

Environmental Vision

Casio is working hard to help build a sustainable society. Its initiatives, based on the Casio Environmental Vision, adopt a long-term perspective with a target date of 2050.

Environmental Management Policy: Initiatives to combat climate change



“Casio's goal is to become carbon neutral by leveraging its ability to develop compact, lightweight, slim, and energy-efficient products to create new markets and cultural phenomenon.”

Executive Vice President & Representative Director

Yukio Kashio

All around the world today, the effort is on to reduce greenhouse gas emissions, and awareness of the threat of climate change is growing. In December 2009, the Fifteenth Session of the Conference of Parties to the United Nations Framework Convention on Climate Change (COP15) was held in Copenhagen, Denmark. The Parties agreed on a long-term climate change prevention goal for the year 2050, to limit the average rise in global temperature to no more than two degrees Celsius above pre-industrial levels. Each participating country was to submit its emissions reduction plans to the UN by the end of January 2010. These plans are expected to be achieved by 2020 in order to reduce greenhouse gas emissions as soon as possible.

As an industrialized country, Japan has pledged to achieve a 25% reduction in its greenhouse emissions by 2020, and an 80% reduction by 2050, compared to 1990 levels.

■ CO₂ emission reduction targets for 2020 made by principal countries

Region	Base Year	Reduction Target
Japan	1990	25% reduction
Entire EU	1990	20% or 30% reduction
US	2005	17% reduction
Canada	2005	17% reduction
Russia	1990	15% to 20% reduction
China	2005	40% to 45% reduction (GDP basis)
India	2005	20% to 25% reduction (GDP basis)

Given these global trends, in August 2009, Casio completely revised its Casio Environment Charter and its Environmental Fundamental Policies. The new policies were re-released as the Environmental Vision and the Environmental Declaration. Then, in February 2010, Casio announced medium and long-term greenhouse gas reduction targets.

Based on this situation, the awareness of general consumers of the environment is growing worldwide. In Europe, North America and Japan, for example, the concept of carbon footprint is already being used, particularly for food products, and it is expected that the ISO will issue a policy on carbon footprint labeling by March 2011. This will enable people to tell at a glance which products cause minimal CO₂ emissions, and will help them to choose better products.

Many retailers are actively expanding their use of suppliers with strong environmental initiatives. In North America, companies such as Wal-Mart, Target, and Costco are carrying out their own environmental surveys of suppliers, and reviewing the business with those that do not meet their environmental standards. There are also an increasing number of socially responsible investment (SRI) funds and other ecological funds that invest in companies with high standards for environmental management. Financial institutions also offer preferential interest rates to ecologically sound companies.

In other words, society demands that companies have strong performance in environmental management. Companies that fail to meet these new standards will not survive long in this new era.

Development of Green Star Products

Environmental considerations are an important part of product development. Since its founding, Casio's core competence has been developing compact, lightweight, slim, and energy-efficient products. In fiscal 2002, the company began raising the bar for its environmental technologies by launching Green Products. In order to promote lower environmental impact throughout the product lifecycle, Casio then established the Green Star Concept. Casio products that meet these standards are certified as Green Star Products. By placing a Green Star logo on these products and disclosing their specific environmental features, Casio aims to demonstrate its environmental commitment to general consumers. Casio's goal is to ensure that Green Star Products make up at least 30% of its total sales by 2012.

Combating climate change by providing products that enable paperless lifestyles

By promoting paperless lifestyles, Casio can help offset its CO₂ emissions from business activities. This is because paperless lifestyles save natural resources and reduce CO₂ emissions arising from the manufacture, use and disposal of paper. Moreover, by helping to avoid the logging of forests, which serve to absorb CO₂ from the atmosphere, Casio is aiming to offset its emissions and ultimately to become carbon neutral. In other words, Casio's goal is nothing short of reducing its net environmental impact to zero.

Biodiversity protection initiatives

In October 2010, the Tenth Meeting of the Conference of the Parties to the Convention on Biological Diversity (COP10) will be held in Nagoya, Japan. The Basic Act on Biological Diversity was established in Japan in 2008, and the Ministry of the Environment has issued the Guidelines for Private Sector Engagement in Biodiversity, and Nippon Keidanren (Japan Business Federation) has issued its own Declaration of Biodiversity. In the effort to preserve the global environment, not only is the fight against climate change crucial, but also the drive to protect biodiversity. In 2010, Casio will establish biodiversity protection guidelines. The company will carry out an evaluation of the impact of all its business areas, identify issues, and establish themes for initiative themes by 2011.

Casio is serious about its potential to help build a sustainable world, not only through its products, but also through its efforts to protect the global environment.

Environmental Management Policy: Helping to build a low carbon society

The planet is faced with various environmental issues today, including climate change, resource depletion, pollution caused by chemical substances, and dwindling biodiversity. Climate change in particular has become a pressing issue for the entire world.

The amount of greenhouse gas emissions now being produced worldwide far exceeds the acceptable level. In order to halt the scope and severity of the impact of climate change, and to secure the sustainability of the planet, it has become vital for the whole world to work together to establish medium- and long-term targets as soon as possible, and to begin the process of achieving them.

Given this situation, Casio recognizes the importance of establishing new targets from a long-term perspective, drawing up appropriate measures, and launching initiatives to achieve these new targets.

International developments in the fight against climate change

At the G8 summit held in L'Aquila, Italy, in July 2009, the leaders' declaration included a clear statement on climate change. The statement included support for targets to reduce greenhouse gas emissions in industrialized countries by 80% or more by 2050 compared to the level in 1990, or other more recent years. It also recognized the broad scientific view that the increase in global average temperature above pre-industrial levels ought not to exceed two degrees Celsius.

At the UN Summit on Climate Change held in September 2009, Japan announced that it would achieve a total-volume greenhouse gas emissions reduction of 25% by 2020, compared to the 1990 level.

The Fifteenth Session of the Conference of Parties to the United Nations Framework Convention on Climate Change (COP15) was held in Copenhagen, Denmark, in order to discuss a new climate change framework to take effect after the Kyoto Protocol expires in 2013. The participants debated the setting of greenhouse gas reduction targets by each country for achievement by 2020 and 2050. Although the participants were not able to set definite targets, they released the Copenhagen Accord, summarized below.

Main Points of the Copenhagen Accord

- Long-term target: To keep global temperature rise below two degrees Celsius above pre-industrial levels
- Reduction target: Each country to decide 2020 greenhouse gas reduction targets by the end of January 2010.
- Support for developing countries: Industrialized nations to provide developing countries with a total of USD 30 billion from 2010 to 2012, and USD 100 billion by 2020.

Following the announcement of the Copenhagen Accord, the next step is for each nation to submit its medium-term target for 2020. Based on the premise of building an international framework that ensures the fair and effective participation of all the principal countries, Japan announced its target for a 25% reduction in greenhouse gas emissions by 2020, compared to 1990.

In addition to this 2020 target, the Japanese Cabinet also approved a bill on the Act on Promotion of Global Warming Countermeasures, which mandates an 80% reduction in greenhouse gas emissions by 2050, compared to 1990.

This new law requires the creation of an emissions trading system in Japan, the investigation of a global warming tax, and the expansion of the Feed-in-Tariff system for renewable energy.

A schedule, or medium- and long-term roadmap, is also being investigated for the achievement of the medium- and long-term targets.

Approach to setting medium- and long-term targets

Given these developments, Japanese industry has been considering various measures. Casio has also decided to make a new start on building a low-carbon society by releasing its own medium- and long-term targets.

With the establishment of these medium- and long-term targets, Casio intends to reduce its greenhouse gas emissions significantly. Moreover, the company is emphasizing its goal of becoming carbon neutral,*¹ which means reducing Casio's net greenhouse gas emissions to zero. Accordingly, Casio has adopted the following Environmental Management Policy.

Casio's goal is to become carbon neutral by leveraging its ability to develop compact, lightweight, slim, and energy-efficient products to create new markets and cultural phenomenon.

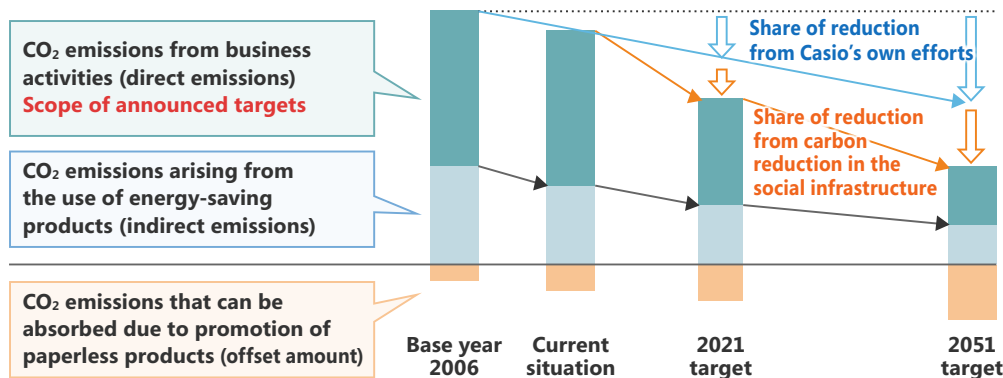
*1. Casio defines "carbon neutral" as offsetting its direct CO₂ emissions with CO₂ emissions reduction and absorption through other methods.

Scope of emissions reduction targets

When Casio established its medium- and long-term emissions reduction targets, it also announced the target scope as greenhouse gas emission from business activities at Casio's production sites and offices in Japan and around the world. Furthermore, Casio is aiming to become a carbon neutral company by offsetting its total volume of greenhouse gas emissions (including the CO₂ emissions resulting from logistics, product usage, employee travel, and consignment production) with the reduction effects of Casio's eco-products such as data projectors, electronic dictionaries and other products that promote paperless lifestyles.

In addition to the CO₂ emissions reduction achieved by the efforts of the Casio group, the target CO₂ emissions reduction also includes reductions due to the availability of cleaner energy such as electricity, and due to carbon reduction in the entire social infrastructure (see diagram).

CO₂ Emissions Reduction Targets



Switching to total-volume emission reduction targets

With the setting of global medium- and long-term targets, total-volume emissions reduction targets for greenhouse gases have been established in Japan and around the world, including reduction targets and emission trading systems. Casio has now finished the move to total-volume emissions reduction targets. Casio had already set targets for the total volume of greenhouse gas reduction at its offices worldwide. However, with the establishment of its recent medium- and long-term targets, Casio has now set worldwide targets for reductions in the total volume of CO₂ emissions, which is a change from previous targets for reduction per unit of production.

The base year for Casio's medium- and long-term targets is fiscal 2006, decided based on changes in Casio's business structure, as well as the scope and accuracy of data acquisition.

Carbon neutral calculation examples

Casio is looking into trial calculations for its reduction of greenhouse gases based on the use of Casio's eco-products and, in particular, products encouraging the transition to a paperless society.

The company's current target products for this paperless initiative are data projectors and electronic dictionaries. Casio's approach to greenhouse gas reduction is as follows. The use of paper causes CO₂ emissions during manufacturing. However, when paperless products such as data projectors and electronic dictionaries are used, CO₂ emissions are reduced during use of the product as a result of less paper being manufactured and consumed. Although CO₂ is still emitted during the manufacture and use of paperless products, the net CO₂ emissions are calculated by offsetting this by the CO₂ emissions avoided through the use of paperless products.

When using a data projector

If meetings of ten people each given 10-page information packets are held twice a week, or 100 times a year, and this continues for five years, a total of 50,000 sheets of paper will have been used. Using a data projector for the same meetings would prevent the logging of trees to make the 50,000 sheets of paper, enabling the trees to continue absorbing CO₂. It would also avoid CO₂ emissions from the manufacture of the 50,000 sheets of paper, and the emissions from operating the printer to make the 50,000 copies. However, assuming that each meeting using the data projector is about 3.5 hours, the emissions from the resulting electrical usage also need to be taken into account.

Calculating using the above approach, use of the Casio data projectors sold in fiscal 2010 would result in an annual reduction of about 16,000 tons of CO₂.

When using an electronic dictionary

Most Casio electronic dictionaries today contain as many as 100 dictionaries in one unit. Without one of these electronic dictionaries, it would be almost impossible for the average person to assemble the same number of dictionaries in paper form. Accordingly, it can be assumed that the typical Japanese consumer would actually only use the following paper dictionaries: a Japanese dictionary, an English-Japanese dictionary, and a Japanese-English dictionary. Any other paper dictionaries would probably be used at a library. Therefore, the CO₂ reduction benefit of an electronic dictionary would be the CO₂ emissions from paper manufacturing, and the CO₂ no longer being absorbed by the trees logged to make the paper dictionaries. On the other hand, assuming that the electronic dictionary is used for an hour a day, 100 days a year, for five years, the corresponding amount of emissions from electrical use also has to be taken into account.

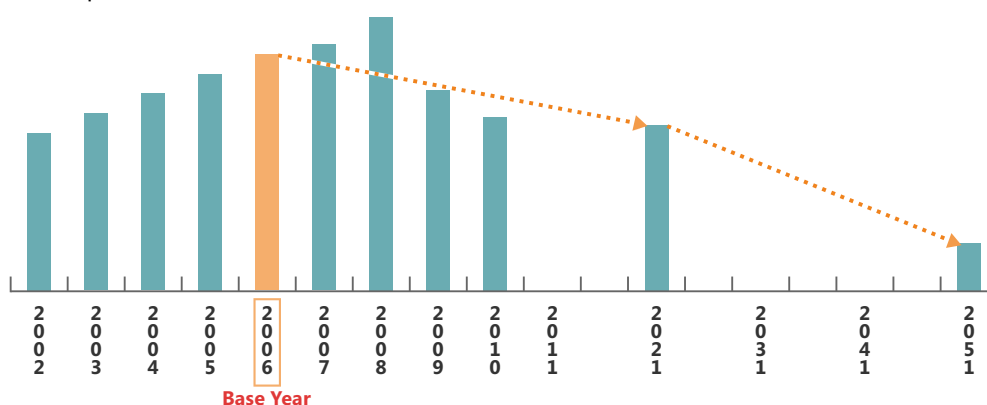
Calculating using the above approach, use of the Casio electronic dictionaries sold in fiscal 2010 would result in an annual reduction of about 8,000 tons of CO₂.

Medium- and long-term targets

Based on its approach to setting medium- and long-term targets, Casio's goal is to become carbon neutral. In order to keep global temperature rise below two degrees Celsius above pre-industrial levels, Casio has set a long-term target of an 80% reduction in greenhouse gas emissions by fiscal 2051, compared to fiscal 2006.

In order to achieve this long-term target, Casio has set a medium-term target of at least a 30% reduction in greenhouse gas emissions by fiscal 2021, compared to fiscal 2006 (see diagram).

■ Casio Group Greenhouse Gas Emissions



Highlight Casio group's medium- and long-term targets for greenhouse gas emissions reduction

- Medium-term target: To reduce the total volume of global greenhouse gas emissions from business activities by **30%** compared to fiscal 2006, by fiscal 2021.
- Long-term target: To reduce the total volume of global greenhouse gas emissions from business activities by **80%** compared to fiscal 2006, by fiscal 2051.
- * Business activities: This indicates activities of production sites and offices in Japan and overseas, and does not include CO₂ emissions from logistics, product usage, or employee travel.

Measures for achieving medium- and long-term targets

In order to achieve its medium- and long-term targets for fiscal 2021 and 2051, Casio will steadily promote the following three points relating to initiatives for greenhouse gas reduction, taken from the five points of the Casio Environmental Declaration.

1. CO₂ reduction and absorption

In order to contribute to the realization of a low-carbon society, Casio will work to create products that reduce CO₂ and systems that absorb CO₂ more than ever before.

2. Utilization of clean energy

Casio will work to create products and systems using energy sources that are easy on people and the planet.

3. Adoption of renewable energy in business activities

Casio will undertake its business activities based on the adoption of renewable energy resources such as solar, wind, and water-powered energy.

Measures for fiscal 2021

Casio is studying the potential of the following initiatives to achieve the medium-term target for fiscal 2021. It will also strive to assess as quickly as possible their potential to help meet the fiscal 2051 target.

1. Reduction of CO₂ emissions in various business activity processes
 - Materials procurement, product manufacturing, transport and distribution, product usage, recycling, and disposal
 - Expansion of the scope of CO₂ emission data gathering on logistics, transport efficiency improvement, and modal shift
 - Making production facilities more energy efficient, and improving production processes
2. Increasing the percentage of non fossil-fuels used at sites
 - Installation of LED lighting
 - Installation of solar panels
3. Environmental contribution through product usage
 - Reducing the amount of electricity used by products
 - Minimizing and optimizing the amount of product packaging
 - Increasing the percentage of products that run on solar cells
4. Utilizing carbon offsets
 - CO₂ absorption effect based on the expansion of paperless products (reducing demand for logging, etc.)
 - Purchasing carbon offsets for products
 - Promoting tree planting and greening
 - Emissions trading, Clean Development Mechanism (CDM), and Joint Implementation (JI)

Environmental Management Policy themes for fiscal 2011

For the current year, fiscal 2011, Casio has set and is promoting the following four Environmental Management Policy themes, based on a medium- and long-term perspective towards fiscal 2051.

Environmental Management Policy: Theme 1

Casio's goal is to become carbon neutral by leveraging its ability to develop compact, lightweight, slim, and energy-efficient products to create new markets and cultural phenomenon.

- Medium-term target: To reduce the total volume of global greenhouse gas emissions from business activities by 30% compared to fiscal 2006, by 2021.
- Long-term target: To reduce the total volume of global greenhouse gas emissions from business activities by 80% compared to fiscal 2006, by 2051.

* Business activities: This indicates activities of production sites and offices in Japan and overseas, and does not include CO₂ emissions from logistics, product usage, or employee travel

Environmental Management Policy: Theme 2

Casio will obtain environmental performance data as part of its management activities, such as total emissions that include emissions from Casio and its consignees.

Environmental Management Policy: Theme 3

Casio will promote Green Office and Green Star Product development.

- Green IT promotion
- Green Star Product development
- Strengthening compact, lightweight, slim, and energy efficient technologies
- Introduction of carbon footprint labeling

Environmental Management Policy: Theme 4

Casio will establish guidelines for biodiversity protection

■ Casio Environmental Vision

Environmental Management for 2050

Since its founding, Casio has been providing consumers with innovative products by creating compact, lightweight, slim, and energy efficient technologies. We have helped to create new markets and inspired new cultural phenomenon by enabling people everywhere to acquire products that were previously out of their reach.

Casio's environmental initiatives began in earnest in the 1990s with efforts to comply with environmental regulations and to avoid pollution risk. These activities have since grown into an Environmental Management system that simultaneously pursues environmental conservation and healthy profits.

Now humankind must solve climate change and energy resource problems on a global scale. Lifestyles based on mass production and mass consumption are being called into question, and building a low-carbon society has become an important global issue. In this light, Casio must reexamine the uniquely "Casio" way that people expect it to create products and serve society.

It is obvious today that the information and electronic data that individuals possess and use are extensively shared across information networks. This highlights the importance of focusing on the growing business in software that enables each piece of hardware to be used for a longer period of time.

A society that conserves energy and does not rely on traditional resources must be built. In this effort, new ways of performing office work including paperless systems, green offices, green IT, and teleworking will no doubt become more popular. Casio also envisions a future where people will more seriously address the rejuvenation of the depleted global environment, while seeking to create more value in harmony with nature and the planet's living things.

Across its business operations, Casio is planning and implementing new measures with a target date of 2050 to help realize sustainable use of the global assets of energy, resources, and living things, and coexistence with them. Casio aims to become a leading environmental company that contributes to the richness of the human spirit, as well as a healthy global environment, by creating a new sense of values and fostering lifestyles that result in completely new markets and cultural phenomenon.

Casio's Environmental Declaration

1. CO₂ reduction and absorption

In order to contribute to the realization of a low-carbon society, Casio will work to create products that reduce CO₂ and systems that absorb CO₂ more than ever before.

2. Utilization of clean energy

Casio will work to create products and systems using energy sources that are easy on people and the planet.

3. Effective use of resources

Casio will work to create products and systems that limit the use of substances and materials with high environmental risks, and that make use of alternative materials.

4. Adoption of renewable energy in business activities

Casio will undertake its business activities based on the adoption of renewable energy resources such as solar, wind, and water-powered energy. **clean&green**

5. Protection of ecosystems

Casio will work to operate with respect for nature and all living things, and ensure its business activities are in harmony with natural ecosystems.

Highlight Carbon Disclosure Project (CDP)



Casio Computer Co., Ltd., was included in the Carbon Disclosure Leadership Index 2009 in the Japan 500 Report, which is a list of Japanese companies with outstanding initiatives and information disclosure in the fight against climate change.

A non-profit organization, the Carbon Disclosure Project (headquartered in the UK) carries out a survey every year in order to select and list the leading companies. The goal is to encourage institutional investors to invest in companies that actively promote climate change prevention initiatives. This year, based on a survey of 500 major Japanese companies, Casio Computer Co., Ltd., and 30 other Japanese companies were selected.

Casio will continue to help conserve the global environment by promoting environmental management that helps to build a low-carbon society.

Carbon Disclosure Project

In cooperation with institutional investors, the Carbon Disclosure Project (CDP) is an initiative that asks companies to quantify and report their greenhouse gas emissions, along with their strategies to address climate change. It is run by an NPO of the same name established in 2000 and headquartered in London.

The CDP was launched in the recognition that companies must take climate change prevention measures and report information about them to institutional investors, based on the understanding that climate change affects corporate financial performance.

In order to facilitate information disclosure, a questionnaire is sent by CDP to major companies asking them what they are doing to address the risks and opportunities presented by climate change. The questionnaires began with the first survey in 2002-2003, and the 2008-2009 survey was the seventh. The number of institutional investors that participate in the project is increasing every year, along with the number of responding companies. For the seventh survey, 475 institutional investors (total investment assets of about 55 trillion dollars) sent questionnaires to 4,000 of the world's major companies, and received 940 responses. Of the 500 top Japanese companies in terms of total market value that received questionnaires, 201 responded. Last year, questionnaires were sent to 150 Japanese companies, and 110 responded.

For more information visit the website below.

Carbon Disclosure Project

https://www.cdproject.net/CDPResults/CDP2009_Japan500_EN.pdf