Volunteers Participate in Litter Cleanup Event

The problem of plastic pollution in the oceans is an important issue with respect to biodiversity because of the various adverse effects it has on marine organisms. It is also a social issue that jeopardizes the sustainable use of marine resources as food for humanity. The amount of land-generated waste flowing into the ocean through rivers is so high that, to address this problem, the world must first reduce the use of single-use plastics.

For four consecutive years since 2019, employee volunteers primarily from Lateco-related departments participated in the Furusato Cleanup in Arakawa. They even sought to foster greater understanding of these social issues through hands-on activity.

This event usually draws several hundred participants, but the organizing office has held a smaller event for the past three years as a measure to control the spread of COVID-19. Under these circumstances, the energetic collection of waste that had drifted ashore or been illegally dumped in Arakawa in cooperation with many other people while taking infection control measures earned a certain degree of recognition.

Before and After the clean-up event

All participants including CASIO volunteer staff

The site where waste was collected in November 2021 had more waste drifted ashore than ever before, and we were given responsibility for the difficult sections in recognition of our good efforts on the two previous occasions. Despite the cold wind, the employee volunteers worked without flinching alongside participants from other citizen groups to collect as much waste as time allowed. This year, too, quite a lot of waste was collected, and everyone was able to share a sense of accomplishment particularly because it was a group effort. In addition, they were able to reaffirm the meaning of continuing these kinds of onsite activities and the importance of reducing plastic waste through business activities by redesigning Casio products like Lateco.

Preserving Biodiversity through Collaboration with Environmental Protection Groups

Casio has developed many brands of watch products such as G-SHOCK, BABY-G, and PROTREK.

These Casio brands deliver functions, performance, and designs suited to the many diverse activities and situations in which people use their watches. Many of those envisioned situations are beautiful and sometimes harsh natural landscapes, including a wide range of land and ocean environments. As the manufacturer of these brands, Casio believes in its responsibility to protect natural environments. Casio leverages its main business activities to achieve this and has been developing collaboration watch models with a number of environmental protection groups each year. The name recognition and product appeal of the Casio brand helps energize each collaborating group's environmental protection activities and public awareness of them.

G-SHOCK and BABY-G Collaboration Models for the “Love the Sea and the Earth” Project

Based on a theme of “Love the Sea and the Earth,” Casio has developed G-SHOCK and BABY-G brand products with environmental protection groups such as the International Cetacean Education Research Centre (ICERC Japan), Aqua Planet, and Earthwatch Japan, and Casio also supports these groups by providing these products and sharing information.
Casio's support of ICERC Japan, through the ongoing creation of dolphin and whale watch models that began in 1994, reached its 29th year in 2023.

ICERC

Aqua Planet

Nature Conservation Society of Japan

Earthwatch Japan

Casio Coral Field

In 2018, Casio began providing support for Aqua Planet, an NPO that preserves and restores coral, which is chaired by actress Ritsuko Tanaka. In January 2018, the Casio coral field was established in the seas of Ishigaki, Okinawa Prefecture, and 200 coral “seedlings” were planted with the objective for them to reproduce in three years' time.

The Casio coral field lies to the south of Ishigakijima island, Okinawa Prefecture in shallow seas about 4 meters deep at high tide. The coral coexists with a phytoplankton called zooxanthella, and coral seedlings from more than seven resilient varieties, including Acropora Copiosa Nemenzo in the genus Acropora of the family Acroporidae, were planted.

These coral seedlings were ones that had been newly collected with permission and divided seedlings cultivated in other coral fields. More than three years after planting, the mature coral is now home to small fish.

Contributing to Coral Reef Conservation Activities with Logosease

The Kikaijima Reef Check was held on October 18, 2020 to ascertain the health of the coral reef on the island of Kikaijima in Kagoshima Prefecture. Yamagata Casio assisted by providing Logosease diver communication devices.

Underwater transceiver, Logosease

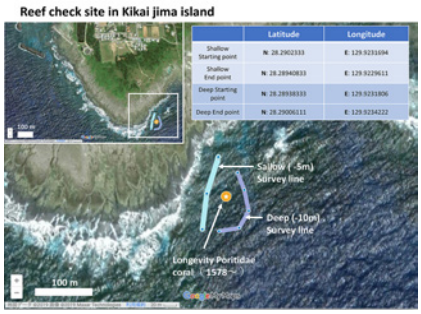
Logosease

Reef Check is a coral reef monitoring program conducted on a volunteer basis using an internationally uniform technique to investigate the soundness of coral reefs worldwide. The purpose is to reduce the human impact on coral reefs by recording the condition of fish and other creatures living on coral reefs as well as the condition of the seafloor to assess the health of coral reefs and raise awareness about their protection.

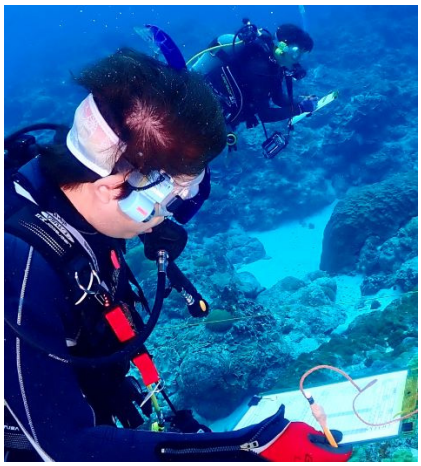
Since the recruiting of volunteer divers from outside the island was curbed because of COVID-19, the Reef Check was conducted only by divers from WWF JAPAN, the KIKAI Institute for Coral Reef Sciences, Amami Marine Life Research Association, Yonemori Diving Service, and divers from the island.

The Reef Check was conducted in good weather with visibility around 40m. The health of the coral reef, which was everyone's concern, was found to be unchanged from 2019. It was still in good condition with little bleaching.

Yonemori Diving Service provided photos of the Reef Check. It commented that, “Logosease underwater transceivers are essential to communication underwater, and they were extremely valuable during the Reef Check. Basically, the Reef Check is conducted in pairs or groups of three, so we appreciate being able to precisely communicate by voice when confirming, collaborating, and giving signals.”



Source: KIKAI Institute
for Coral Reef Sciences



Biodiversity Preservation at Business Sites

In 2017, Casio commissioned an expert outside agency (Ryokusei Research Institute Inc.) to conduct a biodiversity survey at the Group's main sites in Japan. As shown in Table 1, the results found that many species of insects and plants make their home at these sites. Rare species including Golden Orchid (Cephalantherafalcata), which is included on the Ministry of the Environment's species Red List, and Silver Orchid (Cephalanthera erecta) and stalked adder's-tongue(Ophioglossum petiolatum), both of which are on Tokyo's Red List of threatened species, were found at the Hamura R&D Center in Hamura, Tokyo.
In addition, for two consecutive years in 2022 and 2023, raptor thrushes conducted nesting activities on the property, and their chicks successfully left the nest.
Rare species including the plant Lespedeza tomentosa Sieb. Ex Maxim. And the insect Canthophorus niveimarginatus (Scott), which are included on Yamanashi Prefecture's Red List of threatened species, were found at the Yamanashi Office of Yamagata Casio Co., Ltd. in the city of Fuefuki. In light of these results, employee volunteers are continuing to undertake conservation activities with advice from the expert agency.
At the Hamura R&D Center, members of the protection team formed by employee volunteers are working on protection from pests and trials of onsite propagation,including artificial pollination, and other measures to avoid the loss of rare species. They have also observed organisms on the grounds throughout the year and confirmed new individuals of the Silver Orchid and Golden Orchid, which were not found during the survey by outside experts. At the Yamanashi Office of Yamagata Casio,employee volunteers are working on management of green space (grass cutting) that is suited to rare species and to propagate individuals, as well as to remove non-native species that have a negative impact on preserving the environment for rare species.

Hamura R&D Center

Golden Orchid
(Cephalanthera falcata)
on April 25, 2022

Newly discovered individual
of Silver Orchid
(Cephalanthera erecta)
on April 28, 2022

Adder's-tongue
(Ophioglossum petiolatum)
on April 22, 2022

Yamanashi Office of Yamagata Casio

Lespedeza tomentosa
in August 20, 2019

Canthophorus niveimarginatus
and Thesium chinense,
which is the larval food plant
for the insect on April 22, 2022

Results of a survey of biodiversity at main business sites in Japan (Table 1)

site	Number of species		Remarkable insects and plants
	Insects	Plants	
Casio Computer Co., Ltd.			
Headquarters	55	82	
Hamura R&D Center	105	187	Plants: Golden Orchid, Silver Orchid, ophioglossum petiolatum
Hachioji R&D Center	51	110	Plant: Ophioglossum petiolatum
Yamagata Casio Co., Ltd.			
Headquarters	82	173	
Yamanashi	91	150	Insect: Canthophorus niveimarginatus Plant: Lespedeza tomentosa
Casio Business Service Co., Ltd. (Kofu)	82	160	Plant: Rorippa cantoniensis

List of plants at the Casio Group's main sites in 2017

List of insects at the Casio Group's main sites in 2017

Preservation Activities at Hamura R&D Center

For two years in 2020 and 2021, Casio's activities to preserve rare species on its grounds were restricted in line with restrictions on movement due to the COVID-19 pandemic. However, beginning in 2022, while giving consideration to infection risk, it was again possible to carry out artificial pollination and bagging aimed at propagating the Golden Orchid and Silver Orchid on the grounds of the Hamura R&D Center of Casio Computer Co., Ltd. In 2023, the Hamura R&D Center also carried out artificial pollination and bagging, and two new Golden Orchids and one new Silver Orchid were discovered at different locations on its grounds at around the same time.



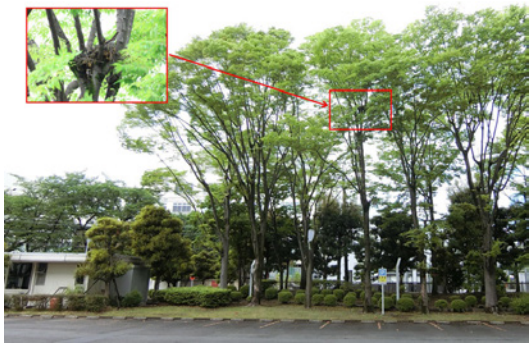
Two golden orchids found at Hamura R&D center on 21 April,2023

To address aging buildings, reconstruction is planned at the Hamura R&D Center in the near future. Therefore, in preparation for the eventuality that transplantation becomes necessary, young trees (*Quercus serrata*, *Lithocarpus edulis*) from species that can form symbiotic relationships with their surroundings were planted, with reference to academic literature. In addition, in order to avoid the adverse impact of *Japanagromyza tokunagai* and aphids, employee volunteers put up new nets using new methods and improvements.

Planting in rainy weather
thought to be good for taking root

New net with new method

Furthermore, in 2022, Japanese sparrowhawks, which are birds of prey, nested in a zelkova tree on the grounds of the Hamura R&D Center. The Japanese sparrowhawks previously nested in a park on the south side of the grounds. However, they nested in the same zelkova tree in 2023, the following year, perhaps deciding they could raise their young more safely on the grounds, and chicks left the nest for the second year in a row.



Location of the Japanese
sparrowhawks' nest

Parent bird and three chicks

Preservation Activities at the Yamanashi Office of Yamagata Casio

It is known that the rare plants on the grounds of the Yamanashi Office of Yamagata Casio are species suited to that environment, as they were accustomed to the grasslands there, which were part of rural life up until around the year 1900. Generally speaking, however, species suited to this environment are being lost today, as artificial management and human involvement is no longer practiced to ensure usability of the grasslands. However, the management of green space (grass cutting) on the grounds of the Yamanashi Office happens to be similar to the artificial grassland management of past times. As a result, these species have been preserved.

From this perspective, in addition to the plants *Lespedeza tomentosa* (which is listed as an endangered species by Japan's Ministry of the Environment and by Kanagawa Prefecture), and *Thesium chinense* (which is the food plant for the insect *Canthophorus niveimarginatus*), *Potentilla chinesis*, Siberian *Lespedeza juncea*, and *Lespedeza virgata* have been identified as relatively rare grass species for protection based on the advice of experts.

Management plan for preservation and improvement of grassland biodiversity (in Japanese)

Chinese cinquefoil

Siberian Lespedez

Lespedeza virgata

In light of the rare species growing in the grounds of the Yamanashi Office of Yamagata Casio, the protection team of employee volunteers is continuing the management of green space (grass cutting) that has not changed significantly from the past as a specific protection measure. The protection team is also working to raise seedlings of rare species from seeds collected in the fall and to propagate individuals.

As a result, it has been possible to increase the number of individuals and decrease the risk of loss. On the other hand, *Desmodium paniculatum*, which is known to threaten the habitat of rare species, has invaded the grounds unnoticed over the past few years, grown into large plants, and begun to disperse a large number of seeds.

Desmodium paniculatum

Increase in seeds

Seeds easily stick to clothes

Desmodium paniculatum, from the southeast of North America and known as a naturalized plant, has been included on the Invasive Alien Species (IAS) List from Japan's Ministry of the Environment and the Ministry Agriculture, Forestry and Fisheries, being known as difficult to eradicate once introduced, due to its strong rhizomes, high ability to disperse seeds because of its sticky fruit, and tendency to grow rapidly near rivers. Left unchecked, it may endanger the habitat of rare plants, yet the protection team aims to avoid using chemicals such as herbicides too readily. Therefore, in 2022, an attempt was made to remove the rhizomes using a small pickaxe, as a way of eliminating the plant without using herbicide. However, digging out the rhizomes of a single plant was a lot of work, and, because the work was done while there were many seeds on the plant, a large number of seeds stuck to clothing, and the only choice was to give up and cut off the parts of the plants above the ground.

Desmodium paniculatum
on the company property

Tying with string with many seeds
on the plant

Attempting to eliminate the
rhizomes using a small pickaxe

Therefore, in 2023, employee volunteers collected information to enable them to identify Desmodium paniculatum from the characteristics of its leaves before the formation of seeds and pinpoint the location of individuals at an early stage. Following that, a hoe (like those used for planting etc., in Casio Forest), with good digging capacity, was tried, and the rhizomes were removed relatively easily.

Tying the spreading limbs with string

Digging up the rhizomes with a hoe

Desmodium paniculatum rhizomes that were dug up

Team members from the Yamanashi Office of Yamagata Casio who took part in digging up Desmodium paniculatum rhizomes

There may still be Desmodium paniculatum rhizomes in the ground, and the aim is to completely eradicate them from the grounds by continuing to take measures next year and beyond, with the hope of protecting the growing environment for rare plants.

Using Sustainable Paper

Nowadays, a variety of raw materials are used to make paper, but the most widely available material is wood pulp. Because wood used for wood pulp is often grown in distant forests, the global environment can be negatively impacted before the users of the paper realize it is happening. Although some of the world's production sites for raw materials practice eco-friendly sustainable forest management, in other cases high conservation value forests home to precious wildlife are being destroyed, and the rights of Indigenous peoples are being violated.

Considering indirect impacts on biodiversity within the supply chain, Casio established a Paper Procurement Policy in June 2015. Based on this policy, Casio confirms on an ad hoc basis that suppliers do not use paper products that come from paper manufacturers that are suspected of destruction of any forest with high conservation value or of involvement in raw material procurement that ignores the rights of Indigenous peoples. Moreover, in order to preferentially use reliable paper from certified forests to help increase the use of socially sustainable paper, Casio has set internal targets for the paper used in product catalogs and other materials in Japan and is monitoring the rate of usage of paper from certified forests.

Paper Procurement

Casio carries out ad hoc checks (most recently in 2019) to confirm that its suppliers do not use paper products from paper manufacturers that have been identified as problematic based on an independent investigation conducted by an international NGO. If it turns out, based on the confirmation results, that a product comes from one of the paper manufacturers in question, Casio switches to products from a different paper manufacturer. By continuing such confirmation and switching of paper products, Casio exercises its indirect influence on the supply chain in an effort to minimize its indirect negative effects on biodiversity and the rights of Indigenous peoples.

Paper Procurement Policy

Promoting Use of Certified Paper

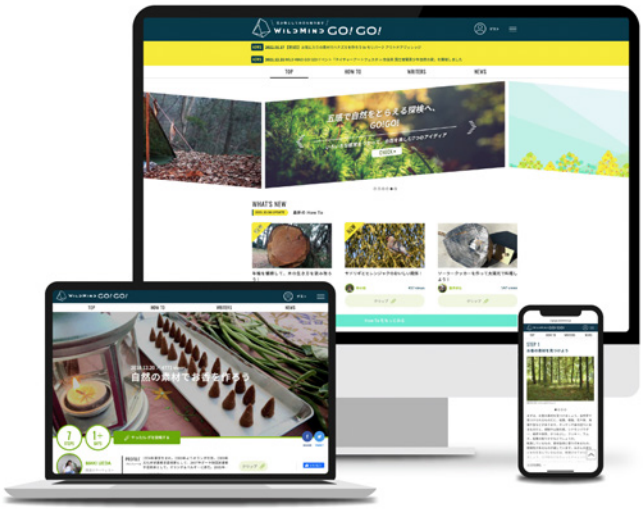
Since fiscal 2017, Casio has set a target for the percentage of FSC®-certified paper used for product catalogs and monitors the situation. This was done for product catalogs for the Japanese market that were ordered by the advertising department, to ensure that the actual situation could be monitored. Since then, however, orders have been diversifying. Accordingly, in fiscal 2023, Casio expanded the scope to include product catalogs for the Japanese market ordered by sales departments for all items sold in Japan from general printing companies. The percentage of FSC®-certified paper used was recalculated in line with this expansion of the scope, which resulted in a temporary decrease in the current percentage used. However, more detailed monitoring of each item is now possible.

One of the challenges in continuing to implement these measures related to the procurement of paper is how to assess their priority and effectiveness in terms of the biodiversity measures Casio should take, given the large amount of resources required to compile the results. The Global Biodiversity Framework (GBF) adopted at the 15th Conference of the Parties to the Convention on Biological Diversity (CBD/COP15) included various important targets seeking to build a nature-positive world, but no statements linked to increased use of paper from certified forests as a way of restoring biodiversity have yet been found among these targets. However, Casio will continue with its internal target management and monitoring with discussions on biodiversity indicators, which the international community has indicated are required, yet to be concluded.

Education

“WILD MIND GO! GO!” Website Promotes Nature Experience

The National Biodiversity Strategy and Action Plan 2023 – 2030 formulated by Japan's Ministry of the Environment points out that the concept of biodiversity is not yet socioeconomically mainstream, and states that this is a fundamental reason for loss of biodiversity. Furthermore, the analysis presented in the national strategy states, “Low awareness of the importance of biodiversity and its relationship to daily life is not conducive to behavior and decision-making that give consideration to living things. To address the insufficient mainstreaming of biodiversity, social values and behavior must be changed and there is a strong requirement to increase interest and understanding by providing education and opportunities to experience nature, first of all.” Casio is in accord with this analysis and is implementing the WILD MIND GO! GO! initiative to provide solutions for the needs of society through its own business activities.



WILD MIND GO! GO! (In Japanese)

WILD MIND GO! GO! offers people of all ages a creatively curated selection of experiences crafted by over 80 specialists, including outdoor experts, artists, designers, and scientists. Currently, this selection of ideas for over 200 hands-on experiences can be viewed easily by anyone on a computer or smartphone free of charge. People can experience nature in familiar natural terrain, such as parks, woodlands, and dry riverbeds. Participants can also report back on their experiences and share them with others.
People who have participated in these experiences report they have exciting adventures and make a variety of amazing discoveries in a familiar natural environment.

October,2022: Fire lighting

December,2022: Making "Shimekazari"
Japanese traditional decorations of New Year

The ambitious goal of WILD MIND GO! GO! is to offer ideas for hands-on experiences that give people a fresh taste of the allure of nature and connect them to their natural environment. This is designed to restore an awareness of the abundant “power as a living being” that is innate to every person. The foundation for learning is the acquisition of knowledge, but compared to learning from movies or written texts, which offer a limited amount of information, hands-on experiences in natural terrain can be said to have unlimited informational content. In a nutshell, “some things you can't understand unless you try them yourself.”

June,2023: Making a butter knife with greenwood working

July,2023: Rock balancing

Hands-on experiences add a dimension that goes beyond intellectual understanding, including an emotional impact and even the opportunity to sometimes make mistakes. It is precisely the understanding gained from experience and learning through repeated doing that leave an indelible impression on the body and soul. One example is a feeling of symbiosis with nature. A meaningful relationship is born with a part of nature, by eating it, using it, etc. The nature you felt detached from before becomes nature that personally concerns you.

Casio continues to promote WILD MIND GO! GO! to encourage more and more people to experience and understand the nature all around them firsthand, to recapture their own “power as a living being.” Some parts of the WILD MIND GO! GO! events are monetized to make this activity more sustainable.

CASIO Forest

Casio entered into the “Tokyo Waterworks: Corporate Forest (Naming Rights)” agreement with the Tokyo Metropolitan Government's Bureau of Waterworks in August 2018 and commenced activities aimed at forest conservation. The activities largely focus on two main aspects. The first is utilization of the forest as a place for educating employees. This involves providing them with opportunities to observe the forest and experience forest work as a valuable learning opportunity, thereby deepening the understanding of employees about how the global environment is an important foundation for the sustainability of human society and forests are a form of natural capital that play a major role in this. The second involves taking ownership of needs in forest conservation based on these on-site experiences, considering what kind of contributions can be made through the business fields Casio specializes in, and translating them into practice.

Signed the Tokyo Waterworks: Corporate Forest (Naming Rights) agreement (in Japanese)

Thinning in May,2023

Weeding in August,2023

The Tokyo Metropolitan Government has been managing approximately 25,000 hectares of water source forest in the area straddling the border with Yamanashi Prefecture since the Meiji Era. "CASIO's Forest" comprises 2.46 hectares of the area and our voluntary staff can contribute to the management through on-site work three times a year, but their involvement is confined to a small portion. Nevertheless, the area is expansive enough to allow for various work experiences and provides an effective scope for understanding the challenges surrounding forest conservation.

Activities in "Casio's Forest" are organized by voluntary employees. We aim to attract employees with a slight interest in global environmental issues. While recruitment is challenging due to the lack of mandatory participation as part of their job, there is a merit in activating intellectual curiosity asking what experiences they would like to gain and learn during their precious day off. Focusing on this aspect, making a plan and carrying out the program with employee-centered creativity, our goal is to maximize the impact of education and enlightenment at the individual level and gradually expand the initiative throughout the entire company.

Supplementary planting in September 2023:
Carrying 125 Mongolian oak seedlings raised by employee volunteer “acorn foster parents” to the site for supplementary planting with guidance from experts

Located at an altitude of 1,200 meters, the weather in Casio Forest is subject to change. When it rains on the day of an activity, there is an indoor program that involves making birdhouses for wild birds using forest-certified materials. Tokyo has been installing birdhouses in water source forests since 1962 to encourage breeding of wild birds that prevent damage caused by disease and pests in forests, and could be described as a pioneer of nature-based solutions (NBS). Installation of the birdhouses started in Casio Forest in 2019. However, during the cleaning of the insides of the birdhouses in fall each year, there was evidence that creatures other than small wild birds were using them. Therefore, installation of additional birdhouses in different sizes and shapes began on a trial basis in 2022.

Making Birdhouses in July 2019:
Birdhouse-making as a rainy-day program

Cleaning and reinstalling birdhouses in November 2022: A variety of additional birdhouses installed

Casio Forest activities had to be scaled down in 2020 and 2021 during the COVID-19 pandemic. However, in 2022, the Tokyo Metropolitan Government's Bureau of Waterworks held an online lecture called “Business Trip! Corporate Forest” at Casio's environmental conference, looking to resume full-scale, post-pandemic activities. Also in 2022, the “acorn foster parent initiative” was launched so that employees who cannot take part in work onsite can contribute indirectly. An additional 125 Mongolian oaks raised from acorns collected at the site were planted in September 2023. Furthermore, starting in fiscal 2024, significance as a health and productivity management measure was added to the activities, and pre-work exercises guided by the HR Department were offered for the purposes of health tourism and supporting the acquisition of exercise habits. As a result of these initiatives, the number of employees who participate in activities has gradually increased, and a total of 242 employees had taken part as of the end of September 2023.

Bureau of Waterworks Tokyo Metropolitan Government: “Tokyo Waterworks: Corporate Forest (Naming Rights)” (in Japanese)

FY2019 Activities in the Casio Forest (in Japanese)

May 2019: Tree planting (in Japanese)

July 2019: Birdhouse making (in Japanese)

November 2019: Birdhouse cleaning and installation (in Japanese)

November 2020: Birdhouse cleaning and re-installation (in Japanese)

October 2021: Birdhouse cleaning and re-installation / Collecting Mongolian oak acorns (in Japanese)

August 2022: Weeding and temporary planting of Mongolian oaks (in Japanese)

October 2022: Tokyo Metropolitan Government's Bureau of Waterworks online lecture “Business Trip! Corporate Forest”

November 2022: Birdhouse cleaning and reinstallation / Commencement of Mongolian oak acorn seeding – foster parent activities (in Japanese)

May 2023: Birdhouse observation/thinning (in Japanese)

September 2023: Supplementary planting of 125 Mongolian oaks (in Japanese)

Installing a birdhouse up high using climbing equipment

Exercises as a health and productivity management measure

Supplementary planting in September, 2023

The second season of the three-year agreement related to Casio Forest will end in fiscal 2024, and the agreement is due for renewal in August 2024. When renewing the agreement, it is important to evaluate the original objectives. In this respect, the functions for educating employees are gradually improving, but the element of learning about climate change countermeasures designed to achieve carbon neutrality is still inadequate. It is important to include education and enlightenment related to CO_2 emissions from energy use in daily life and fixing of CO_2 through absorption by forests and use of forests as materials. In addition, the ultimate aim is contributing to social issues leveraging the specialized fields of Casio's own business, and this is still a work in progress. Casio will move forward with creativity and ingenuity, aware that the question of how to address these issues is the challenge for the third season of the agreement.

The Biodiversity Working Group, The 4 Electrical and Electronic Industry Associations

In terms of recent noteworthy initiatives, the working group spent more than a year from the draft stage analyzing the impact of the electrical and electronic industry in the lead up to the adoption of the Kunming-*Montreal* Global Biodiversity Framework (GBF), the new global framework with a target year of 2030, at the 15th Conference of the Parties to the Convention on Biological Diversity (CBD/COP15) held in Montreal, Canada in December 2022. The working group compiled the results of the analysis as GBF23 Target Guidance and held a guidance seminar for member companies (as a member of the working group, Casio also participated in the process).

Casio also showed the working group members around Casio Forest, a project it is conducting based on an agreement with the Bureau of Waterworks, Tokyo Metropolitan Government. The forest is a case study of Nature-based Solutions(NbS), which are attracting attention as a way to build a nature-positive world by 2030, as sought by the GBF. Across 25,000 hectares of forest managed by the Bureau of Waterworks as a source of tap water, about 4,000 birdhouses have been installed to encourage breeding of wild birds, aiming to prevent damage caused by pests and diseases. Casio has also implemented this initiative in the Casio Forest, which is part of the water source forest.

Working group members listening carefully to a lecture by the Bureau of Waterworks, Tokyo Metropolitan Government

The working group visits a mountain stream next to Casio Forest to experience the source of the Tamagawa River

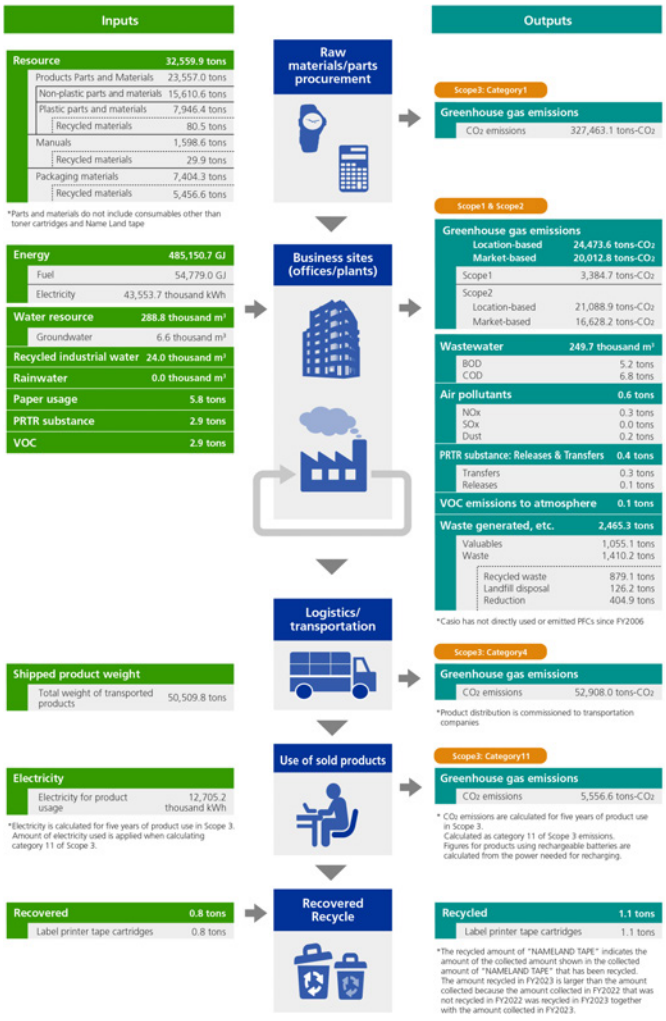
The Biodiversity Working Group of Japan's four electrical and electronic industry associations has collected data on the initiatives of electrical and electronic companies. This data is provided to the Nijyu-maru Project (Double 20 campaign) of the Japan Committee for the International Union for Conservation of Nature. Casio's initiatives are registered in these databases, along with those of other companies.

Material Balance

Material Balance

The material balance shows Casio's fiscal 2023 business activities in terms of the energy and resources used in activities (input) and the products and environmental impact resulting from these activities (output). Casio strives to identify a wide range of environmental impact, from the materials used in products, customers' use of products, and the recovery of used products, not just the input/output resulting from its own business activities.

Material balance in business activities (fiscal 2023)



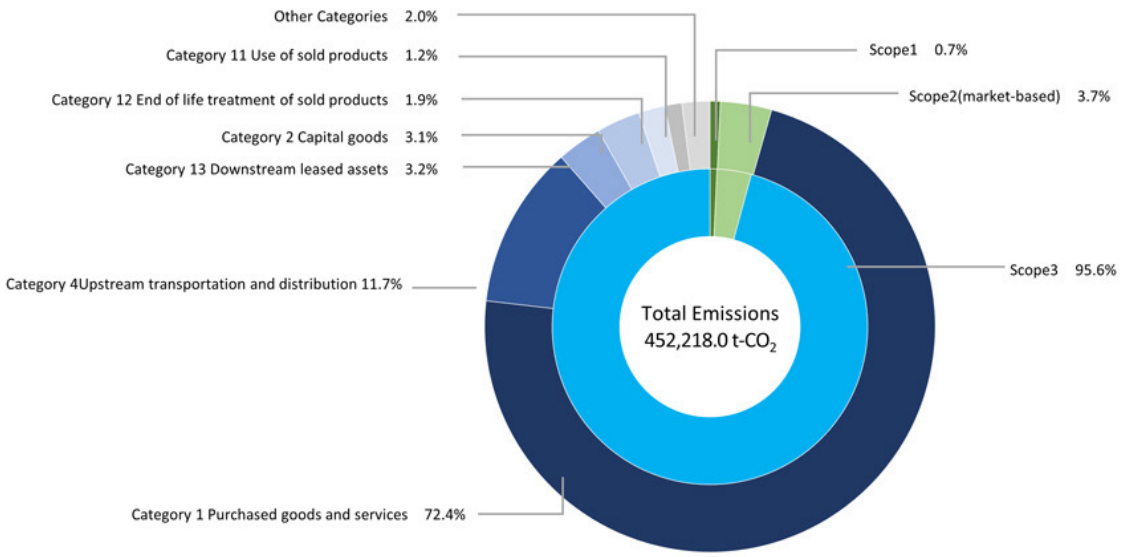
View as PDF

About third party verification

Please refer to Environmental Performance Data for site-specific data and detailed environmental data.

CO_2 Emissions Throughout the Entire Value Chain

Casio identifies and calculates the greenhouse gas emissions (Scope 1 and Scope 2) produced by its business activities as well as emissions from sources upstream and downstream in the overall value chain (Scope 3). However, some of the categories in Scope 3 are omitted from the calculations or have been deemed inapplicable, and calculations have not been made for those. The results for fiscal 2022 are shown here.



Scope/Category		CO_2 emissions in fiscal 2023	
		t-CO_2	Percentage
Scope1		3,384.7	0.7%
Scope2	Location-based	21088.9	-
	Market-based	16628.2	3.7%
Scope3		432,205.1	95.6%
	1 Purchased goods and services	327,463.1	72.4%
	2 Capital goods	14,112.0	3.1%
	3. Fuel-and energy-related activies not included in Scope1 or Scope2	3,432.8	0.8%
	4. Upstream transportationand distribution	52908.0	11.7%
	5. Waste generated in operations	92.4	0.0%
	6. Business travel	1265.2	0.3%
	7. Employee commuting	1,497.0	0.3%
	8. Upstream leased assets	111.4	0.0%
	9. Downstream transportation and distribution	Omitted from calculations	-
	10. Processing of sold products	Omitted from calculations	-
	11. Use of sold products	✓ 5556.6	1.2%
	12. End of life treatment of sold products	8,572.7	1.9%
	13. Downstream leased assets	14,577.5	3.2%
	14. Franchises	N/A	-
	15. Investments	2,616.5	0.6%
Total	Location-based	456,678.7	-
	Market-based	452,218.0	100%

* Items subject to third-party verification are marked ✓.

For calculation of location-based and market-based CO_2 emissions, please refer to the Calculation Standards.

For Scope 3, calculations are not made for category 9 (downstream transportation and distribution) because of the difficulty of identifying such emissions and since the volume of greenhouse gas emissions can be deemed considerably less than in category 4.

Calculations are also not made for category 10 (processing of sold products) because it is considered that service business such as putting names on products carried out by Group companies falls into this category, and calculations are made for the greenhouse gas emissions related to these activities.

Calculations are not made for category 14 because Casio does not operate a franchise business.

Scope 3 accounts for an extremely high percentage of emissions compared to Scope 1 and Scope 2, amounting to 95.6% of overall emissions. This is the same pattern noted in the previous fiscal year, and is an important factor to consider when assessing greenhouse gas emissions related to Casio's activities.

Category 1 (purchased goods and services) in Scope 3 accounts for 72.4% overall, and in reducing emissions from Casio's activities overall, initiatives targeting category 1 in Scope 3 are particularly important.

Environmental Data

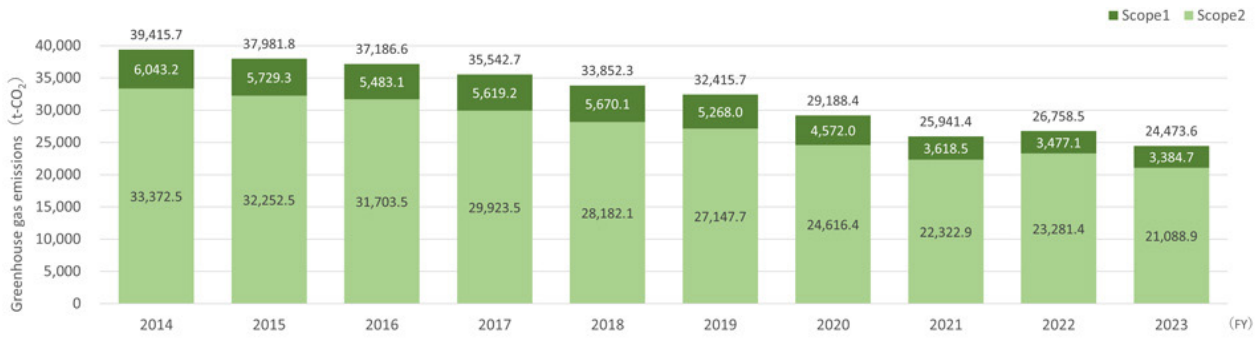
Greenhouse gas emissions (Scope1 and Scope2)

Greenhouse gas emissions (Scope1 and Scope2)

Greenhouse gas emissions (Scopes 1 and 2) calculated using the location-based standard

(t-CO_2)

	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
Scope1	6,043.2	5,729.3	5,483.1	5,619.2	5,670.1	5,268.0	4,572.0	3,618.5	3,477.1	✓ 3,384.7
Scope2	33,372.5	32,252.5	31,703.5	29,923.5	28,182.1	27,147.7	24,616.4	22,322.9	23,281.4	✓ 21,088.9
Total	39,415.7	37,981.8	37,186.6	35,542.7	33,852.3	32,415.7	29,188.4	25,914.4	26,758.5	24,473.6
Casio Group coverage	-	-	-	-	99.5%	99.0%	98.4%	98.7%	99.7%	99.8%



*Emissions based on the location-based standard. See "Calculation Standards" in the "Environmental Performance Data" section for details.

*No greenhouse gas emissions other than CO_2.

w *Items subject to third-party verification are marked with "✓".

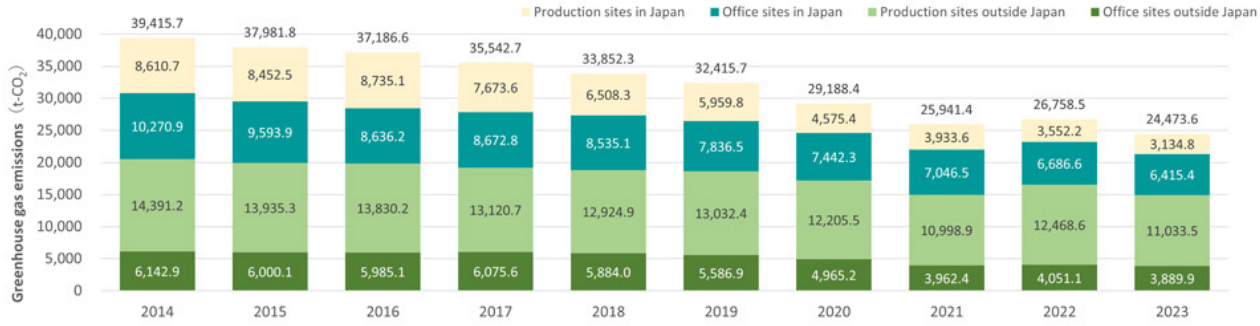
*The coverage ratio is calculated based on the number of employees as a percentage of the data compiled for the range of organizations shown in the calculation criteria.

*The data before FY2023 has been recalculated using the CO_2 emissions conversion factor from the electricity usage criteria for each fiscal year specified in the location standards.

Greenhouse gas emissions (Scopes 1 and 2) calculated using the location-based standard: Breakdown by type of site

(t-CO_2)

	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
Production sites in Japan	8,610.7	8,452.5	8,735.1	7,673.6	6,508.3	5,959.8	4,575.4	3,933.6	3,552.2	3,134.8
Office sites in Japan	10,270.9	9,593.9	8,636.2	8,672.8	8,535.1	7,836.5	7,442.3	7,046.5	6,686.6	6,415.4
Production sites outside Japan	14,391.2	13,935.3	13,830.2	13,120.7	12,924.9	13,032.4	12,205.5	10,998.9	12,468.6	11,033.5
Office sites outside Japan	6,142.9	6,000.1	5,985.1	6,075.6	5,884.0	5,586.9	4,965.2	3,962.4	4,051.1	3,889.9



*Emissions based on the location-based standard. See "Calculation Standards" in the "Environmental Performance Data" section for details.

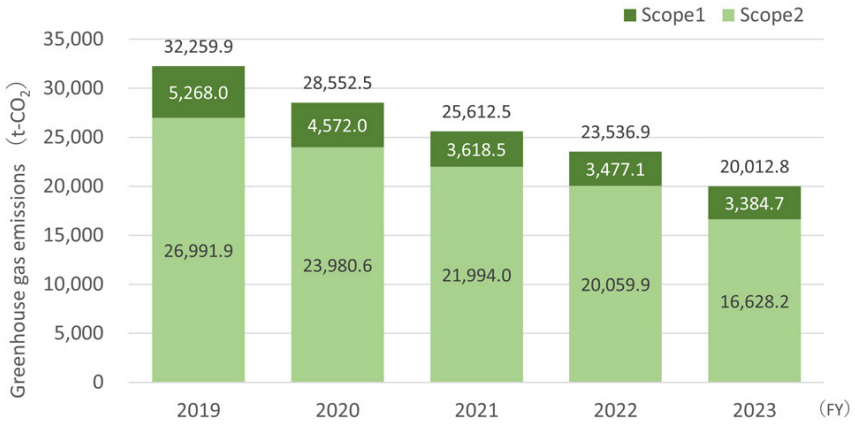
*No greenhouse gas emissions other than CO_2.

*The data before FY2023 has been recalculated using the CO_2 emissions conversion factor from the electricity usage criteria for each fiscal year specified in the location standards.

Greenhouse gas emissions (Scopes 1 and 2) calculated using the market-based standard

(t-CO2)

	FY2019	FY2020	FY2021	FY2022	FY2023
Scope 1	5,268.0	4,572.0	3,618.5	3,477.1	✓ 3,384.7
Scope 2	26,991.9	23,980.6	21,994.0	20,059.9	✓ 16,628.2
Total	32,259.9	28,552.5	25,612.5	23,536.9	20,012.8
Casio Group coverage	99.0%	98.4%	98.7%	99.7%	99.8%



*Emissions based on the location-based standard. See "Calculation Standards" in the "Environmental Performance Data" section for details.

*No greenhouse gas emissions other than CO2.

*Items subject to third-party verification are marked with "✓".

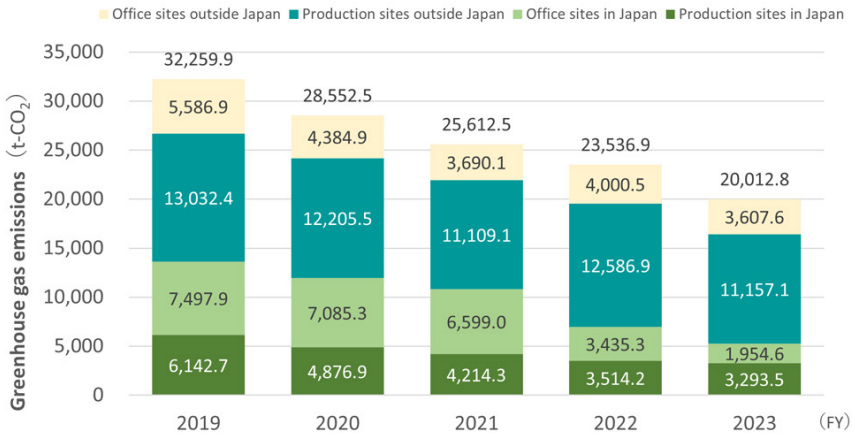
*The coverage ratio is calculated based on the number of employees as a percentage of the data compiled for the range of organizations shown in the calculation criteria.

*The data before FY2023 has been recalculated using the CO2 emissions conversion factor from the electricity usage criteria for each fiscal year specified in the location standards.

Greenhouse gas emissions (Scopes 1 and 2) calculated using the market-based standard: Breakdown by type of site

(t-CO2)

	FY2019	FY2020	FY2021	FY2022	FY2023
Production sites in Japan	6,142.7	4,876.9	4,214.3	3,514.2	3,293.5
Offices in Japan	7,497.9	7,085.3	6,599.0	3,435.3	1,954.6
Production sites outside Japan	13,032.4	12,205.5	11,109.1	12,586.9	11,157.1
Offices outside Japan	5,586.9	4,384.9	3,690.1	4,000.5	3,607.6



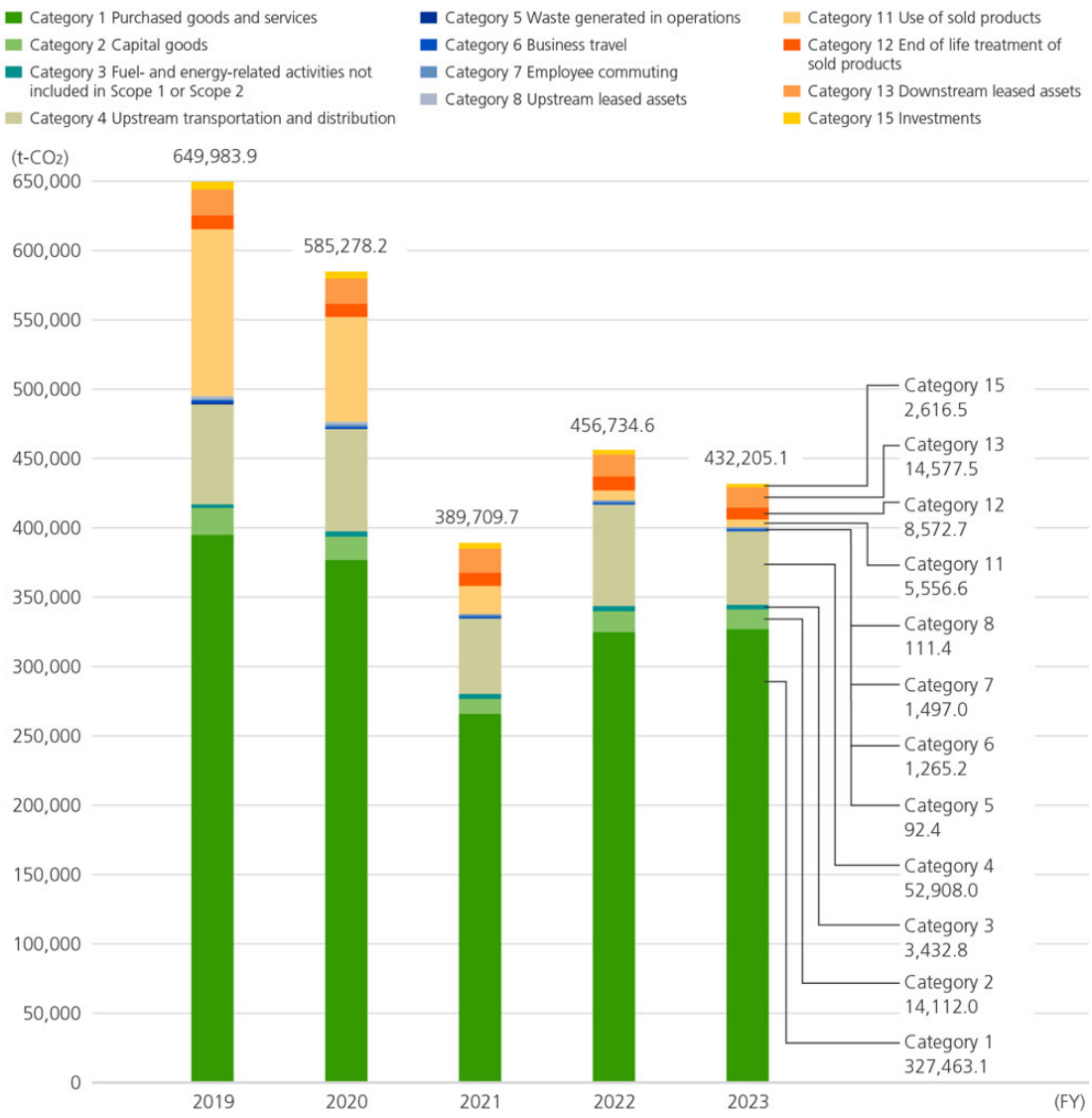
*Emissions based on the location-based standard. See "Calculation Standards" in the "Environmental Performance Data" section for details.

*No greenhouse gas emissions other than CO2.

*The data before FY2023 has been recalculated using the CO2 emissions conversion factor from the electricity usage criteria for each fiscal year specified in the location standards.

Greenhouse gas emissions (Scope 3)

	FY2019		FY2020		FY2021		FY2022		FY2023	
	t-CO2	Percentage	t-CO2	Percentage	t-CO2	Percentage	t-CO2	Percentage	t-CO2	Percentage
Category 1 Purchased goods and services	395,394.2	60.8%	377,261.3	64.5%	266,362.5	68.4%	325,258.3	71.2%	327,463.1	75.8%
Category 2 Capital goods	19,467.0	3.0%	16,698.4	2.9%	10,799.6	2.8%	15,073.0	3.3%	14,112.0	3.3%
Category 3 Fuel- and energy-related activities not included in Scope 1 or Scope 2	2,556.3	0.4%	3,988.5	0.7%	3,597.2	0.9%	3,745.2	0.8%	3,432.8	0.8%
Category 4 Upstream transportation and distribution	71,956.1	11.1%	73,665.1	12.6%	54,328.4	13.9%	73,048.0	16.0%	52,908.0	12.2%
Category 5 Waste generated in operations	1,357.5	0.2%	130.7	0.0%	117.9	0.0%	98.6	0.0%	92.4	0.0%
Category 6 Business travel	1,542.8	0.2%	1,455.1	0.3%	1,352.5	0.4%	1,319.8	0.3%	1,265.2	0.3%
Category 7 Employee commuting	1,074.0	0.2%	1,796.4	0.3%	1,497.0	0.4%	1,497.0	0.3%	1,497.0	0.4%
Category 8 Upstream leased assets	2,136.7	0.3%	1,966.6	0.3%	118.9	0.0%	105.1	0.0%	111.4	0.0%
Category 9 Downstream transportation and distribution	Excluded from caluculation	Excluded from caluculation	Excluded from caluculation	Excluded from caluculation	Excluded from caluculation	Excluded from caluculation	Excluded from caluculation	Excluded from caluculation	Excluded from caluculation	Excluded from caluculation
Category 10 Processing of sold products	Excluded from caluculation	Excluded from caluculation	Excluded from caluculation	Excluded from caluculation	Excluded from caluculation	Excluded from caluculation	Excluded from caluculation	Excluded from caluculation	Excluded from caluculation	Excluded from caluculation
Category 11 Use of sold products	120,165.0	18.5%	75,417.8	12.9%	20,372.3	5.2%	7,196.2	1.6%	√5,556.6	1.3%
Category 12 End of life treatment of sold products	10,171.6	1.6%	9,653.5	1.7%	9,611.6	2.5%	10,136.9	2.2%	8,572.7	2.0%
Category 13 Downstream leased assets	18,482.0	2.8%	17,997.0	3.1%	17,277.0	4.4%	15,837.3	3.5%	14,577.5	3.4%
Category 14 Franchises	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Category 15 Investments	5,680.7	0.9%	5,248.0	0.9%	4,274.9	1.1%	3,419.3	0.8%	2,616.5	0.6%
Total	649,983.9	100%	585,278.2	100%	389,709.7	100%	456,734.6	100%	432,205.1	100%



*Emissions based on the location-based standard. See "Calculation Standards" in the "Environmental Performance Data" section for details.

*Items subject to third-party verification are marked with "√".

*The data before FY2023 has been recalculated using the CO_2 emissions conversion factor from the electricity usage criteria for each fiscal year specified in the location standards.

Energy usage

Figures in parentheses ( ) are MWh. Other figures are GJ.

		FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
Fuel		96,934.7 (26,926.3)	90,795.7 (25,221.1)	86,723.6 (24,089.9)	88,939.1 (24,705.3)	90,124.0 (25,034.5)	83,424.0 (23,173.3)	72,812.8 (20,225.8)	59,280.4 (16,466.8)	56,680.3 (15,744.5)	54,779.0 (15,216.4)
Electricity	Non-renewable energy	559,283.3 (56,613.7)	561,198.3 (56,826.6)	573,755.0 (58,101.6)	556,167.5 (56,301.4)	534,642.9 (54,098.0)	527,373.1 (53,356.2)	478,732.9 (48,432.0)	436,394.8 (44,165.5)	405,924.8 (40,964.7)	325,183.1 (32,767.3)
	Renewable energy	-	-	-	-	-	0.0 (0.0)	13,719.4 (1,376.1)	10,678.2 (1,071.0)	66,483.0 (6,835.1)	105,188.6 (10,786.3)
Total		656,218.1 (83,540.1)	651,994.0 (82,047.7)	660,478.6 (82,191.6)	645,106.6 (81,006.7)	624,766.9 (79,132.5)	610,797.0 (76,529.6)	565,265.2 (70,033.8)	506,353.4 (61,703.3)	529,088.1 (63,544.4)	485,150.7 (58,770.1)
Casio Group coverage		-	-	-	-	99.5%	99.0%	98.4%	98.7%	99.7%	99.8%

*Emissions based on the location-based standard. See "Calculation Standards" in the "Environmental Performance Data" section for details.

*The coverage ratio is calculated based on the number of employees as a percentage of the data compiled for the range of organizations shown in the calculation criteria.

Waste related data

Generation of waste, etc.

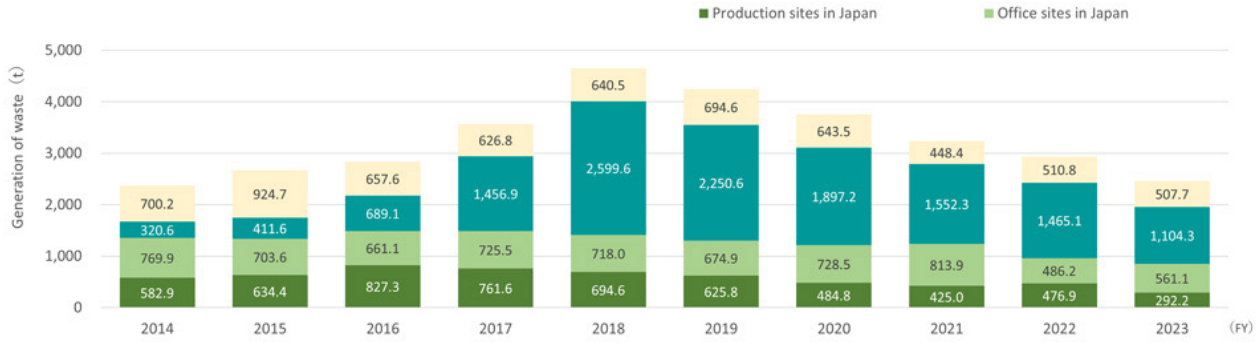
(t)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total generation of waste,etc.	2,373.5	2,674.3	2,835.1	3,570.8	4,652.7	4,245.9	3,754.0	3,239.6	2,938.9	2,465.3
Valuable wastes	1,152.0	1,394.5	1,646.0	1,717.0	1,975.0	1,864.7	1,610.1	1,306.5	1,354.4	✓ 1,055.1
Wastes	1,221.5	1,279.8	1,189.1	1,853.8	2,677.7	2,381.2	2,144.0	1,933.1	1,584.5	✓ 1,410.2
Recycled	745.0	751.6	500.9	969.7	2,115.6	1,178.7	1,169.3	976.7	968.4	879.1
Reduction	211.0	321.0	461.2	182.8	194.0	715.9	811.7	619.8	524.6	404.9
Landfill disposal	265.5	207.2	227.0	701.3	368.1	486.6	163.0	336.7	91.5	126.2
Recycle rate[*1]	87.7%	91.2%	90.4%	79.3%	91.7%	86.2%	94.5%	87.1%	96.2%	93.9%
Landfill disposal rate[*2]	11.2%	7.7%	8.0%	19.6%	7.9%	11.5%	4.3%	10.4%	3.1%	5.1%
Casio Group coverage	-	-	-	-	90.4%	91.4%	89.3%	91.0%	91.4%	91.6%

Emissions of waste: Breakdown by type of site

(t)

	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
Production sites in Japan	582.9	634.4	827.3	761.6	694.6	625.8	484.8	425.0	476.9	292.2
Office sites in Japan	769.9	703.6	661.1	725.5	718.0	674.9	728.5	813.9	486.1	561.1
Production sites outside Japan	320.6	411.6	689.1	1,456.9	2,599.6	2,250.6	1,897.2	1,552.3	1,212.0	1,104.3
Office sites outside Japan	700.2	924.7	657.6	626.8	640.5	694.6	643.5	448.4	510.8	507.7



*Recycling rate (%) = (Amount of valuable resources generated + Amount of resources recycled) / (Amount of valuable resources generated + Amount of resources recycled + Final landfill disposal amount))

*Landfill disposal rate (%) = (Final landfill disposal amount ÷ Total amount of waste and valuable resources) × 100

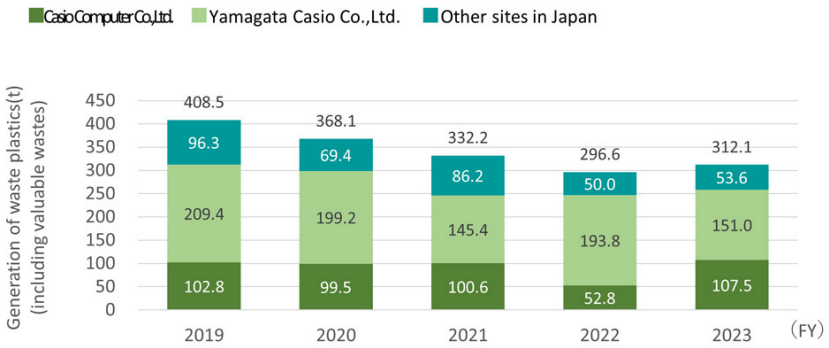
Generation of waste plastics (including valuable waste) at sites in Japan

(t)

	FY2019	FY2020	FY2021	FY2022	FY2023
Casio Computer Co., Ltd.*1	102.8	99.5	100.6	52.8	107.5
Yamagata Casio Co., Ltd.*2	209.4	199.2	145.4	193.8	151.0
Other sites in Japan	96.3	69.4	86.2	50.0	53.6
Total	408.5	368.1	332.2	296.6	312.1

*1 Head office, Hamura R&D Center, Hachioji R&D Center, Hatsudai Estate Building, and other sites in Japan.

*2 Head office and Yamanashi Office



Water resources

(thousand m3)

	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
Tap water/industrial water	520.1	530.1	547.0	518.1	500.4	412.4	373.6	311.3	286.5	282.2
Groundwater	87.9	7.3	5.6	5.8	5.9	5.5	5.9	5.0	5.7	6.6
Total	607.9	537.4	552.6	524.0	506.3	417.9	379.5	316.3	292.2	✓ 288.8
Casio Group coverage	-	-	-	-	83.6%	85.2%	84.5%	78.3%	86.4%	85.6%

(Breakdown by type of site)

(thousand m3)

	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
Production sites in Japan	44.9	52.9	60.9	55.1	41.5	37.3	32.2	26.7	20.3	17.2
Office sites in Japan	167.9	85.9	79.7	81.5	77.0	75.2	72.1	52.7	57.4	62.2
Production sites outside Japan	377.7	381.5	394.8	369.7	371.1	288.4	258.6	224.4	203.1	199.1
Office sites outside Japan	17.4	17.2	17.2	17.7	16.7	16.9	16.6	12.5	11.4	10.2

Usage of parts, materials, instruction manuals, packaging materials and recycle materials

			FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
Products(parts and materials)			25,669.0	26,209.0	24,676.0	28,745.0	23,615.2	22,437.6	25,961.9	25,601.8	26,032.2	23,557.0
	Non-plastic parts and materials		11,295.0	13,049.0	11,698.0	14,760.0	12,107.1	13,614.3	17,473.5	16,679.8	16,758.8	15,610.6
	Plastic parts and materials		14,374.0	13,160.0	12,978.0	13,985.0	11,508.1	8,823.3	8,488.4	8,922.0	9,273.4	7,946.4
		Recyle materials	1,239.0	877.0	439.0	244.0	238.6	220.0	249.6	71.8	85.2	80.5
		recycle rate	8.6%	6.7%	3.4%	1.7%	2.1%	2.5%	2.9%	0.8%	0.9%	1.0%
Instruction manuals			3,235.0	3,790.0	3,683.0	3,122.0	3,059.0	2,481.2	1,827.3	1,305.1	1,590.5	1,598.6
	Recycle materials		77.0	221.0	88.0	149.0	156.1	116.7	56.6	39.9	30.2	29.9
	Recycle rate		2.4%	5.8%	2.4%	4.8%	5.1%	4.7%	3.1%	3.1%	1.9%	1.9%
Packaging materials			12,308.0	12,148.0	11,720.0	11,821.0	11,301.0	10,481.9	9,382.4	8,250.0	9,136.1	7,404.3
	Recycle materials		9,732.0	9,457.0	9,061.0	9,173.0	8,864.0	8,340.9	7,408.5	6,701.3	7,246.1	5,456.6
	Recycle rate		79.1%	77.8%	77.3%	77.6%	78.4%	79.6%	79.0%	81.2%	79.3%	73.7%

Models Certified as Casio Green Star Products and Casio Super Green Star Products

Some of the certified products (product series) are featured here.

Casio Super Green Star Products

FY2023

Watch PRO TREK


PRW-35


PRW-6900Y


PRW-3400


PRW-6611Y


PRG-340

Environmental features

・Contains at least 70% biomass plastics (by total weight of plastics)

・Solar-powered

Watch G-SHOCK

GW-9500

GW-8230B

GBD-H2000

Environmental features

- Contains at least 70% biomass plastics (by total weight of plastics)
- Solar-powered
- Shock-resistant structure
- Product weight reduction

FY2022

Embedded projection module LH-200

Environmental Features

- Light flux of 15.4 lm/w
- Does not use a mercury light source
- Product size (volume) reduced by 38% (compared to Casio XJ-A132 model)
- Product size (weight) reduced by 35% (compared to Casio XJ-A132 model)
- Transport efficiency increased by 115% by reducing packaging (compared to Casio XJ-A132 model)
- Package plastic reduced by 26% (compared to Casio XJ-A132 model)

Refill tape cartridge for label printer EC-K10 (Lateco) XB-6WE and others

Environmental Features

- Reduced plastic waste from cartridge disposal by using a tape refill method
- Awarded Eco Mark Award 2021 Best Product

FY2021

Smart Style Projector FORESIGHT VIEW

CX-F1、CX-E1

Environmental Features

- Light flux of 16.6 lm/w
- Does not use a mercury light source
- Product size (volume) reduced by 38% (compared to Casio's XJ-A132 model)
- Product size (weight) reduced by 30% (compared to Casio's XJ-A132 model)
- Transport efficiency increased by 115% by reducing packaging (compared to Casio's XJ-A132 model)
- Package plastic reduced by 26% (compared to Casio XJ-A132 model)

Scientific calculator GRAPH35+E II

Environmental Features

- Energy consumption during use reduced by 50%
- Product size (volume) reduced by 23%
- Transport efficiency increased by 93% by reducing packaging (compared to Casio's GRAPH75+E-L-EH model)

FY2020

Data projector XJ-F211WN

Environmental Features

- Light flux of 14.8 lm/w
- Does not use a mercury light source

Data projector XJ-UT352WN

Environmental Features

- Light flux of 13.2 lm/w
- Does not use a mercury light source

FY2017

Calculator *Contains at least 70% recycled plastic (percentage of gross weight of plastic)

SL-305ECO、SL-300AECO

JF-120ECO

DF-120ECO

Casio Green Star Products

See some products that were certified as Casio Green Star Products (photos show product examples).

Calculator JS-20DC

Environmental Features

- Solar battery powered
- Contains at least 62% recycled plastic (gross weight ratio of plastic)
- Package plastic reduced by 24% (compared to Casio JS-20WK model)

Electronic dictionary XD-SX9810

Environmental Features

- Transport efficiency increased by 91% by reducing packaging (compared to Casio XD-SP6600 model)

Scientific Calculator fx-JP700CW

Environmental Features

- Solar battery powered
- Transport efficiency increased by 82% by reducing packaging (compared to Casio fx-570SPX II model)
- Package plastic reduced by 90% by changing packaging from blister packaging to a paper box (compared to Casio FX-85EX-S model)

Label printer EC-K10（Lateco）

Environmental Features

- Blank space at the beginning and end of the tape reduced by 76% compared to the conventional model (compared to Casio KL-G2 model)
- Reduced plastic waste from cartridge disposal by using a tape refill method

Watch DW-H5600 / ECB-2000TP

Environmental Features

- Solar battery powered
- Shock-resistant structure

Clock TQ-770J/IQ-151

Environmental Feature

- Discontinued use of polyvinyl chloride

Electronic musical instrument PX-S1100

Environmental Features

- Product size (volume) reduced by 36%
- Loading efficiency increased by 52% in a 40 feet container (compared to Casio PX-120 model)
- Energy consumption during use reduced by 44% (compared to Casio PX-120 model)

Handheld terminal DT-X450

Environmental Features

- Energy consumption during use reduced by 31% (compared to Casio DT-X400 model)

Scope of Data

The scope of the environmental performance data for fiscal 2022 is shown below.

Period covered: April 1, 2022 – March 31, 2023

Sites covered: 63 Casio Group sites

However, sites for which it is difficult to monitor water usage and waste generation due, for example, to an office lease agreement, are not included in the scope of calculation.

Numerical data on environmental performance for each site is listed separately

Please visit the following pages for data of each site.

Sites in Japan

Sites outside Japan

Production sites in Japan (2 sites)	・Yamagata Casio Co., Ltd. ・Yamagata Casio Co., Ltd. (Yamanashi)
Office sites in Japan (20 sites)	・Casio Computer Co., Ltd. (Headquarters) ・Casio Computer Co., Ltd. (Hamura R&D Center) ・Casio Computer Co., Ltd. (Hachioji R&D Center?[including Casio Electronic Manufacturing Co., Ltd.]) ・Casio Computer Co., Ltd. (8 sales sites)(Northern Japan Sales Dept. under Sendai, Kanto Sales Dept. under Saitama, Kanto Sales Dept. under Kudan, Chubu Sales Dept. under Nagoya, West Japan Sales Dept. under Osaka, West Japan Sales Dept. under Hiroshima, Kyushu Sales Dept. under Fukuoka and other sites) ・Casio?Business Service Co., Ltd. (Headquarters) ・Casio Business Service Co., Ltd. (Kofu) ・Casio Techno Co., Ltd. (Headquarters) ・Casio Techno Co., Ltd. (Technical Center) ・Casio Techno Co., Ltd. (West Japan Repair Center) ・Casio Marketing Advance Co., Ltd. ・CXD Next Co., Ltd. ・Hatsudai Estate Building ・Repplex Inc. * Data for Casio Human Systems Co., Ltd., and Casio Communication Brains Co., Ltd. have been included in the data for the sites where they are located.
Production sites outside Japan (4 sites)	Asia (4 sites) ・Casio (Thailand) Co., Ltd. ・Casio Electronic Technology (Zhongshan) Co., Ltd. ・Casio Timepiece (Dongguan) Co., Ltd. ・Casio Electronics (Shaoguan) Co., Ltd.
Office sites outside Japan (24 sites)	Asia (11 sites) ・Casio Electronics (Shenzhen) Co., Ltd. ・Casio Computer (Hong Kong) Ltd. ・Casio (China) Co., Ltd. ・Casio (Guangzhou) Co., Ltd. ・Casio India Co., Pvt. Ltd. ・Casio Taiwan Co., Ltd. ・Casio Soft (Shanghai) Co., Ltd. ・Casio Singapore Pte., Ltd. ・Casio Malaysia Sdn. Bhd ・Casio Marketing (Thailand) Co., Ltd. ・Guangzhou Casio Techno Co., Ltd.
	Europe (7 sites) ・Casio Europe GmbH ・Casio Electronics Co., Ltd. ・Casio France S.A. ・Casio Espana S.L. ・Casio Benelux B.V. ・Casio Italia S.r.l. ・Limited Liability Company Casio
	Middle East (1 site) ・Casio Middle East and Africa FZE
	Americas (5 sites) ・Casio America, Inc. ・Casio Canada Ltd. ・Casio Mexico Marketing, S. de R. L. de C.V. ・Casio Brasil Comercio De Produtos Eletronicos Ltda. ・Casio Latin America S.A.

Calculation Standards

1. Overall

(1) Items with no input, usage, handling or discharge performance have been left blank.

(2) Figures are rounded off to the second decimal point, in the specified units (figures shown as “0.0” are less than “0.05”).

(3) Results have been retrospectively re-calculated for some of the past performance data published in editions of the Sustainability Report prior to fiscal 2023, when determined to require re-calculation in order to ensure data reliability.

2. Inputs

(1) Energy input amount

- All fossil fuels and power used in business activities are totaled for sites indicated in the Scope of Data.
- Includes fuel usage by company vehicles, but does not include energy used for contracted logistics services, commuting, and business trips.
- The coefficients for each type of energy provided in Japan's Act on Rationalizing Energy Use were applied for the unit joule used to convert energy into joules.

(2) Water resource input amount

- Sites for which it is difficult to monitor water usage due, for example, to an office lease agreement, are not included in the scope of calculation.

(3) Office paper usage amount

- Managed and tabulated based on the purchased amounts of paper used in printers, fax machines, and copy machines each year.
- The weight of one sheet is determined for each paper size, and weights are calculated based on the amounts purchased.

(4) Chemical substance input amount

- Calculated for chemical substances subject to Japan's PRTR Act.
- As a general rule, calculated for substances whose annual amount handled is 0.05 tons or more at each site.

(5) Volatile organic compound (VOC) input amount

- Calculated for substances subject to investigation presented in the Voluntary Action Plan on Reducing VOC Atmospheric Emissions formulated by the four electrical and electronic industry associations
- As a general rule, calculated for substances whose annual amount handled is 0.05 tons or more at each site.

3. Outputs

(1) CO_2 emissions

- To calculate CO_2 emissions from the use of fuel, coefficients were used based on unit calorific values by fuel type and emission factors related to the use of fuel, as stipulated by Japan's Act on Promotion of Global Warming Countermeasures.
- CO_2 conversion coefficients for electricity were applied as follows.

		FY2014	FY2015	FY2016	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
Location-based standard		IEA*1	IEA	IEA	IEA	IEA	IEA	IEA	IEA	IEA	IEA	IEA
Market-based standard	Sites in Japan	-	-	-	-	-	-	Emission factors for each electric power company in Japan*2	Emission factors for each electric power company in Japan*2	Emission factors for each electric power company in Japan*2	Emission factors for each electric power company in Japan*2	Emission factors for each electric power company in Japan*2
	Sites outside Japan	-	-	-	-	-	-	Emission factors for each electric power company (if not applicable, IEA emission factor is used)	Emission factors for each electric power company (if not applicable, IEA emission factor is used)	Emission factors for each electric power company (if not applicable, IEA emission factor is used)	Emission factors for each electric power company (if not applicable, IEA emission factor is used)	Emission factors for each electric power company (if not applicable, IEA emission factor is used)

*1 International Energy Agency (IEA) emission factors 2021 edition

*2 Emission factors after adjustment for each electric power company as stipulated by Japan's Act on Promotion of Global Warming Countermeasures

(2) Wastewater

- As a general rule, wastewater measured at each site is tabulated. However, water intake is regarded and tabulated as wastewater for sites where wastewater cannot be ascertained.
- Where biological oxygen demand (BOD) and chemical oxygen demand (COD) are measured at sites that measure wastewater quality, total annual wastewater is multiplied to calculate BOD emissions and COD emissions.

(3) Air pollutants

- Calculated for particulate and smoke generating facilities subject to Japan's Air Pollution Control Act.
- The three sites with target facilities in the results for fiscal 2023 are the headquarters of Yamagata Casio Co., Ltd., the Hamura R&D Center of Casio Computer Co., Ltd., and Casio (Thailand) Co., Ltd.
- Emissions of dust, NOx, and SOx, which are subject to management under the Air Pollution Control Act, are calculated based on measurement values at the target sites.
- The following substances are not used at any Casio site: dichloromethane, trichlorethylene, tetrachlorethylene, chloroform, vinyl chloride monomer, 1,3-butadiene, benzene, acrylonitrile, 1,2-dichloroethane, formaldehyde, trinickel disulfide, nickel nitrate, and acetaldehyde.

(4) Chemical substance release and transfer amount

- Calculated for chemical substances subject to Japan's PRTR Act.
- As a general rule, calculated release and transfer amounts are for substances whose annual amount handled is 0.05 tons or more at each site.

(5) Volatile organic compound (VOC) outputs to air

- Calculated for substances subject to investigation presented in the Voluntary Action Plan on Reducing VOC Atmospheric Emissions formulated by the four electrical and electronic industry associations.
- As a general rule, calculated outputs to air are for substances whose annual amount handled is 0.05 tons or more at each site.

(6) Waste and valuable waste

- Waste and valuable waste generated through the business activities of sites are tabulated.
- Waste disposed of by processors, general waste from business operations, and valuable waste from each site are included in the calculation.

(7) Parts/materials, instruction manuals, packaging usage, and recycled materials

- The amount of recycled materials used in packaging is shown as a value calculated by multiplying packaging usage by the coefficient indicated in Japan's Act on the Promotion of Sorted Collection and Recycling of Containers and Packaging.

4. Scope 3 calculation methods

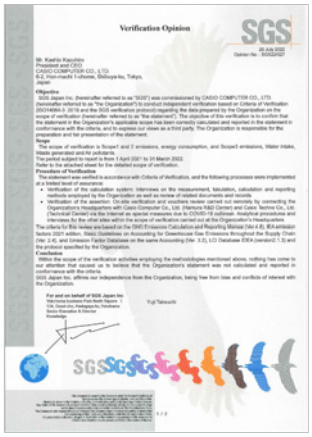
Category 1	Purchased goods and services	Calculated by multiplying the amount of activity by the unit. Amount of activity: Amount of consumables, raw materials, tap water, industrial water, advertising expenses and salaries of temporary staff. Unit: Emissions unit of the purchased amount of each item of the amount of activity (Source: Emission factor database for calculating organizational GHG emissions throughout the supply chain version 3.3 issued by Japan's Ministry of Environment and LCI database IDEA version 2.1.3.)The amount of activity was carefully reviewed and emissions were recalculated retroactively for past fiscal years accordingly.
Category 2	Capital goods	Calculated by multiplying the amount of activity by the unit. Amount of activity: Amount of capital investment by all consolidated subsidiaries. Unit: Emissions unit corresponding to the amount of capital investment.(Source: Emission factor database for calculating organizational GHG emissions throughout the supply chain version 3.3 issued by Japan's Ministry of Environment)
Category 3	Fuel-and-energy-related activities (not included in Scope 1 or 2)	Calculated by multiplying the amount of activity by the unit. Amount of activity: Amount of used electricity and fuels. Unit: Emissions unit of each type of fuel and electricity (Source: Emission factor database for calculating organizational GHG emissions throughout the supply chain, version 3.3, issued by Japan's Ministry of Environment, and Carbon Footprint Communication Program Basic Database version 1.01)
Category 4	Upstream transportation and distribution	Calculated by multiplying the amount of activity by the unit for each transportation route, and then adding these together. Amount of activity: Transportation volume and distance per transportation route among the product distribution for which Casio Computer Co., Ltd. pays the burden of expense. Unit: Fuel consumption unit based on transported weight and transportation distance (Source: For trucks: specific fuel consumption using the improved ton/kilo method. For trains, ships and airplanes: CO2 emissions output level using the conventional ton/kilo method)
Category 5	Waste generated in operations	Calculated by multiplying the amount of activity by the unit for each type of waste, and then adding these together. Amount of activity: Emissions of each type of waste. Unit: Emissions unit of each type of waste (Source: Emission factor database for calculating organizational GHG emissions throughout the supply chain version 3.2 issued by Japan's Ministry of Environment) The unit was carefully reviewed and emissions were recalculated retroactively for past fiscal years accordingly.
Category 6	Business travel	Calculated by multiplying the amount of activity by the unit. Amount of activity: Number of domestic and overseas employees. Unit: Emissions unit per employee. (Source: Emission factor database for calculating organizational GHG emissions throughout the supply chain version 3.3 issued by Japan's Ministry of Environment)
Category 7	Employee commuting	Calculated by multiplying the amount of activity by the unit. Amount of activity: The amount of payment equivalent to commuting by train and car (bus) is estimated from the transportation expenses paid to employees. Unit: Emissions unit for commuting by train and car (Source: Emission factor database for calculating organizational GHG emissions throughout the supply chain version 3.3 issued by Japan's Ministry of Environment)
Category 8	Upstream leased assets	Calculated by multiplying the amount of activity by the unit. Amount of activity: Sales area of G-SHOCK stores in Japan (pro-rated by the number of business days in the reporting year). Unit: Emissions unit per sales area (Source: Emission factor database for calculating organizational GHG emissions throughout the supply chain version 3.3 issued by Japan's Ministry of Environment)
Category 9	Downstream transportation and distribution	Transportation to retailers from the distribution hubs of regular sales companies is outside the scope of Casio's expense payment. Since this is difficult to ascertain and the CO2 emissions are deemed to be fairly small compared to Category 4 upstream transportation and distribution, it is not included in calculations.
Category 10	Processing of sold products	Name printing for products and other services provided by group companies. However, since emissions of GHGs from this business activity is included in Scopes 1 and 2, it is not included in calculations for this category.
Category 11	Use of sold products	Calculated by multiplying the amount of activity by the unit for each product model sold and the country of sale during the relevant fiscal year. These are then added together to calculate the total. Amount of activity: Power consumption, lifetime use period, and sales volume by product model. The lifetime use period is calculated using industry standards, if any, or assuming a five-year product life if not specified. Unit: Emissions unit of electricity use (Source: IEA country-specific emission factors. If country-specific emission factors are not available, the global average factor is applied.)
Category 12	End of life treatment of sold products	The emissions from each material used in products sold during the fiscal year are used as the amount of activity, and the value is calculated by multiplying by the unit for each material. These are then added together to calculate the total. Amount of activity: Amount of each material used in the product itself and in the container packaging materials. Unit: Emissions unit of each type of material (Source: Emission factor database for calculating organizational GHG emissions throughout the supply chain version 3.3 issued by Japan's Ministry of Environment)
Category 13	Downstream leased assets	Casio inquires with the users of each leased asset about the amount of CO2 emissions, and uses the data they provide to calculate the total amount of emissions.
Category 14	Franchises	The franchise formula is not used.
Category 15	Investments	Calculated by multiplying the emissions from investment destinations (equity method affiliates and companies which hold specific annual stocks and constructive stocks, etc.) by the equity method ratio or the shareholding ratio.

Third-party verification

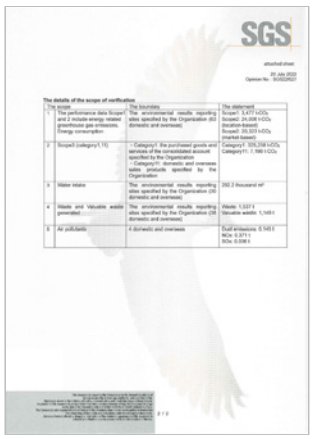
In order to ensure the reliability of its environmental data reporting, in fiscal 2011 Casio began requesting third-party verification.

Casio commissioned SGS Japan Co., Ltd. to conduct the audit of environmental data in fiscal 2023. The audit covered greenhouse gas emissions (Scope 1, Scope 2, and Category 1 and 11 of Scope 3), water intake, waste, variable waste, and emissions of atmospheric pollutants (NOx, SOx and dust). Of the sites audited by SGS, on-site surveys were conducted at the headquarters of Casio Computer Co., Ltd., and the headquarters of Yamagata Casio Co., Ltd.

Third-party verification statement


Verification Opinion

SGS


SGS

Environmental Compliance

Here is an overview of Casio's environmental compliance initiatives.

Standards Management and Audits: Regular Internal Audits and Third-party Audits

There are 14 Casio sites which have obtained ISO 14001 certification.
Of these, three sites belonging to Casio Computer Co., Ltd. (Headquarters, Hamura R&D Center, and Hachioji R&D Center) began working under integrated certification in fiscal 2018.

Each of these sites regularly implements conditions management and improvement activities by measuring concentrations of dust, SOx, and NOx in exhaust emissions, based on voluntary standards and standards established by national and local governments. They also measure wastewater quality (water containing harmful substances). Moreover, the sites measure and report usage conditions for harmful atmospheric pollutants, as well as handling quantities and atmospheric emissions of volatile organic compounds (VOCs).

In addition, to address leaks of fluorocarbon gas, which is used in air conditioning and refrigeration equipment and has a global warming potential several thousand times that of CO_2, Casio works to ascertain filling and recovery volume by ensuring that all sites implement simple inspections and periodic inspections based on Japan's Act on Rational Use and Appropriate Management of Fluorocarbons, as well as ensuring that they participate in database management.

Further, each site trains internal environmental auditors, conducts internal audits, and also undertakes regular third-party audits by external organizations. If there is any non-conformity, corrective measures are taken in accordance with internally specified procedures and continuous improvement activities are carried out.

With a view to strengthening Casio's environmental risk management and improving its environmental performance in the future, internal environmental auditors are expected to play a role as front-line leaders of environmental compliance. Toward this end, they are enhancing their ability to perceive environmental risks, increasing their specialized knowledge of environmental laws and regulations as well as chemicals management, and also identifying issues and proposing improvements.

Compliance with Environmental Laws and Regulations Related to Casio Products

1. Regulations on the concentration of specified chemical substances

Casio strives to limit the concentration of specified chemical substances that are regulated by a country's laws and regulations to at or below the mandated level, ensure that human health is not affected, and minimize the impact on the ecosystem. As countries in the EU, the US and other countries on the forefront of environmental measures, as well as emerging countries in Asia, Central and South America and the Middle East, reinforce and expand environmental laws and regulations, Casio has established the Expert Sub-Committee on Environmental Law below the Promotion Committee for Group-wide Quality Enhancement. In this sub-committee, divisions involved in development, design, quality assurance, procurement, production, sales and services share information, set guidelines for responding as well as rules, and ensure that the PDCA cycle is always functioning. The Casio Green Procurement Standards serve as the operating standards and set the rules for parts and materials, while the Casio Green Database functions as the management system that determines whether a part or material can be used in Casio products.

Major environmental laws and regulations related to Casio products

	Product			Packaging		Battery	
	Collection and Recycling	Hazardous Substances	Energy Conservation	Collection and Recycling	Hazardous Substances	Collection and Recycling	Hazardous Substances
Global conventions		Convention on Persistent Organic Pollutants (POPs), Mercury Convention			Convention on POPs		Mercury Convention
Japan	Small Electronic Devices Recycling Act		Energy Conservation Law	Container and Packaging Recycling Law		Recycling Law	Act on Preventing Environmental Pollution from Mercury
China	China WEEE	China RoHS	China Energy Label	China RoHS			China RoHS
South Korea	South Korea RoHS/WEEE/ELV		South Korea Energy Conservation Law	South Korea Recycling Law		South Korea Recycling Law	South Korea batteries regulation
Taiwan		Taiwan RoHS				Battery recycling regulations	Regulations on heavy metal in batteries
Australia			External power energy efficiency regulations				
India	India e-waste law			India Packaging waste regulations		India Packaging waste regulations	
Viet Nam	Viet Nam WEEE	Viet Nam RoHS				Viet Nam WEEE	
Indonesia	Household waste regulations						
Singapore		Singapore Environmental Protection Management Act					Singapore Environmental Protection Management Act
Thailand	Thailand WEEE (draft)						
Philippines	Philippines WEEE (draft)						
Bangladesh	Bangladesh E-waste management regulations						
EU	WEEE	RoHS REACH Biocidal Product Regulations POP Regulation	ErP	EU Directive on Packaging and Packaging Waste		Batteries directive	
UK	UK-WEEE	UK-RoHS/REACH/POPs/BPR	UK-ErP	UK packaging waste regulations		UK batteries regulations	
Norway		Chemical substance regulations					
Serbia	Serbia WEEE & RoHS					Serbia batteries directive	
Ukraine		Ukraine RoHS	Ukraine ErP				
Eurasian Economic Commission		Eurasian RoHS	Eurasian ErP				
Belarus			Belarus ErP				
US	Each state's TV/PC recycling laws	TSCA Each state's mercury regulations, California Proposition 65, California SB50, federal and California regulations on formaldehyde, safer consumer product regulations, each state's flame retardant regulation, California regulations on jewelry	US federal law, and external power supply efficiency regulations in each state	California's Rigid Plastic Packaging Container recycling program, and rigid plastic container labeling regulations, Packaging EPR laws in US	Each state's packaging and heavy metal regulations	Each state's rechargeable battery recycling regulations	
Canada	Each state's electric appliance recycling regulations	Products Containing Mercury Regulations, Canada Chemical substance regulations Directive concerning testing for formaldehyde emissions	Federal and each state's external power energy efficiency regulations	Each state's packaging material collection programs			Regulation on Products Containing Mercury
Mexico			Energy consumption labeling regulations, External power energy efficiency regulations				
Brazil	Brazil Solid Waste Law	Brazil RoHS (draft)		Brazil Solid Waste Law		Brazil Solid Waste Law	Brazil batteries regulation
Argentina	Argentina WEEE (draft)						Argentina batteries regulation
Peru	Peru WEEE						
Paraguay							Paraguay batteries regulation
Columbia						Columbia batteries regulation	
Turkey	Turkey WEEE & RoHS		Turkey ErP	Turkey packaging regulation		Turkey batteries regulation	
Israel	Israel WEEE			Israel packaging regulations			
Jordan	Jordan WEEE (draft)	Jordan RoHS (draft)	Jordan ErP				
Gulf countries		Gulf countries RoHS (draft)					
UAE		UAE-RoHS					
Saudi Arabia		Saudi Arabia RoHS				Saudi Arabia batteries regulation	

PDF

2. Regulations on energy efficiency for power consumption

Countries also have environmental laws and regulations on power source efficiency for products that connect to AC power. Starting in the development stage, Casio assesses whether a product subject to environmental laws and regulations meets requirements, and then submits requests for approval to the relevant authorities.

Compliance Relating to the Proper Collection, Recycling, and Disposal of Used Products

Countries around the world also have regulations for the collection and recycling of used electrical and electronics products, packaging materials, and batteries. Companies must comply with the requirements of each law including product design to save resources and facilitate recycling, labeling and information provision to promote user participation in the sorted collection of products for recycling, as well as information provision for proper product disposal.

Casio evaluates products in terms of resource savings, ease of dismantling, recycling potential, and recycled material content. Confirmation is also made to see whether the recycling labels and displayed information meet legal requirements worldwide.

In response to the enactment of Japan's Small Electronic Devices Recycling Act in April 2013, Casio has put together a project team including employees involved in every product category (such as designers), aiming to ensure products being developed are easily recyclable. Casio is asking intermediate processors and metal smelters who recycle used small household appliances to participate in interviews regarding dismantling methods and other issues. The lessons learned are being incorporated into product environmental assessments, helping Casio to develop products that are easy to recycle.

Compliance Relating to Energy Saving and Climate Change Measures

Casio has measures addressing regulations around the globe, but this section focuses on the steps Casio is taking to comply with the laws and regulations in Japan that apply to its relatively large business facilities.

1. Act on the Rational Use of Energy

Pursuant to the requirements of the Energy Conservation Law, Casio is taking various steps such as addressing the rational use of energy at the business level. Casio Computer Co., Ltd. and Yamagata Casio are both currently designated as specified businesses. Since fiscal 2010, Casio has been regularly submitting reports and medium and long-term plans on this issue. In accordance with the determination standards relating to the rational use of energy at plants and facilities, Casio has created the new position of energy management supervisor and has been promoting the rational use of energy and other measures.

2. Act on the Promotion of Global Warming Countermeasures

Casio does not exceed the standards for emissions of greenhouse gases other than CO_2 arising from energy use set by Japan's Act on the Promotion of Global Warming Countermeasures. It is complying with requirements for the reporting of greenhouse gas emissions, by regularly submitting reports under the Act on the Rational Use of Energy.

3. Environmental Regulations in Tokyo

Under the Tokyo Metropolitan Environmental Security Ordinance's Carbon Reduction Reporting Program, if the total energy usage on a crude oil equivalent basis for a business' several small and medium-sized facilities set up within the Tokyo Metropolitan Area reaches 3,000 kl/year or higher, the business must submit a report including the status of initiatives to save energy at each facility.
The requirement to submit a report and make information public in accordance with the Carbon Reduction Countermeasures Reporting Program does not currently apply to Casio. However, below are the reports Casio submitted previously (in Japanese).

> Tokyo Carbon Reduction Reporting Program on the Tokyo Metropolitan Government website (In Japanese)

Published Data of Casio Computer Co., Ltd. (In Japanese)

* Casio has been exempt from the requirement to submit reports since fiscal 2020, and no longer submits reports. It has been confirmed that the total energy usage on a crude oil equivalent basis at all relevant business sites has been less than 3,000kL/year since fiscal 2020.

> Fiscal 2018
> Fiscal 2017
> Fiscal 2015
> Fiscal 2014

Compliance Relating to Environmental Information Disclosure

There is a growing international movement calling for the creation of information disclosure standards for companies.

Along with the need for Japanese standards to coincide with the International Financial Reporting Standards (IFRS), there is a movement calling for the provision of Management Commentaries (MC) as a form of disclosure of non-financial and corporate forecast information. In other words, companies will need to disclose non-financial data which describes the connections between the company's current situation, business strategy, risks, and financial performance, and other relevant information.

In order to provide its stakeholders with the proper environmental information in a way that it is easy to understand, Casio has the following aims.

1. To adopt more accurate indices relating to environmental impact, and to provide comparable information
2. To provide non-financial information including environmental information that indicates the connections with corporate strategy
3. To explain the capability of environmental information to improve corporate performance

Along with working to disclose environmental information, Casio will promote international disclosure standards for non-financial information, and work towards standardization.

Compliance with Environmental Laws

Casio was not subject to any legal violations, penalties, fines, or lawsuits relating to the environment in fiscal 2022.