

## Hitachi Appliances Environmental Report 2010



## A Message from the President



**Our goal is to earn and maintain the confidence of the public by using our proven technology to contribute to society.**

In 2010, we are celebrating the 100th anniversary of the founding of the Hitachi Group. Throughout its history, the Hitachi Group has sought to earn the trust of its customers by manufacturing reliable products under a corporate philosophy that calls for contribution to society through the development of superior products based on original technology. These efforts have been guided by our founding principles of harmony, sincerity and a pioneering spirit.

The past century has witnessed enormous social and historical changes. In recent years, global environmental problems, including climate change, resource depletion and the destruction of ecosystems, have become a major focus in the context of business activities.

In many countries there is concern about the economic impact of efforts to create a low-carbon society, and the achievement of an international consensus in this area has become a key political priority. Consequently, there is keen interest in the outcome of debate on international frameworks for CO<sub>2</sub> emission reductions in 2013 and beyond at the 16th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP16), which will be held this year in Mexico.

The mission of Hitachi Appliances, as a member of the Hitachi Group, is to support social and living infrastructure in the fields of air conditioning and home appliances. We will continue to contribute to environmental protection through our business activities in accordance with the Hitachi Group's

## Enhancing the Reliability of Environmental Data

In April 2009, Hitachi Appliances received a cease and desist order from the Fair Trade Commission on the grounds that information provided in our general refrigerator catalog, on websites and in newspaper advertisements and posters was in violation of the Act against Unjustifiable Premiums and Misleading Representations. The information in question included statements that a vacuum insulation material made from recycled resins was used in all nine major models sold in or after September 2008, when in fact the material was used only in a few models.

In May 2009, we launched initiatives to prevent any recurrence of this type of unacceptable situation, beginning with the formation of product-specific working teams consisting of staff from design and development, product planning and advertising units. We also added environmental data and other information to our existing product specification sheets, and created cooperative structures encompassing all stages from product planning to advertising and promotion to ensure that the preparation of advertising and other information was backed by objective evidence based on these specification sheets.

We revised our rules for the handling of environmental information. In addition, we established "presentation document management offices" at all business sites, as well as a Documents & Expression Auditing Office at the head office level. These units check the presentation of information and audit business operations.

Our home appliance catalogs have been comprehensively reviewed. We have not limited this process to checking of information in specification sheets and catalogs; we have also examined documentation from a number of other perspectives, including the positioning and font size of footnotes to ensure that they are readily visible, and the use of print colors that are easy to read. In addition, we have ensured that all numerical data is backed by evidence and sought to eliminate language that could be misleading. Through this review, we have sought to create documentation that is customer-friendly and easy to understand.

This work led us to realize that traditional documentation, which comprehensively lists all product functions, may not be the best way to give customers clear information about product features and the merits of a particular product. In the fall of 2009, we introduced a new

environment vision, which focuses primarily on the prevention of global warming, the conservation of resources and the preservation of ecosystem.

In our air conditioning segment, we offer an extensive product line-up ranging from home air conditioners to commercial air conditioning systems and large-scale industrial cooling and heating systems. Our home appliance range includes products to support the modern all-electric lifestyle, such as water heaters and kitchen equipment, as well as refrigerators, washing machines and vacuum cleaners. We are developing these activities globally as our “Lifestyle Zone Solutions” business. In October 2010, we will merge with Hitachi Lighting, Ltd. and integrate that company’s lighting business with our home appliance business.

In all of our business activities, we will contribute to the efficient and smarter use of energy in homes, offices and commercial and public facilities by continually improving our ability to respond to customer needs by further honing the energy-saving and environment-friendly technologies used in our products, and by remaining faithful to our core goal, which is to crystallize those technologies into products and services that provide optimal convenience and usability for our customers.

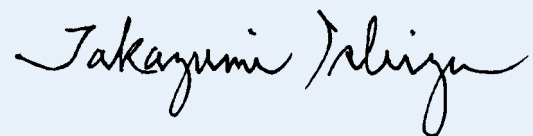
We are working to minimize environmental loads in all of our business activities. Specific initiatives include energy-saving activities at our business sites, improvements to our control systems for hazardous chemical substances, and the recycling and appropriate disposal of waste. Good communication is

also a priority because of the need to provide consumers with clear information about these efforts.

In April 2009, we received a cease and desist order from the Fair Trade Commission on the grounds that information stated in brochures and other materials was in violation of the Act against Unjustifiable Premiums and Misleading Representations. We find this situation most regrettable, and we have taken steps to prevent any recurrence by exhaustively reviewing our internal systems to ensure that environmental information is treated with the utmost care and rigor. Preventive measures will also include continuing efforts to raise employee awareness through education.

Hitachi Appliances has a strong sense of mission as a manufacturing enterprise, and we will work with total dedication to regain the trust and confidence of consumers and all concerned. We have renewed our fundamental commitment to the founding principles of Hitachi as we prepare to move forward into a second century of success built on a solid foundation of technology.

We look forward to receiving the frank opinions of readers about our initiatives.



President and Director

promotional approach, whereby product recommendations are limited to three key points, described on the first page.

In the future, we will seek not only to steadily improve the use of language, but also visibility and readability. We will achieve this by using universal design principles to create catalogs that are easy to understand.

These initiatives will continue in FY2010 (ended March 31, 2011) and beyond. We have designated April each year as “Representation Quality Information Month” and October as “Business Ethics Month.” By running company-wide campaigns in these months and continually implementing awareness activities, we will ensure that the unacceptable situation that occurred last year will never be forgotten.

In December 2009, we invited media representatives to tour manufacturing facilities for refrigerators, air conditioners and other products at the Tochigi Works. We also hosted discussion meetings with consumer groups and non-governmental organizations. These events provided valuable opportunities to explain about our initiatives and canvass opinions.

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# Reporting on Environmental Activities

## Action Guidelines for Environmental Conservation

These guidelines set forth Hitachi Appliances' action for addressing environmental conservation in relation to its business activities based on the "Hitachi Appliances Group Standards of Corporate Conduct."

### Purpose

In order to realize an environmentally harmonious and sustainable society through products and services, Hitachi Appliances is committed to meeting its social responsibilities by promoting globally-applicable "MONOZUKURI" (designing, manufacturing or repairing of products), which is aimed at reducing environmental burdens of products throughout their entire life cycles, ensuring global environmental conservation.

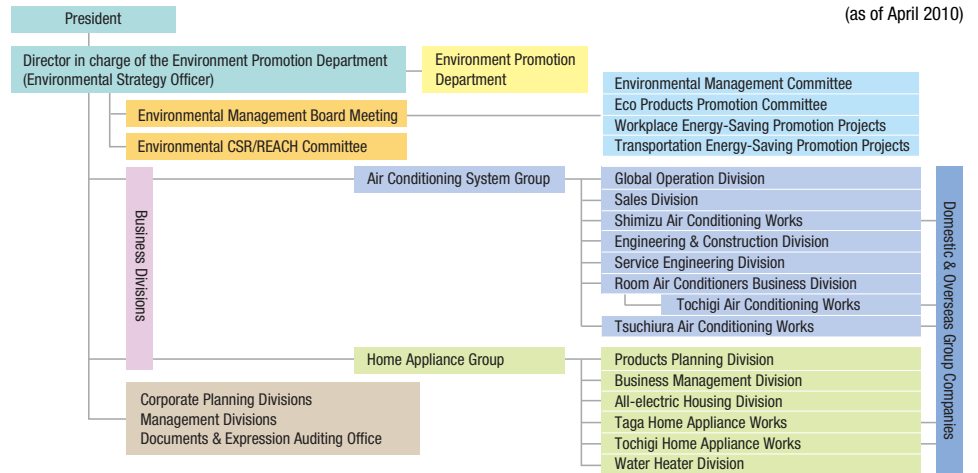
### Action Guidelines

1. Global environmental conservation is a critical challenge shared by all humans. Hitachi Appliances is committed, therefore, to fulfilling its responsibilities by assisting in the realization of an environmentally harmonious and sustainable society as one of its management priorities.
2. Hitachi Appliances will make efforts to contribute to society by developing highly reliable technologies and production processes, while identifying needs considering concerns related to the prevention of global warming, conservation of resources, and preservation of ecosystem.
3. Members of the board in charge of environmental conservation are responsible for facilitating appropriate environmental conservation activities. Departments responsible for environmental conservation should endeavor to promote and ensure environmental conservation activities, including improving environment-related rules and regulations and setting goals for environmental burden reduction. These departments should also confirm that their environmental conservation activities are conducted in a proper manner and ensure that these activities are maintained and improved.
4. Hitachi Appliances will promote globally-applicable "MONOZUKURI" with the aim of understanding and reducing environmental burdens at every stage, including product research and development, design, production, distribution, sales, usage, and final disposal.
5. Hitachi Appliances will investigate and review the environmental impact caused in the course of its "MONOZUKURI" processes. Hitachi Appliances will also introduce excellent technologies and materials useful to safeguard the environment, in other words, to reduce environmental burdens through energy and resource saving, recycling, chemical substance management, consideration of ecosystem, and other measures.
6. Hitachi Appliances' environmental conservation efforts are not only to be focused on observing international environmental regulations and those of national and local governments, but also on conserving the environment by implementing voluntary environmental standards when necessary.
7. Regarding globally-applicable "MONOZUKURI" activities, impact on the local environment and community are to be considered. In addition, measures that meet local communities' requests should be implemented.
8. Hitachi Appliances will educate its employees to take action in order to obey environment-related laws, raise their global environmental awareness, and encourage their interest in environmental conservation having wide-view about society activities
9. Hitachi Appliances will evaluate potential environmental problems and prevent them from occurring. In the event that any environmental problem occurs, Hitachi Appliances will take appropriate measures to minimize the environmental burden.
10. Hitachi Appliances will make efforts to disclose information on its environmental conservation activities to its relevant stakeholders. Hitachi Appliances will also actively communicate with these stakeholders so as to strengthen mutual understanding and forge cooperative relationships with them.

(Revised on July 2010)

## Environmental Management Structure

Hitachi Appliances has established the Environmental Management Board Meeting as a forum for deliberations and decisions concerning Group-level policies and targets. This committee consists of the Environmental Strategy Officer, who coordinates environmental policy for the entire Group, and environmental officers representing business sites and key domestic subsidiaries. Environmental protection activities are implemented by the Environmental Promotion Department, in cooperation with Business Divisions, Corporate Planning Divisions, Management Divisions and the Documents & Expression Auditing Office, on the basis of decisions made by the Environmental Management Board Meeting.



## Environmental Management System

One of the ways in which Hitachi Appliances is working to reduce its environmental footprint and contribute to environmental protection is through the development of environmental management systems based on the ISO14001 standard, especially at manufacturing sites with significant environmental loads. These systems are now being certified by third-party organizations.

### ●ISO 14001 Certification of Manufacturing Sites

Site	Certification date
Tochigi Works	January 29, 1997
Taga Works	July 22, 1996
Shimizu Works	October 28, 1997
Tsuchiura Works	March 25, 1997
Hitachi Taga Technology, Ltd.	July 22, 1996
Hitachi Reftecho, Inc.	January 29, 1997
Hitachi-kucho SE, Ltd.	October 28, 1997
Hitachi Air-conditioning & Refrigerating Products (Guangzhou) Co., Ltd.	June 28, 2004
Hitachi Compressor Products (Guangzhou) Co., Ltd.	April 30, 2006
Qingdao Hisense Hitachi Air-conditioning Systems Co., Ltd.	December 19, 2005

Site	Certification date
Shanghai Hitachi Household Appliances Co., Ltd.	November 23, 2000
Hitachi Household Appliances (Wuhu) Co., Ltd.	October 10, 2003
Hitachi Home & Life Solutions (India) Ltd.	February 14, 2006
Hitachi Air Conditioning Products (Malaysia) Sdn. Bhd.	April 22, 1997
Hitachi Industrial Machinery Philippines Corp.	—
Taiwan Hitachi Co., Ltd.	August 28, 1997
Hitachi Consumer Products (Thailand), Ltd.	December 20, 1999
Hitachi Compressor (Thailand), Ltd.	November 4, 1999
Hitachi Air Conditioning Products Europe, S.A.	May 4, 1999
Hitachi Air Conditioning Products Brazil, Ltd.	—



## Recycling of Home Appliances

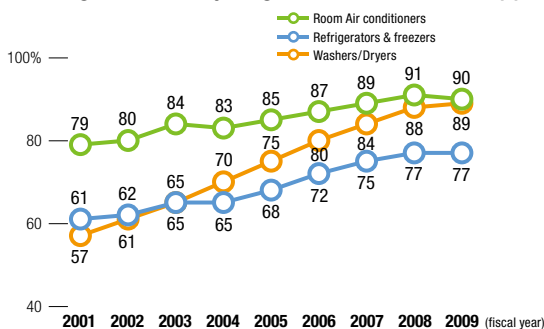
Japan's Law for the Recycling of Specified Kinds of Home Appliances came into effect in April 2001. Hitachi Appliances has complied with this law by recycling the four specified types of home appliances at Kanto Eco Recycle Co., Ltd., a home appliance recycling plant within the Tochigi Works. Knowledge gained through this activity has been reflected in product designs that facilitate dismantling and sorting.

Hitachi Taga Technology, Ltd., based at the Taga Works, has established facilities to modify and recondition plastic recovered from used appliances at the recycling plant. The recovered plastic is reused in products manufactured by Hitachi Appliances.

### ●FY2009 recycling results for 3 used home appliance products

Item	Room Air conditioners	Refrigerators & freezers	Washers/Dryers
Number of units recycled (thousand units)	234	447	672
Processing weight of recycled units (tons)	9,683	26,761	22,674
Weight of recycled material (tons)	8,775	20,672	20,182
Recycling rate (%)	90	77	89

### ●Changes in the recycling rate of 3 used home appliances



## Global Warming Prevention

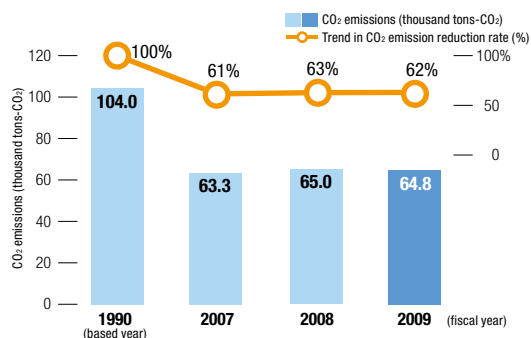
Hitachi Appliances is working to reduce its use of electricity, gas and other fuels. Our current target is to cut CO<sub>2</sub> emissions from production processes by about 39% by FY2010 compared with the FY1990 level. CO<sub>2</sub> emissions in FY2009 amounted to approximately 65,000 tons. While there was little change from the FY2008 figure, the FY2009 result represents a reduction of about 38% compared with the FY1990 level.

### ●Trends in CO<sub>2</sub> emissions in Japan

Data gathered for: Tochigi Works; Taga Works\*1; Shimizu Works; and Hitachi Reftechno, Inc.

\*1 Includes affiliate companies working with the above company

\*2 Excludes Tsuchiura Works which is positioned within the Tsuchiura Branch of Hitachi Plant Technologies, Ltd. and works as part of Hitachi Plant Technologies, Ltd.



CO<sub>2</sub> emissions were calculated using the CO<sub>2</sub> emission coefficient stipulated in the Greenhouse Gas Accounting and Reporting System as defined in the Law Concerning the Promotion of the Measures to Cope with Global Warming. Comparisons of electric power CO<sub>2</sub> emission coefficients with FY1990 levels are based on the average for all sources of electric power. Figures for FY2007 and subsequent years were calculated using actual emission coefficients for electric power companies, as published by the Ministry of the Environment. FY2008 figures were used for FY2009.

## Effective Utilization of Resources

Hitachi Appliances is working to reduce the amount of residual materials from its production activities. We define residual materials as waste products and valuable products, which are items with a market value as resources. Our current target is to reduce the amount of these materials by about 20% from the FY2000 level by FY2010. In FY2009, waste and other residual materials amounted to approximately 26,000 tons, which represents a reduction of about 11% from the FY2000 level. We have achieved zero emission\*1 status at our four plants in Japan by reducing final disposals at landfills practically to zero.

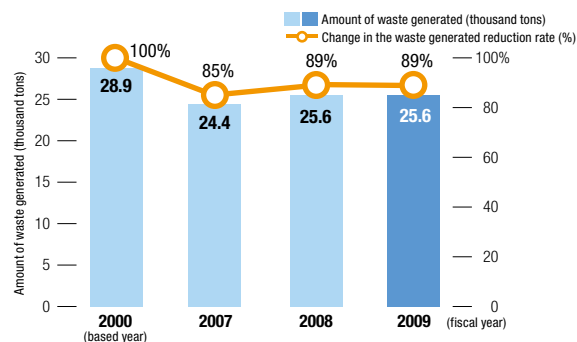
\*1 Zero emission: This approach aims to reduce final disposals at landfills to zero by using waste as raw materials for other industries. The Hitachi definition of this approach states that landfill disposal ratio (landfill disposals/total waste, etc.) in a given year must not exceed 1%, and that the quantity of landfill disposals must be less than 5 tons.

### ●Trends in the waste generated in Japan

Data gathered for: Tochigi Works; Taga Works\*1; Shimizu Works\*1; and Hitachi Reftechno, Inc.

\*1 Includes affiliate companies working with the above companies.

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## Management of Chemicals

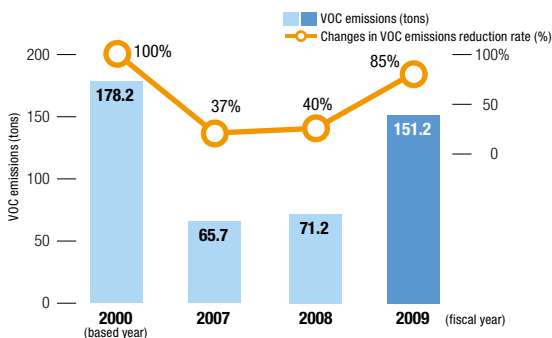
Hitachi Appliances is working to reduce emissions of volatile organic compounds (VOCs) from its plants in accordance with the Amended Air Pollution Control Act, which took effect in April 2005. We have proactively and voluntarily set a target of reducing emissions of 41 selected VOCs, including xylene, toluene and methanol, by 45% from the FY2000 levels by FY2010. In FY2009, the installation of new painting facilities as part of a production rationalization project at the Taga Works resulted in a sudden year-on-year increase of approximately 212%. However, emissions were still approximately 15% below the FY2000 level.

### ●Trends in VOC emissions in Japan

Data gathered for: Tochigi Works; Taga Works\*1; Shimizu Works\*1; and Hitachi Reftechno, Inc.

\*1 Includes affiliate companies working with the above companies.

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## Special Feature: Our Activities

### Taga Works

## Promoting Energy-saving Activities

At the Taga Works, we have implemented a range of measures to achieve our reduction target for CO<sub>2</sub> emissions. These include improvements in production methods and the updating of facilities to improve efficiency.

Facilities within the Taga Works are progressively replaced with more efficient equipment as they age and become obsolete. We have already replaced hydraulic injection molding equipment with electrically powered systems and installed highly efficient inverter-type lighting. We are also replacing transformer equipment with more efficient types, such as amorphous transformers.

One of the most important changes was the transition from traditional line production to a cell production system. Besides the energy savings achieved by eliminating the need for conveyor belt motors, this change has also improved production efficiency, and the resulting reduction in operating hours has further cut energy consumption.

We will continue to implement a variety of initiatives. All changes will be guided by careful analyses of costs and benefits.

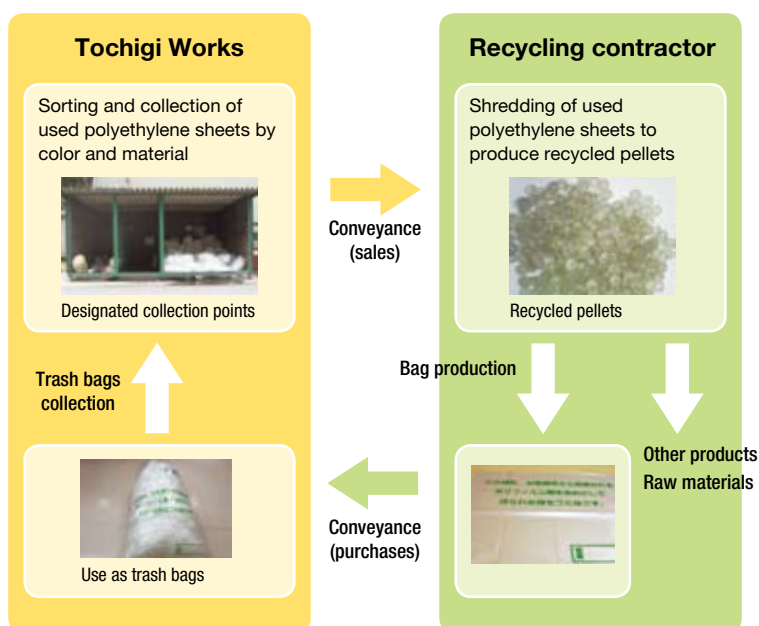


Front loading washer-dryers are assembled in a cell production system.

### Tochigi Works

## Recycling Polyethylene Sheets

We are constantly working to expand recycling at the Tochigi Works. Recently, we began to recycle polyethylene sheets, which are used mainly for packaging parts delivered to production facilities. Recycled pellets made from these sheets are now used as the raw material for trash bags used at the Tochigi Works. When the system was introduced, special locations were designated for the collection of sheets. We also held seminars to inform employees about collection procedures. There are also regular patrols of the collection sites to ensure that waste is sorted correctly. As a result of this initiative, most trash bags used at the Tochigi Works are now made from recycled polyethylene. To raise employees' awareness of recycling, the bags have labels indicating that they are made from recycled polyethylene sheets. We will continue to implement a variety of initiatives. All changes will be guided by careful analyses of costs and benefits.



## Shimizu Works

### Participating in Campaign to Collect Illegally Dumped Waste

The Shimizu Works is a member of the Chubu Chapter of the Shizuoka Industrial Waste Association. On June 2, 2009, it participated in a campaign organized by this group to recover illegal dumped waste in Shizuoka City.

On the day of the campaign, association members and people from local communities, together with representatives of Shizuoka City, the police and other government agencies, collected 1.6 tons of illegally dumped waste from the area around the Nihondaira Parkway.

Hitachi Appliances will continue its efforts to reduce environmental loads through initiatives to reduce waste volumes and ensure appropriate disposal, including events run by organizations of which it is a member.



### Participation in Exhibitions

As a member of the Hitachi Group, Hitachi Appliances presents exhibits each year at the Eco-Products Exhibition, Japan's biggest environment-related trade fair. In FY2009, we exhibited refrigerators and room air conditioners under the theme "Aiming for a sustainable society through social innovation business."

In February 2010, we also displayed our air conditioning control systems, room air conditioners and other products, including multi-room air conditioners for use in commercial buildings, at the HVAC&R Japan 2010 exhibition, which showcased the latest in refrigeration and air conditioning equipment.



HVAC&R Japan 2010 exhibition  
(held at Tokyo Big Sight in February 2010)



Eco-Products Exhibition 2009  
(held at Tokyo Big Sight in December 2009)



## Eco-Products and Their Technologies

We believe in the importance of making contributions toward becoming a sustainable, recycling society. We are actively engaged in creating products that reduce the burden on the environment; products that help to prevent global warming, conserving energy, conserving resources, and reducing the use of chemical substances.

### Eco-friendly Washing Machines that Save Water and Monitor Water Hardness and Temperature.

#### Washer-dryer

Now in their seventh year on the market, Our washing machines provide the ideal combination of washing performance and water conservation. Dirt is removed effectively through a mixture of pushing, beating and squeezing actions.

#### Water-saving Technology

Hitachi Appliances has reduced water use dramatically with its water circulation pump and efficient use of hot water. The water-efficient Beat Wash is the only top-loading washer-dryer with a water circulation pump. These machines are also designed to make effective use of hot water left over from baths in both the washing and drying cycles. This reduces the amount of tap water used to around 15 liters. Each year, the Beat Wash can reuse enough waste water to fill 350 baths.\*

\* This is the amount of hot bath water that can be used in one year in the washing and drying cycles. The calculation is based on an average washing load of 6 kg and a bathtub size of 190 liters.



BW-D9LV(N)

### Hitachi Appliances has developed unique energy-saving technologies, including further improvements to its Frost Recycling Cooling System. The energy saving standard achievement rate for FY2010 was 221%.

#### Refrigerator

This refrigerator has reduced its energy consumption level\*1 through the use of many energy conservation technologies such as Frost Recycle Cooling System. Large capacity of 620 liters.

\*1 Comparison of annual energy consumption of Hitachi's R-Z6200 (last year's model) and the new R-A6200. R-Z6200: 360kWh/year, R-A6200: 280kWh/year. Annual energy consumption is based on JIS C 9801 measurement standards.

#### Energy Conservation

The Frost Recycling Cooling System uses air cooled by frost forming on the cooling device during operation to cool the refrigerator's interior and vegetable compartment. Hitachi Appliances reduced annual power consumption by adding a coolant valve, increasing the size of the cooling device\*2 and installing a new cold air flap in the vegetable compartment.

\*2 The cooling device in the new R-A6200 has a surface area of 24,299 cm<sup>2</sup>, compared with 19,369 cm<sup>2</sup> in the R-Z6200 (last year's model).

#### Environmentally Friendly

Utilizes the non-fluorocarbon refrigerant R-600a (isobutane), which has a very low environmental impact.



R-A6200(XT)

Taga Home Appliance Works  
Household Products Design Department I  
Senior Engineer

Kazutoshi Katane



When the Eco Water Sensor system is switched on, the washing machine will perform an eco-friendly washing cycle suited to the condition of the water.

The system uses four sensors to check water hardness and temperature, as well as the quantity and characteristics of the laundry. It then indicates the amount of detergent required and intelligently adjusts washing time and water volume. Beat washing technology thoroughly cleans laundry while keeping water use to an absolute minimum. The Eco-Beat washing system takes this concept one step further to make ecologically friendly washing even easier.

Tochigi Home Appliance Works  
Refrigerator Design Department  
Senior Engineer

Hideo Kumakura



Frost Recycling Cooling System—Energy Savings and Enhanced Freshness

Besides enabling our original energy-saving technology that helps protect the global environment, it also helps to keep items in the vegetable compartment fresh thanks to a sensor and a new cool air flap designed to prevent drying.

### Using Hitachi's Original Stainless Steel Clean System

#### Room Air Conditioner

The Stainless Steel Clean System keeps grime and mold inside the indoor unit at bay. A lithium ion battery & solar panel powered remote controller is used. By keeping the remote control nearby, the Area-Eco function adjusts the temperature according to the surroundings of the user, helping to provide for comfort and conserve energy.

#### Energy Conservation

Technologies such as a high efficiency motor that runs on little electricity and CV-PAM\* control have reduced period energy consumption.

\* Cascade Vector PAM control

#### Reduced Time and Labor

The automatic stainless steel filter cleaning function saves the time and labor of cleaning the filter.

RAS-S40Z2(W)





**Powerful Shower even when Hot Water is used at Two Places at Once**

## Heat Pump Water Heater

This heat pump water heater employs a tap water direct pressure method, which instantaneously heats water. Rust and grime resistant stainless steel is used for the direct pressure boiler pipes inside the hot water storage unit which are connected to the shower and taps (combination taps).

BHP-FSV46HD



Hot Water Storage Unit



Heat Pump Unit

\*The hot water storage unit in the photo is equipped with leg covers (sold separately).

### Energy Conservation

Utilizing a flexible vacuum insulation panel and improving the efficiency of the heat pump unit realized energy conservation in performance.

### Environmentally Friendly

In consideration of the global environment, CO<sub>2</sub>, a natural refrigerant, is used, so there is no concern about ozone depletion.

### Space Saving

Utilizing a box-shaped tank, this hot water storage unit has a slim body only 415mm wide.

Water Heater Division  
Water Heater Design Department  
Senior Engineer

Yoshikazu Koto



Hitachi Appliances helps to protect the global environment by promoting energy savings. Enhancements include improvements in the efficiency of the heat pump unit and other components, and in the insulation performance of the hot water storage tank.

**Partial Load Efficiency Improved through Use of Inverter to Control Rotation Speed**

## High Efficiency Centrifugal Chiller HC-It-F-GX Series

Inverter control yields significant energy savings during fall, winter and spring, when outside air temperatures are low. The maximum coefficient of performance (COP) has been substantially improved through enhancements to the freezing cycle and rotation speed control system.

### Energy Conservation

Partial load operating efficiency has been increased by controlling the compressor rotation rate to take advantage of seasonal changes in coolant temperature. This has reduced annual power consumption by approximately 58%\*.

\*Comparison between HC-It-F-100GX-II and the existing HC-F-1250 (fixed-speed model). Both are based on the 1050RT/7°C model (annual load ratio: 40-90%).

### Ozone Layer Protection

Uses a new refrigerant, R-134a, which does not harm the ozone layer.



HC-It-F-1000GX-II

Tsuchiura Air Conditioning Works  
Design Department  
Senior Engineer

Yasushi Nakamura



There was a three-fold improvement in COP during the winter, when coolant temperatures are low. COP was also improved in the high-load period between early summer and early fall, when inverter-related benefits are reduced. This will reduce annual CO<sub>2</sub> emissions by approximately 1,310 tons compared with existing models supplied by Hitachi Appliances.

**Increased Energy Conservation and Improved Comfort**

## Packaged Air Conditioning System for Stores and Offices

For air conditioning systems of all capacities (models 40-335), we have created lineups of indoor units designed for individual operation<sup>\*1</sup>. Individual operation of multiple indoor units allows operation for only necessary units, thereby contributing to energy conservation.

\*1 The support model varies with the choice of indoor unit.

### Energy Conservation

Improved compressor structure and a new type DC inverter motor, etc., utilized in a new scroll compressor, enhancing its low speed operation capability, has reduced period energy consumption by approximately 48%<sup>\*2</sup>.

\*2 Compared to RAS-J140HE, our constant speed product of 10 years ago (model 140 4-way cassette (single type) connected at 50Hz).

### Space Saving

With the individual operating function, the outdoor units can be consolidated into one to reduce the space needed for the installation of outdoor units.

### Ozone Layer Protection

Uses a new refrigerant, R-410A, which does not harm the ozone layer.

Packaged system model: RCI-AP140HVM3



Cutting-Edge Energy Saving Systems through Systems Integration

## Air Conditioning System Solutions

We provide system solutions tailored to individual fields such as food/distribution, semiconductor/liquid crystal, pharmaceutical/medical, and research institutes, based on our core technologies including those of air conditioning, cryogenics, and anti-pollution.

**Proposed System Featuring Our Highly Efficient Equipment**

- Compressor with inverter
- Highly energy-efficient equipment

**Proposed Comprehensive Energy Saving System**

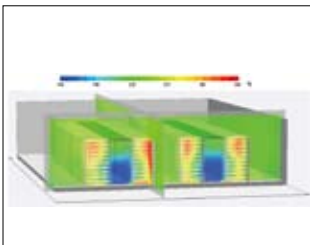
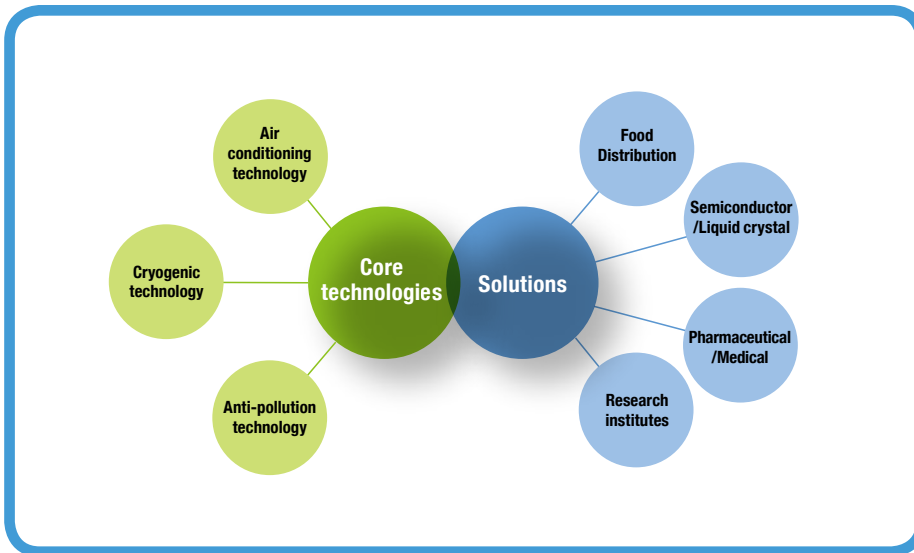
- Operation control optimization
- Exhaust heat and drainage water use
- Natural energy use

**Proposed Reliable Renovation**

- Initial running cost reduction
- Elaborate on-site survey and execution plan
- Measures to address impacts on existing production lines

**Proposed Energy Saving Refrigerator/Freezer Warehouse Utilizing Ice Thermal Storage**

- Introduction of liquefaction cooling, ice thermal storage facility in refrigeration/freezing warehouse
- Electricity reduction
- Running cost reduction



Study on comfortable air conditioning using air flow simulation



Laminar flow type clean room facility



HACCP\* clean room facility



Ice thermal storage facility

\*HACCP (Hazard Analysis and Critical Control Point): Food hygiene and safety management system based on the concept of hazard analysis and critical control points.

# Corporate Overview

Company name	Hitachi Appliances, Inc.
Main business	Development, manufacture, and sales of comprehensive air conditioning systems and home appliances
Representative	Takazumi Ishizu, President and Director
Capital	20 billion yen (wholly owned by Hitachi, Ltd.)
Date established	April 1, 2006
Number of employees (consolidated)	19,631 (As of March 31, 2010)
Website	<a href="http://www.hitachi-ap.co.jp">http://www.hitachi-ap.co.jp</a>

## Head Office, Takeshiba Office

<b>Head Office</b> (Home Appliance Group)	Hitachi Atago Bldg., 15-12, Nishi Shimbashi 2-chome, Minato-ku, Tokyo 105-8410 Japan TEL: 81-3-3502-2111	<b>Takeshiba Office</b> (Air Conditioning System Group)	New Pier Takeshiba South Tower, 16-1, Kaigan 1-chome, Minato-ku, Tokyo 105-0022 Japan TEL: 81-3-6403-4555
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## Factories in Japan

<b>Tochigi Works</b>	800, Tomita, Ohira-machi, Tochigi City, Tochigi 329-4493 Japan TEL: 81-282-43-1122	<b>Taga Works</b>	1-1, Higashitaga-cho 1-chome, Hitachi City, Ibaraki 316-8502 Japan TEL: 81-294-34-1111
<b>Shimizu Works</b>	390, Muramatsu, Shimizu-ku, Shizuoka City, Shizuoka 424-0926 Japan TEL: 81-54-334-2081	<b>Tsuchiura Works</b>	603, Kandatsu-machi, Tsuchiura City, Ibaraki 300-0013 Japan TEL: 81-29-832-5840

## Sales Divisions, Branches, and Marketing Offices (Air Conditioning System Group)

<b>Hokkaido Marketing Branch</b>	Oda Bldg., 10-1, Kita Kujo Nishi 3-chome, Kita-ku, Sapporo City, Hokkaido 060-0809 Japan TEL: 81-11-717-5301	<b>Kitanihon Branch Office</b>	Ookiaoba Bldg., 9-7, Futsuka-machi, Aoba-ku, Sendai City, Miyagi 980-0802 Japan TEL: 81-22-266-1321
<b>Fukushima Marketing Branch</b>	5-15, Midori-machi, Koriyama City, Fukushima 963-8023 Japan TEL: 81-24-921-5550	<b>Kanto Branch Office</b>	New Pier Takeshiba South Tower, 16-1, Kaigan 1-chome, Minato-ku, Tokyo 105-0022 Japan TEL: 81-3-6403-4510
<b>Hokuriku Branch Office</b>	627-3, Kurosaki, Toyama City, Toyama 939-8214 Japan TEL: 81-76-429-4051	<b>Chubu Branch Office</b>	Sakae Center Bldg., 13-20, Sakae 3-chome, Naka-ku, Nagoya City, Aichi 460-0008 Japan TEL: 81-52-251-0371
<b>Kansai Branch Office (Air Conditioning System Division)</b>	OX-Nishihonmachi Bldg., 10-10, Nishihonmachi 1-chome, Nishi-ku, Osaka City, Osaka 550-0005 Japan TEL: 81-6-6531-9111	<b>Chushikoku Branch Office</b>	Sonpo Japan Hiroshima Otemachi Bldg., 2-31, Otemachi 3-chome, Naka-ku, Hiroshima City, Hiroshima 730-0051 Japan TEL: 81-82-240-6151
<b>Shikoku Branch Office</b>	Hanazono Bldg., 1-5, Hanazonocho 1-chome, Takamatsu City, Kagawa 760-0072 Japan TEL: 81-87-833-8701	<b>Kyushu Branch Office</b>	9-17, Shimizu 4-chome, Minami-ku, Fukuoka City, Fukuoka 815-0031 Japan TEL: 81-92-561-4851

## Affiliated Companies in Japan

- Hitachi Taga Technology, Ltd.
- Hitachi Air Conditioning Kanto, Co., Ltd.
- Kyushu Hitachi Kucho Co., Ltd.
- Hitachi Air Conditioning Techno Service Co., Ltd.
- Hitachi Reftechno, Inc.
- Niigata Hitachi Co., Ltd.
- Kanagawa Hitachi Air Conditioning Co., Ltd.
- Kanto Eco Recycle Co., Ltd.
- Hitachi-kucho SE, Ltd.
- Hitachi Kucho Kansai Co., Ltd.
- Shizuoka Hitachi Reinetsu Co., Ltd.
- Hitachi Softec Co., Ltd.

## Affiliated Companies in Overseas

- Hitachi Air-conditioning & Refrigerating Products (Guangzhou) Co., Ltd.
- Qingdao Hisense Hitachi Air-conditioning Systems Co., Ltd.
- Shanghai Hitachi Household Appliances Co., Ltd.
- Shanghai Hitachi Electrical Appliances Co., Ltd.
- Hitachi Air Conditioning Products (Malaysia) Sdn. Bhd.
- Hitachi Air Conditioning Products (Phils), Inc.
- Hitachi Consumer Products (Thailand), Ltd.
- Hitachi Tochigi Electronics (Thailand) Co., Ltd.
- Hitachi Air-conditioning Systems (Hong Kong) Co., Ltd.
- Hitachi Air Conditioning Products Europe, S.A.
- Hitachi Air Conditioning Products Brazil, Ltd.
- Hitachi Compressor Products (Guangzhou) Co., Ltd.
- Hitachi Air Conditioning Technology (Suzhou) Co., Ltd.
- Hitachi Household Appliances (Wuhu) Co., Ltd.
- Hitachi Home&Life Solutions (India) Ltd.
- Hitachi Industrial Machinery Philippines Corp.
- Taiwan Hitachi Co., Ltd.
- Hitachi Compressor (Thailand), Ltd.
- Hitachi Air-conditioning Systems (Shanghai) Co., Ltd.
- Hitachi Asia Ltd.
- Hitachi Europe S.A.S
- Hitachi America, Ltd.



### Scope of Report

- **Reporting Period:** FY2009 (April 1, 2009 to March 31, 2010)  
Hitachi Appliances Group consolidated companies  
The objective of tabulated data is offices and factories having a large environmental impact. (Reported separately)
- **Referenced Guidelines:** “Environmental Reporting Guidelines (FY2007 Version)” (Ministry of the Environment, Japan), “Environmental Performance Indicators Guide-line for Organizations (FY2002 Version)” (Ministry of the Environment, Japan), “Environmental Reporting Guidelines 2001— With Focus on Stakeholders” (Ministry of Economy, Trade and Industry, Japan)
- **Next Issue:** Around August 2011
- **Website:** This report is a condensed version of the contents of our website.  
Please see the Environmental Efforts section of our homepage for more information. (Only in Japanese)  
<http://www.hitachi-ap.co.jp/company/environment/kankyo/>

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#### Contact Address

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