

# Environmental Report



**Environmental  
Management**

**Environmental Action  
Plan (Targets and  
Performance)**

**Realizing a  
Decarbonized Society**

**Building a Recycling  
Society**

**Living in Harmony with  
Nature**

**Environmental  
Performance Data**

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Compliance**

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# Environmental Management

## Environmental Vision and Environmental Policy

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In 2012, Casio established the Casio Environmental Vision 2050, a long-term environmental management policy with a target year of 2050, and has carried out a variety of initiatives since then. During that time, the move toward decarbonization has accelerated worldwide since the Paris Agreement of 2015. Since the concept of “low-carbon” is now out of step with its long-term vision, since 2019 Casio has been pursuing the revised vision of “realizing a decarbonized society.” Casio’s environmental policy has also been revised and reestablished as the new Casio Group Environmental Policy.

In line with the Environmental Vision and Environmental Policy, given below, Casio will strive to become a leading environmental company, as demonstrated by its commitment to visionary global initiatives to help build a more sustainable world.

### Casio Environmental Vision 2050

With a target year of 2050, the Casio Group will create and implement its own visionary initiatives to promote the sustainable use of energy and resources and facilitate the healthy coexistence of all living things, the planet’s greatest assets.

Casio’s aim is to become a leading environmental company that contributes not only to a sound and sustainable global environment but also to the spiritual richness of people’s lives. Casio’s unique way of achieving this is by creating new value and lifestyle possibilities that give rise to markets and cultural phenomena never seen before.

To become a leading environmental company, Casio will apply its spirit of going from “0” to “1,” or creating “something” from “nothing,” to develop unique environmental initiatives and create products and services that make the most of its innovative ideas and leading technologies, focusing in particular on the following areas:

- Realizing a decarbonized society
- Building a recycling society
- Living in harmony with nature

## Casio Group Environmental Policy

### Basic Philosophy

In light of the intent of the Paris Agreement and the SDGs, and based on the Casio Environmental Vision 2050, the Casio Group will help build a more sustainable world by appropriately recognizing environmental challenges that Casio's business affects and attempting to solve those challenges through its main business.

### Basic Policies

1. Aiming to help build a more sustainable world, we will commit ourselves to the following objectives, which will be tackled strategically in response to requests from the international community, looking to realize them through fresh approaches by thinking outside the box, and by addressing issues throughout the entire value chain:
  - 1) Realizing a decarbonized society: Achievement of medium- to long-term goals in the reduction of GHG including CO<sub>2</sub>
  - 2) Building a recycling society: Minimization of environmental impact throughout the value chain
  - 3) Living in harmony with nature: Minimization of negative impact to biodiversity through our main business
2. To achieve the above objectives, we will work at establishing effective and efficient organizational structures and systems that will translate into improvements in environmental performance.
3. In addition, we will steadily respond to environmental challenges, social demands, and the expectations of stakeholders.
  - 1) We will strive to prevent environmental pollution by complying with environmental laws and regulations as well as other requirements that we have agreed to.
  - 2) We will engage in social contribution activities in the environmental field.
  - 3) We will participate in and contribute to environmental conservation activities, including efforts to adapt to and mitigate climate change.
  - 4) We will make the Environmental Policy well-known to all members of the Casio Group.
  - 5) We will make the Environmental Policy available to stakeholders.

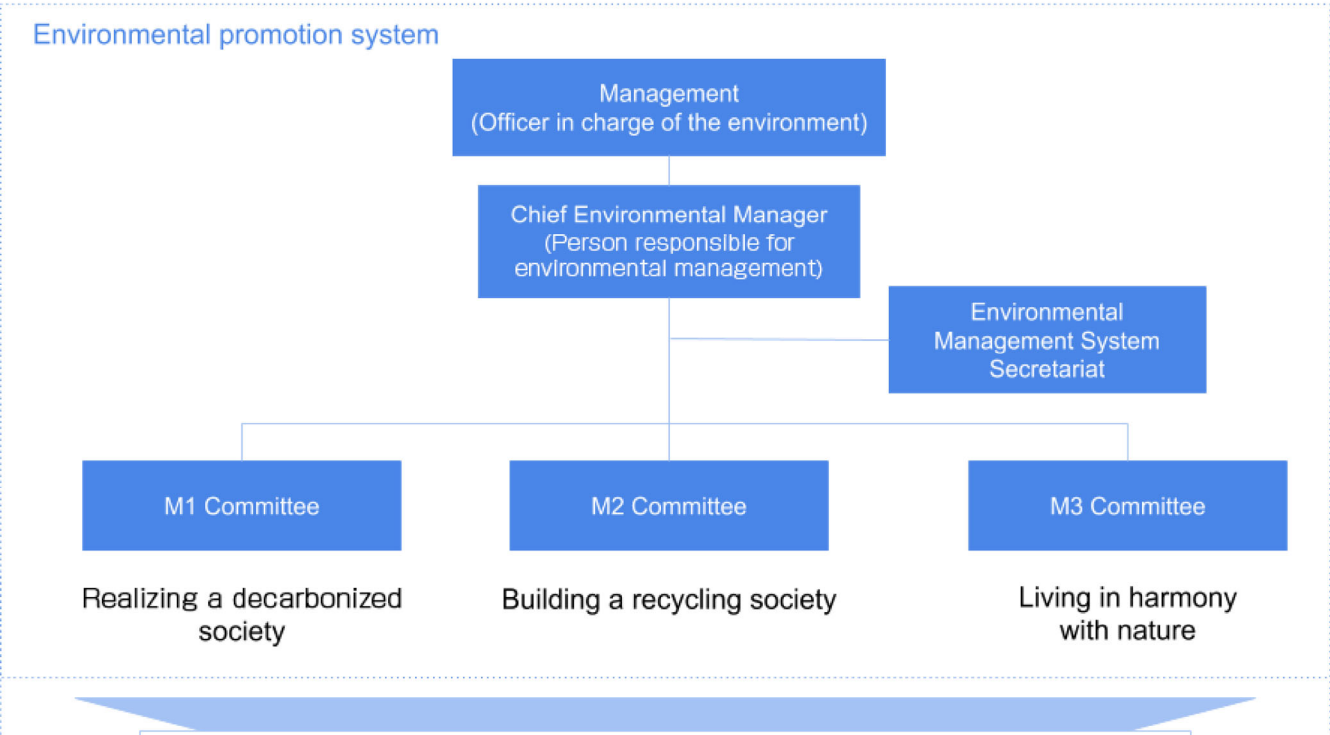
## Implementation System

In 2016, Casio started to integrate its environmental management system into a group-wide system. First, the three main sites at headquarters, the Hamura R&D Center, and the Hachioji R&D Center of Casio Computer Co., Ltd. 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.

In the new system, there is a concern that variations will appear between departments in the level of involvement in and awareness of the environmental management system. This is why Casio has clarified the relationship between "committee activities" and "the core business of departments." Casio will continue working to improve the environmental performance of the entire Group while remaining aware of issues related to implementing a Group-wide environmental management system.

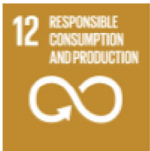
CSR Committee

Reporting and resolving ↑



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 2002	
Casio Human Systems Co., Ltd.		December 2001	
Casio Computer (Hong Kong) Ltd.		December 1999	
Casio (Thailand) Co., Ltd.		July 2012	
Casio Taiwan Co., Ltd.		December 2001	
Casio Electronics (Shenzhen) Co., Ltd.		February 2002	
Casio Electronic Technology (Zhongshan) Co., Ltd.		April 2002	
Casio Electronics (Shaoguan) Co., LTD.		January 2018	

\*The percentage of Group employees at sites with ISO certification has reached 76%.

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## Environmental Education

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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.

# Environmental Action Plan (Targets and Performance)

Under its Environmental Vision 2050, Casio has established Environmental Action Plan targets from a global perspective, and is carrying out environmental activities accordingly. Here are the targets and performance for fiscal 2019, along with the targets for fiscal 2020 based on the current results.

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

Theme	Medium and Long-term Targets	FY2019 Targets and KPI	FY2019 Performance	Evaluation	FY2020 Targets
Realizing a decarbonized society	Long-term target: To reduce the total volume of the Casio Group's greenhouse gas emissions (scope 1 and 2) by 80% compared to FY2014 by FY2051	Create scenarios to reduce CO <sub>2</sub> emissions and achieve medium and long-term targets	Created reduction scenarios	○	Acquire SBT certification and join RE100
	Medium-term target: To reduce the total volume of the Casio Group's greenhouse gas emissions (scope 1 and 2) by 26% compared to FY2014 by FY2031	Reduce the FY2018 CO <sub>2</sub> emissions for the entire Casio Group by 7.95% compared with FY2014	Achieved a 8.08% reduction	◎	Reduce the FY2018 CO <sub>2</sub> emissions for the entire Casio Group by 9.6% compared with FY2014
	To have 70% or more of main suppliers establish GHG reduction targets by FY2025	-	-	-	Establish a supplier survey
Building a recycling society	To increase the percentage of sales accounted for by Green Star products to 90% by FY2026	Maintain the Casio Green Star product sales ratio at 70% or more	Casio Green Star Product sales ratio: 72%	◎	Maintain the Casio Green Star product sales ratio at 74% or more
	Achieve 100% recycling rate for business site waste by FY2031	Achieve a recycling rate for business site waste of at least 92%	Achieved a recycling rate of 86.2%	△	Achieve a recycling rate for business site waste of at least 90%
	-	Use no more than 500,000m <sup>3</sup> of water	417,900m <sup>3</sup>	◎	Reduce water usage by 1% compared to FY2019

Living in harmony with nature	To increase the use of sustainable paper to 100% by FY2031	Ensure that 65% of product catalog paper used in Japan is FSC® certified paper	Ratio of certified paper in catalogs in FY2018: 81.9%	◎	Ensure that 80% of product catalog paper used in Japan is FSC® certified paper
		Develop scenarios for achieving medium-term targets relating to usage ratios for sustainable paper	Considered the definition of "sustainable paper"	△	Finalize definition of "sustainable paper"



# Realizing a Decarbonized Society

## Approach

### Social Background

Recent times have seen the emergence of global scale problems, including global population growth and an increase in average temperatures around the world. In 2015, the United Nations Sustainable Development Goals (SDGs) and the COP21 Paris Agreement were adopted as stepping stones in solving these problems. 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 stressed that many of the impacts of climate change could be avoided by limiting global warming to 1.5°C instead of 2°C. This debate was continued at COP24 held in December 2018, resulting in ever-greater demand from the international community for decarbonization.



### Risks and Opportunities for the Casio Group

As the move toward decarbonization gains momentum, a variety of future risks and trends become conceivable, including carbon pricing and tighter energy-saving regulations as well as climate changed-induced natural disaster such as typhoons, torrential rain, and flooding. To help avoid such risks, going forward Casio will seek to reduce greenhouse gases generated in its business operations by, among other measures, pursuing greater energy savings, expanding the introduction of renewable energy, and securing alternatives in the value chain.

Since its establishment, Casio has made use of technology to make products smaller, lighter, thinner, and more energy efficient. In this way, it has created a wide variety of eco-products. Anticipating the market needs for energy-saving products to increase even more in the future, Casio will push its technical development ahead further in light of these environmental challenges in an effort to create products with high environmental performance and in pursuit of business growth.

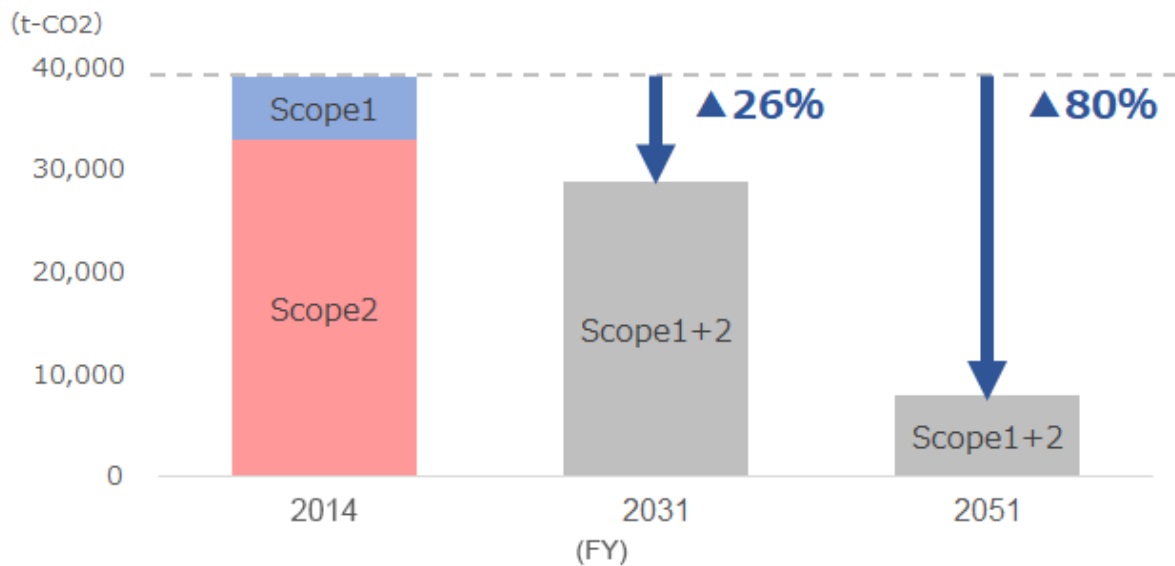
In order to minimize the various risks mentioned above, and expand opportunities, Casio must contribute to the sustainability of the planet and its human societies. Casio recognizes that this is an extremely important issue for further strengthening its business foundation, and will make even more strenuous efforts to realize a decarbonized society.

## Policy

Aiming to realize a decarbonized society, Casio is committed to reducing greenhouse gas emissions across the value chain. It has established the goals of reducing greenhouse gas emissions from business operations (Scope 1 and 2) by 26% by fiscal 2031, compared to fiscal 2014, and by 80% by fiscal 2051. To achieve those targets, Casio will promote the introduction of high-efficiency/energy-saving equipment, the improvement of work processes, and the adoption of renewable energy.

Since emissions from purchased goods and services (Category 1, Scope 3) account for 60% or more of Casio's CO<sub>2</sub> emissions throughout the value chain, suppliers' initiatives to reduce greenhouse gas emissions are important. Going forward, Casio will start surveying the reduction of greenhouse gas emissions by its main suppliers and encourage initiatives leading to reduction of greenhouse gas emissions across the value chain.

### Reduction targets for greenhouse gas emissions (Scope 1 and 2)



## Management Approach

### Environmental Action Plans and Performance

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

Medium and long-term targets	FY2019 Target	FY2019 Performance	Evaluation	FY2020 Targets and KPI
Long-term target: To reduce the total volume of the Casio Group's greenhouse gas emissions (scope 1 and 2) by 80% compared to FY2014 by FY2051	Create scenarios to reduce CO <sub>2</sub> emissions and achieve medium and long-term targets	Created reduction scenarios	○	Acquire SBT certification and join RE100

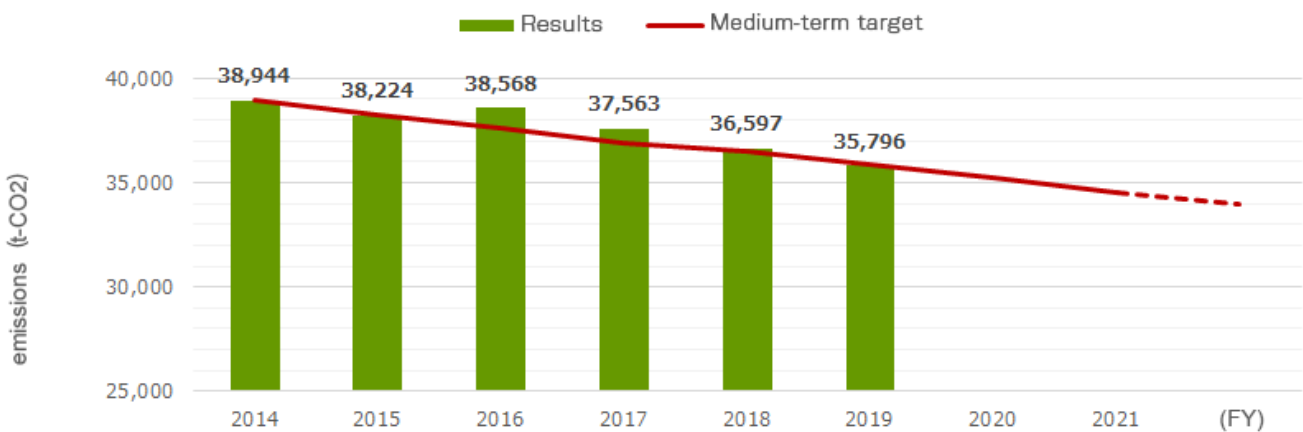
Medium-term target: To reduce the total volume of the Casio Group's greenhouse gas emissions (scope 1 and 2) by 26% compared to FY2014 by FY2031	Reduce the FY2018 CO <sub>2</sub> emissions for the entire Casio Group by 7.95% compared with FY2014	Achieved a 8.08% reduction	⊙	Reduce the FY2018 CO <sub>2</sub> emissions for the entire Casio Group by 9.6% compared with FY2014
To have 70% or more of main suppliers establish GHG reduction targets by FY2025	-	-	-	Establish a supplier survey

## Activity Results

### Greenhouse gas emissions in business operations (Scope 1 and 2)

The Casio Group has established medium-term reduction targets for CO<sub>2</sub> emissions from each office and Group company based on its medium-term targets for greenhouse gas emissions in business operations (Scope 1 and 2). Each site carried out energy-saving activities to achieve those targets, resulting in an 8.56% reduction in greenhouse gas emissions for fiscal 2019, compared to fiscal 2014, thus achieving the annual target. Going forward, in addition to practicing energy-saving activities and introducing high-efficiency equipment, Casio will also work on making use of renewable energy and will aim to acquire SBT certification and join RE100.

### Changes in greenhouse gas emissions (Scope 1 and Scope 2)



( t-CO<sub>2</sub> )

		FY2014 (Base year)	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2031
CO <sub>2</sub> emissions	CO <sub>2</sub> emissions	38,944	38,224	38,568	37,563	36,597	35,796	-	-	-
	Reduction rate	-	1.85%	0.97%	3.55%	6.03%	8.08%	-	-	-
Medium-term target	CO <sub>2</sub> emissions	-	38,261	37,589	36,929	36,509	35,847	35,197	34,403	28,819
	Reduction rate	-	1.76%	3.48%	5.17%	6.25%	7.95%	9.62%	11.66 %	26.00 %

### Scope 3

Casio monitors and calculates greenhouse gas emissions in its own business operations (Scope 1 and Scope 2) and also emissions throughout the entire value chain, upstream as well as downstream (Scope 3). Since emissions from “purchased goods and services” (Category 1) account for 60% or more of Casio’s Scope 3 CO<sub>2</sub> emissions, the Casio Group will promote activities to reduce greenhouse gas emissions across the value chain, chiefly by encouraging its main suppliers to establish targets for greenhouse gas reduction.

#### [CO<sub>2</sub> Emissions throughout the Entire Value Chain](#)

### Life Cycle Assessment

In the past, Casio implemented unscheduled life cycle assessment (LCA) for products, but there was no systematic framework for conducting LCA for newly developed products.

In fiscal 2018, Casio brought together members of development departments, distribution departments, IT departments and others for each product to establish an in-house LCA Working Group and commenced studies in order to implement constant product LCA.

Going forward, Casio will identify issues and formulate a roadmap for the constant implementation of LCAs with the aim of building a system that can perform LCAs for 100% of new models by fiscal 2026.

# Realizing a Decarbonized Society

## Business Sites Initiatives

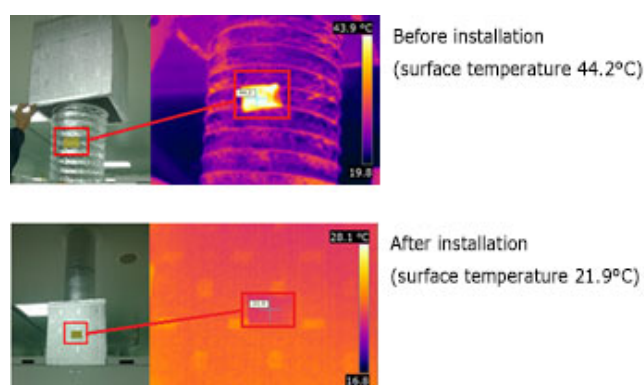
### Initiatives at Casio (Thailand) Co., Ltd.

#### 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. This reduced energy use by 4,651 Kwh per year.



Reflow systems insulation



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

#### Introducing buses to reduce CO<sub>2</sub> emissions

The company has 40 buses that it provides for employees to use for their daily commute. Around 2,000 employees use these commuting buses. This measure accounts for an annual reduction of CO<sub>2</sub> emissions of 1,567 tons.

Item		Consumption rate (km/L) <sup>*1</sup>	Distance (km) <sup>*2</sup>	Emission coefficient (kg-CO <sub>2</sub> /L) <sup>*3</sup>	Amount <sup>*4</sup>	Days/year	GHG emission (kg-CO <sub>2</sub> /year)	Special notes
Before introduction	Motor cycle (gasoline)	50	60	2.32166	1600 people	268	1,194,633	
	Car (gasoline)	14,763	60	2.32166	400 people	268	1,011,510	
	Total						2,206,143	
After introduction	Bus (diesel)	2.6	60	2.58496	40 units	268	639,479	

Total						1,566,664	Reduction
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- \*1 Value published by the Ministry of Science and Technology of the Kingdom of Thailand
- \*2 Employees' average commuting distance (round trip)
- \*3 Based on the Casio Group's calculation standard (emission coefficient from Japan's Act on Promotion of Global Warming Countermeasures)
- \*4 The number of people before introduction was calculated as 80% of all employees commuting by motorcycle and 20% commuting by car.



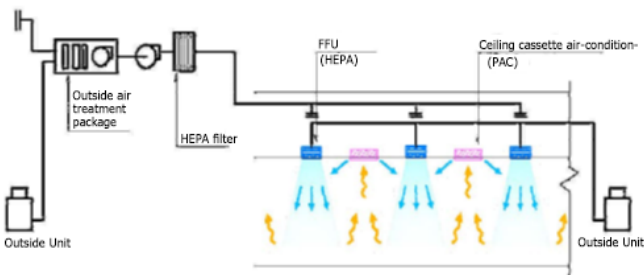
Commuting buses at Casio (Thailand)

## 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<sup>\*1</sup> 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 Casio America

Casio America has been carrying out energy- saving measures for many years.

In 2018, the company again won an ENERGY STAR Award from the U.S. Environmental Protection Agency (EPA). The award recognized Casio America's efforts to ascertain data on and efficiently manage electricity usage at its data center, and its initiatives to use a building management system to more effectively use cooling and heating. This ENERGY STAR Award was the fifth the company has received, following 2012, 2013, 2016 and 2017. Going forward, Casio America will continue to carry out environmentally friendly initiatives to help achieve a sustainable society.



Casio America, Inc.



ENERGY STAR plaque

## 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<sub>2</sub> 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 CO<sub>2</sub> emissions reductions.



LED lighting in Casio Electronics (Shenzhen)'s lobby



LED lighting in Casio (Thailand)'s plant



LED lighting in Yamagata Casio's plant



# Realizing a Decarbonized Society

## Logistics process initiatives

Casio is actively reducing its environmental impact by striving to reduce CO<sub>2</sub> and waste emissions arising from logistics. In order to reduce CO<sub>2</sub> emissions in the logistics process, Casio is promoting the following three action plans.

- *Shortening transport distances* : Promoting direct shipping to customers from logistics centers in and outside Japan
- *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 sixth of the CO<sub>2</sub> 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 for transport from its logistics center in Saitama Prefecture to distribution centers in Hokkaido, 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

### Social Background

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 increasingly 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. To address these issues, efforts from a life-cycle perspective must go beyond the range of a single company's business activities to include suppliers and users.



### Risks and Opportunities for the Casio Group

When the depletion of resources becomes more serious, the cost of raw materials increases, and there are concerns that this will have a major impact on production. Moreover, as a manufacturer, it is essential to develop eco products that help to build a sustainable world, and the expectations and demands of customers are also increasing. In this situation, delays in the development could lead to the loss of support from and selection by customers. Waste produced in business activities could also cause environmental pollution due to landfill disposal and other issues.

In order to prepare for these risks, Casio will improve product design, including the selection of materials and development of new structures that are easy to recycle during product development. This is expected to translate into cost reductions by helping to create new technologies and increasing resource efficiency. Furthermore, Casio strives to achieve zero landfill for the waste produced by its business activities.

### Policy

Casio aims to help build a recycling-oriented society and is pursuing conservation of resources and resource recycling throughout the entire value chain.

In product initiatives, the company creates eco products by focusing on environmental performance from the development and design stage through recycling after use. These eco products are compact, lightweight, have a long life, and feature a recyclable design. Products that meet Casio's own standards are certified as Casio Green Star Products and Casio Super Green Star Products.

Casio strives to reduce waste and improve the recycling rate at each business site, aiming for zero landfill disposal.

## Management Approach

### Environmental Action Plans and Performance

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

Medium and long-term targets	FY2019 Target	FY2019 Performance	Evaluation	FY2020 Targets and KPI
Increase Casio Green Star product sales ratio to 90% by fiscal 2026	Maintain the Casio Green Star product sales ratio at 70% or more	Casio Green Star Product sales ratio: 72%	◎	Maintain the Casio Green Star product sales ratio at 74% or more
Achieve 100% recycling rate for business site waste by fiscal 2031	Achieve a recycling rate for business site waste of at least 92%	Recycling rate: 86.2%	○	Achieve a recycling rate for business site waste of at least 90%
-	Keep water usage below 500,000 m3	417,900 m3	◎	Reduce water usage by 1% from FY2019 level

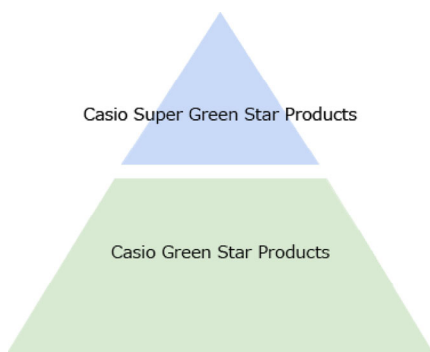
# Building a Recycling Society

## Developing Eco-products (Casio Green Star Products)

In order to minimize the environmental impact of its products, Casio is promoting the development of environmentally friendly products in every aspect of planning and design. In 1993, Casio began product assessment in order to systematize and promote its development of eco products. New products had to undergo a preliminary assessment for their environmental impact and meet certain criteria in order to be certified as Casio Green Products. Casio has developed many environmentally friendly products.

Since fiscal 2010, Casio has offered products that achieved outstanding evaluations under more rigorous assessments of environmental performance as Casio Green Star Products. In fiscal 2017, the Group started offering Casio Super Green Star Products, which have even greater environmental performance. Since then, Casio has been working to develop even better environmentally friendly products.

### Casio Green Star Products System and Assessment Items



Casio Super Green Star Products	Products that have higher environmental performance
Casio Green Star Products	Products with a particularly good assessment

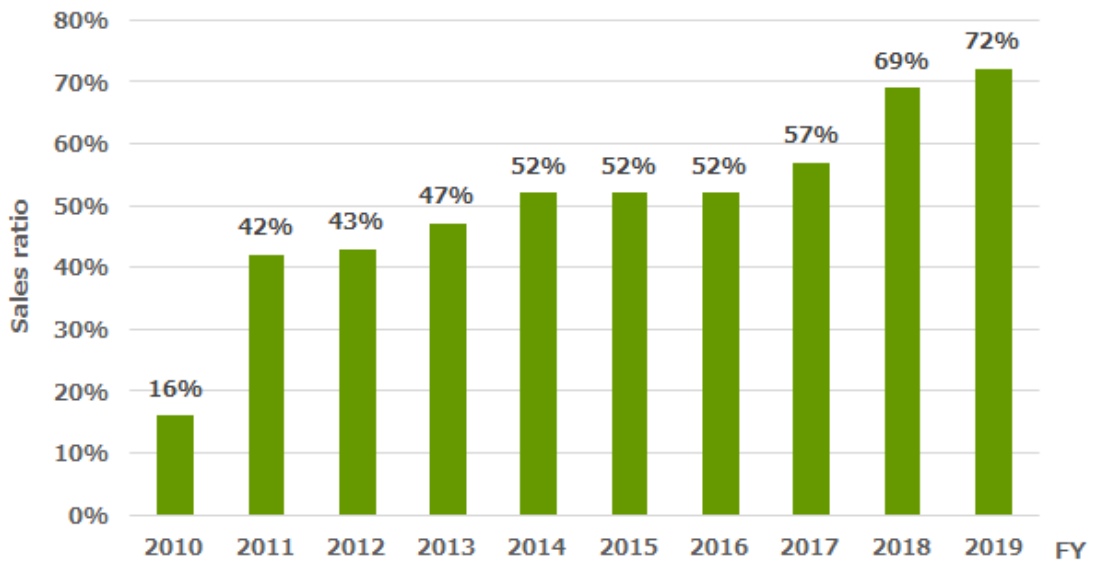
#### Product environmental assessment items

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

## Casio Green Star Product Sales Ratio

Casio is accelerating the development of environmentally friendly products, aiming to see Casio Green Star Products make up 90% of total sales by fiscal 2026. Their share of sales reached 72% in fiscal 2019, achieving the target for that year of 70% or higher. Additionally, one new model was certified as a Casio Super Green Star Product, the highest rank of environmental products. Going forward, Casio will continue to develop products that are even more environmentally friendly.

### Casio Green Products and Casio Green Star Products



## Casio Super Green Star Products

So far, 36 product models have been certified as Casio Super Green Star Products. Some of the certified products (product series) are featured here.

### FY2019

#### Scientific Calculator [Graph 35+E II](#)

##### Environmental Features

- Energy consumption during use reduced by 50%
- Product volume reduced by 23%  
(compared to Casio's CY-802AY9 model)



**FY2017**

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



SL-760ECO, SL-760GT

SL-305ECO, SL-300AECO

JF-120ECO

DF-120ECO

DS-2DB

**Projector \*Light flux of at least 12 lm/w**



XJ-F10X, F100W, F20XN, XJ-F210WN

XJ-UT351W, UT351WN

XJ-V1, XJ-V10X, V100W, V110W

**Casio Green Star Products**

See some products that were certified as Casio Green Star Products (photos show product examples). This mark shows that a product was developed based on the Green Star concept.

**Calculator [JS-20WK](#)**



*Environmental Features*

- Solar battery powered
- Contains at least 40% recycled plastic (gross weight ratio of plastic)

**Electronic dictionary [XD-SR4800](#)**



*Environmental Features*

- Transport efficiency increased by 122% by reduced packaging (compared to Casio's AZ-SP-4800 model)

### Scientific Calculator [FX-JP900](#)



#### *Environmental Features*

- Solar battery powered
- Transport efficiency increased by 34% by reduced packaging (compared to Casio's FX-375ES 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's KL-G2 model)
- Reduced plastic waste from cartridge disposal by using a tape refill method

### Data projector [XJ-F211WN](#)



#### *Environmental Features*

- We do not use a mercury light source

### Electronic musical instrument [GP-500BP](#)



#### *Environmental Features*

- Energy consumption during use reduced by 24% (compared to Casio's AP-500 model)

### Watch [OCW-S5000/SHW-5100CG](#)



#### *Environmental Features*

- Solar battery powered

### Handheld terminal [DT-X400](#)



#### *Environmental Features*

- Energy consumption during use reduced by 47% (compared to Casio's IT-G400 model)

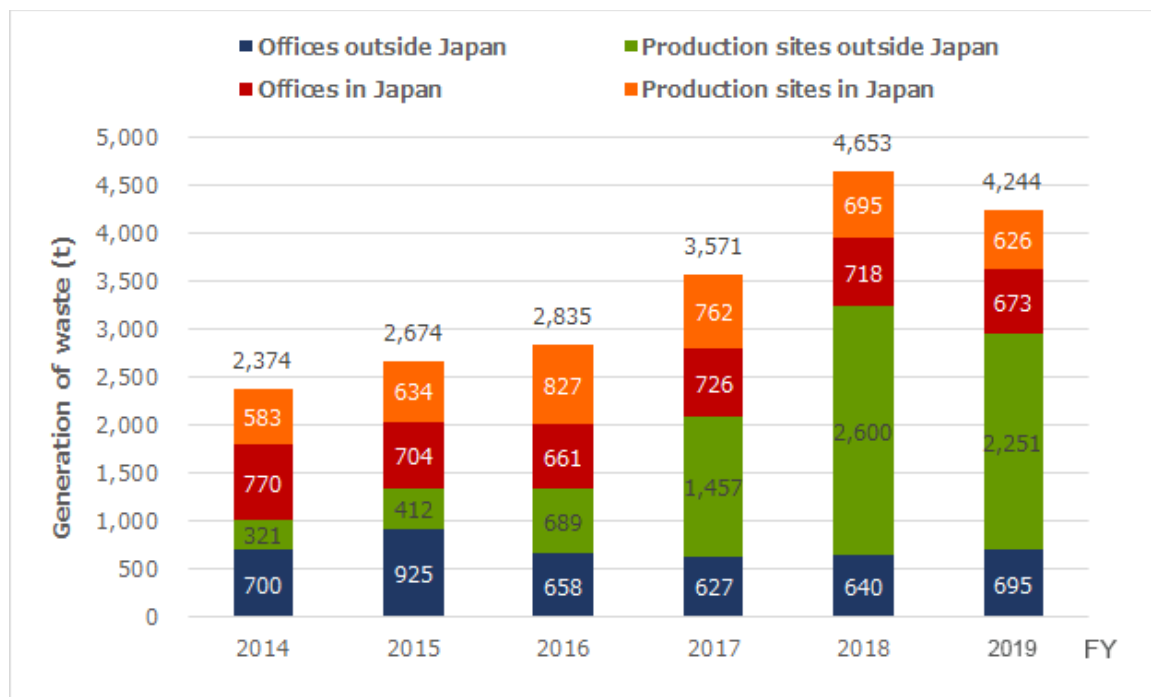
# Building a Recycling Society

## Reducing and Recycling Waste

Casio is working to reduce and recycle the waste generated in its business activities. Generation of waste, etc. (total of waste and valuable material) has been on the rise since fiscal 2017, but the main reason for this is the increasing number of production sites outside Japan. In fiscal 2019, the total amount was reduced from the previous year as a result of efforts to reduce the generation of waste, especially at production sites outside Japan.

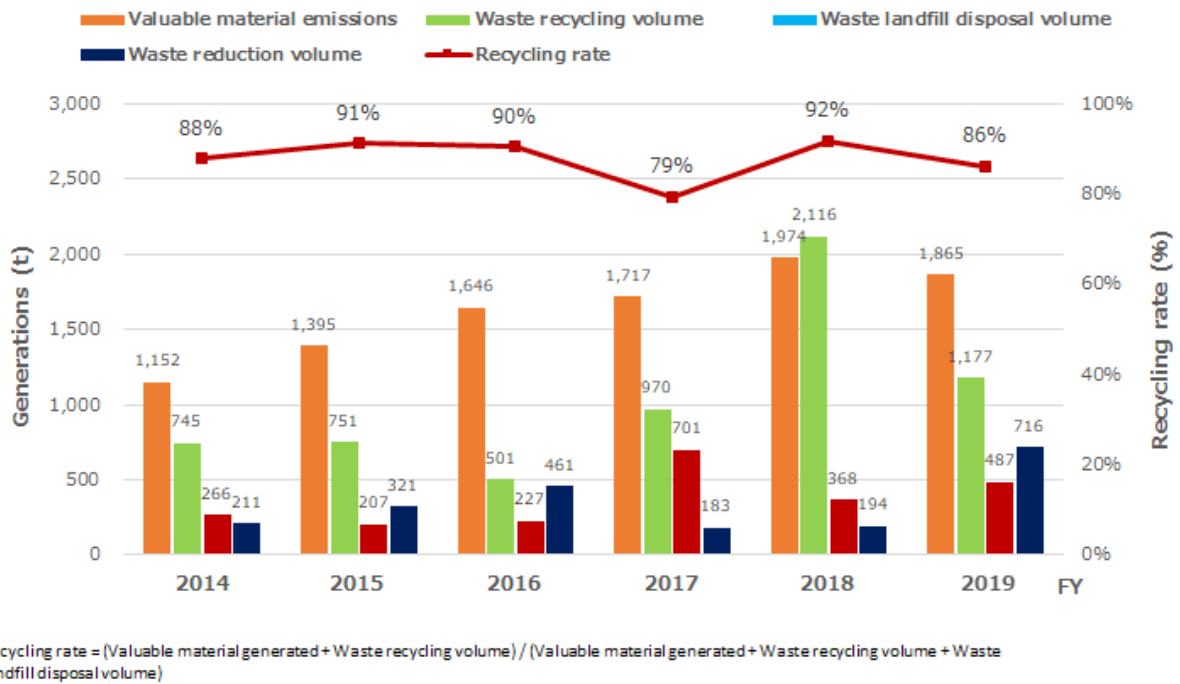
In addition, Casio has set a target recycling rate of 100%, aiming for zero landfill disposal. In fiscal 2019, the recycling rate dropped to 86% due to a decline in the amount of waste that is recycled, leaving the fiscal 2019 target of 92% unattained. The majority of landfill disposal is non-industrial waste, and it is disposed based on the administrative management of each country or region. Going forward, however, Casio will make efforts to increase its recycling rate by considering switching to recycling consignment according to the status of recycling facilities in each area.

### Generation of waste

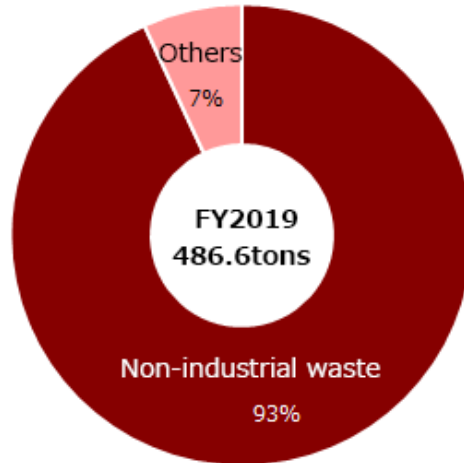




## Disposal breakdown and recycling rate for generation of waste, etc.



## Breakdown of landfill disposal (by category)



# Building a Recycling Society

## Collection and Recycling

This section describes Casio's initiatives in the area of product collection and recycling.

### Product recycling efforts

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

#### Recycling with No Waste Disposal

Casio is recovering and dismantling used tape cartridges and ink ribbon cassettes, and utilizing the materials to make the same products again. Casio actively requests the cooperation of product users in this effort.



### 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.

# Building a Recycling Society

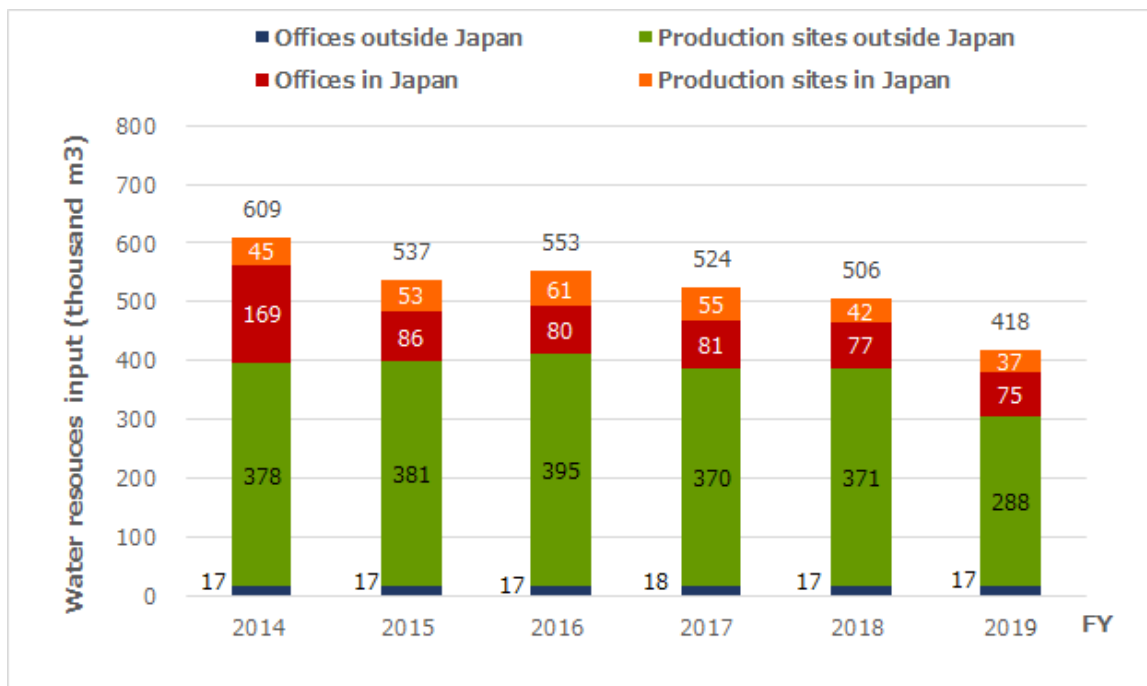
## Reducing water usage

Based on the characteristics of Casio’s business, the majority of water usage in its business activities is used by employees, with water usage for production activities limited to such things as washing a few components.

For this reason, minimization of water usage at the main sites that have continued to operate an environmental management system for many years has advanced to a certain level. Casio has therefore reached the situation where there are big fluctuations only in years with circumstances that differ from usual business activities, such as the discontinuation or new establishment of sites.

In fiscal 2019, water usage was 418,000 m<sup>3</sup>, a 17% reduction from fiscal 2018, driven by the establishment of targets for production sites and efforts to reduce water usage. Going forward, Casio will keep working to reduce water usage.

### Changes in input of water resources



# Living in Harmony with Nature

## Approach

### Social Background

A company's relationship with biodiversity in its business operations depends on the industry it is in as well as business conditions. No matter the kind of company, however, sustenance from the ecosystem, including oxygen, water, and food, is vital to the lives of the employees who work there and the people who are its customers. If ecosystem services were to collapse and the earth's biodiversity were to decline further, it would have major implications for the business operations of any company. In other words, since a company's business activities depend on human beings, there is no company for which biodiversity is totally unrelated. The most important aspect of the social challenge represented by biodiversity is the fact that many people do not fully appreciate the value and the risks of the blessings received from the ecosystem, which are taken for granted. That is why "mainstreaming biodiversity" has become an internationally critical issue.



### Risks and Opportunities for the Casio Group

Manufacturing of Casio products consists mainly of assembling the final products. Casio does not operate businesses in the raw materials and component devices that are used in its products. For this reason, as it stands now, the major factors that directly impact biodiversity are not a part of Casio's operations. It is clear, however, that direct impacts on biodiversity could take place in the supply chain from which Casio procures raw materials and devices. If biodiversity-associated issues within the supply chain were to occur, they would represent a risk that could interfere with Casio's business by making it difficult to procure devices and raw materials.

Furthermore, if the condition of ocean plastic pollution, which has received increasing attention in recent years, were to worsen, or if the bioaccumulation of hazardous substances, for example, were to be verified, it would increase the likelihood of tighter regulations on the plastics used in product bodies and packaging. That would likely make it difficult to keep using plastic materials as before, creating a risk that Casio would have to address.

Meanwhile, Casio sells the G-SHOCK and Baby-G watch brands, which stand up to use in harsh natural environments, as well as the PROTREK watch brand, which is equipped with sensors that are useful in outdoor activities. In the G-SHOCK and Baby-G lineup, Casio came out with Dolphin & Whale models, made since 1994 in collaboration with International Cetacean Education Research Centre (ICERC) Japan, with a view toward environmental protection. Casio's collaboration with ICERC Japan reached the milestone of 25 years in 2019. Under the PROTREK brand, Casio has collaborated with The Nature Conservation Society of Japan (NACS-J) since 2018 and released a Golden Eagle model as well as a model dedicated to *Shijimiaeooides divinus*, which is an endangered butterfly found only in Japan. Through this collaboration, Casio has started to support efforts to protect these endangered species. These activities involve contributions made by Casio's main business to help solve the social challenge of biodiversity. If the mainstreaming of biodiversity makes progress in the future and gains social momentum, more users could come to support these Casio products.

## Policy

In March 2011, Casio formulated the Casio Group Biodiversity Guidelines, under which it carries out various activities. Given that Casio operations have little direct impact on biodiversity, due to the characteristics of its business, the company established the Paper Procurement Policy in June 2015, as one way to focus on its indirect impact in the supply chain.

Going forward, Casio will introduce new biodiversity initiatives, carrying out activities with an “outside-in” approach and “multi-stakeholder partnerships” in mind, seeking to create shared value (CSV) that focuses on opportunities. In addition, since the United Nations Decade on Biodiversity comes to an end in 2020, Casio anticipates that reviews of this past decade will be made worldwide, and Casio plans to revise its guidelines as needed in light of the results.

### 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.

## Management Approach

In 2015, Casio identified three environmentally material issues. To address one of these, “Living in harmony with nature,” the third material issue, it established the “M3 committee” in 2017. The M3 committee is driving Casio's adoption of paper certified by the Forest Stewardship Council (FSC®) 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 species of plants included on the Red Lists published by Japan's Ministry of the Environment. To promote the mainstreaming of biodiversity from within the company, protection teams of employee volunteers carry out conservation activities for these rare plants.

## Environmental Action Plans and Performance

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

Theme	Medium and long-term targets	FY2019 Target	FY2019 Performance	Evaluation	FY2020 Targets and KPI
Living in harmony with nature	To increase the use of sustainable paper to 100% by FY2031	Ensure that 65% of product catalog paper used in Japan is FSC® certified paper	Ratio of certified paper in catalogs in FY2018: 81.9%	◎	Ensure that 80% of product catalog paper used in Japan is FSC® certified paper
		Set specific activity initiatives for biodiversity preservation based on the results of the biodiversity	<ul style="list-style-type: none"> <li>Gave an interim report in the M3 committee on the definition of “sustainable paper”</li> <li>Gathered information on the procurement status of product packaging (cardboard)</li> </ul>	△	Develop scenarios for achieving medium-term targets relating to usage ratios for sustainable paper

# Living in Harmony with Nature

## Using Sustainable Paper

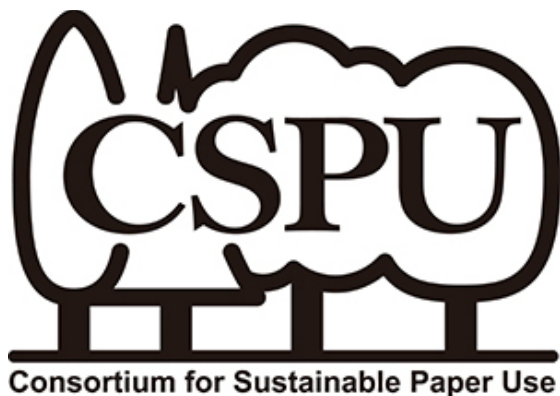
Nowadays, a variety of raw materials are used to make paper, but generally, widely available paper products are made from wood. Depending on the kind of forest from which that wood was cut, there might be adverse effects on biodiversity, such as the destruction of forests with a high conservation value as the habitat for precious wildlife, or cases that infringe on the rights of indigenous peoples.

Focusing on indirect impacts on biodiversity within the supply chain, Casio established a Paper Procurement Policy in June 2015. Based on this policy, Casio is especially committed to refraining from using 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. Casio preferentially uses reliable certified paper to help increase the use of socially sustainable paper.

### Participation in the Consortium for Sustainable Paper Use

In June 2014, Casio joined the Consortium for Sustainable Paper Use. Casio has been working hard as a dedicated member of the Consortium. The Consortium was established in November 2013 by five companies that are making progressive efforts related to their use of paper, the WWF Japan, and Response Ability, Inc, which promotes corporate sustainability. By enabling each member to promote uses of paper that are environmentally and socially responsible from their various perspectives, the Consortium hopes to expand the sustainable use of paper throughout the broader society.

The Casio Group Paper Procurement Policy, formulated in 2015, was also based on exchange of information with member companies and other such external input.



Member of Consortium

Details regarding the consortium can be found on the WWF Japan website below.

["Consortium for Sustainable Paper Use" WWF Japan website](#)



## Paper Procurement

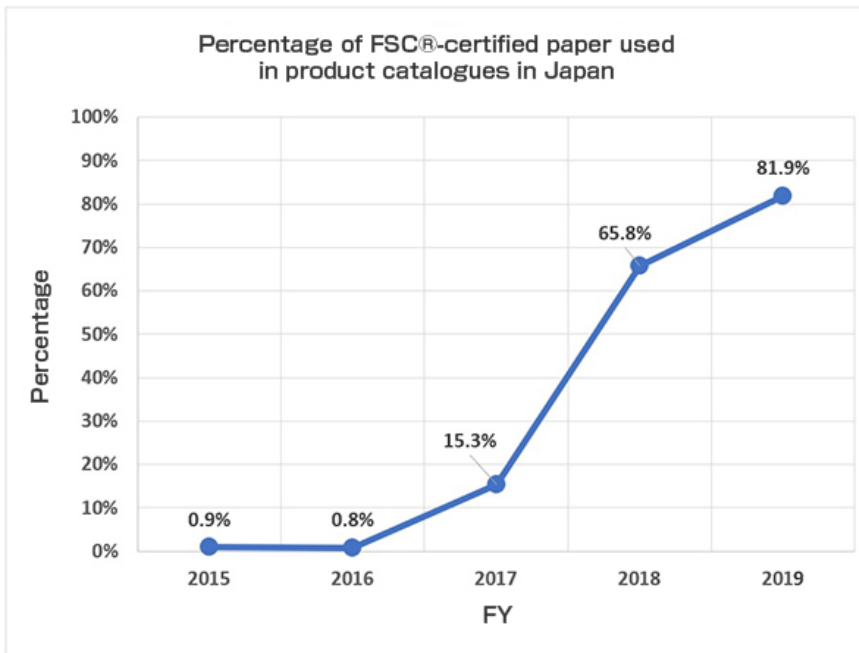
To make sure that it does not use paper products that are especially problematic, Casio periodically confirms that its suppliers do not use paper products from paper manufacturers that have been identified as dubious based on an independent investigation conducted by an international NGO related to the protection of wildlife. If it turns out, based on the confirmation results, that a product comes from one of the papermakers 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.

[Paper Procurement Policy](#)

## Promoting Use of Certified Paper

Since fiscal 2017, Casio has established targets for the percentage of FSC®-certified paper used for product catalogues and has been working hard to increase the percentage used based on environmental management systems.

In fiscal 2018, Casio used 65% certified paper for product catalogues, exceeding the target of 40%. In fiscal 2019, the numerical target was to maintain at least the same level as in the previous fiscal year. The result was 81.9%, exceeding the target of 65%. This was attributable to an increase in the FSC®-certified paper lineup as well as the influence that the company's working group for promoting use of certified paper had on procurement choices by its internal advertising division.



The mark of  
responsible forestry  
FSC® N002433

# Living in Harmony with Nature

## 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. Most notably, Golden Orchid (*Cephalanthera falcata*), 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. Rare plants and insects 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.

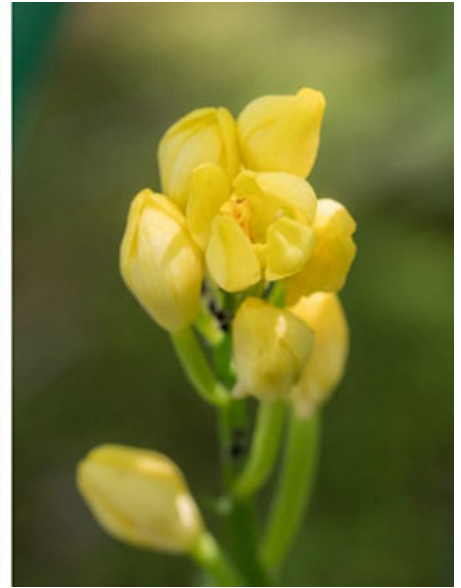
**Results of a survey of biodiversity at main business sites in Japan (Table 1)**

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: <i>Ophioglossum petiolatum</i>
Yamagata Casio Co., Ltd.			
Headquarters	82	173	
Yamanashi	91	150	Insect: <i>Canthophorus niveimarginatus</i> Plant: <i>Lespedeza tomentosa</i>

Casio Electronic Manufacturing Co., Ltd.	58	108	
Casio Business Service Co., Ltd. (Kofu)	82	160	Plant: <i>Rorippa cantoniensis</i>

[List of plants at the Casio Group's main sites in 2017\(PDF\)](#) ( PDF / 372KB )

[List of insects at the Casio Group's main sites in 2017\(PDF\)](#) ( PDF / 331KB )



Golden Orchid (*Cephalanthera falcata*)



Silver Orchid (*Cephalanthera erecta*)





adder's-tongue (*Ophioglossum petiolatum*)



*Lespedeza tomentosa* / *Canthophorus niveimarginatus*

## Preservation Activities at Hamura R&D Center

In 2019, a protection team of employee volunteers once again observed and photo-documented the Golden Orchid and Silver Orchid, which were confirmed to be growing at Hamura R&D Center, from the time they sprouted until they flowered and fruited. The team strove to raise awareness, seeking to help mainstream biodiversity, by disseminating their photos of the orchids within the company. As a result of these ongoing efforts, in the spring of 2019, new individuals (one Golden Orchid and two Silver Orchids) were found, which had not been discovered at the time of the survey by the expert outside agency two years earlier.



The newly discovered Silver Orchids (two on left) and Golden Orchid

Among the several Golden Orchids on the center's grounds, some individuals did not flower, seemingly due to insect damage. Meanwhile, since it was anticipated that one Golden Orchid that showed the most stable development would flower when the center was closed during a string of holidays in May called Golden Week, the protection team set up an unmanned camera to take photos at intervals and thereby documented the orchid's growth until it flowered.



The protect team setting up a camera

Growth record through interval photography (4/25–5/7, 60-min. interval)



## Preservation Activities at the Yamanashi Office of Yamagata Casio

On the advice of the expert agency, labels were used to mark protected species including the plants *Lespedeza tomentosa*, which is listed in Yamanashi Prefecture's Red Data Book, as well as *Potentilla chinensis*, Siberian *Lespedeza juncea*, *Thesium chinense*, which is the larval food plant for the insect *Canthophorus niveimarginatus*, and other grassland plants. As these plants were carefully left when weeding, they were confirmed to have flowered and fruited.



Chinese cinquefoil



Siberian *Lespedeza juncea*

In April 2019, a protection team of employee volunteers was launched at the Yamanashi Office and began propagating individuals from seeds collected the previous fall. The seeds planted in the bare earth as well as those planted in pots sprouted and grew.



Planting seeds



Yamanashi protection team after planting seeds



Siberian *Lespedeza juncea* planted in bare earth



Siberian *Lespedeza juncea* planted in a pot

The grassland plants, including rare species, seen at the Yamanashi Office are thought to have been living in this location since before it become the business site's grounds. The periodic mowing conducted for grounds upkeep since the site was established is thought to have fostered a favorable habitat. Accordingly, the grounds were mowed as usual in May 2019.





Before mowing



After mowing



Before mowing



After mowing



# Living in Harmony with Nature

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

### Preserving Biodiversity through Collaboration with Environmental Protection Groups

Casio has developed many brands of watches such as G-SHOCK, Baby-G, and PROTREK.

Through these brands, the company provides functions, performance, and designs suited to the many and diverse activities and situations in which people use them. Many of those envisioned situations are based on rich natural environments (a wide range of ecosystems from the land to the oceans). Casio believes that it is its responsibility as a manufacturer to contribute to the protection of those natural environments.

Aiming to leverage Casio's business to make a contribution to social issues related to biodiversity, Casio supports environmental protection groups and others through such means as sales of collaboration models.

### 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," the G-SHOCK and BABY-G brands support the activities of environmental protection groups such as the International Cetacean Education Research Centre (ICERC Japan), Aqua Planet, Earthwatch Japan, and Wildlife Promising, with collaboration models that promote these groups.

In its collaboration with Aqua Planet, Casio acted as an official supporter of the International Year of the Reef, promoted by Japan's Ministry of the Environment, in 2018.

Casio's support of ICERC Japan, which began with the dolphin and whale models in 1994, reached its 25th year in 2019.



"Love The Sea And The Earth" logo



ICERC Japan: Models commemorating 25 years of collaboration



WILDLIFE PROMISING collaboration models

Aqua Planet collaboration model

Earthwatch Japan collaboration model

### Official Supporter of the International Year of the Reef 2018



The International Coral Reef Initiative, which is a framework for international cooperation in the preservation of coral reefs and related ecosystems, designated 2018 as the third International Year of the Reef (IYOR). In response, Japan’s Ministry of the Environment, in collaboration with diverse actors, carried out activities in Japan in the name of IYOR 2018. The slogan for those activities was: “Connect, Spread, and Support Each Other.”

Casio is supporting the preservation of coral reefs through its BABY-G collaboration model with Aqua Planet. Meanwhile, Yamagata Casio’s underwater transceiver product, Logosease, also contributes to coral reef preservation activities. In this way, Casio acted as an official supporter, keeping in mind contribution within a multi-stakeholder partnership, as expressed by the slogan.

### Casio Coral Field

In 2018, Casio began providing support for Aqua Planet, an NPO that preserves 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.



Aqua Planet collaboration mode



Casio Coral Field

### Contributing to Coral Reef Conservation Activities with Logosease

On October 14, 2018, WWF Japan's Coral Reef Conservation and Research Centre organized the First Kikaijima Reef Check on the island of Kikaijima in Kagoshima Prefecture, Japan. As part of its activities as an official supporter of the International Year of the Reef appointed by the Ministry of the Environment, Yamagata Casio cooperated by providing Logosease as equipment to be used during the reef check.

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.



underwater transceiver , Logosease



The coral coverage at the reef check point was 51.25%, with a lot of massive coral, especially a species called *hamasango*, in the family Poritidae, being seen. Some 10 years ago, a variety called Araki *hamasango* was discovered to be 432 years old based on a core sample taken by The University of Tokyo. That coral was confirmed to be alive during this reef check and, at over 440 years old, is the oldest *hamasango* in Japan.

Yonemori Diving Service, which provided photos from the reef check, commented: "At first, it was hard to talk and hear with the Logosease, but we got used to them soon enough and then it became easy to hear and talk. Especially on a dive involving work, such as a reef check or a class, Logosease is really useful and, moreover, it allows us to communicate with the ship. It is a wonderful product."





In March 2019, the final debriefing session for the International Year of the Reef was held in Tokyo. Many companies and organizations that took part as official supporters, as well as groups of young people—high school and university students—reported on the coral reef conservation activities that they took during the year and received certificates of appreciation from the Minister of the Environment. While activities conducted under the name International Year of the Reef came to an end with the close of 2018, Casio will continue to support coral reef conservation.



March 2019: Presenting at the final debrief of official supporters of the International Year of the Reef and receiving a certificate of appreciation



Representatives of the companies and organizations that were official supporters



Certificate of appreciation from the Minister of the Environment

## PRO TREK Collaboration Model with The Nature Conservation Society of Japan (NACS-J)

In 2018, Casio began providing support for The Nature Conservation Society of Japan (NACS-J) through its outdoor watch brand PRO TREK.

As the first move, in 2018, the company released a collaboration model with the motif of a golden eagle (listed as an endangered species (IB) in the Ministry of the Environment's Red Data Book 2019), for which NACS-J is conducting preservation activities in Akatani no Mori, Minakami-machi in Gunma Prefecture and Minami Sanriku-cho in Miyagi Prefecture. As the second move, Casio released a collaboration model with the motif of the *Shijimiaeoides divina*, an endangered butterfly found only in Japan (listed as an endangered species (IA) in the Ministry of the Environment's Red Data Book 2019).



### Participating in NACS-J Studies

Prompted by the start of support with the launch of The Nature Conservation Society of Japan golden eagle-themed collaboration model, Casio employees began to participate in actual protection activities. In a study conducted by



NACS-J in Nagano Prefecture in May 2018, participants recorded the number of shoots on *Sophora flavescens* (a larval food plant) and how many eggs had been laid on each shoot. Although it is simple and unexciting work, the data obtained through the study forms the scientific basis for how far apart the *Sophora flavescens* can be planted. By participating in this study, Casio employees could get a feel for the kind of collaboration that is possible for them in the future to help protect the *Shijimiaeoides divina*.

Casio also collaborated in the *Shijimiaeoides Divina* Summit that NACS-J held in Tokyo in March 2019. People who are engaged in protection activities in their respective hometowns in Nagano and Kumamoto prefectures, where the two remaining habitats in Japan are located, interacted for the first time at the summit. It was also explained that promoting the pasturing of red cows as a livestock business in the Aso area protects the habitat of the *Shijimiaeoides divina*. By participating in this event, Casio could learn that consumption of red cow as a food, which seems unrelated, can contribute to protection of the *Shijimiaeoides divina*.



Counting *Shijimiaeoides divina* eggs laid on shoots of the larval food plant *Sophora flavescens*



*Shijimiaeoides divina* eggs



*Shijimiaeoides divina*



*Shijimiaeoides Divina* Summit

# Living in Harmony with Nature

## Education

### Casio Forest

On August 29, 2018, Casio signed a “Tokyo Waterworks: Corporate Forest (Naming Rights)” agreement with the Tokyo Metropolitan Government’s Bureau of Waterworks.

Based on this agreement, 2.46 hectares of water source forest (located in Koshu City, Yamanashi Prefecture) managed by the Tokyo Metropolitan Government’s Bureau of Waterworks were officially named the “Casio Forest.” Casio contributes to the maintenance and management of the water source forest and provides opportunities to employees to volunteer. In fiscal 2019, a sign was set up on-site and then, as the first activity, in October, employees and other volunteers prepared the site and conducted a survey to produce a map of the area. As the second activity, in November, birdhouses made from FSC®-certified Japanese cedar were set up in the area.



Setting up the “Casio Forest” sign



Site preparation: working by hand to gather up branches and foliage scattered on the ground



After site preparation: cleared ground where trees can be planted





Building birdhouses out of FSC®-certified Japanese cedar



Finished birdhouses made from FSC®-certified Japanese cedar



Setting up birdhouses in the area

In the second year of activities, 2019, as the first activity of the year, in May, broad-leaf trees (Japanese maple and Mongolian oak) were planted and the “Hundred Year Forest” managed by the Tokyo Metropolitan Government’s Bureau of Waterworks was toured. The area of the water source forest managed by the Bureau of Waterworks had become deforested for a time during the confusion of the Meiji Restoration, and various forest functions declined as a result. Later, however, through the efforts of the Bureau of Waterworks, conservation activities were started, and they have continued for over 100 years. This area, covering some 24,000 hectares, plays an important role in conservation of the global environment, with functions related to various social issues such as conservation of biodiversity and absorption of CO<sub>2</sub> in addition to watershed protection. The part that we have agreed to look after—the Casio Forest—is no more than about one-ten-thousandth of that area. Even so, it takes a lot of hard work to manage this amount of land, bringing home the realization of just how immense is the task of managing the whole water source forest.



Planting Japanese maple and Mongolian oak





Touring the "Hundred Year Forest"

After finishing the tree planting, the main work in the Casio Forest after spring 2019 was summer weeding. Weeding, which needs to be continued for several years after tree planting, is the most back-breaking work in growing a forest. It could also be described as the perfect opportunity to learn first-hand why forests across the country have become degraded.

The contributions to social issues that companies are expected to make to help achieve the SDGs must go beyond just grasping social issues as mere knowledge; each and every employee must embrace various social issues their own and address them earnestly. On-site experiences in the Casio Forest lead to deeper understanding of the needs and level of difficulty of social issues and can be used as an outside-in trigger to create new business activities that will contribute solutions. Additionally, in the near future, Casio will make use of multi-stakeholder partnerships related to the company to search for solutions to complex social issues that are too difficult to solve alone.





## Arakawa River Clean-aid

The focus on the problem of plastic waste in the oceans has been growing year by year. It has been known for a long time that plastic waste causes adverse effects, for example, when eaten mistakenly by ocean creatures. However, one cause of the increasing attention given to this problem in recent years is the fact that microplastic (less than 5 mm), created through the action of ultraviolet light and waves breaking plastic waste released into the oceans down into fine particles, could result in hazardous substances dissolved in seawater becoming concentrated up through the food chain of ocean creatures. As for methods to dispose of plastic waste, methods that rely on combustion cannot avoid the generation of CO<sub>2</sub>, which causes concern about climate change. While the effects on human health of consuming marine products have not been elucidated in detail, if a precautionary approach is to be taken, the same as with climate change, measures must be implemented on a global scale before it is too late.

In order to deepen awareness of this social issue from the perspective of biodiversity, Casio held an investigational clean up (collecting garbage while counting each type of garbage) in the lower basin of the Arakawa River on July 12, 2018 in conjunction with classroom learning commissioned from Arakawa Clean-aid Forum (ACF), an NPO that has been working the problem of garbage in the rivers and seas for over 20 years.

In intense heat, 12 employees collected garbage washed ashore for an hour over an 85m stretch with the objective of personalizing social issues through onsite experience and exploring contributions through core business. The employees collected 34 bags (45 liters) of garbage, mainly food trays and plastic bottles. From this initiative, each participant learned the serious reality that large volumes of plastic flow into the sea via the river. Much of this garbage is used containers and packaging. As Casio uses plastic in its products and packaging materials, the company cannot claim that it is not involved in the problem of marine pollution. Spurred by this experience, Casio will continue to examine initiatives.

Furthermore, making use of this experience, in the biodiversity working group of Japan's four electrical and electronic industry associations, Casio proposed an "investigational clean up," which was implemented in March 2019.

The results of the investigational clean up were included in some of the data compiled by Japan Environmental Action Network (JEAN) via ACF and will be used as reference materials for the policies of government agencies, including the Ministry of the Environment and the Ministry of Land, Infrastructure, Transport and Tourism.



Classroom learning led by Kazuyuki Imamura, Executive Director of ACF



Collecting garbage while counting each type of garbage



It was tough work under the blazing sun, but that brought home the depth of the problem all the more.



## In-house Lecture on the Problem of Ocean Waste

The problem of ocean waste is becoming worse around the world. To spread awareness within the company of this issue, Casio invited Professor Shigeru Fujieda of Kagoshima University's Regional Co-creation Center For Industry and Society, who has studied this problem for many years, to give a talk, entitled "Let's Think about the Problem of Ocean Waste," at a company-wide environmental conference held in May 2019. Professor Fujieda, who is also a director of the Japan Environmental Action Network (JEAN), has continued to visit various locations around Japan to investigate the sources of ocean waste. His research tracking sources of waste internationally, focusing on lighters handed out at eating and drinking establishments (with the name and phone numbers of the establishments printed on the lighters) as an original survey method, was very helpful to know as a company that conducts business globally. Professor Fujieda also stressed the importance of "knowing the problem + taking action." In light of the need to continually collect ocean waste and reduce its generation, Professor Fujieda revealed expectations on Casio, including corporate support for activities and the use of technology to contribute to solutions.



Professor Shigeru Fujieda of Kagoshima University's Regional Co-creation Center For Industry and Society



Attendees listening to the lecture

# Living in Harmony with Nature

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

In fiscal 2017, Casio started taking part in The Biodiversity Working Group of the 4 electrical and electronic industry associations (JEMA: The Japan Electrical Manufacturers' Association, JEITA: Japan Electronics and Information Technology Industries Association, CIAJ: Communications and Information Network Association of Japan, JBMIA: Japan Business Machine and Information System Industries Association). Through the working group's activities, Casio will contribute to biodiversity conservation in addition to continuing to expand the scope of its own biodiversity initiatives, taking into consideration the efforts of the pioneering companies that are taking part in the working group.

In March 2018, the working group published "Let's Try Biodiversity! (LTB)" for enterprises wishing to commence biodiversity conservation initiatives in the future. In fiscal 2020, seminars about how to use the LTB publication were held three times for companies that are members of the four associations.

Details regarding the working group can be found on the JEMA website below.

[The Biodiversity Working Group, The 4 Electrical and Electronic Industry Associations](#)



LTB cover



Seminar about how to use the LTB

Casio's initiatives related to biodiversity conservation were registered in a database of examples of biodiversity conservation activities produced by the Biodiversity Working Group of the 4 electrical and electronic industry associations. Along with the database, Casio's initiatives are also registered in the Nijyu-maru Project (Double 20 campaign) of the Japan Committee for the International Union for Conservation of Nature.





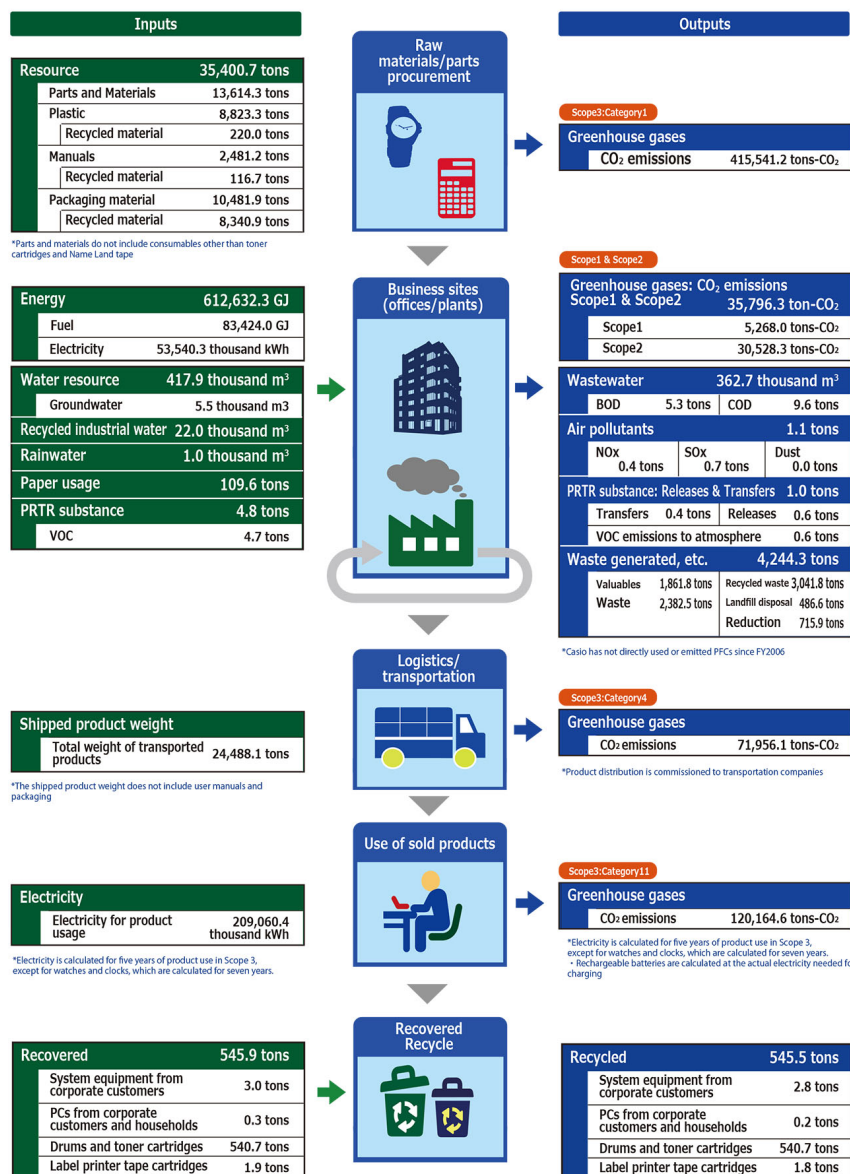
[Database of examples of biodiversity conservation activities](#)  
[Nijyu-maru Project](#)

# Material Balance

## What is a material balance?

The material balance shows the overall picture for energy and resources used in the process of Casio's business activities including R&D, design, parts procurement, manufacturing, distribution, recovery and recycling, and the energy used in the process of product use by customers (inputs) plus the environmental impacts that are produced in each of those processes (outputs).

### Material balance in business activities (fiscal 2019)



[View as PDF \(210KB\)](#)

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## 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 in fiscal 2019. The audit covered greenhouse gas emissions (Scope 1, 2 and Categories 1, 4 and 11 of Scope 3), water intake, waste and emissions of atmospheric pollutants (NOx, SOx and dust). Of the sites covered, on-site surveys were conducted at the Hamura R&D Center and Yamagata Casio Co., Ltd.

Sites at which water usage and waste were difficult to ascertain, such as leased offices, are not included in the scope of calculation.

[See the third-party verification statement for fiscal 2019.](#) ( PDF / 131KB )

Environmental Performance Data of Each Site

[Group Companies in Japan \( 118KB \)](#)

[Overseas Group Companies \( 122KB \)](#)

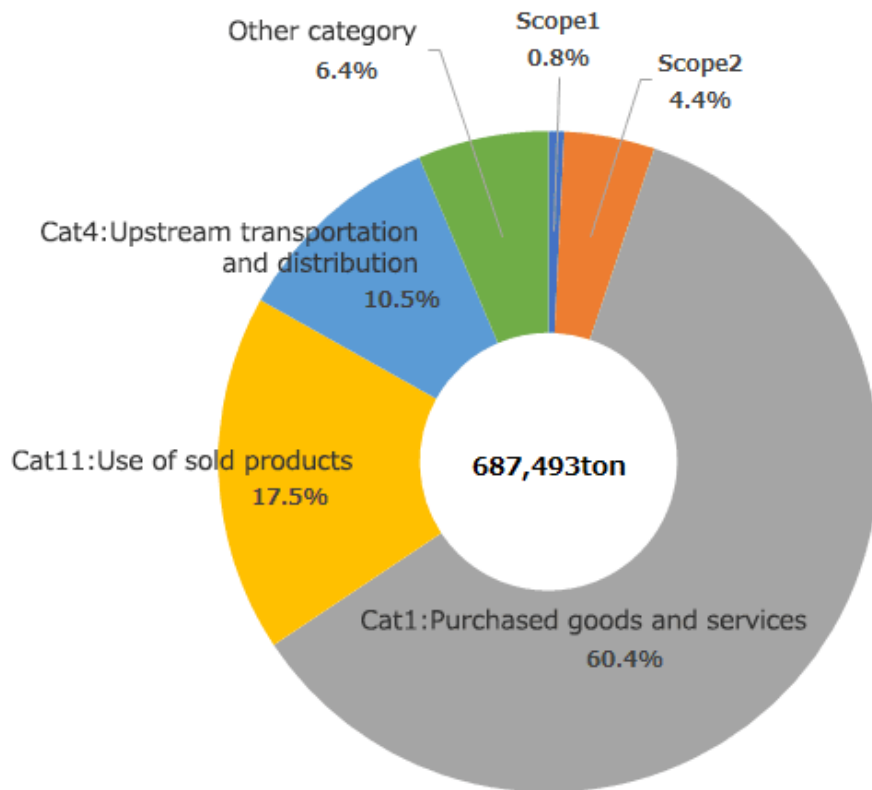
# CO<sub>2</sub> Emissions Throughout the Entire Value Chain

## CO<sub>2</sub> Emissions Throughout the Entire Value Chain

Casio has identified and calculated greenhouse gas emissions produced by its own business activities (Scope 1 and Scope 2) and emissions located upstream and downstream in the overall value chain (Scope 3). Casio has calculated CO<sub>2</sub> emissions for 11 out of 15 categories of Scope 3 CO<sub>2</sub> emissions, excluding four categories with little impact, with reference to the GHG Protocol, which is the international standard. Scope 3 emissions accounted for approximately 95% of all emissions in fiscal 2019, which is similar to the previous fiscal year. Within Scope 3, purchased goods and services accounted for the greatest share, about 60%.

Going forward, Casio will promote efforts to reduce greenhouse gas emissions throughout the entire value chain with a particular focus on encouraging major suppliers to set targets for greenhouse gas emission reductions with regard to CO<sub>2</sub> emissions related to purchased goods and services.

### CO<sub>2</sub> Emissions throughout the Entire Value Chain





Scope/Category		CO <sub>2</sub> emissions in fiscal 2019	
		t-CO <sub>2</sub>	rasio
Scope 1		5,268	0.8%
Scope 2	Location-based	30,528	4.4%
	Market-based	28,747	-
Scope 3		651,697	94.8%
1 Purchased goods and services		415,541	60.4%
2 Capital goods		19,467	2.8%
3 Fuel- and energy-related activities not included in Scope 1 or Scope 2		2,566	0.4%
4 Upstream transportation and distribution		71,956	10.5%
5 Waste generated in operations		1,396	0.2%
6 Business travel		1,543	0.2%
7 Employee commuting		1,074	0.2%
8 Upstream leased assets		2,137	0.3%
9 Downstream transportation and distribution		-	-
10 Processing of sold products		-	-
11 Use of sold products		120,165	17.5%
12 End of life treatment of sold products		10,172	1.5%

Scope/Category		CO <sub>2</sub> emissions in fiscal 2019	
		t-CO <sub>2</sub>	rasio
13 Downstream leased assets		-	-
14 Franchises		-	-
15 Investments		5,681	0.8%
Total	Location-based	687,493	100.0%
	Market-based	685,712	-

\* Scope 2

Location-based CO<sub>2</sub> emissions were calculated using the CO<sub>2</sub> emission factor given in the Calculation Standards. Market-based CO<sub>2</sub> emissions, on the other hand, were calculated using the CO<sub>2</sub> emission factor for each electric utility in the List of Emission Factors by Electric Utility under Japan's Act on Promotion of Global Warming Countermeasures, in the case of emissions in Japan, and the same CO<sub>2</sub> emission factor as location-based calculations for other countries.

# Environmental Performance Data

## Environmental Performance Data

### Greenhouse gas emissions(Scope1 and Scope2)

(t-CO<sub>2</sub>)

	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
Scope1	6,043.2	5,729.3	5,483.1	5,619.2	5,670.1	5,268.0
Scope2	32,901.2	32,494.4	33,084.5	31,944.0	30,926.9	30,528.3
Total	38,944.3	38,223.7	38,567.6	37,563.2	36,597.0	35,796.3
Casio Group coverage	-	-	-	-	99.5%	99.5%

※1 There are no emissions of greenhouse gases other than CO<sub>2</sub>.

### (Breakdown by type of site)

(t-CO<sub>2</sub>)

	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
Production sites in Japan	8,431.8	8,472.4	8,984.6	7,941.0	6,953.6	6,633.7
Office sites in Japan	10,150.5	9,613.6	8,854.6	8,951.1	9,108.9	8,602.6
Production sites outside Japan	14,220.3	14,031.7	14,461.8	14,199.9	14,178.3	14,466.6
Office sites outside Japan	6,141.6	6,106.0	6,266.7	6,471.2	6,356.3	6,093.4

## Energy usage

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

		FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
Fuel		96,935 (26,926)	90,796 (25,221)	86,724 (24,090)	88,939 (24,705)	90,124 (25,034)	83,424 (23,173)
Electricity	Non-renewable energy	560,474 (56,733)	561,198 (56,827)	573,755 (58,102)	556,332 (56,318)	535,700 (54,204)	514,072 (52,022)
	Renewable energy	-	-	-	-	-	15,137 (1,518)
Total		657,408 (83,659)	651,994 (82,048)	660,479 (82,192)	645,272 (81,023)	625,824 (79,238)	612,632 (76,714)
Casio Group coverage		-	-	-	-	99.5%	99.5%

## Waste related data

### Generation of waste, etc.

(t)

	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
Total discharge	2,373.5	2,674.3	2,835.1	3,570.8	4,652.7	4,244.3
Reduction	211.0	321.0	461.2	182.8	194.0	715.9
Landfill disposal	265.5	207.2	227.0	701.3	368.1	486.6
Recycled	1,897.0	2,146.1	2,146.9	2,686.6	4,090.6	3,041.8
Recycling rate	87.7%	91.2%	90.4%	79.3%	91.7%	86.2%
Casio Group coverage	-	-	-	-	90.4%	90.2%

Recycling rate = Recycled waste/(Recycled waste+ Landfill disposal)

### (Emissions of waste, etc. by type of site)

(t)

	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
Production sites in Japan	582.9	634.4	827.3	761.6	694.6	625.8
Office sites in Japan	769.9	703.6	661.1	725.5	718.0	673.3
Production sites outside Japan	320.6	411.6	689.1	1,456.9	2,599.6	2,250.6
Office sites outside Japan	700.2	924.7	657.6	626.8	640.5	694.6

## Water resources

(thousand m3)

	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
Tap water/industrial water	520.8	530.1	547.0	518.1	500.1	412.4
Groundwater	87.9	7.3	5.6	5.8	5.9	5.5
Total	608.6	537.4	552.6	524.0	506.0	417.9
Casio Group coverage	-	-	-	-	83.6%	84.6%

(Breakdown by type of site)

(thousand m3)

	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
Production sites in Japan	44.9	52.9	60.9	55.1	41.5	37.3
Office sites in Japan	168.6	85.9	79.7	81.5	76.7	75.2
Production sites outside Japan	377.7	381.5	394.8	369.7	371.1	288.4
Office sites outside Japan	17.4	17.2	17.2	17.7	16.7	16.9

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

(t)

		FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
Usage of parts and materials		25,669.0	26,209.0	24,676.0	28,745.0	24,396.8	22,437.6
	recycle materials	1,239.0	877.0	439.0	244.0	238.6	220.0
	recycle rate	4.8%	3.3%	1.8%	0.8%	1.0%	1.0%
Usage of instruction manuals		3,235.0	3,790.0	3,683.0	3,122.0	3,059.0	2,481.2
	recycle materials	77.0	221.0	88.0	149.0	156.1	116.7
	recycle rate	2.4%	5.8%	2.4%	4.8%	5.1%	4.7%
Usage of packaging materials		12,308.0	12,148.0	11,720.0	11,821.0	11,301.0	10,481.9
	recycle materials	9,732.0	9,457.0	9,061.0	9,173.0	8,864.0	8,340.9
	recycle rate	79.1%	77.8%	77.3%	77.6%	78.4%	79.6%

## Scope of Data

The scope of the environmental performance data for fiscal 2019 is shown below.

Period covered: April 1, 2018 – March 31, 2019

Sites covered: 72 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.

Production sites in Japan (3 sites)	<ul style="list-style-type: none"> <li>· Yamagata Casio Co., Ltd.</li> <li>· Yamagata Casio Co., Ltd. (Yamanashi)</li> <li>· Casio Electronic Manufacturing Co., Ltd.</li> </ul>
Office sites in Japan (43 sites)	<ul style="list-style-type: none"> <li>· Casio Computer Co., Ltd. (Headquarters)</li> <li>· Casio Computer Co., Ltd. (Hamura R&amp;D Center)</li> <li>· Casio Computer Co., Ltd. (Hachioji R&amp;D Center)</li> <li>· Casio Computer Co., Ltd. (32 sales sites) (Kudan, Osaka, Sendai, Saitama, Nagoya, Hiroshima, Fukuoka and other sites)</li> <li>· Casio Techno Co., Ltd. (Headquarters)</li> <li>· Casio Techno Co., Ltd. (Technical Center)</li> <li>· Casio Marketing Advance Co., Ltd.</li> <li>· Casio Business Service Co., Ltd. (Headquarters)</li> <li>· Casio Business Service Co., Ltd. (Kofu)</li> <li>· Casio Information Service Co., Ltd.</li> <li>· CXD Next Co., Ltd.</li> <li>· Hatsudai Estate Building</li> <li>· Replex Inc.</li> </ul> <p>* 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.</p>
Production sites outside Japan (4 sites)	<p>Asia (4 sites)</p> <ul style="list-style-type: none"> <li>· Casio (Thailand) Co., Ltd.</li> <li>· Casio Electronic Technology (Zhongshan) Co., Ltd.</li> <li>· Casio Timepiece (Dongguan) Co., Ltd.</li> <li>· Casio Electronics (Shaoguan) Co., Ltd.</li> </ul>
Office sites outside Japan (22 sites)	<p>Asia (9 sites)</p> <ul style="list-style-type: none"> <li>· Casio Electronics (Shenzhen) Co., Ltd.</li> <li>· Casio Computer (Hong Kong) Ltd.</li> <li>· Casio (Guangzhou) Co., Ltd.</li> <li>· Casio India Co., Pvt. Ltd.</li> <li>· Casio (China) Co., Ltd.</li> <li>· Casio Taiwan Co., Ltd.</li> <li>· Casio Soft (Shanghai) Co., Ltd.</li> <li>· Casio Singapore Pte., Ltd.</li> <li>· Guangzhou Casio Techno Co., Ltd.</li> </ul> <p>Europe (8 sites)</p> <ul style="list-style-type: none"> <li>· Casio Europe GmbH</li> <li>· Casio Electronics Co., Ltd.</li> </ul>



- Casio France S.A.
- Casio Espana S.L.
- Casio Scandinavia AS
- Casio Benelux B.V.
- Casio Italia S.r.l.
- Limited Liability Company Casio

Middle East (1 site)

- Casio Middle East FZE

Americas (4 sites)

- Casio America, Inc.
- Casio Canada Ltd.
- Casio Mexico Marketing, S. de R. L. de C.V.
- Casio Brasil Comercio De Produtos Eletronicos Ltda.

## 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) When total Casio Group values for VOC inputs/emissions and PRTR are 1 ton or more, data is shown separately for the individual site.

### 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.
  - Crude oil equivalent is calculated in accordance with Japan’s Act on the Rational Use of Energy.
- (2) Water resource input amount
  - Usage amounts of tap water, industrial water and groundwater are combined.
  - 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) 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) PRTR substance input amount

- Calculated for chemical substances subject to Japan's PRTR Act whose annual amount handled per substance is 0.05 tons or more at each site.

- Calculated for VOC inputs subject to a follow-up survey of achievements related to the four electrical and electronic industry associations' control of VOC emissions whose annual amount handled is 0.05 tons or more at each site.

3. Outputs

(1) CO<sub>2</sub> emissions

- Used factors listed in the GHG Protocol's calculation tool (GHG emissions from purchased electricity 4.8) to calculate CO<sub>2</sub> from electricity.

- Regarding CO<sub>2</sub> equivalent for fuel, CO<sub>2</sub> conversion coefficients were calculated using the emission coefficients and unit calorific values by fuel type based on Japan's Global Warming Act, and then applied to different fuel types and totaled.

(2) Wastewater

- Calculated from amounts at sites that measure wastewater amounts. Sites that do not measure wastewater amounts but can ascertain tap water use treat the amount of tap water used as their wastewater amount.

- At sites with special facilities that fall under the Water Pollution Prevention Act and/or the Sewer Act, water quality surveys are conducted based on applicable laws, and confirmation is made that emissions are below regulatory limits. Since fiscal 2014, the applicable facilities have not been operating.

- In the case of discharge into public sewer systems, figures are shown if voluntary measurements are taken.

(3) Air pollutants

- Calculated at sites that have smoke generating facilities based on the concentration measurements and gas emissions at each facility. Yamagata Casio and Hamura R&D Center are included in tabulation of results.

- Concentrations of dust emissions, NO<sub>x</sub>, and SO<sub>x</sub>, which must be managed by law, are measured at target sites, to confirm that they are below regulation levels.

- 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) PRTR

- Release and transfer quantities are calculated for each chemical substance subject to Japan's PRTR Act whose annual usage is 0.05 tons or more at each site.

- Calculated for VOC outputs to air subject to a follow-up survey of achievements related to the four electrical and electronic industry associations' control of VOC emissions whose annual amount handled is 0.05 tons or more at each site.

(5) Waste

- Waste is tabulated as the total amount of industrial waste generated when product is transferred from a Casio site to the processor, general waste derived from sites, and the quantity of valuables.

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

(6) Base year figures

- For the evaluation of greenhouse gases and energy conservation, emissions and usage of divested businesses are excluded from data in and after the base year in accordance with the GHG Protocol.
- For sites that were included in the scope in and after the base year due to acquisition, etc., historical data on emissions and use is only added to historical data for fiscal years in and after the base year when it is available in accordance with the GHG Protocol, which is the international standard.

4. Scope 3 calculation methods

Category 1	Purchased goods and services	<p>Amount of activity: Amount of purchased consumables, raw materials, and packaging materials, salaries of temporary staff, purchased tap water, industrial water, and advertising expenses.</p> <p>Unit: Calculated by multiplying each item by the emissions unit of the purchased amount and adding together the total.</p> <p>Emission factor database for calculating organizational GHG emissions throughout the supply chain version 2.6 issued by Japan's Ministry of Environment and CFP COMMUNICATION PROGRAM DB version 1.01.</p>
Category 2	Capital goods	<p>Amount of activity: Amount of capital investment by all consolidated subsidiaries.</p> <p>Unit: Calculated by multiplying the emissions unit corresponding to the amount of capital investment.</p> <p>Emission factor database for calculating organizational GHG emissions throughout the supply chain version 2.6 issued by Japan's Ministry of Environment.</p>
Category 3	Fuel-and-energy-related activities (not included in Scope 1 or 2)	<p>Amount of activity: Amount of purchased electricity and fuels.</p> <p>Unit: Calculated by multiplying the emissions unit of each type and adding together the total.</p> <p>Emission factor database for calculating organizational GHG emissions throughout the supply chain version 2.6 issued by Japan's Ministry of Environment and CFP COMMUNICATION PROGRAM DB version 1.01.</p>
Category 4	Upstream transportation and distribution	<p>Amount of activity: Amount of product distribution for which Casio Computer Co., Ltd. pays the burden of expense.</p> <p>Unit: Calculated by multiplying the weight and transportation distance by the emissions unit of each transportation type and adding together the total. (Trucks: Specific fuel consumption using the improved ton/kilo method. Trains, ships and airplanes: CO<sub>2</sub> emissions output level using the conventional ton/kilo method)</p>
Category 5	Waste generated in operations	<p>Amount of activity: Emissions of each type of waste.</p> <p>Unit: Calculated by multiplying the emissions unit of each type and adding together the total.</p> <p>Emission factor database for calculating organizational GHG emissions throughout the supply chain version 2.6 issued by Japan's Ministry of Environment.</p>

Category 6	Business travel	<p>Amount of activity: Number of domestic and overseas employees.</p> <p>Unit: Emissions unit per employee.</p> <p>Emission factor database for calculating organizational GHG emissions throughout the supply chain version 2.6 issued by Japan's Ministry of Environment.</p>
Category 7	Employee commuting	<p>Amount of activity: Transportation expenses paid to employees.</p> <p>Unit: Calculated by estimating the train/car ratio from employee commuting style, multiplied by the emissions unit of the amount of transportation expenses for each style and adding together the total.</p> <p>Emission factor database for calculating organizational GHG emissions throughout the supply chain version 2.6 issued by Japan's Ministry of Environment.</p>
Category 8	Upstream leased assets	<p>Amount of activity: Domestic G-SHOCK stores, sales area for digital paintings and other and number of business days.</p> <p>Unit: Calculated by determining the total sales area, and multiplying the emissions unit of the sales area. The number of business days is calculated on a pro-rate basis.</p> <p>Emission factor database for calculating organizational GHG emissions throughout the supply chain version 2.6 issued by Japan's Ministry of Environment.</p>
Category 9	Downstream transportation and distribution	<p>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 CO<sub>2</sub> emissions are deemed to be fairly small compared to Category 4 upstream transportation and distribution, it is not included in calculations.</p>
Category 10	Processing of sold products	<p>Although one of our group companies provides name printing and other services, emissions of CO<sub>2</sub> and other substances from this business activity is included in Scopes 1 and 2.</p>
Category 11	Use of sold products	<p>Amount of activity: Electricity used by those products that produce electricity consumption, out of products sold by Casio Computer Co., Ltd. in that year.</p> <p>Unit: Use of products is calculated by multiplying the emissions unit of each product for the supported period (five years; seven years for timepieces). Regarding the use period, relevant industrial standards are followed. In cases when such an industrial standard does not exist, Casio defines the use period. Regarding electricity, CO<sub>2</sub> emissions were calculated by applying the GHG Protocol, which is the international standard. (Factors were used for Japan, Europe, Asia, the UK, and North America.) Regarding products that require battery replacement, CO<sub>2</sub> emissions related to manufacture of the battery are also included in the calculation. (The purchased cost for the manufacturer of each battery is used in the calculation.)</p> <p>Emission factor database for calculating organizational GHG emissions throughout the supply chain version 2.6 issued by Japan's Ministry of Environment.</p>

Category 12	End of life treatment of sold products	<p>Amount of activity: Emissions from the product itself and container packaging materials.</p> <p>Unit: Calculated by multiplying the emissions unit of each type and adding together the total.</p> <p>Emission factor database for calculating organizational GHG emissions throughout the supply chain version 2.6 issued by Japan's Ministry of Environment.</p>
Category 13	Downstream leased assets	Due to the disposal of relevant buildings, it is not subject to calculation from fiscal 2016.
Category 14	Franchises	The franchise formula is not used.
Category 15	Investments	<p>Amount of activity: Emissions from equity method affiliates and companies which hold specific annual stocks and constructive stocks.</p> <p>Unit: Calculated by multiplying the emissions from investment destinations by the equity method ratio or the share holding ratio.</p>



# Verification Statement



29 July 2019  
Statement No : SGS19/027

CASIO COMPUTER CO., LTD.

## Objective

SGS Japan Inc. (hereinafter referred to as "SGS") was commissioned by CASIO COMPUTER CO., LTD. (hereinafter referred to as "the Organization") to conduct independent verification based on Criteria of Verification (ISO 14064-3: 2006 and the SGS verification protocol) regarding the data prepared by the Organization on the scope of verification (hereinafter referred to as "the assertion"). The objective of this verification is to confirm that the assertion in the Organization's applicable scope has been correctly calculated and reported in the assertion in conformance with the criteria, and to express our views as a third party.

## Scope

The scope of verification is defined by the Organization and limited to i) Scope 1 and 2 (energy-related CO<sub>2</sub> emissions at 46 domestic and 26 overseas environmental results reporting sites), ii) Scope 3 (category 1 for the purchased goods and services of the consolidated account, category 4 for the product transportation/delivery by the Organization, and category 11 for the Casio brand products of the consolidated account), iii) Waste generated (Waste and Valuables) at 19 domestic and 18 overseas environmental results reporting sites, iv) Water intake at 22 domestic and 12 overseas environmental results reporting sites, and v) Air pollutants (NO<sub>x</sub>, SO<sub>x</sub> and Dust emissions) at 2 domestic environmental results reporting sites.

The period subject to report is from 1 April 2018 to 31 March 2019.

## Procedure of Verification

The assertion was verified in accordance with Criteria of Verification, and the following processes were implemented at a limited level of assurance:

- Verification of the calculation system: Interviews on the measurement, tabulation, calculation and reporting methods employed by the Organization as well as review of related documents and records
- Verification of the assertion: On-site verification and review of vouchers at the Hamura R&D Center and the YMAGATA CASIO CO., LTD., and performance of analytical procedures and interviews at the Head Office for the other sites in the scope of verification.

The criteria for this review are based on the GHG Emissions Calculation and Reporting Manual (Ver. 4.3.2), the CO<sub>2</sub> Emissions from Fuel Combustion (IEA: 2015), the Basic Guidelines on Accounting for Greenhouse Gas Emissions throughout the Supply Chain (Ver. 2.3) and the Database of emissions unit values on the same Accounting (Ver. 2.6), the GHG Protocol Calculation Tool (Ver. 4.8), the Joint guidelines on methods for calculating carbon dioxide emissions in the logistics sector (Ver. 3.1), the Basic Database of the Carbon Footprint Communication Program (Ver. 1.01) and the protocol specified by the Organization.

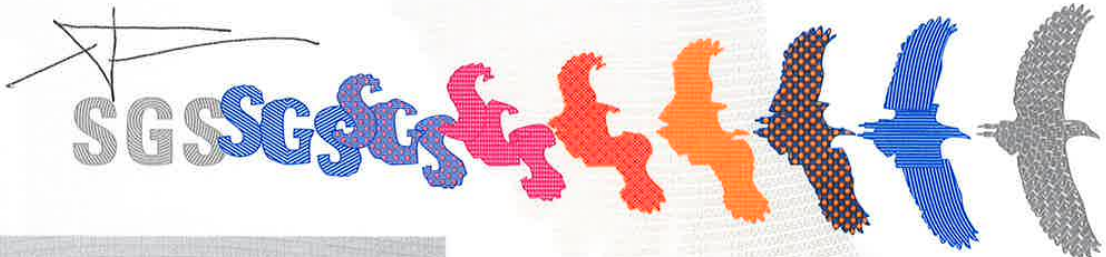
## Conclusion

Within the scope of the verification activities employing the methodologies mentioned above, nothing has come to our attention that caused us to believe that the Organization's assertion (Scope 1: 5,268 t-CO<sub>2</sub>, Scope 2: 30,528 t-CO<sub>2</sub>, Scope 3 (Cat. 1, 4, 11): 607,662 t-CO<sub>2</sub>, Waste generated: 4,244 t and Water intake: 418 thousand m<sup>3</sup>) was not calculated and reported in conformance with the criteria.

SGS Japan Inc. affirms our independence from the organization, being free from bias and conflicts of interest with the organization.

For and on behalf of SGS Japan Inc  
Senior Executive & Business Manager  
Certification and Business Enhancement

Yuji Takeuchi



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# Environmental Accounting

## Overview of fiscal 2019 performance

In fiscal 2019, environmental accounting showed that investment in environmental conservation decreased from the previous fiscal year, and costs and the economic benefits (real effects) associated with environmental conservation measures also decreased.

Investments in environmental conservation, including energy saving systems and light replacements to LED, were valued at ¥31 million. The costs of environmental conservation included ¥537 million for recycling products, parts, and toner cartridges and other consumables and ¥482 million for energy saving, air and water pollution measures and the like, bringing the total to ¥1,019 million. The economic benefits associated with environmental conservation measures were ¥691 million and included business revenue from recycling activities as real effects.

Moving forward, Casio will accurately ascertain and disclose the effects of its environmental management activities from an economic perspective and will strive to engage in efficient and effective environmental conservation efforts.

### Environmental conservation costs (April 2018 - March 2019)

Category by business activity		Environmental investment (¥ million)	Environmental expenses (¥ million) <sup>1</sup>
	Main initiatives		
Business area costs (costs arising in the main areas of business activity (manufacturing, processing, sales, distribution etc.))		31	320
(1) Pollution prevention cost	Preventing air and noise pollution	2	29
(2) Global environmental conservation cost	Maintenance of energy-saving systems	29	175
(3) Resource circulation cost	Processing, reducing in volume, and recycling of general and industrial waste	0	116

Category by business activity		Environmental investment (¥ million)	Environmental expenses (¥ million) <sup>*1</sup>
	Main initiatives		
Upstream/downstream cost <sup>*2</sup>	Collection and recycling of products, parts, supplies	-	537
Administration cost	Secretariat operation costs, environmental information disclosure	0	156
R&D cost	R&D for reduction of environmental impact	-	2
Social activity cost	Participation in, donations to, and support for environmental conservation organizations	-	4
Total		31	1,019

\*1 Depreciation costs are included in the expenses.

\*2 Costs arising before and after the processes of the main business activities.

## Economic benefits of environmental conservation (April 2018 - March 2019)

Type of benefit		Amount (¥ million)
Actual benefit (benefit that contributes to profits as a result of the promotion of environmental conservation measures) <sup>*3</sup>		
Profits	Business revenue from recycling of used products, etc.	671
	Cost reduction through energy saving activities	17
Cost reduction	Reduction of waste processing costs arising from resource saving or recycling	3
	Total	691

\*3 Only economic benefits that could be aggregated were included, and deemed benefits based on estimates were not included.

## Environmental conservation effect

Types of environmental conservation effects	Environmental performance indicators	Unit	FY2018	FY2019	Environmental conservation effect <sup>*4</sup>
Environmental conservation effect relating to resources used in business activities	Water resources	Thousand m <sup>3</sup>	506	418	88
Environmental conservation effect relating to environment impact and waste generated by business activities	CO <sub>2</sub> emissions <sup>*4</sup>	Tons-CO <sub>2</sub>	36,597	35,796	801
	Waste emissions	Tons	4,653	4,244	409

\*4 The country-specific coefficients published in the GHG Protocol's calculation tool are used in the calculation of CO<sub>2</sub> emissions for electricity. See "Calculation Standards" in the "Environmental Data" section for details.

Scope of data compilation for accounting: Casio Computer Co., Ltd., and consolidated subsidiaries in and outside Japan.  
Reference guideline: Environmental Accounting Guidelines 2005, Ministry of the Environment, Japan.

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# Environmental Compliance

**Worldwide, environmental regulations are being strengthened to preserve the beauty of the Earth. Whether global or local, compliance with environmental regulations has become an integral part of the corporate mission. Companies today recognize the need to address issues such as risk management and environmental information disclosure, while complying with greenhouse gas emissions regulations, the prohibition of products containing harmful chemical substances and ISO 14001 legal requirements. Here is an overview of Casio's environmental compliance initiatives.**

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

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There are 13 Casio sites which have obtained ISO 14001 certification.

Of these, three sites belonging to Casio Computer Co., Ltd. (Headquarters [which includes seven sales sites], 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).

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 Audits in the Phases of Product Development, Design, and Manufacturing

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In recent years, laws and regulations on the environmental performance of products have become stricter. In addition to stricter regulations in EU nations and US states, stronger laws are also being discussed and enacted in the newly emerging economies of Asia and Latin America, referencing those already established by developed countries. In some cases, the newer laws are based on the established ones, but they often have small differences in the specific requirements. It is vital for Casio to interpret these regulations properly, and make whatever product adjustments are needed.

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Casio has established an Expert Sub-Committee on Environmental Law within its Product Regulation Committee. The sub-committee includes representatives from technology, development/design, procurement, sustainability, sales and service departments. It checks information on environmental laws and regulations and studies measures to ensure compliance with them. The members share information, rapidly establish reasonable response policies, and confirm response progress not only for currently established laws and regulations but also for new laws and regulations currently being considered. Through these activities, they provide support for development, design, manufacturing, and sales departments. They also share information on product regulations other than those related to the environment (such as electrical safety, radio, and wireless regulations), in an effort to comprehensively rationalize Casio's response to product regulations.

The Expert Sub-Committee on Environmental Law focuses on investigating and checking the following matters:

- Gathering and sharing legal information from and with sources such as industrial associations, sales companies in each region, information services, and other companies in the same industry
- Analyzing and interpreting legal information
- Ensuring obligations are met by manufacturing, import, export, and sales entities
- Creating development and design standards, and conducting inspections
- Improving the usage efficiency for design support tools (database of chemical substances contained in products, etc.)

Casio carries out environmental assessments of each product before new products ship to market, to check to ensure environmental design that complies not only with laws and regulations but also with Casio internal rules.

## Compliance Relating to Chemical Substances Contained in Products

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Countries around the world have implemented new laws pertaining to chemical substances contained in electrical and electronics products, while existing laws continue to be strengthened each year. Individual laws and regulations vary in terms of the applicable chemical substances, regulated applications, exempt applications, threshold values, scope, and requirements (content restrictions, labeling, and information provision, etc.).

Casio consolidated the requirements of various laws on chemical substances contained in products and has incorporated them into the Casio Green Procurement Standards. Then, the development and design departments established a system to ensure compliance with regulations worldwide by checking a database to see whether a part or material to be included in a product meets the Casio Green Procurement Standards.

Further, when making shipment decisions, a chemical substance audit is conducted to check compliance with chemical laws and regulations in the sales region and make sure that all the parts and materials used in a product meet the chemical substance standards.



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## Environmental Laws and Regulations Related to Casio Products and Green Procurement

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As a company with operations around the world, Casio must comply with the laws and standards of many different countries.

This is why Casio starts with the design and procurement stages to ensure that its products comply with restrictions on specified chemical substances in parts and materials, while complying with obligations for labeling, information provision and energy-saving standards for finished products.

Covering the procurement stage, Casio has formulated Casio Green Procurement Standards to cover the legal regulations for the chemical substances contained in Casio products, and is procuring its parts and materials in accordance with those standards. To ensure that Casio products comply with the latest laws and standards around the world, the Casio Green Procurement Standards are constantly reviewed and updated. Thus, by procuring parts and materials that meet its own strict standards, Casio can be confident that its product development meets legal requirements worldwide. Casio also ensures the compliance of its products by scientifically verifying and analyzing the content of chemical substances in parts and materials used.

In the design stage, the company confirms that all parts and materials that will go into a completed Casio product meet the Casio Green Procurement Standards. Products are approved for production only after confirmation using a database of the chemical substances contained in procured materials.

Casio selects recyclable materials and provides symbol marks and the necessary information to ensure separate collection, complying with the relevant laws and standards worldwide on product recovery and recycling as well as on chemical substances contained in products.

In response to laws and regulations requiring more energy-saving designs (such as the ErP Ecodesign Directive), Casio is creating technical documents and other internal standards.

The table below shows the principal environmental laws relating to the distribution of Casio products in countries around the world.

[Major environmental laws and regulations related to Casio products in 2019](#) ( PDF / 208KB )

As an initiative to help prevent climate change in the procurement stage, Casio requests suppliers not to use greenhouse gases in the manufacturing process, and also to ascertain and reduce their emissions of CO<sub>2</sub>. In the development and design stages, Casio promotes product development by setting targets that surpass its competitors' products with the best energy consumption efficiency in the same category.

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

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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.

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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 internal design manuals, helping Casio to develop products that are easy to recycle.

## Compliance Relating to Power Consumption

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There are also regulations on power consumption and efficiency for electrical and electronics products including external power supplies and chargers, based on product categories and power source types. Companies must also meet various requirements relating to power consumption and efficiency, including regulations that require the meeting of minimum standards and those that mandate the display of power consumption information. Casio confirms the applicable regulations for each of its products, and carries out product development and design to meet the requirements. Approval applications and reports are made to the relevant agencies as necessary.

## Compliance Relating to Energy Saving and the Prevention of Global Warming

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Casio is committed to further consideration and strengthening of its voluntary efforts, such as the targets included in the Casio Group's Environmental Action Plan, to reflect laws and regulations related to energy-saving and the fight against global warming.

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 separately evaluating 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, and in accordance with the determination standards relating to the rational use of energy at plants and facilities, has been promoting the development of management systems, such as creating the new position of energy management supervisor.

### 2. Act on the Promotion of Global Warming Countermeasures

Casio does not exceed the standards for emissions of greenhouse gases other than CO<sub>2</sub> 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.

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### 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.

Below are the Carbon Reduction Countermeasures Reports that Casio is obliged to submit and make public in accordance with this program (in Japanese).

**Published Data of Tokyo Carbon Reduction Reporting Program (Casio Computer Co., Ltd.)** on the Tokyo Metropolitan Government website

**Fiscal 2019** (PDF / 0.99MB)

**Fiscal 2018** (PDF / 855KB)

**Fiscal 2016** (PDF / 310KB)

**Fiscal 2015** (PDF / 306KB)

## Compliance Relating to Environmental Information Disclosure

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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

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Casio was not subject to any legal violations, penalties, fines, or lawsuits relating to the environment in fiscal 2018.