# Rinnai



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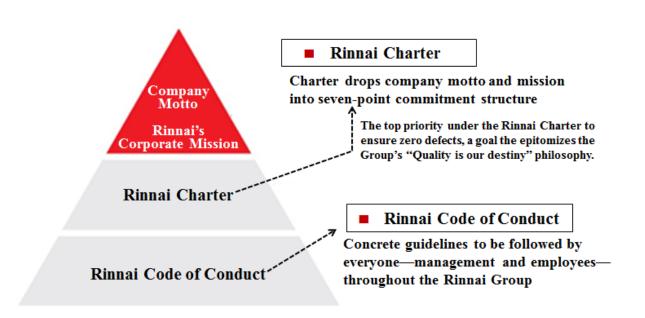
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# Rinnai Group CSR

Every company under the Rinnai Group umbrella subscribes to the corporate mission and enduring emphasis set out by Rinnai at its establishment, and from the perspective of a comprehensive heat-energy appliance manufacturer, corporate social responsibility (CSR) means contributing to comfortable lifestyles around the world and a cleaner, greener global environment.

#### Schematic diagram of company ideals

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### Three Key Themes

Since its establishment, Rinnai has grown and developed through an unshakable focus on three themes. Part and parcel of the Rinnai Spirit, these themes are and always will be integral to our success.

Heat and comfortable lifestyles	Rinnai's corporate mission hinges on <b>the use of "heating" to provide society with "comfortable lifestyles"</b> . Our strength is in sophisticated heating technologies, and we will utilize this capability to facilitate the creation of pleasant living environments.
Quality	Rinnai's catchphrase—"Quality is our destiny."—epitomizes a corporate obsession with quality. So it is only natural that we would keep production and other <i>monozukuri</i> efforts in-house to sustain high-level standards. This enables us to deliver safety and peace of mind to our customers.
Contributing to local communities	At Rinnai, we firmly believe that contributing to a better lifestyle culture in local communities is vital to our role as a good corporate citizen. Basic strategies for expanding our presence abroad require that sales and services are executed with local conditions in mind and that manufacturing takes place in the markets where the products will be sold.

## Approach to CSR

Rinnai's corporate mission hinges on the use of heat to provide society with comfortable lifestyles. This perspective infuses efforts on a groupwide basis to provide heat-energy appliances with excellent features that stress safety and peace of mind, comfort and the environment and thereby contributes to better lifestyles for people around the world and a better outlook for the planet.

The Group pursues CSR activities through core operations, emphasizing four issues that complement the three key themes—"heat and comfortable lifestyles," "quality" and "contributing to local communities"—that Rinnai set out for itself and the eventual group it would lead.

# Rinnai Group and Its Stakeholders

# Sustainability

We will contribute to the realization of a sustainable society and planet as a comprehensive heat-energy appliance manufacturer.



#### CSR Report 2012

#### **■**Editorial Policy

Rinnai puts out a CSR Report to convey to stakeholders management's approach to CSR, to describe the activities undertaken groupwide, and to encourage a deeper understanding of the Group's operations. CSR Report 2012 puts a spotlight on CSR activities carried out through the execution of core operations and aims to promote greater awareness of the Group's perspective on CSR to as many people as possible.

#### **■Scope**

Rinnai Group

(Rinnai Corporation and companies under the Rinnai Group umbrella in Japan and overseas)

#### **■**Reporting Period

This report focuses on events that occurred in fiscal 2012—April 1, 2011 to March 31, 2012—but also touches upon measures implemented and recent activities undertaken prior to fiscal 2012 as well as future business direction, targets and plans.

#### **■**Referenced Guidelines

Sustainability Reporting Guidelines (G3.1), the third and most recent generation of guidelines by the Global Reporting Initiative (GRI)

ISO 26000:2010

Environmental Reporting Guidelines (fiscal 2007), issued by Japan's Ministry of the Environment Environmental Reporting Guidelines (fiscal 2005), issued by Japan's Ministry of the Environment Note: The GRI comparison table is available on the Corporation's website.

#### **■Publication Schedule**

September 2012 (Japanese version) Previous: August 2011 Next: August 2012 (planned)

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# **Top Message**

# Contributing to people's lifestyles and global environmental protection through core businesses

#### To Start

Undoubtedly, 2011 will be remembered for the many natural disasters that occurred, particularly the Great East Japan Earthquake and the tsunami and nuclear accident that followed, as well as the devastating earthquake New Zealand and extensive flooding in Australia and Thailand. On behalf of everyone at Rinnai, we would like to say once again to all those affected by these disasters, our thoughts are with you and we hope that daily life is steadily getting back to normal.

Rinnai's responses in the wake of the Great East Japan Earthquake speak to a commitment to support basic living standards and demonstrate a long-held corporate mission to contribute to society, specifically, the creation of comfortable living environments, through core operations. We provided gas cooking stoves, rice cookers and room heaters for use at evacuation centers, and played a part in reconstruction efforts, mainly inspection and repair of hot-water units. We also prioritized the production and delivery of products for temporary housing.



Susumu Naito, Chairman



Hiroyasu Naito, President

# **Encouraging Wider Use of High-Efficiency Hot-Water Units and Strengthening Methods to Ensure Safety and Peace of Mind**

Rinnai is a comprehensive heat-energy appliance manufacturer, offering customers everywhere safe, environmentally conscious products that make life pleasant and convenient. Therefore, we contribute to a better society through our business activities.

Currently, the domestic gas appliance industry is moving toward a shift in production of all hot-water units, in principle, from conventional models to the Eco-Jozu format by March 2013. Rinnai, like other members of the industry, is shaping the requisite framework for this transition. In addition, we have developed ECO ONE, a hybrid hot-water and heating system that runs on both electricity and gas for greater efficiency. ECO ONE boasts primary energy efficiency of 125% and emits about half as much carbon dioxide (CO2) as conventional gas hot-water units. Such features place ECO ONE among the world's most energy-saving, environmentally friendly products on the market.

Overseas, we sold 5.25 million tabletop stoves in Indonesia in fiscal 2012, paralleling the government's efforts to promote the use of liquefied petroleum gas (LPG). This is important because wider use of gas cooking stoves is reducing the amount of firewood used by households, which has in turn limited the extent of logging activities. The growing popularity of cooking stoves and other gas appliances is therefore helping to protect the environment.

Since we manufacture and market heat-energy appliances, it is imperative that we reinforce efforts to ensure our products are safe and give customers peace of mind. It only takes one accident to cause loss of life or loss of property, so we must strive to avert such tragedies. Adhering to the philosophy "Quality is our destiny," we will take a more thorough approach to the establishment of a structure that prevents defective products from ever leaving our facilities and keep customers apprised of issues that require attention to ensure that products are used properly. On our own initiative, we have issued warnings and notification regarding the use of small, open-type water heaters and the need for ventilation when these units are in operation, and we maintain an inspection system for products, such as gas hot-water units, that have been in use for extended periods of time. But we intend to enhance these approaches still further.

# Providing the Right Products for Each Market, Establishing a Dominant Brand Profile

Rinnai embarked on a three-year medium-term business plan—"Reform and Breakthrough"—in April 2009. Through this plan, we relentlessly executed measures to eliminate waste, strengthened Group operations, and achieved a certain degree of success in solidifying our position as a comprehensive heat-energy appliance manufacturer.

At the start of fiscal 2013, in April 2012 we launched a new medium-term business plan, "Jump Up 2014." Under this plan, our global strategy is to address customer demands common worldwide with an emphasis on ensuring product safety and peace of mind, contributing to comfortable lifestyles and protecting the environment, while providing products matched to environmental policies and economic progress in each country or geographical region where we have established a presence. Among prevailing themes, we will prioritize the environment and energy-saving features, and toward this end, we will strive to develop products that incorporate leading-edge technologies and to boost product quality still further.

In Japan, the Great East Japan Earthquake prompted a new awareness of energy from the perspective of emergency preparedness and reduced consumption. For example, different energy sources, including renewable energy, have attracted wider interest, and the viability of certain concepts, such as all-electric homes, is being reconsidered. Meanwhile, overseas demand for heat-energy appliances varies depending on food culture and prevailing access to the necessary sources of energy in each country and geographical region. We take into account market-specific factors, especially climate and availability of energy sources to ensure that we are able to provide environmentally conscious heat-energy appliances appropriate to each market.

The products offered by the Rinnai Group are well regarded—a solid reputation that underpins growth in domestic and overseas sales. High-performance features, along with safety and reliability, have contributed significantly to Rinnai's enhanced brand value. But to polish this profile to a brighter shine and build a stronger presence worldwide, every company under the Group umbrella must adhere to the zero defect policy and constantly seek to improve quality.

The heat-energy appliances that we make and market have a direct impact on the environment—worldwide because we have an international customer base—but these same appliances also support the creation of comfortable lifestyles. The Rinnai Group will strive as an integrated unit to uphold the Rinnai Spirit, which is built upon three themes: "heat and comfortable lifestyles," "quality" and "contributing to local communities," to cement its reputation as a good corporate citizen contributing to pleasant lifesyles in an ecofriendly world.

#### **Special Feature:**

# The Environment

# Appliances with little environmental impact aimed at markets worldwide to halt global warming

Global warming is a pressing concern that requires action on a worldwide scale. Industry tends to fall into the spotlight, in terms of expectations and solutions, but households are actually a significant factor in global warming. Therefore, the Rinnai Group is keen to help households curb emissions through the sale of high-efficiency heat-energy appliances to customers all over the world.

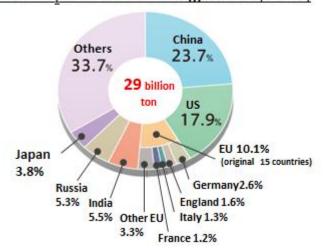
Special Issue: Environment provides a look into the activities we undertake in Japan and overseas to halt global warming and showcases scenarios conditioned upon widespread use of Rinnai-brand products in Japan, the United States and Australia.



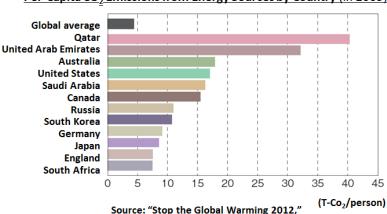
# Australia and United States—Major Emitters of CO<sub>2</sub>, Key Factor in Global Warming

 $CO_2$  is the primary cause of global warming. The level of  $CO_2$  in the atmosphere has increased steadily since the Industrial Revolution, which sparked a rapid rise in the consumption of oil, coal and other fossil fuels. Currently, the country emitting the most  $CO_2$  is China, followed by the United States, the European Union and India, in that order. Calculated on a per-capita basis, however, Australia and the United States are among the biggest  $CO_2$  emitters, excluding oil-producing nations Qatar and the United Arab Emirates, which sit at No. 1 and No. 2, respectively.

#### Global CO<sub>2</sub> Emissions from Energy Sources (in 2009)



#### Per-Capita CO<sub>2</sub> Emissions from Energy Sources by Country (in 2009)



issued by Japan's Ministry of the Environment

#### **International Approaches to Halt Global Warming**

In countries around the world, governments are diligently implementing policies and programs to deal with global warming, including initiatives to protect CO<sub>2</sub>-absorbing forests and reduce CO<sub>2</sub> emissions.

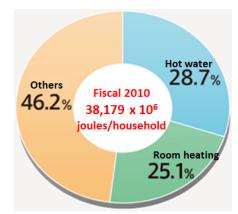
The target is to cut greenhouse gas emissions worldwide by at least 50% by 2050, relative to 2005, and toward this end, Japan aims to limit emissions from domestic sources to just 20% of the 1990 level. To achieve this long-term goal, the government is endorsing programs that spotlight new technologies, particularly those utilizing green energy and energy-saving options, and encouraging industry to extend homegrown expertise, including technical support, to developing countries. The government has also formulated domestic systems, such as Standards of Judgment for Owners of Residential Buildings, under the energy conservation law, which will promote wider use of high-efficiency equipment and technologies and thereby

trim the amount of energy consumed and the level of CO<sub>2</sub> generated in the process. Other activities include initiatives, such as Cool Biz and Warm Biz, which are part of citizens' movement Challenge 25.

### **Group Efforts to Halt Global Warming**

In Japan, efforts to reduce CO<sub>2</sub> emissions have focused on industry, which accounts for about 40% of the nation's energy consumption, and corporate measures have been relatively successful. Among households, however, energy consumption is on an upward trend. Citizens heeded requests to curb energy following the Great East Japan Earthquake because power plants faced shortfalls in generation capacity, but the drop was only short-lived. The rise in household emissions reflects an increase in nuclear families and a growing preference for lifestyles that offer greater comfort and convenience.

#### Residential Energy Consumption by Application



Source: "Energy White Paper 2011," issued by Japan's Agency for Natural Resources and Energy.

At Rinnai, it is our duty, of course, to prevent global warming by implementing green practices in our manufacturing processes. But we believe the appliances we provide should be as environmentally friendly as possible so that customers are able to reduce their own carbon footprint without sacrificing comfort and convenience. We are taking concrete steps to achieve this objective. Consider residential energy consumption by application. A breakdown shows that 28.7% of the total goes toward heating water and 25.1% toward heating rooms. A lower level of CO<sub>2</sub> emissions from households requires that less energy be consumed for hot water and room heating. By 2013, all gas hot-water units for the Japanese market will, in principle, be made to the *Eco Jozu* standard, which targets heating efficiency of about 95%. Our development of ECO ONE, a hybrid hot-water and heating system featuring heat pump technology utilizing ambient heat, is a prime example of how efforts to improve upon the *Eco Jozu* format will help consumers trim their carbon footprint. Overseas, we are working on the development of products that address requirements specific to conditions in different countries and regions while exerting little impact on the environment.

The following materials served as reference for content on this page.

- "Stop the Global Warming 2012," issued by the Global Environment Bureau of Japan's Ministry of the Environment
- Ondanka kara Chikyu wo Mamoru Tekiou e no Chousen 2012 ("Appropriate Measures to Save the World from Global Warming 2012"), by the Cabinet Office, Ministry of Education, Culture, Sports, Science & Technology, Ministry of Health, Labor and Welfare, Ministry of Agriculture, Forestry and Fisheries, Ministry of Land, Infrastructure and Transport, and Ministry of the Environment
- Japan Center for Climate Change Actions Japanese-language home page (http://www.jcaa.org/)

**Special Feature:** 

# The Environment

# Premise: Using Hot-Water Units Can Reduce Greenhouse Gases

#### Switching all hot-water units to high-efficiency models should have a good CO2.reduction effect

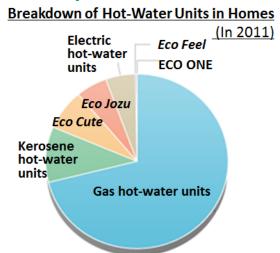
The Rinnai Group is involved in the development, production and sale of highly efficient and environment-friendly heat-energy appliances. We envisioned two  $CO_2$ -reduction scenarios, highlighting hot-water units in several product categories, and over the next two pages we present the results for Japan as well as the United States and Australia, two countries with high per-capita  $CO_2$  emissions.

These scenarios assume that all hot-water units installed in homes are high-efficiency models, and actual amounts may differ from industry estimates. Furthermore, such estimates should not be considered numerical targets of the Company or of the Group. Note that the breakdown of hot-water units in homes as well as the amount of CO<sub>2</sub> emitted by the different kinds of hot-water units are based on estimates determined by Rinnai.

#### Japan

# Use of *Eco Jozu* could have reduced output equivalent to 0.6% of total CO<sub>2</sub> emissions, ECO ONE would have achieved reduction equivalent to 2.6%

In Japan, hot-water units using primarily gas, electricity or kerosene have become mainstream. In recent years, high-efficiency hot-water units—*Eco Jozu*, using gas; *Eco Cute*, using electricity; and *Eco Feel*, using kerosene—have appeared on the market and even the national government is offering incentives to encourage more homeowners and builders of new homes to install these eco-friendly appliances. The proliferation rate has stalled around 10%, but improvement is expected. With this in mind, we considered two scenarios: one that presumes all hot-water units are high-efficiency models rather than conventional gas, electric and kerosene models; and the other that presumes all existing hot-water units are the ECO ONE hybrid hot-water and heating system.



#### Scenario 1

# If all conventional gas, electric and kerosene hot-water units had been replaced with high-efficiency hot-water units

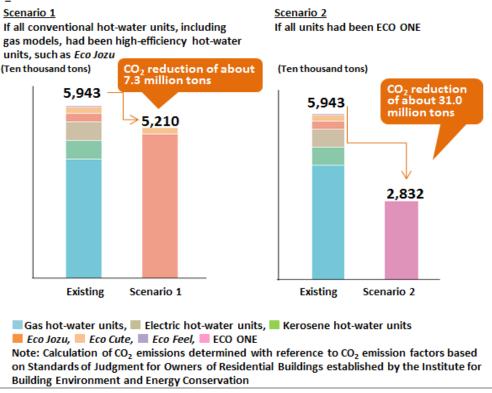
Currently, the domestic gas appliance industry is pushing for *Eco Jozu* to become the de facto standard, in accordance with national policy promoting widespread use of high-efficiency hot-water units. Assuming that all home-use hot-water units running on gas, electricity or kerosene had been *Eco Jozu* models, which are more eco-friendly and emit less CO<sub>2</sub> than conventional units, and the only hot-water units in operation had been *Eco Jozu* or ECO ONE, *Eco Cute* and *Eco Feel*, then Japan could have reduced its fiscal 2010 CO<sub>2</sub> emissions by about 7.3 million tons, equivalent to 0.6% of total CO<sub>2</sub> emissions, which came in at 1,192 million tons.

#### Scenario 2

#### If the switch had been to ECO ONE hybrid hot-water and heating system only

ECO ONE is superior to *Eco Jozu* and *Eco Cute* in terms of environmental performance. It augments *Eco Jozu* capabilities with heat pump technology that utilizes ambient heat for exceptional energy savings, eco-friendly qualities and convenience and comfort. If all hot-water units in operation had been ECO ONE, Japan could have reduced its fiscal 2010 CO<sub>2</sub> output by about 31.0 million tons, equivalent to 2.6% of total CO<sub>2</sub> emissions—1,192 million tons—that year, and significantly better than the 0.6% under scenario 1 conditions.

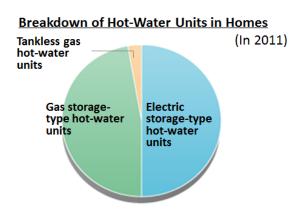
#### CO<sub>2</sub> Emissions from Different Kinds of Hot-Water Units/Annual



#### **United States**

Tankless (instant-heating) gas hot-water units are attracting attention. If all hot-water units were tankless models, the reduction effect on total emissions would have been 1.7%

In the United States, the market favors storage-type hotwater units, split evenly more or less between electric and gas models. Tankless gas hot-water units, which are mainstream in Japan, are not particularly popular. Even though gas hot-water units are the preferred choice, especially in areas where power outages are frequent and gas is less expensive, the emphasis is on gas storage-type models because they cost about one-third the price of tankless models. However, tankless models have been attracting greater attention lately because a home with the correctly sized tankless hot-water unit will never run out of hot water, while a storage-type unit could run out of hot water if a large amount of hot water is used at one time. With this in mind, we considered two scenarios: one that presumes all storage-type gas hot-water units were with tankless models; and the other that presumes all existing hot-water units were tankless models.



#### Scenario 1

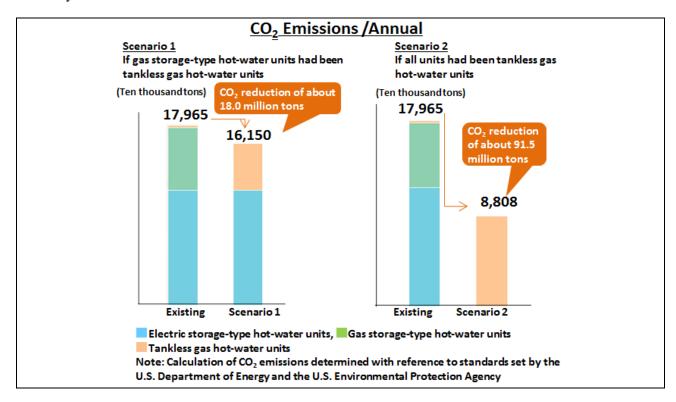
#### If storage-type gas hot-water units had been tankless models

The United States' CO<sub>2</sub> emissions could have been cut by 18.0 million tons, equivalent to 0.3% of total emissions—5,258.0 million tons—in 2009.

#### Scenario 2

#### If all hot-water units had been tankless models

Annual CO<sub>2</sub> emissions could have been cut by 91.5 million tons, equivalent to 1.7% of total emissions across the country.



#### Australia

# Sale of electric storage-type (tank-based) hot-water units banned; replacement demand expected to showcase highly eco-friendly gas instant-heating hot-water units

Australia shows high CO<sub>2</sub> emissions on a per-capita basis. This situation reflects dependence on thermal power generation, which is a consequence of the country's rich coal deposits and thus easy access to the feedstock for power generation. Electric storagetype hot-water units were once mainstream in the hot-water unit market. However, heightened recognition of the need to protect the environment encouraged the government to hammer out policies preventing the sale of electric storage-type hot-water units. Specifically, the ban stops the sale of such units for installation in detached homes built in 2012 and will gradually be extended to include multifamily homes. Going forward, electric storage-type hot-water units already installed will probably be with more eco-friendly including gas instantaneous hot-water heaters.

# Solar + gas instantaneous hot-water units Solar + electric storage-type hot-water units Gas instantaneous hot-water units Gas storage-type hot-water units Gas storage-type hot-water units

With this in mind, we considered two scenarios: one that presumes all storage-type electric hot-water units have been replaced with gas instantaneous hot-water heaters; and the other that presumes all electric storage-type hot-water units have been replaced with solar hot-water systems, which combine solar panels and gas instantaneous hot-water heaters.

#### Scenario 1

#### If all electric storage-type hot-water units had been gas instantaneous hot-water heaters

Australia's CO<sub>2</sub> emissions could have been cut by about 8.5 million tons, equivalent to 2.1% of total emissions—397 million tons—in 2009.

#### Scenario 2

#### If all hot-water units had been solar + hot-water systems

Annual CO<sub>2</sub> emissions could have been cut by about 13.3 million tons, equivalent to 3.4% of Australia's total emissions.

## CO<sub>2</sub> Emissions /Annual Scenario 1 If electric storage-type hot-water units had If all units had been solar + gas been gas instantaneous hot-water units instantaneous hot-water units (Ten thousandtons) (Ten thousandtons) 1,596 1,596 CO2 reduction of about 18.5 million tons CO, reduction of about 13.3 million tons 736 264 Existing Scenario 1 Electric storage-type hot-water units, Gas storage-type hot-water units Gas instantaneous hot-water units, Solar + electric storage-type hot-water units Solar + gas storage-type hot-water units, Heat pump hot-water units Note: Calculation of CO<sub>2</sub> emissions determined with reference to standards presented in Energy Strategies 2007 at yourhome.gov.au

#### **Special Feature 1**

# **Heat and Comfortable Lifestyles**

# Heat-optimizing solutions for people in Japan and all over the world

—Product development at Rinnai—

As a comprehensive heat-energy appliance manufacturer, Rinnai has launched various products that enable users to live a more comfortable lifestyle. Diverse ideas have gone into products currently in use, prioritizing safety, comfort and efficient use of heat. What is behind the development if heat-energy appliances at Rinnai? Read on to find out.



# Energy savings higher with heat from gas-burning appliances than with heat produced from electricity

People require heat for many different applications—for a hot shower or to get warmed up, or for cooking. Safe, easy-to-use appliances are needed to convert fuel into heat appropriate for the desired purpose.

These days, gas and electricity are used most often as heat sources for hot water, cooking and room heating. However, the nuclear crisis that followed the great earthquake and tsunami of March 11, 2011, led to a complete shutdown of nuclear power plants across Japan, and although some facilities have recently resumed operations, electric power providers will probably be forced to continue to rely on thermal power generation to meet demand for electricity.

When electricity is used as the heat source for cooking and room heating, a loss occurs between the moment the power plant converts its feedstock into electricity and transmission of that energy. However, when gas is used, it produces heat as soon as it is burned, leading to higher thermal efficiency. While electricity is an important type of energy, gas provides better energy savings to households and is considered more environmentally friendly.



Gas stove which is easy to clean

#### Our top priority is the pursuit of safety and comfort

A product that puts anything, even "environment-friendly," before safety should never go to market. Rinnai has always prioritized safety in its product development efforts. An example of this commitment is the "Si" sensor, incorporated into tabletop gas stoves, to prevent deep-frying oil from catching fire. We also direct concerted effort into other research themes, such as failsafe mechanisms for all gas appliances to ensure safety even in the event of a malfunction due to deterioration over many years of use, and tabletop stove features to prevent clothing from catching fire.

In the pursuit of comfort, our focus in the hot-water segment has been on controls that do not cause a change in temperature when multiple locations within a home use hot water at the same time, and on improvements, particularly efforts to bring the difference between the remote control—set temperature and the actual temperature of hot water closer to zero. In the tabletop stove segment, we have adopted shield construction, which prevents any contents boiling over the edge of a pot from seeping inside the appliance interior so that cleanup easier, and also heat-off construction, which lowers the temperature of the tabletop—the glass surface—so that any boiled-over liquid will not burn on. Such features make cooking more enjoyable.

#### **In-House Perspective**

We provide safe, highly efficient gas appliances that make life more enjoyable for so many people.



Kinji Mori Executive Officer, Deputy General Manager of Research & Development Headquarters, and General Manager of Product Development Division

Seeking to reduce  $CO_2$  emissions, the government and electric power companies in Japan had promoted nuclear power, with all-electric homes falling under the spotlight in recent years. But the events of the Great East Japan Earthquake made it clear that no one can guarantee the absolute safety of nuclear power, and changes to Japan's energy policy have been the inevitable result. Green energy has attracted attention, especially solar power and geothermal power, but stable supply is a concern. Thermal power generation using natural gas as the feedstock could well become the mainstream source of electricity.

Thermal efficiency at some thermal power plants is around 60%, but at older facilities the rate hovers in the 30%-40% range. Meanwhile, home-use tabletop gas stoves have a rating of at least 55%. Of hot-water units, *Eco Jozu* high-efficiency models boast thermal efficiency around 95%, and the ECO ONE hybrid hot water and room heating system achieves a rate around 125%. There are more energy savings to be had at the residential level by burning gas and using that heat than converting gas to electricity at power plants and then turning electricity into heat for the desired purpose.

However, high efficiency alone does not necessarily make an appliance good. Above all, an appliance must be safe to use. Rinnai will continue to provide to customers everywhere gas appliances that are efficient and safe and support comfortable lifestyles.

#### Japan's gas appliance performance attracts overseas attention, too

Japan's gas appliances perform to a standard comparable to that of overseas products. In many countries, the common way to adjust the temperature of hot water is by increasing or decreasing the flow from the hot-water and the cold-water faucets by varying degrees until the desired temperature is reached. In Japan, however, hot water is set at the preferred temperature digitally by remote control.

Also, Rinnai boasts sophisticated technologies and know-how, amassed over many years, including expertise to keep water from freezing in cold climates and to circumvent malfunctions even due to rain and salt damage. Rinnai-brand products boast excellent levels of convenience, durability and performance, thanks to electronic control technology as well as gas- and liquid-control technology, mainly for city gas and water. It is these technologies that provide a key advantage in the pursuit of a wider presence in global markets.



Hot-water unit remote control used overseas

But technologies, no matter how sophisticated, are of little value if product development is not well matched to market conditions and consumer needs in specific countries and regions. For instance, it takes a few moments for hot water to start flowing, so in areas such as Australia, with little rainfall and a national obligation to conserve water resources, hot-water units have to be constructed so that no water is wasted. And in countries, particularly China, where people like to cook over high heat and grilled fish is not a common dish, we swapped out the grill area that is standard in Japan for a large high-heat burner, and in India, where simmered dishes, such as curry, are popular, we installed numerous small burners. Such designs reflect a concerted effort to develop products well suited to the food culture of the specific market where such appliances are sold.

Heat is indispensible to a comfortable lifestyle. As a comprehensive heat-energy appliance manufacturer, Rinnai offers market-optimized products that enable people everywhere to utilize heat matched to local requirements, and this leads to comfortable lifestyles.

#### **In-House Perspective**

# Rinnai offers the world gas hot-water units boasting sophisticated Japanese technology



Chikara Tsuge, Section Chief, Water Heater Development Section, Product Development Division, Research & Development Headquarters

Promising overseas markets for Rinnai's gas hot-water units are the United States and China, that remarkable economic powerhouse. The United States, in particular, presents considerable underlying demand for the instantaneous hot-water units so common in Japan. Currently, such units comprise a very tiny portion of the U.S. market, where storage-type hot-water units are prevalent, but greater environmental awareness and budget-consciousness could precipitate a switch.

Rinnai's hot-water units are regarded highly for top-level quality. Americans who are used to storage-type units seem surprised that there is way they will not run out of hot water and that hot water comes out of the faucet at the desired temperature right away. These features are due to technologies we have accumulated in Japan where high performance is an imperative. We will continue to develop technologies matched to the national and regional requirements of customers, and we will apply technologies acquired in Japan to provide increasingly better products.

# Special Feature 2 Quality

Adhering to the corporate philosophy "Quality is our destiny," we strive for zero-defect status.

Guided by the corporate philosophy "Quality is our destiny," we seek to maintain zero-defect status. Products—developed, manufactured and sold—end up with customers, and we undertake various activities to ensure that our products will perform as promised. The people in charge of each stage of a product's precustomer life were asked about their thoughts on quality. Their comments are presented below.



Development
Design/Testing

## A company that does not prioritize quality cannot survive Products are imbued with quality through designs that anticipate the unexpected

It is said that when a product malfunctions, the problem can be traced back to something that could have been prevented at the design stage. So at Rinnai, we emphasize approaches right from the product development stage to ensure zero defects. We have to consider two factors: the safety of gas appliances is paramount, of course, but these products must also satisfy market demands for comfort and convenience.

The structure of gas appliances is becoming increasingly complex and diversified, which requires swift responses incorporating technologies from different fields. At one time, responses were like that arcade game—whack-a-mole—and we addressed a product defect if and when it appeared. But that approach has been replaced by a more proactive method hinging on designs that anticipate the unexpected. We strive to add quality to products right from the design stage, mainly through simulations and learning from past defects to confirm the appropriateness of design features. We also apply verification methods to identify points for improvement and prevent potential problems from ever happening. A company that does not prioritize quality loses the trust of its customers and without such trust cannot survive in the business world. It is important to raise awareness and recognition of quality within the Rinnai Group and promote zero defect design while conveying our quality emphasis to younger generations of design engineers.



Product testing at the Research & Development Headquarters



Masanori Shimizu, General Manager of Component Technology Development Division, Research & Development Headquarters

Production Production Technology

#### 5Ms define in-house design of production equipment Aim for zero defects that track back to facilities

At Rinnai, the design of production facilities for manufacturing gas appliances is an in-house activity. The Research & Development Headquarters works with factories and production technology divisions to build zero-defect production facilities. Recently, we have been trying our hand at equipment for imaging and for process monitoring. That said, we still check processing tools and other equipment for signs of deterioration and strive to eliminate defects that track back to facilities.

We want to improve the design of facilities and equipment so that we stop defective units from appearing during mass-production stages, such as assembly and processing, but we are also looking into ways to make operations easier for production line workers.

Production requires a 5M perspective: man, machine, material, method and measurement. It is our mission to pursue defect-free manufacturing with the 5Ms in mind, and that is why we choose to design our own facilities. Whether the operations are at home or abroad, the approach is the same. If a problem appears, it has to be resolved quickly, and efforts are directed toward maintaining zero defect status at production facilities.



Production Technology Center



Naoki Oshima, Project Leader, Plant Equipment Section, Machine Laboratory, Production Engineering Division, Production Headquarters

Production Assembly

# Improved construction and devices that prevent careless mistakes have been successful

# Going forward, strive to eliminate defects caused by human error

Production comprises a manufacturing stage, to turn out functional components and other parts, and an assembly stage, to put all the pieces together. Even if the parts are manufactured to quality standards, a mistake at the assembly stage will lead to a defective appliance. So you could say that efforts to enhance quality at the assembly stage are also indispensible to production.

The assembly side of production is concerned about five types of leaks: gas, water, electricity, exhaust and wavelength. Through feedback to the development and design division on construction susceptible to defects and the introduction of FP devices\* to prevent careless mistakes, critical problems are no longer an issue and the number of in-process defects has decreased. But little slip-ups, such as a crooked label, caused by human hands do happen, so we are taking new approaches, such mechanization of steps that can be executed by machine. Increased mechanization, however, hinders the transfer of knowhow accumulated by experienced workers to the younger



Seto Factory assembly line

generations of factory employees, so we are looking into ways to pass along techniques and expertise from one generation to the next

\*FP (fool proof) device: A device that neutralizes a dangerous situation or prevents a defect even if a machine is inadvertently operated incorrectly; or, a device that prevents incorrect operation of a machine to begin with.



Katsunori Kumagaya, Project Leader, No. 2 Manufacturing Unit, Seto Factory

Sales Logistics

# Even if numbers are low, a misdelivery is still a misdelivery Promoting activities aimed at zero misdeliveries

Rinnai does not outsource its logistics function but rather chooses to keep it in-house. This is essentially a reflection of our commitment to quality—to enhance quality even in such operations as delivering products to customers.

The Integrated Logistics Center opened in April 2008. It takes in products from four Rinnai factories and Group companies for distribution throughout Japan. We take various steps to prevent misdeliveries, including the introduction of a product inquiry system using quick response—QR—codes, which has contributed to a reduction in misdeliveries.

Even though the number of misdelivered products has dropped, some still occur. And a customer who happens to receive the wrong appliance is undoubtedly unhappy. Understandably, from a customer's perspective, misdeliveries should not happen at all. To bring misdeliveries to zero, we are working to further refine the current system, with an emphasis on procedures to eliminate human error.



Reading QR code



Kizuki Kawabata, Manager, Integrated Logistics Center, Logistics Control Office, Production Headquarters

Sales
Installation and
Maintenance

## Always striving to satisfy customers Making the installation process even better

In the installation process, the most inexcusable mistake is not connecting the appliance to the gas outlet correctly. We are meticulous about inspections and procedures to prevent this, and it rarely happens anymore. The next biggest problem is improper installation. This includes the way the appliance looks inside the room where it has been installed. For instance, is the remote control for the hot-water unit crooked or nice and straight on the wall?

Quality means safety, comfort and satisfaction from a customer perspective, and we strive to provide gas appliances of this type of quality. Toward this end, we put a lot of effort into training and instruction programs for our installation associates across Japan. We carefully track the status of associates to find out, for example, if they take and place orders for customers properly and execute installation work correctly, if they have the necessary qualifications to do the required installations, and if their credentials are current. We help associates enhance their capabilities so that the quality of installation work is consistent everywhere in Japan.



Installing a hot-water unit



Koji Ejiri, Manager, Installation and Maintenance Office, Sales and Administration Division, Marketing and Sales Headquarters

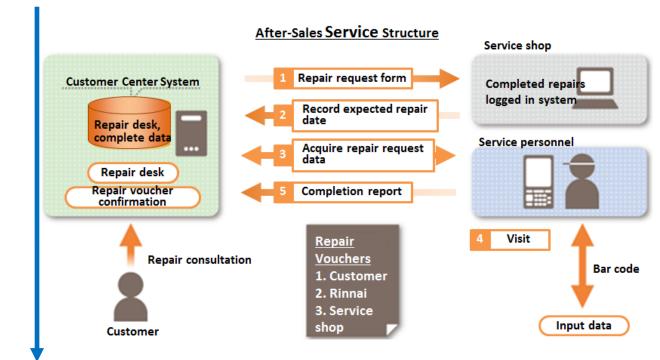
After-sales services
Inspection and repair

# We strive to improve repair capabilities and customer service skills, which underpin the Rinnai brand

When a Rinnai appliance does not perform as it should, technical service personnel like me visit customers—the end-users—to fix the problem. Customers turn on a Rinnai appliance every day, so we are available daily throughout the year, except on New Year's Day, to deal with problems. It is our mission to meet the expectations of customers who have purchased a Rinnai product because they trust the name. Our response when an appliance is not working right can polish—or tarnish—the reputation of the Rinnai brand. We go about our business, well aware that we fly the Rinnai flag. As a representative of the brand, we communicate with customers to pinpoint problems, inspect and repair appliances and take them through a test run, and then carefully explain what we have done. We also study for tests under the repair accreditation system to upgrade repair techniques and participate in service technology courses to improve proficiency and knowledge. At the same time, we attend training and lectures on compliance, service etiquette and customer satisfaction to develop better customer service skills.



Yoshiyuki Matsumoto, Chief Technical Services Officer, Rinnai Service Shop (Techno Chubu Company Ltd.)



Parts delivered as requested Correct type and quantity ensured through proper system and training

At Rinnai, the parts for gas appliances are made available through a post-production supply structure lasting, in principle, five to 10 years and in some cases a dozen or so years. So that customers are able to use our products for many years in comfort and safety, we maintain a structure to deliver parts quickly when needed. This is the quality aspect of after-sales service.

After-sales services

**Product** 

Maintenance

The Parts Center handles more than 100,000 parts. Because the number is so big, we have a system to pick, wrap and send out these many products. At the Parts Center, we have to ensure that the right parts in the right quantity are delivered to their specified destinations on time. We promote approaches to enhance quality, such as code of practice manual—a written account of job descriptions—and work instructions based on a document "Basic Rules on Quality" that sums up Rinnai's quality perspective.



Stocked service parts at the Parts Center



Koji Kawaguchi, Section Chief, Components Center, Production Headquarters

**Special Feature 3** 

# **Contributing to Local Communities**

# Safe, user-friendly gas tabletop stoves for Indonesia —Contributing to better lifestyles

Rinnai has subsidiaries in 16 countries and special administrative regions, and through this overseas network, the Company promotes product development, manufacturing, sales and services matched to each market. Special Feature 3 spotlights one of these markets—Indonesia—and provides a look at demand conditions in this country, which has been enjoying notable economic growth in recent years, and the activities of PT Rinnai Indonesia.



# Blessed with mineral resources

#### Indonesia—Marking stable economic growth

Indonesia, located at the southern edge of Southeast Asia, is about seven hours from Japan by air on a Tokyo (Narita)-to-Jakarta route. The island of Bali, a popular destination for Japanese travelers, is part of Indonesia.

The country comprises some 17,500 islands scattered over 1.89 million square kilometers, an area about five times the size of Japan. Tropical rainforests cover 60% of the archipelago. The population—nearly 240 million people, or 60 million households—lives on about 9,000 islands, with Java, accounting for 7% of the nation's land mass, being home to more than 130 million people. Indonesia is a republic and its people are ethnically and culturally diverse, with some 490 distinct groups. People of Malay extraction make up the majority, while about 3% of the population are of Chinese ancestry. The constitution recognizes religious freedom: 87% of the population is Muslim, 11% is Christian, 1% is Buddhist and less than 1% is Hindu.



Indonesia is a key ASEAN economy.

Indonesia is blessed with mineral resources, such as oil and natural gas, but in recent years the country has become an importer of oil owing to expanding consumption of fossil fuels. The country also has rich deposits of tin, bauxite, copper and coal. In addition, palm trees thrive in the equatorial climate, underpinning a large palm oil industry. Gross domestic product is on an upward trend—US\$3,010 in 2010 and US\$3,543 in 2011—and the International Monetary Fund forecasts a 6.3% year-on-year improvement in the GDP for 2012.

#### Rinnai Indonesia celebrates 25th anniversary in 2013

Rinnai Indonesia was established in March 1988 and will mark its 2: anniversary in 2013. About 30 years ago, Rinnai began exporting finish products made in Japan but then switched to knock-down production key components exported and then assembled into finished produ locally—to meet demand in Indonesia. Gradually, the volume of knocdown units grew, and Rinnai, anticipating further growth, formed a journal venture with Indonesian clients. The following year, 1989, production commenced at a newly built factory. Today, the company is a somember of the Rinnai Group, with sales of around ¥9.3 billion yen 2011. Its core products—tabletop and built-in stoves—have captured 60% of the local market.

DE Principal

PT. Rinnai Indonesia's Cikupa Plant

#### **Employee Interview**

We provide products that contribute to better lives for the people. We also seek to contribute to the development of our country, particularly through job security.

Lenbach Sastra, President, PT. Rinnai Indonesia

Although Indonesia is an oil-producing nation, domestic demand for the energy source has grown along with economic development, leading to a persistent shortage of crude oil. What Rinnai Indonesia can do in these circumstances is provide gas appliances that do not burn oil. It is our mission to produce high-quality gas stoves and other appliances that are safe to use and offer peace of mind and also meet the needs of as many people as possible.

Indonesia has garnered attention as an emerging nation, but the required infrastructure, such as road networks, to sustain economic growth are not in place. In addition, the country does not even have the right environment to ensure enough job opportunities for all the people with the desire to work. I believe that increased factory production and the hiring of people in the surrounding neighborhoods will lead to better employment conditions for Indonesians and also underpin development of the country itself through improved social infrastructure.

Rinnai Indonesia must continue, as a comprehensive heat-energy appliance maker, to provide high-quality, suitably priced products matched to market needs. This may require a step outside the gas appliance realm to something completely new, like electric water heaters. Whatever the field may be, we will constantly strive to contribute to better lives for Indonesians by providing products that offer greater comfort and convenience along with excellent safety features.

## Government policy encourages wider use of LPG tabletop stoves Replacement demand fuels Rinnai's market share

In Indonesia, civilians—that is, households—use mainly kerosene and LPG as energy sources for heating and cooking. However, for a long time, the utilization rate of LPG was stuck around 10%, and kerosene-burning stoves became a common sight in kitchens across the country. The government, too, encouraged citizens to use kerosene through various initiatives, including subsidies to the poorer classes.

In 2005, with the cost of subsidies exacting a considerable toll on limited public resources, the Indonesian government initiated a kerosene-to-LPG conversion program for households. LPG carried a relatively lower subsidy burden. Under the program, 3kg gas cylinders, single-burner cooking stoves and gas regulators were supplied to 54 million households free of charge to encourage citizens to give up kerosene and switch to LPG.

The single-burner cooking stoves delivered to households were made by local manufacturers. But just as the program started, a lucrative trend emerged: The market was keen to replace these appliances with Rinnai-made, high-quality, two-burner models which offered more convenience than the single-burner cooking stoves. Rinnai Indonesia's sales soared. This turned into a huge opportunity for the company to expand sales of its gas cooking stoves. Indeed, the company's sales hovered around 450,000 units in 2005, and by 2011 sales were around 5.25 million units.

## Construction starts at new plant for tabletop stoves Production capacity to hit 11 million units by 2014

Rinnai's core products for the Indonesian market are kitchen appliances, including the aforementioned tabletop stoves.

Currently, the government census puts the number of households in Indonesia at 60 million. Tack on demand from five million commercial users of gas burners, such as office kitchens, food wagons and small eateries, and the size of the market could actually be 65 million. Suppose that the replacement timeframe for gas tabletop stoves is five years; annual demand would be 12 million units. Also consider that two million couples

get married each year. Putting both estimates together, annual demand could range between 12 million and 14 million units.

Keen to capitalize on this market potential, Rinnai Indonesia brought the Balaraja Plant into operation in May 2012. Completion of the new plant should enable the company to gradually boost tabletop stove production capacity from the current 5.5 million units to 11 million units by 2014. Interestingly, Rinnai Indonesia boasts the world's largest tabletop stove production capacity.



Rinnai tabletop stove sold in Indonesia.



Ceremony in December 2011 to mark annual production exceeding five million units. Hiroyasu Naito, president of Rinnai (left), congratulates Bapak Rachman Sastra, chairman of Rinnai Indonesia



Balaraja Plant operated by Rinnai Indonesia

# **Production of gas cocks starts in Indonesia Provide products that the market wants**

The production of key components by Rinnai or companies under the Group umbrella is fundamental to the concept of *monozukuri* (manufacturing). Previously, Rinnai Indonesia imported gas cocks (valves), used in tabletop stoves, from Rinnai (Thailand) Co., Ltd. However, increased production and risk management considerations prompted a decision to begin production of gas cocks in Indonesia, starting in 2011. The new plant is to make gas cocks, too, and will satisfy more than half its own requirements once operations get into full-swing. Through this approach, key components will be available either through in-house production at Rinnai Indonesia or through imports from Group companies.

The gas tabletop stoves made and sold by Rinnai Indonesia are very nearly a necessity of a life in Indonesia. More people are apparently joining the ranks of the middle class, but more than just a few people work at jobs that pay just \$15,000 - \$17,000 a month. The price of a gas tabletop stove is pegged to regional annual income and set at a price anyone can afford: \$2,000 - \$3,000. Going forward, the policy will highlight prices, systems and specifications matched to market conditions to enable consumers to purchase the appliances whenever they want.

Indonesia's population currently stands at about 240 million people. With expansion estimated at five million people every year, in 50 years' time, the population of Indonesia could be around 500 million. Unlike Japan, with its graying population and falling birthrate, Indonesia has a noticeably large number of young people. An overwhelmingly large percentage of the general population lives below the poverty line, and the national government has prioritized measures to improve living standards and ensure that the poor have enough food to eat.

Indonesia has been able to maintain stable growth of late and should be able to sustain this trend into the future. But further development is contingent upon the establishment of social infrastructure, particularly roads, highways and subway networks, ports and water and sewage systems. If the government can ensure the necessary infrastructure, it will encourage vigorous industrial activity and make Indonesia more appealing from an investment perspective. Within this environment, Rinnai Indonesia will continue to provide safe, easy-to-use products to the people of Indonesia to contribute to more comfortable lifestyles.

#### **In-House Perspective**

# I strive to improve processes with safety as my top priority. I will continue to do my part to support corporate growth.



SURAKMAN Assistant Supervisor, Balaraja Plant, Rinnai Indonesia Employee since 1994

I transferred from the Cikupa Plant when the Balaraja Plant came on line, and currently I am responsible for the gas cock production division. My training has included technical instruction in 2008 and again in 2011 at Rinnai Seiki Co., Ltd., in Japan.

Gas cocks are diecast aluminum products. During the casting process, temperature and condition of materials may cause tiny holes to form in the aluminum. The gas appliances made by Rinnai Indonesia are not allowed to leak, so no hole can escape detection, no matter how small it may be. We conduct thorough inspections and strive to prevent defective products from shipping out at a later stage, but we also strive to improve the diecasting process and reduce the occurrence of defects at all. We have steadily achieved good results.

Rinnai Indonesia has charted increases in production volume, and I feel my work has a very positive impact the company's development. I am proud to have contributed to the process of establishing the Rinnai brand so prominently in Indonesia. Going forward, I will do my utmost to support further growth of the company. I also hope that Rinnai will expand its presence to neighboring countries, as well.

# **Management System**

# **Corporate Governance**

#### Toward Enhanced Transparency

From the perspective of a sharper competitive edge for the Group and sustained improvement in corporate value, Rinnai has made efforts to augment practices and enrich the scope of corporate governance a top management priority. We aim to reinforce the functions of corporate structures, such as the Board of Directors and the Board of Auditors, and seek a higher level of management transparency, which will be achieved through quick and accurate disclosure of pertinent information to various stakeholder groups and through access to a wide range of information.

# **Internal Control System**

We regard the following four items as the aims of our internal control as we seek to reinforce our management system and fulfill our social responsibilities. Through means such as risk management and internal auditing we revise as necessary the basic policy on establishment of an internal control system that we instituted in May 2006, in our efforts to reinforce this system.

Objective of the Internal Control System

- 1. Effective and efficient operations.
- 2. Reliable financial reporting.
- 3. Adherence to laws and regulations affecting business activities
- 4. Safeguarding assets

To respond to the Internal Control Report System under the Financial Instruments and Exchange Act, which was first applied in April 2008, our Group ensures the reliability of our financial reporting by having the Internal Control Office, an independent division, select Group companies and business processes that will have a material impact on our entire financial reporting on a consolidated basis, and evaluate the effectiveness of their organization and application.

# Structure for Monitoring Management Performance

Rinnai has four corporate auditors, two of whom are outside auditors.

Corporate auditors attend important meetings, including those of the Board of Directors.

They also monitor internal control status—that is, progress on the establishment of internal controls and implementation of associated practices—with a focus on the results achieved by directors and executive bodies, and they check on the status of operations and asset management at the head office and principal branches.

In addition, an external accounting firm undertakes accounting audits and verifies the soundness of accounting-oriented internal controls from a third-party perspective.

#### **Board of Directors**

The Board of Directors has decision-making authority for important management issues affecting Rinnai and oversees the execution of duties by directors. The Board has six members and as a rule meets once a month. Some directors below the rank of president hold concurrent positions as executive officers and are responsible for conveying the content of Board decisions to the managers of divisions under their respective supervision and for executing operations. In addition, general groupwide meetings as well as parent-only meetings are held every three months so that directors can pinpoint the status of issues affecting operations and share information on pertinent topics. Moreover, to clarify the management responsibilities of each business year and gain trust from shareholders, Rinnai regulates the term of director to be one year.

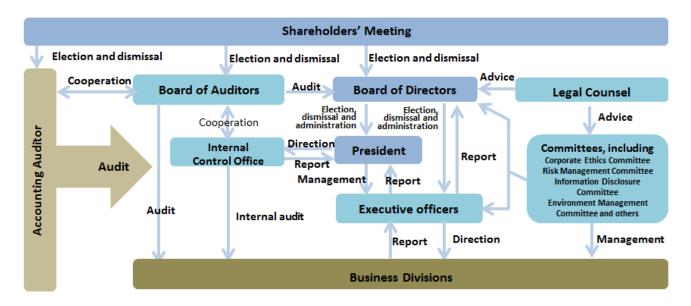
## **Director Compensation**

The limits of compensation for Directors and Auditors are determined in accordance with the resolution of the general meeting of shareholders. Moreover, the Rinnai's internal regulations stipulate fundamental matters related to Directors' compensations including the method of determination, revision and reduction. Based on these, the amounts of compensation for Directors are resolved at the Board of Directors and the amounts of compensation for Auditors are determined through the deliberations by Auditors. Directors are paid a fixed amount commensurate with assigned duties. Please note that Rinnai terminated the retirement benefit system for directors, following approval of a proposal put forward at the General Meeting of Shareholders on June 27, 2008.

### **Information Disclosure**

For timely and appropriate disclosure of important information on the Group, we facilitated the internal regulations and established "Disclosure Policy", which is listed on our website, as the guidelines for information disclosure.

# Corporate Governance Structure



# Risk Management

#### **Risk Management Promotion System**

As social structures become more complex, the risks faced by companies become more diverse. In this operating environment, the Rinnai Group strives to manage existing and emerging risks to support global business development and ensure stable business activities that sustain the trust of customers and society as a whole.

The Risk Management Committee, chaired by the president, meets regularly. The committee assigns a division to oversee each risk with the potential to influence our corporate survival, credibility, business pursuits and assets (for instance, a division to oversee activities for preventing fires and explosions, measures for earthquake-proofing of buildings, measures for preventing leakage of confidential information, and measures for reducing traffic accidents), and is also tasked with risk-lowering duties, such as formulating preventative measures, resolving issues before they turn into crises, minimizing losses and defining strategies to avert the reoccurrence of any risks that became a reality. Methods for hedging risk are promoted laterally throughout the Group.

In our efforts to secure workplace safety and prevent accidents we designate the 27th of each month as Safety Day. On this day, safety patrols are conducted at the Technology Development Center and factories. As a measure for reducing on-the-job accidents and injuries, we have established the *Anzen Dojo* (a safety training hall where potential workplace events are simulated) at each factory as a place for safety education.

### **Information Securities Measures**

While society becomes more demanding toward company's security reinforcement issues, our Group as a whole promotes the adequate management of security systems by strengthening the awareness for proper information handling through the establishment of the rules for confidential information management and the personal information management. User authentication technology was adopted company-wide to manage accesses to IT system and an entry/withdrawal management system with ID cards has been introduced to various business locations including Technology Development Center one by one.

In addition, to avoid information leakage, we have been enforcing a strict management of the external use of personal computers, encryption of data stored in media to be used outside of the office, unauthorized access by outsiders and virus countermeasures.

# **Promotion of Businesses Continuity Plan**

When companies have no sufficient measures for natural disasters such as earthquakes and storms and the prevalence of infectious diseases, the business operations may be suspended for a long time, result in a significant damage and give a serious impact on stakeholders. As a company which produces thermal energy appliance to support people's lifestyles, we believe it is our responsibility to maintain the stable supply of our products even under such circumstances.

In anticipation of highly probably large-scale disasters, including major earthquakes foreseen in the Tokai, Nankai and Tonankai areas, and based on our experience with last year's Great East Japan Earthquake, we are planning to use alternative raw material suppliers and other alternative procurement sources. We also use multiple procurement sources daily so that we can continue to supply our products promptly even if there are events that prevent production and supply of important products needed by our customers. We position such business continuity management (to ensure quick recovery of important operations) as a top management priority, and are working on creation and review of business continuity plans mainly for production divisions in Japan.

# **Compliance**

## **Compliance Promotion System**

To remain a sound corporate group which wins the trust of society, Corporate Ethics Committee headed by our President as its chairman was established in April 2004. For the prevalence of compliance as part of our corporate culture, all employees strive to perform social responsibilities and promote the creation of workplace that encourages people to actively engage in their work.



# Rinnai Group "Code of Ethics"

"Code of Ethics" is a small booklet which combined "Corporate Philosophy" and "Rinnai Code of Conduct" which is the detailed behavior standards that all executives and employees shall obey.

The Compliance Committee member allocated to each workplace provides all employees in the workplace with "Code of Ethics" training each year for its enforcement. The "Code of Ethics English version" was issued and distributed among overseas Group companies, and local language versions were distributed to Group companies in China, South Korea, Thailand, Vietnam, Brazil and Indonesia. Currently, at each of the 17 overseas Group companies staff members in charge of training implement employee education concerning the "Code of Ethics."



Booklets of "Code of Ethics" of various countries



A "Code of Ethics" training session in Vietnam

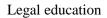
## **Promotion of Compliance Activities**

#### **Compliance education activities**

In our company, president himself takes an initiative sending messages on corporate ethics to employees to improve the employees' awareness towards compliance. Moreover, regarding the laws that each department has deep relationship with, legal department is taking a lead to provide legal education every year. At the Production Headquarters, for instance, training on the "Act against Delay in Payment of Subcontract Proceeds, Etc. to Subcontractors" was conducted with case studies. In fiscal 2012, a total of 1,226 employees took the training and deepened their knowledge of the law.

As a new initiative, at eight sites in Japan we provided compliance education to 130 representatives from an affiliated after-sales service company. We also conducted compliance education for the Compliance Committee member of each division and job-class-specific compliance education.







Education of staff of the after-sales service company



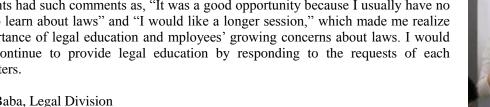
Compliance committee member training

Fiscal 2012, Actual of number of training attendants

Name of course	Number of attendants
Legal education	1,226 people
Compliance committee member training	41 people
Ethic education by layer	311 people

#### **Comment from an Employee Who Provided Legal Education**

I spent about three months providing legal education at branches, sales offices and principal offices all over Japan. In questionnaires conducted after each session, participants had such comments as, "It was a good opportunity because I usually have no chance to learn about laws" and "I would like a longer session," which made me realize the importance of legal education and mployees' growing concerns about laws. I would like to continue to provide legal education by responding to the requests of each headquarters.



Minako Baba, Legal Division



#### **Information Distribution to All Employees**

Every October is designated Corporate Ethics Month, and we promote activities to enhance awareness of ethics in the workplace. A message on corporate ethics from the president himself is uploaded to an intranet, and compliance-themed posters are displayed in all offices.

On our intranet we also post a law-oriented section for frequently asked questions as well as information about law revisions. We send a range of information to employees in our domestic Group companies.



Compliance education poster

## **Confirmation and Modification of Compliance Activities**

Each year, we conduct a questionnaire of employees about compliance to determine how deeply ingrained our Corporate Philosophy has become and to uncover latent risks in all workplaces. Based on the results, we implement measures for raising awareness of compliance among employees.

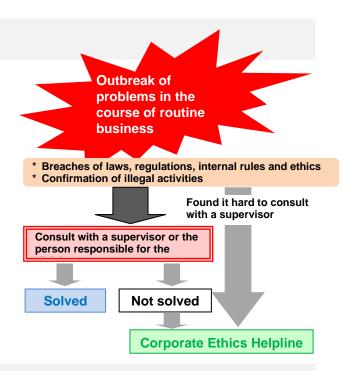
In fiscal 2012, breaking down the penetration rate for each component of our corporate philosophy, we found that 99.6% of respondents were familiar with the corporate motto and 97.0% recognized our corporate mission. We will continue to actively promote compliance activities to maintain these high levels.

# **Facilitation of Internal Reporting System**

If, in the course of business activities, an employee at a domestic company under the Group umbrella suspects possible breach of laws or the internal rules or unfair practices, and it is difficult to approach a superior or the person responsible for the division with such suspicions, the employee may report the perceived infraction to the Corporate Ethics Helpline.

In this system, we stipulated that the person who reported the incident will not receive any unfair treatment by the fact that he/she consulted the matter and we also pay a full attention to the protection of privacy of the person who made the report.

In fiscal 2012, the helpline received 2 calls for consultation and report. Appropriate measures have been taken, including investigation and confirmation of the facts in these cases of alleged misconduct.



# **Reward and Disciplinary Committee**

To maintain fair working environment, we apply strict measures to an employee who breached the internal rules, Code of Ethics or committed unfair practices based on the working rules under the guidance of the Reward and Disciplinary Committee.

# **Protecting Personal Information**

Rinnai applies internal rules based on the Act on the Protection of Personal Information. In addition, "Privacy Policy" was stipulated as guidelines for the handling of personal information and posted on our website. Utilizing these, we strive to ensure appropriate storage and handling of customer data and protection thereof.

Accordingly, we established the position of Chief Privacy Officer at the head office and require privacy officers at all workplaces, including the offices of Group companies in Japan for the education of the internal rules for employees who handle personal information, and the establishment of physical and technical system to insure the safe management of personal information in each workplace.

The privacy officer also conducts an internal audit once a year at each workplace on the management of personal information. In fiscal 2012, we implemented audits by the Legal Division as well as those by privacy officers.

In fiscal 2012, there was no incidence of personal information leakage.

# With Our Customers

# **Measures for Quality**

### **Basic Stance on Quality**

Since our establishment, at Rinnai, we have always been executing our business operations being passionate about quality for our customers to safely use our products with peace of mind.

Indeed, our policy on quality-infused by the corporate philosophy "Quality is our destiny"-stresses efforts to provide customers with highly safe and satisfactory products. This enduring commitment gives customers complete peace of mind in selecting and using Rinnai products.

Basic Philosophy on Quality	Policy on Quality
"Quality is our destiny"	We provide highly safe products that meet customers' requirements.

#### **Voluntary Action Plan for Product Safety**

In June 2007, we formulated a voluntary action plan for product safety along with a promotion strategy that would give substance to activities based on the action plan. We encouraged divisions to embrace the action plan and its associated promotion strategy, confirmed that divisions were on board, and wrapped up the process in February 2008. Currently, the Quality Assurance Headquarters oversee the voluntary action plan for product safety, verify implementation status as appropriate, and guide efforts to uphold our policy on quality day in and day out.

# Product Development in Pursuit of Safety and Peace of Mind

The nature of our business-making and marketing gas appliances-demands *monozukuri* (manufacturing) prioritizing safety. We deliver products developed and manufactured in accordance with industry specifications and safety standards.

Safety is ensured through assessments specific to each stage of the commercialization process, including design reviews that evaluate product performance and reliability.

Issues that crop up on a day-to-day basis are communicated to the relevant divisions and resolved. However, issues of a particularly serious nature are reported to the president and executive officers at the monthly meeting of the Quality Committee along with associated updates on response measures and other actions taken to address problems.

The Seven Key Elements of Quality			
1. Good function and performance	2. Easy to use		
3. Safe	4. Nice exterior features		
5. Reliable	6. Environmentally compatible		
7. Up to legal and self-imposed standards			

# Monozukuri which assures high quality

#### In-house development of core technology

To assure our products to achieve high quality and safety, we pay considerable attention to our core technology including "combustion control technology", "heat exchange technology" and "fluid-control technologies used for gas and water" and critical security components are developed and manufactured by our group companies. By achieving high-precision heat control using sensors and electronic units, we are pursuing absolute safety and zero defects.\*

\*Zero defects: No failure, no defect products and no fault

#### **Integrated production system**

Critical security components which affect the quality of products are manufactured with an integrated production system from a raw material processing phase to an assembling phase paying extra-attention to manufacturing technique. Moreover, important production equipment, dies and IT system are all developed within the Group. We have been manufacturing high quality products by arranging the production of both critical security components and manufacturing tools within our group companies.

## Information disclosure on "Safety and Peace of Mind"

In the event, however remote, that a Rinnai product malfunctions during use or an accident results from a defective Rinnai product or insufficient service thereof, we promptly report the details to the competent authorities in accordance with prevailing laws and regulations. Even when it is unclear whether or not an accident is attributable to one of our products, we still provide pertinent information on our website to alert customers and appliance installation and repair providers to a potential safety issue.



# **Invigorating Quality Improvement Activities**

Seeking to enhance the problem-solving skills of each and every employee and invigorate the organization, we began promoting small group quality control circles. Involving our group companies, we are actively promoting this QC program. We award to the best circles at the company-wide QC circle conference in September.





Company-wide QC circle conference

# **CS Policy**

Based on our corporate philosophy "Quality is our destiny", we "sincerely, promptly and adequately handle our customers' requests and offer consultation" and "provide satisfying, assuring and reliable services to our customers" as our policy.

#### **Fundamental Policy**

- 1. We, any departments of our company, identify comments and requests from our customers as our top priority.
- 2. We understand that customers' complaints are addressed to the entire Company and the whole organization shall be responsible for them until the cases are closed.
- 3. We take customers' comments seriously and share them within the Company to utilize as the precious information to improve our products and services.
- 4. We always abide by laws and regulations and we don't give in to unreasonable demand.
- 5. We strictly protect the personal information of our customers by observing related laws, regulations and Rinnai's Personal Information Protection Regulations.

# **Inquiry Response and Support System**

## **Customer Center**

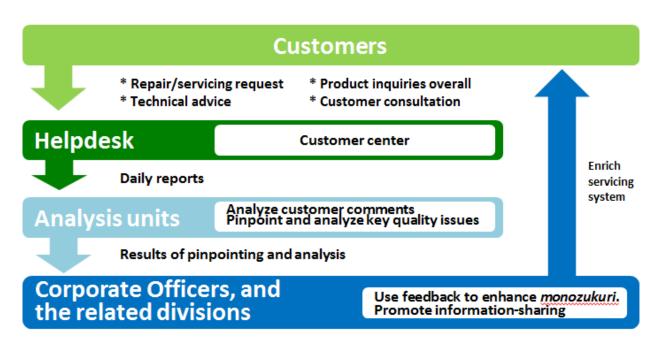
We established the Customer Center to receive any inquiries, comments, requests and complaints by phone. Valuable comments from our customers are shared with our product development, sales and service departments as feedback and utilized to further improve our customers' satisfaction. In fiscal 2012, about 1 million calls were made to our toll-free number and about 5,500 comments were forwarded through our website.

In fiscal 2012, "Rinnai West Japan Customer Center" started its operation in Aichi plant, and we completed to shift the functions from four customer centers in the Western Japan (Chubu, Kansai, Hiroshima and Kyushu) to the newly opened center. Our customer service capability will be reinforced by having two centralized customer service centers including the "East Japan Customer Center" which started its operation in 2009.





We strive to reflect upon our customers' feedback on our products and services day in day out.



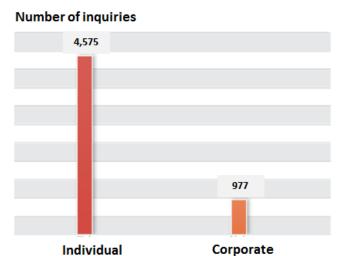
Applying customer comments to products and services

#### **Our Customers' Comments**

(Introduction of customers' comments and inquiries forwarded through our website in fiscal 2012)

#### 1. By customer

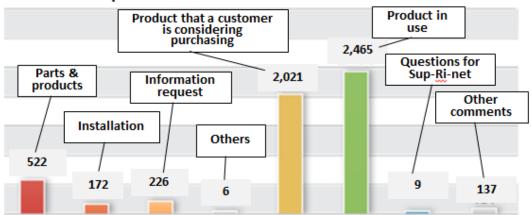
The breakdown of inquiries from customers is 83% from individuals and 17% from companies.



#### 2. By content

There are the three major topics: (1) Product in use: 44%, (2) Product that a customer is considering purchasing: 36%, (3) Parts & products: 9%

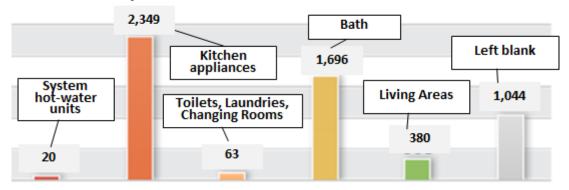
#### Number of inquiries



#### 3. By model

Many inquiries were kitchen appliances-related. : (1) Kitchen appliances: 43%, (2) Hot-water units: 31%

# **Number of inquiries**



### Strengthening our capability to respond to our customers

Responding to our customers' request who would like to solve their issues by themselves, "FAQ" is listed on our website.

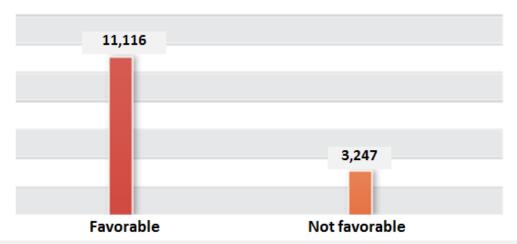
In fiscal 2012, we increased the number of FAQ information by product type to 351 this year from 323 of the last year. In addition, we listed more information on our new product, hot-water unit with the gas/solar hybrid system, to strengthen our customer service.

\*FAQ: Frequently Asked Questions



In fiscal 2012, 77% people gave a favorable evaluation on our FAQ section. We continue adding the contents to the section to be more useful to our customers.

### Evaluation on our inquiry handling Number of inquiries



# Online provision of customer support and proposals for lifestyle comfort

For our customers to use our products for a long time, we directly provide parts that our customers can replace by themselves and cleaning products through our online shopping site, "R.STYLE (RINNAI STYLE)".

In fiscal 2012, we boosted sales of kitchen-use products and goods that increase lifestyle convenience and comfort when used with our products. In October 2011, we also celebrated the fifth anniversary of "R.STYLE" and the number of registered members of the online shopping site surpassed 100,000. We therefore further increased contact with customers who use Rinnai products.



### Utilizing our customers' comments forwarded through website to improve the Company

We have received many comments at "R.STYLE (RINNAI STYLE)" about our products and services from customers who used the online shopping site. (We received a total of 5,676 comments in fiscal 2012).

In fiscal 2012, we launched *Himawari Messenger*, an internal website for sharing customer comments. This site is aimed at ensuring that customer comments are quickly communicated to divisions and reflected in improvement measures to be taken there. All customer comments are shared companywide on the site the morning after they are received, and then begin to be reflected in improvement measures at each division. Improvements made are posted on "R.STYLE" and reported back to customers.



# Creating a new relationship with younger customers

In November 2011, we began sales of HOWARO, a gas stove intended for customers in their 20s and 30s, via a dedicated website. The foremost objective of the product is to collect comments and other information from actual purchasers and users and analyze this to identify their needs and find previously unknown information about these younger customers.

HOWARO was created based on the requests of younger customers. The top panel of the stove is made of enamel and colored off-white. The stove is accented with knobs that come in five different colors to choose from. We will make use of the information obtained through sales of HOWARO for our future products and for increasing the number of Rinnai fans.



#### Comment from an Employee in Charge of HOWARO

We provide customers in their 20s and 30s who are first-time purchasers of gas stoves with products that can be used with a sense of security, even by first-time users, and which give customers the enjoyment of choosing their preferred color. We value customers' first encounters with gas stoves, and thereby increase the amount of Rinnai fans among younger people.



Mari Ando, E-business Promotion Office

# **Providing product safety information**

We promptly disclose product safety information to our customers to call for their attention, and immediately provide measures such as checking and repair. We believe it is important to rapidly provide customers with the information they need in the event of a disaster, in addition to giving them daily alerts and accident information.

In fiscal 2012, we posted information on our website about freezing of hot-water units to inform customers of how to prevent freezing-related breakage.



# **Inspection and Repair Services**

# For a long-term use without accidents

- Inspections like a yearly medical check-up for appliances -

In April 2009, Consumer Product Safety Act was revised and a safety inspection system for products in long-term use went into effect.

Some accidents linked to the deterioration of our products over long-term use have been reported. To make customers realize that appliances, like most products, have a particular service life and to encourage customers to have their Rinnai products inspected regularly, we send out the necessary information and extend advice through the Product Inspection Center. These efforts are aimed at preventing unforeseen accidents.

We enhance our maintenance inspection system with our qualified service specialists. In addition, we provide our original services extending a warranty period to three years for the customers who purchased our home-use hot-water unit and completed customer registration.

In April 2011, we also introduced a voluntary inspection system (Safety Inspection) for our outdoor hot-water units, in accordance with the law. This system has been gradually expanded; for instance, indoor hot-water and heating units were added to the subjects of legal inspection in July 2011.

# **Fundamental stance toward inspection**

Through inspections, we will enhance our customer support services.

### Five focused points of our fundamental stance

- 1. Good inspection (Good inspector, good handling, legal knowledge, and inspector report)
- **2.** Look through our customer's eyes (Usage of aged products, and reflection of customers' comments on products)
- **3. Customer satisfaction** (Appropriate and caring information offering)
- **4. Proposal to assure peace of mind** (Proposal to bring peace of mind before a product breaks, not after it broke)
- **5.** Trust building (On our appreciation for our customers' long patronage)

# Overview of our maintenance and inspection system

Maintenance and inspection system for products in long-term use

"Legal inspection" in accordance with a safety inspection system for products in long-term use (Consumer Product Safety Act)

\*Heat source appliance for hot-water unit and heater (Fan-forced system) was newly added in July 2011

To prevent the accidents due to the deterioration of products in the long-term use, we recommend users of products with Safety Inspection Mark to arrange product registration and inspection (at cost).

#### "Safety Inspection"

in accordance with a safety inspection system for products in long-term use

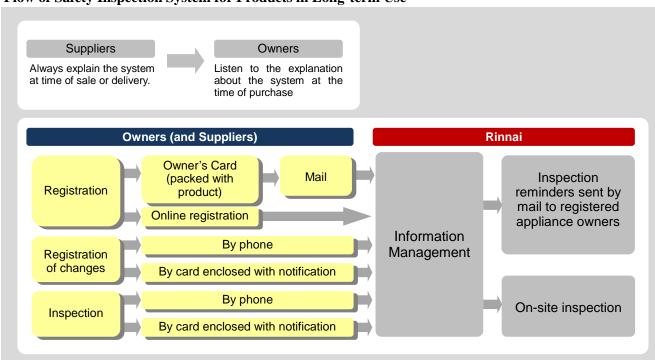
We recommend user registration and inspection (at cost) for products with a "Safety Inspection Mark" in accordance with laws and regulations to prevent accidents link to the deterioration of products in long term-use.

For the safe use of products, we recommend an inspection in 9 - 11\* years after the production. \*For home-use appliances (Professional use: 2.5 to 4.5 years)

# What is the "safety inspection system for products in long-term use"?

The "safety inspection system for products in long-term use" started in April 2009 is a system to encourage the registration of users and charged inspection for "Specified Maintenance Products" that may cause problems due to the age-related deterioration and may damage and may give serious damage to the life or health of consumers.

Rinnai products corresponding to safety inspection system			
ndoor-type gas instant hot water heaters (for city gas, and LP)	oor-type gas instant hot water aters (for city gas, and LP)  Indoor-type bath water heaters with gas burners (for city gas, and LP)  Dishwashers (built-in)		
P 2 15 1	m.m.		
9	2		



#### Flow of Safety Inspection System for Products in Long-term Use

# **Recommendation of "Safety Inspection"**

In consideration of the safety inspection system for products in long-term use, we recommend "Safety Inspection" for products that fall outside the scope of the system.

The scope of the safety inspection		
• Outdoor-type gas hot water heaters and bath water heaters (Including hot-water and heating units, and heat sources only for heaters)	• Gas heaters	• Built-in-stoves
Gas hot-water units Gas bath heating systems Gas heat source for hot-water units and heaters Gas heat source only for heaters	Gas fan heaters Gas fan-forced heaters Gas stove Gas dryer	Built-in-gas-stoves Built-in-gas-oven

<sup>\*</sup> Some products are out of scope.

# First step is user registration

User registration is the important "first step" to connect customers with Rinnai. When there is a user registration card attached to a product, please make sure to register. User registration can be submitted via the Internet or by entering required information on the user registration card and dropping it into a mailbox. Customers can also request that retailers enter information on the user registration cards and/or send the cards to Rinnai for them.

Information regarding inspections is detailed in our catalogs and on our website. We also actively request that customers register with us during maintenance visits and other such situations in which our staff have the opportunity for face-to-face interaction with customers.

[Activity to promote user registration]	
Action items	Status
Notification at retail location	At locations such as mass retailers, we post the information of the safety inspection system for products in long-term use.
Extension of warranty	For the user who registered, we extend a warranty period to three years. Subject: Home-use gas appliances (Excluding business-use appliances and electronic appliances)  An example of POP at a store
Notification utilizing maintenance and installation opportunities	The staffs provide user registration information to our customers utilizing maintenance and installation opportunities.

Notification of the completion of registration

To a customer who registered, we send a registration completion notice to his/her registered address.



Notification utilizing retailers' opportunities to contact customers directly

As a measure for promoting user registration by customers, we show retailers examples of best practices by retailers that have high user registration rates for customers they have contacted directly.

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#### **Questionnaire for customers who submitted user registrations**

In July 2011, we conducted a questionnaire for customers who had submitted user registrations (N = 2,778). We received comments such as, "In addition to explanations, the user registration card needs to be improved to make registration even easier" and "You need to boost your efforts to let customers know that retailers will submit user registrations for them." Three years after the inspection system was introduced, we will continue to encourage customers to submit user registrations.

# Results of questionnaire for customers who submitted user registrations

Customers aged 60 or above are highly likely to submit user registrations.

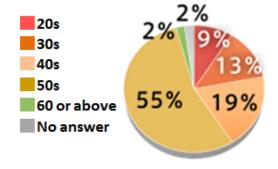
We will strengthen measures for encouraging younger customers to submit registrations.

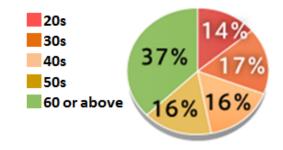
### [Respondents]

### [Reference:

 Percentage of customers aged 60 or older is extremely high Breakdown of population by age group]

- Percentage for younger customers is small

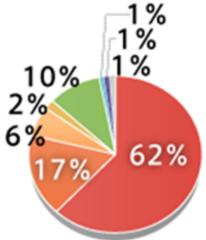




### How they found out about the registration system

In addition to providing explanations, we will make the postcard easier to fill in.

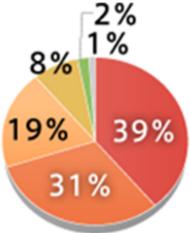
- Told by the retailer: 62%
- Saw the postcard: 17%
- Told by the retailer
- Saw the user registration card (postcard) attached to the product
- Other
- Saw a notice about the safety inspection system for products in long-term use, which was in a Rinnai brochure or on its website
- Saw a notice about the safety inspection system in the operating instructions attached to the product
- Saw publicity materials about the safety inspection system for products in long-term use
- Saw a Rinnai TV ad or newspaper ad
- No answer



### What motivated them to submit registrations

We will make the significance of accident prevention and inspections better known to a greater number of customers. Concerning gas equipment, we will promote warranty extension to customers.

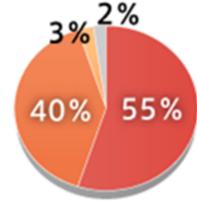
- Answers related to notice: 39%
- Warranty extension: 39%
- Because the warranty period will be extended
- Because I will be able to receive notices on accidents and maintenance related to the product
- Because the retailer will submit the registration for me
- Because I was sent a notice on the inspection by mail
- Other
- No answer



# **Method of registration**

We will strengthen measures for informing customers that the system lets retailers make entries for them.

- Combined total of current method and registration by retailers for customers: 95%
- The current method is good enough.
- Retailers should submit registrations for customers.
- They should be registered with a public institution.
- No answer



### Flow after user registration until an inspection

Based on the user registration information, we mail notifications to designated addresses when an inspection period approaches. Moreover, we provide inspections to our products which are already in use.

#### [Establishment of inspection period]

L	[238465151111111111111111111111111111111111				
Designed standard service life*	Target product	Inspection period	<b>Production</b> Purchase	0-6 months in advance	Inspection period
10-year product	Home-use gas hot-water units Electric dishwasher and dryer	9-11 years after production	Registration 1	Notification	Inspection 2 Suspension of use
3-year product	Commercial-us e indoor-type gas hot water heaters	2.5-4.5 years after production	When you receive a noti You can also request an		

<sup>&</sup>quot;Designed standard service life" is a period that a product should be safely used without any problems under the normal circumstances with proper handling and maintenance. This is defined for each appliance. Please note that this is not the same as free warranty period. In addition, products that fall outside the scope of legal inspection (specific maintenance products) use the terminology, "Standard service life as designed".

The period for legal inspection of commercial-use equipment produced in April 2009 started in October 2011, so we began sending notices on the inspection to applicable customers. About 70% of customers who responded to the notices applied for the inspection, suggesting their high interest in the inspection system. However, only about 20% of customers who submitted registrations applied for the inspection. Accordingly, we will strengthen measures for informing customers of the system, aiming for (1) a higher registration rate and (2) a higher rate of inspection applications.

### Information about the inspection reminder function posted on the website

In November 2011, we posted information about the inspection reminder function on our website. This function reminds users of legally mandated "specified maintenance products" of the period for their inspections after they are used for 10 years under normal conditions. Users are reminded of the period in ways such as a blinking light or indication on the remote control. This function also encourages users who have not submitted user registrations to submit them and apply for inspections.

# Efforts to coordinate an inspection system

To adequately implement inspection, Product Inspection Center keeps improving its inspection system. In addition to the legally required check points of an inspection system, we also set up voluntary monitoring items to facilitate a reliable inspection system.

#### [Legally required check points of an inspection system and the current status of our company]

\*In this context, the applicable law and ministerial ordinance are "Consumer Product Safety Act" and "Ordinance of Ministry of Economy, Trade and Industry for specific products that require maintenance", respectively. (As of March 31, 2011)

# Legally required check points of an inspection system and the current status of our company

Applicable law and ministerial ordinance	Check points of inspection system	Details	Current status of our company
Article 32-19 and Article 18, paragraph (1) of the law; Article 13, item 1 of the ordinance	Arrangement of places of business that conduct inspections	Places of business that conduct inspections shall be suitably arranged so that inspections are efficiently conducted. Specialists for the inspections shall be secured at each place of business.	Number of places of business where inspections were conducted: 81 in Japan Number of service specialists qualified for the inspections: 557
Article 32-19 and Article 18, paragraph (1) of the law; Article 13, item 2 through 4 of the ordinance	Establishment and publication; notification of inspection fees	Inspection fees that do not exceed the proper cost of efficient inspection shall be established. Criteria used for determining the fees shall be publicized. Notification of the breakdown and rough standards of the fees shall be given prior to the inspection.	Criteria used for determining the inspection fees, inspection fee amounts, contact for inquiries, and other information are made available on our website.  Notification: We provide notification when we receive applications for the inspection.
Article 32-19 and Article 18, paragraph (2) of the law; Article 13, item 5 and 6 of the ordinance	Preparation and method of management of manuals necessary for an inspection	Manuals shall be created based on inspection standards and retained by a third-party organization.	Preparation: We have prepared 10 manuals (eight for gas equipment and two for electric equipment).  Retention: We have the following organizations retain the manuals. For gas equipment: Japan Gas Appliances Inspection Association (JIA) For electric equipment: Japan Electrical Safety & Environment Technology Laboratories (JET)
Article 32-19 and Article 18, paragraph (3) of the law; Article 13, item 7 and 8 of the ordinance	Holding of components necessary for the maintenance of the subject products and provision of the information thereof	The period for holding the components shall be set and the components shall be held accordingly. Notification of the status of holding of the components shall be given prior to the inspection.	Setting of the period: We will hold the components until the inspection period expires (9-11 years after manufacturing).  Notification: We provide notification when we receive applications for the inspection. We also disclose, on our website, information on components necessary for product maintenance.
Article 32-19 and Article 18, paragraph (4) of the law; Article 13, item 9 of the ordinance	Provision of information about products that are in their inspection period	The information shall be made accessible on the Internet, etc.	We inform customers of products that are currently in their inspection period. (Search by model name is possible.) We also provide the information via product catalogs.
Article 32-19 and Article 18, paragraph (5) of the law; Article 13, item	Provision of technological training	A technological training session shall be regularly held to provide training to contractors and take	Technological training session: We provide training for qualifying as inspection service specialists.

10 of the ordinance		measures for securing their technological skill levels.	Measures for securing level of technological skills: We evaluate trainees' skills at the time of the technological training session. We also manage renewal of the qualification and provide training for improving skills.
Article 32-19 and Article 18, paragraph (5) of the law; Article 13, item 11 of the ordinance	Recording of inspection results	Inspection results shall be recorded and retained for approximately three years.	Recording: We record inspection results in the detailed statement of inspection results.  Period of retention: 7 years
Article 32-19 and Article 18, paragraph (5) of the law; Article 13, item 12 of the ordinance	Notification of inspection results	Inspection requestors shall be appropriately notified of inspection results.	Notification: We provide notification of inspection results by delivering a detailed statement to each requestor. We also show the requestor appropriate options to take in line with the results. We inform them that frequent voluntary inspections are necessary even after the inspection has been completed.

### [Voluntary system action items and the current status]

Action items	Rinnai's current status
Enhancement of provision of information	We post the detailed information on maintenance and inspection system for our products for a long period of time on our website. The information includes the products that are out of scope of legally mandatory products (specific products that require maintenance).
Enhancement of items to be inspected	In addition to the items of which inspection is legally required (specific products that require maintenance), we set safety inspection products including home-use outdoor gas hot-water units, built-in-stoves and gas fan heaters.
Inspection quality improvement	The inspection results of all items are checked to see if there is any judgment error to assure the technology standards. The inspection completion rate is monitored all the time not to delay the inspection schedule.
Warning after the inspection	When an inspection result concluded the prohibition of the use of a product, we will provide the follow-up of the inspection by calling or writing to the user.

# Trend of users who arranged inspection

Through inspection, we try to improve our customer support.

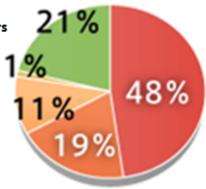
Aiming at further improvement, we will keep searching the best way to execute inspection using questionnaire results obtained from users during inspection as reference.

From questionnaire for product users, N = 816 (Varies among the items)

# How they found out about the inspection

We will continue to inform people of the inspection via TV, newspapers, retailers, etc.

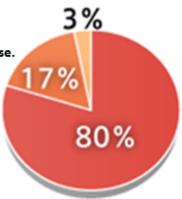
- Combined total of TV and newspapers: 67%
- People who learned of it from publicity and retailers seem to account for about 20%.
- Saw TV ad
- Saw newspaper ad
- Saw notification on the website
- Saw catalog
- Other



### What they especially want to know from the inspection

After the inspection, we not only give users easy-to-understand explanations of the results but also tell them how to prevent incorrect use.

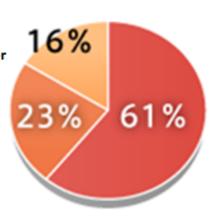
- Assessment of the equipment: 80%
- Incorrect use: 3%
- Whether the product works normally (assessment of the equipment)
- Whether the product should be replaced (judgment of the need for replacement)
- Whether the way they use the product is correct (whether they use it incorrectly)



# Replacement of the product

A product should be inspected before it breaks down, not after

- After it breaks down: 61%
- Before it wears down due to aging: 16%
- Will replace it after it breaks down
- Will replace it when it wears down due to aging
- Will replace it when it becomes old, before it wears down due to aging

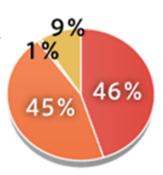


# Comments from people who hesitate to replace the product (Comments frequently heard these days)

Early inspection is recommended because products wear down due to aging.

- Those who responded "mottainai" (essentially in this case meaning,
- "don't want to waste it") and "sustainability" account for 91%.





Results of the questionnaire we conducted in fiscal 2012 allowed us to confirm issues that customers and we should place more emphasis on in inspections.

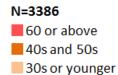
To questions concerning product replacement, about 60% of the respondents said they "Will replace it after it breaks down." The reason given by approximately 50% of such respondents was "mottainai." The proportion of respondents who answered that they "Will replace it when it becomes old, before it wears down due to age" was under 20%.

The notion of *mottainai* represents an important element of Japanese culture. The inspection system, however, is aimed at preventing accidents caused by deterioration of products due to aging. Therefore, "inspection of a product before it breaks down, not after" is essential for ensuring users' safety. So we strive to have customers better understand the importance of the inspection while also improving the inspection system.

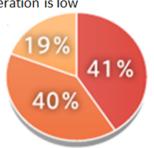
# Questionnaire survey for users who arranged inspection of small hot-water heaters (Researched from June 2009 to April 2011)

### Users who arranged an inspection by generation





- 30s or younger: 19%



#### Reason to arrange an inspection

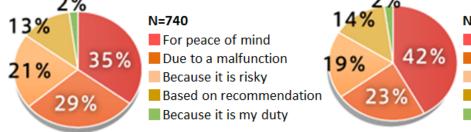
While some people seek for peace of mind, many arrange an inspection after their product experienced a malfunction.

#### [Users in their 30s or younger]

The ratio of users who experienced a malfunction is relatively big.

### [Users in their 40s or over]

The ratio of users who seek for peace of mind increases while the ratio of users who experienced a malfunction is still high.

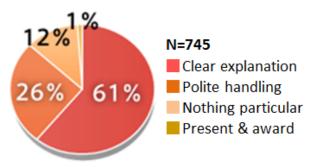




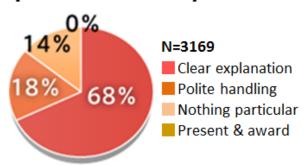
#### What users expect to an inspection

All generations expect for clear explanation.

#### [Users in their 30s or younger]

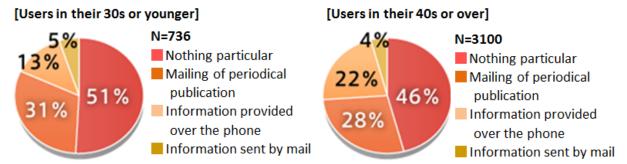


#### [Users in their 40s or over]



#### The way of communication that users expect

Users are divided into two groups: one thinks mailing is sufficient and the other expects for periodical publication and phone calls.



To realize our customers' "comfortable lifestyle" we are doing our best to provide services that customers can trust and use.

# Free inspection of small, open-type water heaters

In 2007, one of our small, open-type water heaters malfunctioned and caused an accident. To prevent a reoccurrence of this kind of accident, we continue to offer free inspections to customers using small, open-type water heaters, including the RUS-5RX, produced between July 1991 and January 1995, and the RUS-51BT, produced between May 1994 and January 1997.

#### Notification on our website

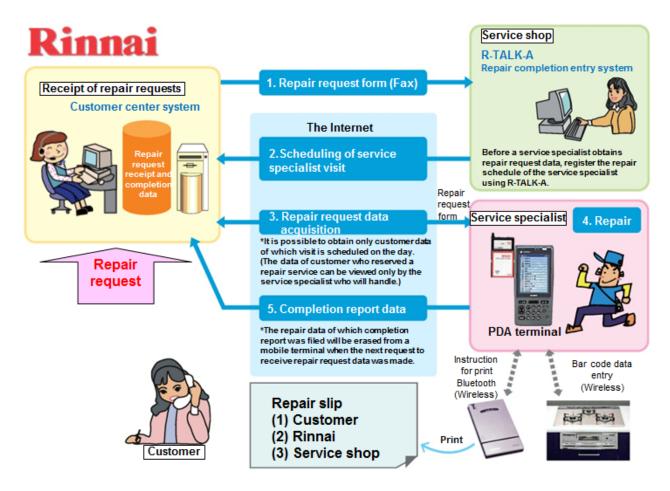
We show subject products and contact for inquiries on our website. To see the information, click on the banner on the top page.



### Immediate offering of after-sales service

About 700 service specialists provide repair service nationwide every day. To realize "comfortable lifestyle", we are trying to complete an after-sales service inspection on the day or by the next day.

To improve the operational skills of service specialists, we were the first to introduce a mobile PDA terminal. This allows service specialists to confirm order status onsite, thereby facilitating immediate service to our customers.



### Training of service specialists

#### Introduction of a service specialist certification system

In fiscal 2012, we introduced and began implementation of a service specialist certification system for service skills for dishwashers. With our employees serving as trainers, service specialists from each base took examinations on rules, theory and practical skills, and a total of 207 service specialists who scored 70 points or above were certified as service specialists for dishwashers and received certificates. In the next fiscal year, we will begin increasing subject products and we continue to encourage service specialists to obtain certification.



#### **Special training for focused products**

First, we ask opinions from our service specialists for the service for focused products. Then, collecting and reflecting comments from onsite staff, staff in charge of development and manufacturing at factory perform as instructors at a training session.

Moreover, after a training session, the confirmation test is provided to see the degree of understanding of service specialists, check and follow insufficient areas to nurture our service specialists.

# Pursuing the higher customer satisfaction towards our services

We conduct "Voice of Customer Questionnaire" to our customers who received our repair service requesting them to evaluate the satisfaction rate for our repair visit. Customers' evaluation results will be shared internally to efficiently utilize the questionnaire results.

In fiscal 2012, a total of 11,000 customers answered the questionnaire and evaluated our services highly, with the average score of over 92 points.

# **Communication with Our Customers**

We hold exhibitions all over Japan where the public can get a closer look at the excellent features of our products. For customers, these exhibitions are opportunities to try out top-of-the-line products to experience the safety of "Si" sensor-equipped tabletop gas stoves and other features that make cooking and cleanup less of a chore, and to realize the energy savings afforded by hot-water/heating systems and the comfort of floor heating. For us, these exhibitions open lines of communication to customers wider.

Since the Great East Japan Earthquake, interest is growing in ways of using energy. We have responded by suggesting the best mix of energy to our customers. Above all, while most newly built houses in the Tohoku region have been "all-electric" houses, there has been a movement to review what energy to use due to the impact of the earthquake, in addition to high demand for heating given the region's colder climate. In fiscal 2012, we gave presentations and onsite lectures on the ECO ONE hybrid hot-water unit (which combines the benefits of gas and electricity) as a product that provides comfortable heating with low energy consumption. We presented to homebuilders and retailers in the Tohoku area and other regions. Our Tohoku Branch built a new showroom and held promotional events and briefing sessions at display houses so more customers could gain experience with the product.

In addition to exhibitions of our own, we participate in events that highlight regional characteristics, such as joint fairs sponsored by retailers who sell our products. Our presentations are interesting but also provide customers with ideas on how gas appliances can make life more comfortable.







Events held in Tohoku region

Showroom in Tohoku

#### Examples of other events we held in fiscal 2012

In November 2011, we ran a two-day confectionary-making class for parents and children at an exhibition held by Sanwa Group, an LP agent of our Fukuoka sales office. We prepared three built-in stoves and three table stoves, and allowed parents and children to experience the performance and ease of cleaning of the latest products. Using these stoves, the participants cooked: 1) sweet bread (Dutch oven), 2) sweet pies (two-side griller) and 3) crepes (temperature adjustment function). While they prepared the confectionaries we introduced how to use the products.

In March 2012, we held an event called *Yoru* Cafe (night cafe) jointly with Saibu Gas Co., Ltd. by inviting about 20 people from five kitchen manufacturers. At this casual event we showed participants how to use the Dutch oven and served them dishes cooked in it. We also held a bingo contest and other events, and in this friendly atmosphere the participants enjoyed the dishes cooked in the Dutch oven.

# **Products Born with Our Customers' Comments**

To provide "The products needed by customers", our product planning staff directly visit the houses of our customers to listen to their requests and complaints about our products.

By reflecting the voice of customers in the planning of new products, we're trying to develop new products which satisfy the needs of customers.

### Universal design applied for a hot-water unit remote control

Usability of the remote control is an important element of hot-water units and our existing remote controls are highly acclaimed in this area. In response to population aging, which is expected to continue, in February 2012 we launched the new MBC-220VC hot-water unit remote control, in which we applied a range of improvements (including the size of display characters, layout and voice guidance) by applying universal design and reflecting customer comments. As a provider of "products needed by customers," we will continue striving to develop products that satisfy customers.

#### Customer comments we reflected in the new remote control

- I can't read the remote control display without glasses, which I don't wear in the bathroom.
- I don't understand the meaning of *kyuto ondo* (water temperature) and *furo ondo* (bath water temperature). I don't know how to set them either.
- I don't know why I cannot use the *furo yoyaku* (timer function) unless I set the current time.
- I don't understand the meaning of yusen (priority).



(MBC-120VC previous remote control)



#### Features of the new MBC-220VC remote control

- The characters for temperature indication are 60% larger and the buttons 50% larger, ensuring ease of use for elderly users and those with weak eyesight. The LCD panel features a wider viewing angle.
- The *kyuto ondo* (water temperature) and *furo ondo* (bath water temperature) are separated into different groups and indicated in an easy-to-understand manner.
- · Voice guidance offers detailed instructions to help operate the unit.
- The Tsugi Navi Sign flashes to indicate the next button to press.
- Larger buttons on the new MBC-220VC remote control



New MBC-220VC series remote control

**Modified Buttons** 

# With Our Employees

We strive to create an atmosphere in which employees can be happy and productive-a corporate climate that motivates each and every employee to do well and enables individuals to demonstrate their full potential. We also seek to maintain workplace environments that keep employees safe and healthy, both physically and mentally.

For our employees to be able to work with a sense of achievement and accomplishment, we provide support through our personnel system as well as various welfare programs to take care of employees' health and cater for their families. Moreover, for each employee to fully demonstrate his/her capability, we try to create a family-like office culture, and improve and maintain our workplace to be safe, secure and healthy. We believe that the source of motivation for employees to grow and fully demonstrate their skills is "the provision of the opportunities to improve" and "the sense of achievement and accomplishment". To increase the satisfaction level of our employees, we are promoting the following four items as our foundation:

- (1) Provision of opportunities for our employees to grow [Rank-specific training programs, specialization courses, On-the-Job Training (OJT) guidance, appropriate staff allocation and rotation]
- (2) Evaluation and reward which is fair and convincing (Performance appraisal, interview system, salary increase and benefit improvement)
- (3) Creation of family-like working environment (Improvement of office building, working environment and facilities, annual events, club activity support, and interdepartmental cooperation)
- (4) Welfare program for employees and their families (Welfare program options, health support, corporate pension and events with the Rinnai Employees' Association)

# **Personnel Training**

We defined our fundamental human resources policy as "Nurture and encourage our employees to have a high level of morality and keep challenging their own goals continuously making effort." We guide and train our employees to be able to demonstrate their initiative to drive the Company while giving priority to our Corporate Philosophy embodied in our Company Motto, "Harmony, Spirit and Sincerity", which Rinnai has been pursuing since its establishment in 1920, and our Corporate Mission, "Rinnai utilizes heating to provide society with a comfortable way of life."

We provide our employees with numerous opportunities to grow as an individual such as rank-specific training programs, specialization courses, OJT trainings and a rotation training program, which covers workplaces at home and abroad.

# **OJT Personnel Training**

We position human resources as our most important management resource and we offer personnel training to assist employees to fully demonstrate their capabilities. Our main training is "OJT (On-the-Job Training) "wherein a supervisor guides his/her team member through an actual job. In addition, we provide a rank-specific training program, which supports the improvement of each employee as an individual by grouping them according to job responsibility, and a specialization course, which promotes our employees to be highly specialized in their area. These three programs form three pillars of Rinnai's training system.



Moreover, we are conducting a level-up training program for group leaders who have been promoting our business plan since fiscal 2011. We plan and provide high quality internal training programs.

### <Major Rank-specific Training Programs in Fiscal 2011>

Training	Subject	Content	Number of trainees
New employee training program	New employees	Basic training for professionals (manners, awareness as a professional), Fundamental training for Rinnai employees (company overview, the Rinnai Spirit, corporate ethics, personnel system, policy on quality and environment), IT skills and mental health	135 people
New employee follow-up training	Generalists in their 1st or 2nd year, clerical employees (technical employees) in their 1st or 2nd year	Training for increasing motivation to work and raising professional awareness (Reconsolidation of what was learned in the new employee training program; employees who joined the company in the same year gather and share information about their current status)	189 people
S4 level qualified employee training	S4 level qualified employees	Reconsolidation of fundamentals (corporate ethics and management policy), Recognition of his/her characteristics (to improve the strength) and the reinforcement of awareness of management (creation of management plans)	97 people
M6 level qualified employee training	M6 level qualified employees	Reconsolidation of corporate ethics and management policy Understanding duties of managerial supervisors (rules of employment, Labor Standards Act, handling of problematic employees) Understanding of management	51 people
M6 level qualified employee follow-up training	M6 level qualified employees	Reaffirming shared goals Reconsolidation of values concerning managers' actions Reviewing the efficiency of the entire workplace	50 people
Performance reviewer training	Managers who need to review/interview their team members	Reconsolidation of personnel system, objectives of performance review and its method, and actual interview sessions (coaching and listening)	66 people



New employee training program



President's speech

# **Career Development Review and Support**

# <u>Visualizing skills of individual employees and guiding their growth (capability evaluations and feedback of the results in one-on-one interviews)</u>

For each training program to function effectively, it is essential to match the capability required by the organization and the goals set by the employees.

Therefore, Rinnai prepares a "Skills Map" and a "Capability Evaluation Sheet" to define the skills and capabilities required by each department and to clarify the goals and capabilities the company expects the employees to achieve. Based on these tools, our employees understand their current roles and responsibilities. Employees also have a one-on-one interview with their supervisor, during which they receive the results of their performance evaluation and are informed of the company's future expectations of them. They then set up their own goals to challenge every year.

Supervisors, to actively perform the responsibility to navigate the growth of their staff, carefully review each staff's progress and contribution (performance evaluation) and adequately inform the staff of the results of the evaluation through one-on-one interviews or performance appraisal feedback meetings.

# Support for Self-Directed development

To support each employee to acquire higher specialist knowledge, skills and culture and support their growth as an individual, we actively provide programs including foreign language education, correspondence courses, external open seminars, technical proficiency examinations, license acquisition courses, and communication with people in different companies/industries. We provide rank-specific training programs to create opportunities to be aware of aspects for strengthening one's sense of humanity. To employees who wish to develop themselves, we actively provide programs including foreign language education, correspondence courses, external open seminars, technical proficiency examinations, support for attending national license acquisition courses, and communication with people in different companies/industries.

In addition, for the young employees who have a strong desire to work overseas, we arrange and operate a short-term overseas working and training program that is available for them via application. This is to develop human resources that can globally demonstrate their capabilities working at our overseas locations. Currently, a total of six young engineers are working under this program in the United States, Australia, Brazil, and Thailand. By providing our employees with opportunities to work at our overseas locations in this way, we promote development of human resources that can demonstrate their abilities at a global level.

# **Development of Global Human Resources**

We aim to develop human resources who can demonstrate their abilities beyond national boundaries and improve the capabilities of Rinnai Group employees all over the world. Therefore, the management divisions, product development divisions, and manufacturing divisions are developing their own training courses and OJT programs implemented via employee exchange. We provide opportunities for Japan-based employees in their 20s (at the earliest) to be assigned to overseas Group companies, which improves their ability to adapt to foreign cultures and their international business sense through actual overseas work experience.

#### (1) Management Department

At the management division of the Head Office, we regularly visit our overseas locations to provide instruction on management and accounting and to develop human resources. We also launch business reform projects when specially requested. Under such projects, specialists from Japan develop local executives through planned visits to overseas location that provide them with instruction on methods for improvement in a way that allows them to achieve results through practical operations.

### (2) Product Development, and Production Department

We actively promote human resource exchanges between Japan and overseas locations, with about 20 employees participating each year. Staff members from our overseas Group companies receive OJT in Japan for about one year, learning practical skills and what to improve at their own companies at the development divisions, factories, and management divisions in Japan. Japan-based employees assigned overseas practice product marketing and handling of quality issues, as well as improvement of factories' manufacturing and production systems. Through these activities, they hand down the key themes that constitute our corporate culture and expertise on Japanese-style *monozukuri* and quality assurance to local managerial staff.

### **Comment from an Employee Stationed Overseas**

I have been working in Shanghai for two years as a secretary supporting the president's management tasks. I am also involved in a broad range of business operations, including sales activities for Japanese companies, so my days are productive. Chinese society is highly competitive, so I have to function at full throttle both mentally and physically. I actually sometimes have to take day trips to locations 2,000 km away for sales activities. My days here are filled with new discoveries because this is such a huge country where languages, culture, and business practices differ among the areas. This builds my ability to think before acting, instead of making snap decisions. I will continue to make use of my physical and mental strength, and level-headedness, that I acquire in this country.



Takahiro Isogai, Shanghai Rinnai Co., Ltd.

# Succession of Monozukuri, the Spirit of Manufacturing

#### **Training at Production Technology Center (***Monozukuri* **Center)**

"Production Technology Center" established in March 2010 is a place to pursue leading-edge *monozukuri*, and an emphasis is placed on delving into core technologies. It is also a hub for developing human resources involved in *monozukuri* activities at Group companies at home and abroad.

To pass Rinnai's *monozukuri* to the next generation, over 30 booklets of "Visual manual" were produced as a talent developing support tool. Utilizing this tool, our staff qualified in various technical areas provides detailed training on Rinnai's manufacturing technique accumulated from the past, for employees including trainees from overseas Group companies.







Training

Visual manual

### **Training at Each Location**

Each location has set up a "monozukuri legacy station", which accumulates and maintains stored process technologies and new techniques as well as intangible assets, essentially, the insights gained on-site by experienced employees. This station is a place where newly assigned employees can acquire monozukuri basics. It is also a place for sharing and conveying the essence of monozukuri and training employees in such areas as improved efficiency and enhanced production management.



"Level-up Station" (Aichi Factory)



"Coating training station" (Seto Factory)

#### **New Engineer Training**

New employees who are assigned technical jobs at the Technology Center and Production Technology Center, before their actual allocation to each department, receive onsite training at the Research and Development Headquarters and Production Engineering Division as well as practical manufacturing training at factories and production Group companies to learn about the importance of *monozukuri* including product and technology development.



Studying the structure of dish washer



Studying the structure of plug of gas appliances



Studying about gas combustion

# **Work-Life Balance**

# **Support for Work-life Balance**

For all Rinnai employees to perform well attaining the sense of accomplishment and fulfillment balancing work and personal life for each lifestyle, we continue to enhance our personnel system to support all employees of any gender and nationality through their lives.

In fiscal 2013, we are planning to extend the period of childcare leave and childcare shortened work hours, which many employees use, to strengthen support for working women. We will also actively develop and apply measures for supporting health management.

< Major Programs and Measures in Fiscal 2012 >

			Number of users	
Program and Content measure		Fiscal 2012	Fiscal 2011	
Childcare leave	An employee who lives with and is the caretaker of a child younger than 12 months of age can take leave until the child turns 1, or alternatively until the child is aged 1 year and two months.	47	49	
Childcare shortened work hours	In the event that an employee is the caregiver of a child that hasn't been enrolled in an elementary school, or is the caregiver of a family member that requires nursing, the employee in question will be exempt from working late shifts (10:00PM - 5:00AM) with the exception of cases wherein the employee's absence would preclude or inhibit the continuation of normal business operations	33	24	
Family-care long leave Nursing leave and Family-care leave	In principle, total 93 days of leave may be granted per one family member who falls in to the subject of the care.	2	5	
Family-care shortened work hours	Any employee who is responsible for a family member that requires full-time or nursing care may shorten his/her daily working hours, provided that a minimum of 6 hours are worked each day. This provision is possible for 93 days per such family member.	0	0	
Work from home program	The longest duration of "Work from home program" shall be one year per application. Utilizing IT equipment, an employee may work partially or entirely at home.	2	0	
Come Back program	The program offers an employment opportunity to our former employees who had to leave the Company for unavoidable reasons such as marriage, child-care and family-care, or on his/her discretion.	0	3	
Volunteering support system	This is to support our employees' volunteer activities as a part of social responsibility activities to contribute for communities as a good corporate citizen.	1	0	
Club activity support system	The Company supports the employees to be engaged in sports and cultural activities out of office hours to promote the sense of unity and communication among employees and in workplace.	454	447	

Measure to reduce working hours (Flexible working hours)	Depending on work plan, working hours and work start/end time can be negotiated.	Production divisions Management divisions
Measure to reduce working hours (No overtime day)	Every Wednesday is set as "No overtime day" to encourage employees to leave early.	Applicable to certain departments
Measure to increase the ratio of consumed paid-leave	To promote the utilization of paid-leave, we encourage employees to take at least one day per each half fiscal year, total 2 days a year, as "Refreshing paid-leave"	Applicable to all departments

### Comment from an Employee who Uses Childcare Leave Program

I am now on my third childcare leave. I wanted to have three children while continuing to work, and those in my workplace willingly accepted this wish. The number of women who take childcare leave and return to work has increased dramatically, and the Company's systems have been improved. Of course, it is not easy to raise children while also working, but I spend enjoyable days with my three children thanks to the understanding of my coworkers and cooperation from my family.



Tomomi Yamada, Electronics Development Division, Research & Development Headquarters

# Measures to Enrich Our Employees' Family Lives

The Rinnai Employees' Association is the lead organizer of courses for employees on the themes "Education for the Soul" and "Passion for Life." These courses are intended to prepare people for the different stages that life will take them through, with a focus on ethics, communication skills, life planning and money matters. Of the firm belief that a positive perspective on work is essentially a reflection of a happy home life, we encourage employees to take advantage of opportunities, such as barbecues and sports days, where they can gather as families with families. These events foster a sense of harmony among colleagues.

#### <Major Programs in Fiscal 2012>

Item	Overview
Nationwide events in Japan	Various events to promote health of our employees and their family members and communication including bowling competition, barbecue picnic, and sports festivals
Training seminars by age group	Training seminars focusing on the "Education for the soul" that supports employees to develop attractive personalities as members of society

#### \* Nationwide Events

- 1111-11-11-11-11-11-11-11-11-11-11-11-	
- Chubu Sports Festival (Oguchi Sogo Ground) · · · · · · Number of participants:	1,481
- Walking Festival (Higashiyama Zoo and Botanical Gardens) · · · · · Number of participants:	1,448
-Kanto Festival (Kasai Rinkai Park)······Number of participants:	192
-Kansai Festival (Expo '70 Commemorative Park) · · · · · Number of participants:	198
-Nationwide event (Barbecue) Sapporo, Tohoku, Niigata, Shizuoka, Hokuriku, Hiroshima, Takamats	u and
Kyushu · · · · Total Number of participar	nts: 571



Chubu Sports Festival



Nationwide event (Barbecue) (Tohoku)

### 30th Walking Festival

This annual walking event is designed to let employees enjoy time with their families and raise their awareness of health. The venue this time was the Higashiyama Zoo and Botanical Gardens where, under the theme of "biodiversity," participants enjoyed environmental quizzes and games while walking the 10,000-step (approx. 4.1 km) course. A total of 1,448 employees and family members participated in the 30th annual event.





#### \* Training seminars by age group

Personality design seminar
 Life design seminar
 Number of participants:
 Self-finding seminar
 Number of participants:
 Number of participants:
 Number of participants:
 Number of participants:
 Number of participants:



Personality design seminar



New employee communication seminar

# **Industrial Relations and Human Rights**

At the Rinnai Group, aiming to provide the work environment and culture that employees can feel as "I am happy to work at Rinnai.", the Rinnai Employees' Association and Personnel Affairs Division regularly convene the Labor-Management Council to confirm and share the information on management policy, actual results, and comments from each workplace as a periodic improvement activity.

Moreover, our basic stance toward human rights, the respect for each other's personality and the prevention of harassment is compiled as "Rinnai Code of Ethics" to educate and enforce all employees in the Group. In addition, we also established the Corporate Ethics Helpline to maintain the sound environment of the workplaces.

### **Support for Work-life Balance**

Our Group considers respect for human rights and individuality as one of its main pillars for performing its social responsibilities as a company. We therefore strictly prohibit any form of discriminatory treatment based on gender, age, nationality, physical characteristics, or any other attributes of individuals. We also refer to the ideas of the United Nations framework and ISO26000 and reflect them in the Rinnai Group Code of Ethics. To promote and enforce the contents of the Rinnai Group Code of Ethics among all Group employees, a compliance committee member is allocated to each workplace to regularly conduct education on corporate ethics. At rank-specific training programs, we also educate our employees based on their roles and job responsibilities.

### **Establishment of Good Labor Relations**

The Employees of the Company are "members of the Rinnai Employees' Association" which functions as the organization to represent entire employees.

Based on mutual understanding and trust, the Company and the Association establish healthy and sound labor relations openly exchanging opinions on management issues, labor condition, workplace environment and compensations and discussing improvement plans.

Moreover, the Company makes effort to provide safe working environment without any concern to the employees of our business partners, etc. in addition to our employees. We also actively arrange and offer welfare programs and various events and programs for our employees and their families.

### Measure to Prevent Child and Forced Labor

As a measure to prevent child and forced labor, "Rinnai Group Code of Ethics, Rinnai Code of Conduct, Article 11 "The respect for human rights and each other's personality (4)" stipulates as "The Company should not allow any inappropriate labor including harmful and exploitative child labor which lets under-aged children to work, and slavery against the will of employees.". Entire Group abides by and acts on this rule.

### **Measures to Prevent Harassment**

To maintain working environment that our employee find comfortable, we take measures to prevent any infringement of human rights including sexual harassment and power harassment.

To avoid our employee to commit any harassment without any intention and knowledge, we produced a check list of detailed examples of harassment case that is posted on the company-wide intranet for self-assessment.

Each year we also provide newly assigned section chiefs with harassment-prevention education to reinforce this prevention.

### **Increase in the Allocation/Promotion of Female Employees**

### (1) Current status of positions held by female employees

The ideas and comments from women are very important to our products. Many women are demonstrating their capabilities in various roles, demonstrating their strengths especially in the product planning department, sales planning promotional department, fixed customer sales department and production department. Moreover, the ratio of women in total generalists (core job positions) is also increasing every year and the Company actively assigns women to management positions. In Japan, as of April 2012, the Company had 53 female managers (2.3% of total managing positions),

doubling the number in 2006. As an entire Group, we have 47 female workers in management roles.

#### (2) Enhancement of Support Programs for Working Women

For women to keep working for the Company after getting married, we provide various working styles and support programs.

### <Major Programs>

(i) Career track conversion system

A system which allows employees to convert from generalist to administrative positions when the employees who don't wish to relocate for job assignment or request for the shortened working hours. A system which allows employees to convert from generalists to clerical employees (when they do not wish to relocate for job assignment or if there is a request for shortened working hours), or from clerical employees to generalists (because of superior work performance)

(ii) Reemployment system (Come Back Program)

A program that allows a former employee to come back to the same workplace of the Company as a full-time employee

(iii) Childcare leave and Family care long leave

Programs to support employees to raise children

(iv) Shortened work hour system

A program to support employees to raise children and care their family members

(v) Flexible working hours system

A program to support employees to raise children, care their family members and work within restricted time

(vi) Work from home program

A program to support employees to raise children, care their family members and recover from diseases

#### **Comment from Female Manager**

In 2004, I was assigned as a General Manager, my current position, 20 years after joining the company. I am in charge of duties such as business plans, financial management, management of the performance of each division, and external relations. I obtain valuable knowledge and experience by working with my team. The greatest task I am involved in now is building an organization in view of the future of this rapidly growing company. There are many difficulties and challenges, but I find the task worthwhile because it motivates me to develop myself.



Mishela Oktora, General Manager, P.T. Rinnai Indonesia

# Fair and Diversified Employment

# View toward Employment

We respect the diversity of individuals and provide employees with various job opportunities and a working environment where they can demonstrate their various capabilities.

Rinnai Group Code of Ethics stipulates that "Any discriminatory act toward an individual based on gender, age, nationality or physical characteristics, etc. is prohibited". Based on this, we maintain fair and equitable hiring practices, in line with prevailing business plans and recruitment needs.

In addition, we actively engage in mid-career hiring to capitalize on the accumulated experience and knowledge of individuals who showed they can make a contribution to our success. We hire about 40 mid-career skilled employees every year.

### Reemployment of Retired Employees and Support for Demonstration of their Abilities

Rinnai promotes a reemployment program for employees who retired due to the age limit in order to continuously utilize technology and skills that skilled employees possess and to smoothly pass on the skills and the Rinnai Spirit to following generations. There are currently 152 employees working under this program.

We provide our employees with opportunities to continue working until age 64, by concluding renewable one-year reemployment contracts with those who have reached the mandatory retirement age of 60. On April 1, 2012 we raised the age limit for reemployment to 65, one year before law mandates it, on April 1, 2013.

This reemployment program provides employees with purpose and motivation in life as a leader/mentor and maintains and improves the corporate culture and dynamics within the workplace.

# Promotion of recruitment of handicapped employees

Since fiscal 2009, we have promoted recruitment of handicapped employees in a planned manner by cooperating with the public employment security office and schools for the disabled. In the initial year, the employment rate of persons with disabilities at the Company was only 0.79%, so out of a sense of social responsibility (sense of urgency) we took a more active stance toward recruiting handicapped people.

In July 2008, the public employment security office greatly assisted us with recruitment of handicapped people. The office allowed us to hold an exclusive job interview meeting at which we interviewed a total of 28 applicants and employed 15. We later began to recruit new graduates from schools for disabled students and implemented an internship program for second-year students of those schools. The number of newly recruited disabled employees has been increasing each year.

The Customer Center we established in fiscal 2011 has toilets and ramps for wheelchair users, and barrier-free elevators; thereby improving the Company's internal facilities for handicapped employees. The employment rate of persons with disabilities at the Company has consequently been significantly improved to 1.65%. We will continue to promote recruitment activities and improve the workplace environment toward achievement of the legally mandated minimum employment rate of 1.8%.

# **Occupational Health and Safety**

The Group gives priority to the assurance of the health and safety of our employees and stakeholders and abides by the laws related to health and safety. In addition, all the employees in the Group strive to create, maintain and manage a working environment which is safe and sanitary and develop an active organizational culture which encourages our employees to be physically and mentally healthy.

### **Basic Policy on Safety and Hygiene**

An essential requirement in business is the assurance of the health and safety of employees, via the provision of a hazard-free and hygienic work environment. As Rinnai constantly strives to protect the life and health of all employees we give top priority to the sanitary condition and safety of the workplace. This corporate mantra extends to our customers, to whom we strive to provide "safety and peace of mind".

#### Fiscal 2013 Basic Policy on Safety and Hygiene

- 1) Assuredly undertake risk assessment (safety activities based on consideration of risks)
- 2) Promote improvement of mental health (application of mental health guidelines, mental health education)
- 3) Observe laws, regulations, and internal rules (reviewing safety and hygiene manuals and rules)
- 4) Improve the health management system (treatment after health checkups, provision of health counseling)

# Status of On-the-Job Accidents and Injuries

In fiscal 2012, we made efforts to achieve the goal of zero accidents under the Rinnai Company-wide Health and Safety Committee, serving as the administrative organization of group companies in Japan. Unfortunately, however, we recorded a total of 31 on-the-job accidents (one more than in the previous year).

(The severity rate was 0.001%, up 0.006 points from the previous year. The frequency rate was 3.9%, up 0.21 points from the previous year.)

Broken down by division and percentage, 29 of the accidents took place in production divisions (93%) and two occurred in sales divisions (7%). The most frequent were as follows.

1st: Cutting hand, arm, leg, or foot from contact with equipment or material: 9 cases (29%)

2nd: Cutting or bone fracture of a body part caught in equipment, jig, or tool: 8 cases (26%)

3rd: Bone fracture of hand, arm, leg, or foot due to fall: 8 cases (26%)

In response, under the improvement plan for fiscal 2013, we will comprehensively review what protective gear to wear at each workplace and for each type of work, establish rules and standards based on the results of the review, and make it a top priority to comply with the rules and standards.

With regard to the on-the-job accidents occurring in the previous year, each Group company will as soon as possible take measures for preventing their recurrence. The entire group will thus make concerted efforts to ensure prevention of accidents toward achieving the goal of zero accidents.

### **Accident Prevention Measures**

To give our No.1 priority to work safety and peace of mind, the Group promotes various accident prevention measures under the guidance of the "Risk Management Committee" headed by the President.

- (1) Activities to prevent fire and explosion: Enforcement of safety inspection of environmental safety equipment (gas feeders and furnaces, etc.) and test and evaluation equipment, and the improvement and renewal of equipment as our top priority
- (2) Reduction of risk of earthquake damage: Preventing objects in factories and office buildings from falling over, dropping, and scattering
- (3) Production site onsite guidance: Horizontal development of the production sites under the guidance of the Safety and Health Committee of Production Group
- (4) Training for clerical work staff and new employees: KYT training for new employees including a monthly information sharing session regarding on-the-job accidents, designed to promote work-safety awareness.
- (5) Implementation of emergency drill: "Earthquake and fire drill" more than once a year

\*KYT: Kiken Yochi (danger prediction) Training

With the rising frequency of large-scale disasters at home and abroad, the Rinnai Group, aiming to build a strong corporate structure to withstand crisis situations, establishes business continue plans for a quick recovery at the time of disaster.



Emergency drill

# **Promotion of Traffic Safety**

To minimize traffic accidents involving employees, various measures and education programs are provided. Every year, we obtain a certificate of driving record from each employee who was granted permission to drive a company car or commute by car. This is to accurately grasp employees' traffic accidents and violation of traffic rules to improve the self-awareness and management of the employees. We apply with the Japan Safe Driving Center for issuance of a certificate of the driving record of each employee who is granted permission to drive a company car or commute by car. The certificate is also handed to the relevant employee. This is to gain an accurate understanding of employees' traffic accident records and violation of traffic rules in order to improve employees' self-awareness and management.

In particular, it is mandatory for employees in sales divisions to report accidents and violation of rules. Depending on the details, an employee may receive a suspension of the permission to drive a company car or may require taking a safety seminar provided by an external agent.

Moreover, new employees receive an actual driving lesson using a company car receiving cooperation from a driving school, a program which encompasses risk anticipation training using video, education of traffic rules and regulations and an aptitude test to improve their awareness of safe driving.



Driving training at a driving school



Risk anticipation training using video



Education by employees who commute by car

### Care for Health

To promote the creation of a vibrant corporate environment wherein people can work healthily -both physically and mentally, it is a precondition that each employee to be health conscious and promote sound self-management and health enhancement.

To maintain and improve the health of our employees and their families, through collaboration with the Rinnai Health Insurance Society, the Company encourages 100% of employees to undergo a medical checkup and receive consultation from an industrial doctor if the employee requires further examination. Various measures including mental health care workshops, medical checkup support, support for special medical checkups (complete medical checkups and cancer screening) and introduction of subsidized sporting events are also actively implemented.

### Support for Health Promotion

Through the alliance with the Rinnai Health Insurance Society, we provide a range of medical support services to our employees and their dependent families which include regular checkups as well as detection examinations for various types of cancer (including prostate, intestinal and breast cancer checks). Thorough physical examinations are also available.

In addition, should an employee require further examination, we will organize additional consultation with one of our industrial doctors.

For patients with lifestyle diseases, specific health guidance and an individual follow-up are provided to make sure the employee is fully recovered. We plan to introduce Helicobacter pylori screening, kidney examination, and hepatitis C screening as new examinations in fiscal 2013. We are expanding our medical support services each year.

For physical fitness, we are also eager to financially support sporting events organized by the employee union and voluntary club activities for employees all over Japan (49 clubs including soccer, baseball, golf, cycling, table tennis, bowling, and distance running) to promote employees' health.

### **Mental Health Care**

We strive to cultivate a positive atmosphere in the workplace by caring for the mental health of employees as well as their physical wellbeing. This effort focuses on early stress detection and preventative measures.

In fiscal 2012 we held three courses: a mental health care workshop, mental health care workshop for managerial supervisors. Three domestic Group companies also introduced their own workshop programs. As a result, a total of 23 workshops were held and 597 employees participated. In fiscal 2012, we started providing a mental health counseling service by a contracted external organization. This service lets individual employees to receive face-to-face or telephone counseling from external specialists about their personal problems. During the fiscal year, telephone counseling was used for 103 cases and face-to-face counseling for nine users. In fiscal 2013, we will expand this service to domestic Group companies to strengthen our efforts to prevent mental illness.



Mental health care workshop

Outline of our Education System	Managerial supervisor		Line care
Education programs for all employees	Basic program Applied program		Line care
New employees When joining the company; once	Self management All employees		Self care
Mental health counseling service (telephone/face-to-face)			External care
Industrial doctors, health supervisors, labor managers, Personnel Affairs Division, etc.			Internal care

Joining the Company Retirement

# **Human Resource and Personnel Related Data**

We disclose human resource and personnel related data including the number of employees and the status of fulltime employees.

# Number of full-time employees (consolidated, year-end)

		Fiscal 2010	Fiscal 2011	Fiscal 2012
Rinnai Corporation	Male	2,330	2,358	2,376
	Female	1,115	1,085	1,073
Domestic Group Companies	Male	1,025	1,061	1069
	Female	583	590	578
Overseas Group	Male	2,483	2,698	2,834
Companies	Female	1,089	1,199	1,208
To	otal	8,586	8,958	9,107

### Number of full-time employees by region (consolidated, year-end)

		Fiscal 2010	Fiscal 2011	Fiscal 2012	Composition
	Male	3,332	3,402	3,428	-
Japan	Female	1,682	1,659	1,637	-
	Sub-total	5,014	5,061	5,065	55.6%
A -:1 1:	Male	2,081	2,253	2,377	-
Asia excluding	Female	919	1,016	1,011	-
Japan	Sub-total	3,000	3,269	3,388	37.2%
	Male	115	123	121	-
Europe	Female	40	38	40	-
	Sub-total	155	161	161	1.8%
Other	Male	287	322	336	-
(Oceania,	Female	130	145	157	-
South-America)	Sub-total	417	467	493	5.4%
Total		8,586	8,958	9,107	100%

Number of employees (non-consolidated)

	ces (non-consondate	Fiscal 2010	Fiscal 2011	Fiscal 2012
Full-time	Male	2,307	2,341	2,359
employees	Female	1,099	1,069	1,059
Newly recruited	Male	137	107	82
employees	Female	107	42	54
Mid-career	Male	35	12	12
recruitment	Female	17	24	13
Average working ye	ears	13.6	13.4	13.7
Average age (years	old)	35.6	35.2	35.7
Separation rate (%)		0.23	0.23	0.18
Paid leave utilization	Paid leave utilization ratio (%)		34.1	37.5
Employment rate of persons with disabilities (%)		1.45	1.42	1.65
Number of employees who used childcare leave		35	49	47
Number of employees who used shortened work hours		9	24	33
Number of employees who used nursing leave and family-care leave		2	5	2
Number of employees who used the work-from-home program		0	0	2
Number of on-the-jo	Number of on-the-job accidents		29	31
Annual average training time per employee *		5.2	4.4	4.4

<sup>\*</sup>Excluding division-specific training

# With Our Shareholders and Investors

We disclose fair and impartial information in a timely and appropriate manner, and through open channels to shareholders and investors we pursue investor relations (IR) activities that foster greater trust.

### Information Disclosure, Dividend and General Shareholders' Meetings

### **Concept for Information Disclosure**

In accordance with the "Rinnai Code of Ethics" and our "Disclosure Policy", Rinnai has a basic policy to accurately and impartially disclose the corporate information related to the Group's business description and activities without delay.

Our announcement of financial results are posted on "TDnet" in compliance with the disclosure standards set by the Tokyo Stock Exchange, and our securities report is publicized on "EDINET" operated by the Financial Services Agency. This information is posted on "IR Information" page on our corporate website. In addition, Rinnai has started posting the presentation material for information meeting to announce the financial results beginning with the presentation of financial results at the end of fiscal 2011. Our English website also posts the material and IR information for fair and timely disclosure.

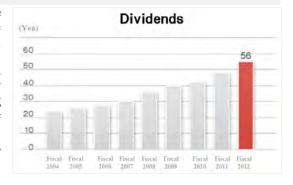
### Our Policy on Dividend

One of our top management priorities is to sustain a stable return of profits to shareholders. Several factors play into the calculation of dividends, such as consolidated performance, return on equity and financial status.

Seeking to enhance corporate value, management looks at retained earnings with a view to the long term, effectively applying this source of capital toward R&D, capital spending and investments accompanying the expansion of sales at home and abroad.

The annual dividend for fiscal 2012 was \\$56per share, up \\$8 per share from fiscal 2011.

This marked the tenth consecutive year of higher dividends.



# **General Shareholders' Meetings**

To encourage more shareholders to get fully involved in discussions about agenda items put before the general shareholders' meeting and to draw more shareholders to the meetings, we send out the convocation notice three weeks in advance of each annual meeting.

In addition, we upload an English language translation of the convocation notice to our website on the same day that the Japanese original is released to ensure that all shareholders have equitable and expeditious access to pertinent information. Resolutions achieved at the general meeting of shareholders are also available on our website, in both English and Japanese.



# **IR and Communication Programs**

# Policy on IR Activities

Rinnai believes that it is important to gain a deep understanding of our stakeholders including shareholders and investors toward our business activities and strategies to establish a good relation based on the shared recognition. To do so, we will do our best to arrange timely, fair and immediate disclosure of our company information to build a bidirectional relationship. We believe that this will eventually increase our corporate value.

### Communication with Institutional Investors and Analysts

In addition to the biannual information meetings that explain business results and other small meetings, Rinnai visits each institutional investor and accepts telephone interviews. These activities are designed to provide clarification of our business results to institutional investors and analysts and to actively exchange views with them. In fiscal 2011, the Company arranged a presentation session for overseas investors and an increased number of factory tours.

We have also begun conducting a regular questionnaire on our IR activities, starting from the fiscal 2011 year-end results presentation held on May 2011. The survey was distributed among institutional investors and analysts who participated in the meeting. We use the collected comments to improve our IR activities.

### What the institutional investors and analysts rate highly

From the questionnaire conducted in Fiscal 2012





Factory tour

#### **Principal IR activities in Fiscal 2012**

IR activities	Number of activities held	Total number of attendance
Information meeting	2(2)	229
Individual meeting	80	140
Interview	37	43
Telephone meeting	21	24
Small meeting	19(1)	114
Factory tour	6	33
Presentation for overseas investors	1(1)	24
Total	166	607

<sup>\*</sup> Numbers in parentheses ( ) are the number of IR meetings that the President participated.

# **Communication with Individual Investors**

In fiscal 2012, we held individual investor seminars to deepen each individual investor's understanding toward our business in two cities, Tokyo and Nagoya, and received the attendance of 637 investors. During the seminars, we gave a concise explanation of our corporate philosophy, management policies, business strategies and overseas operations for individual investors to understand our extensive activities. A regular questionnaire for attendants is conducted to improve our communication measures.





Individual investor seminar

# **External Evaluation**

# Selection as a SRI Index Constituent Share

In the operation of funds, such as investment trusts, "socially responsible investment (SRI)" has recently attracted considerable attention. SRI doesn't only assess a target company's financial conditions such as its business results but also its environment protection activities and social programs.

Rinnai has been receiving high evaluation from external assessment bodies as a company which has been actively promoting CSR for sustainable development and has been selected as one of the constituent shares of "FTSE4 Good Index Series" for the eight consecutive year since 2004.



\* FTSE4 Good Index: It is a SRI index operated by FTSE group, which is a limited partnership jointly invested by The Financial Times and London Stock Exchange Group in the U.K.

# With Our Business Partners

We disclose fair and impartial information in a timely and appropriate manner, and through open channels to shareholders and investors we pursue investor relations (IR) activities that foster greater trust.

# **Coexistence and Prosperity with Business Partners**

# **Rinnai Group Purchasing Policy**

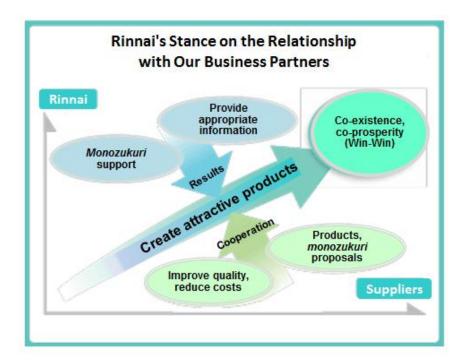
To grow along with our suppliers, we emphasize transactions based on a fair and impartial assessment and selection process and respect for laws and regulations and corporate principles, in accordance with the Rinnai Group Purchasing Policy.

#### **Rinnai Group Basic Policy**

"We will give equal opportunity to all companies at home and abroad and undertake fair evaluations to procure excellent parts that meet our requirements."

# Rinnai's Stance on the Relationship with Our Business Partners

Our suppliers provide us with the raw materials and many of the components that go into the products we make. They are business partners indispensible to the creation of products that attract consumers to the Rinnai name. At Rinnai, we believe that building stable, long-term relationships with our suppliers and growing with them as they grow with us is vital to the creation of better products.



# **Realization of Fair-and-Square Transactions**

In accordance with the Rinnai Code of Conduct in the Rinnai Group Code of Ethics, our supplier acceptance process is applied uniformly, whether the company is an old-time supplier or seeking to become a supplier.

Our evaluations are fair, giving equal opportunity to any and all companies with the right stuff, whether at home or abroad. Essentially, the divisions involved in procurement—that is, divisions responsible for technology, quality and purchasing—consider all factors, including quality, price and delivery as well as the potential supplier's technological capabilities, safety, and its environment-oriented activities, in reaching an impartial, well-considered decision.

### **Communication with Our Business Partners**

We request our business partners to independently establish a quality assurance system and assure the implementation of the system to help us achieve our policy on quality, "We provide highly safe products that meet customers' requirements."

We provide opportunities for suppliers to learn more about our perspective on quality and the basis of *monozukuri* at Rinnai through annual events including a get-together at the beginning of the year and policy information meetings and regular meetings of the Supplier Liaison Group. These meetings are also ideal for gathering information through suggestions from suppliers and promoting dialogues based on submitted questions. Indeed, these meetings promote a stronger commitment to teamwork.

In fiscal 2013 we introduced a system for developing information cooperation with our business partners, under which we provide these partners with the latest information on the Company via the Internet and have them register their own information.

We also promote green procurement processes with an emphasis on environmentally friendly supply chain management. We formulated E-Procurement Standards and work together with our business partners to pursue *monozukuri* with an environmental conscience. This includes implementation of proper environmental management and environmentally friendly approaches toward materials as well as parts production and use. We have also introduced controls for chemical substances contained in materials and parts, in accordance with the Chemical Substance Management Rank Guidelines for Products\*<sup>1</sup>.

\*1: Policy to eliminate or reduce the use of six substances listed in the Reduction of Hazardous Substances (RoHS) Directive

# **Improvement Activities with Our Business Partners**

In 2009, Rinnai started a "Level-Up Workshop" to provide our business partners with guidance on how to improve onsite operations and to help them nurture the company heads of the next generation. Under the guidance of Rinnai, the workshop is held to discuss ideas to improve actual operations and management methodologies a few times a month. For improving onsite operations, we instruct our business partners directly at their production sites to improve their level of *monozukuri*. For educating executive candidates, Rinnai's staff in charge of this project provides individual consultation to the business partner to improve the skills and knowledge required of executives.

By helping our business partners in this way with both the education of executive candidates and improvement of onsite operations, we aim for overall improvement of our business partners' competence.





#### **Comment from Our Business Partner**

We receive information about new product plans and future directions in our daily communications, and this is a great help when we formulate our business plans. In interacting with other companies at the Level-Up Workshop, we have developed a network with them and are better able to recognize our own strengths. Inspection tours to other companies' factories give us the chance to make many new discoveries. We have also developed a sense of camaraderie as companies providing the same level of products (parts) to the same customers. We make achievements through friendly competition with one another.



Mr. Minoru Kano, Executive Managing Director, Chuokoki K.K.

### Measures for Risk Management and Stable Procurement

During a time of unprecedented natural disasters, including last year's Great East Japan Earthquake and flooding in Thailand, we continued to produce and provide our products to customers by seeking cooperation from our business partners affected by the disasters, who quickly recovered from their operations, preferentially supplied us with stock parts, as well as replacing some parts with equivalent alternatives. As the supply chain expands all over the world, it is nearly impossible to reduce risks independently and it is essential to jointly take measures with our business partners.

Joint measures we currently promote with our business partners include dispersion of production sites, acquisition of detailed information about secondary processors and companies engaged in later processing, organization of information about assets, including metal molds, and formulation of business continuity plans.

# Promotion of Acquisition of ISO9001 and ISO14001 Certifications

To ensure provision of high-quality, safe, environmentally friendly products, all our domestic factories acquired ISO9001 certification (for quality management systems) in 1995 and ISO14001 certification (for environmental management systems) in 2003. We have been operating the management systems to improve the quality of our products and the environment.

We also ask our business partners to understand our approach to quality and the environment and to obtain ISO9001 and ISO14001 certifications or establish equivalent management systems, and we help them operate the systems.

# **Working with Logistics Partners to Improve Logistics**

### **Integrated Logistics Center**

In April 2008, we newly opened the Integrated Logistics Center that centralizes the products of four principal factories to establish streamlined logistics system which is closely linked to the production and sales. Through this center, we aim to improve the quality of logistics and services.

We are receiving more orders for system products and there is a greater demand for a wider variety of products with smaller lot sizes. Moreover, we need to cope with more diversified requests from our customers such as shortened lead time before the delivery, and a delivery to locations where the product must be actually installed. Before the center was opened, our operations in Aichi, where our production are mainly based, had to be supported by up to 14 logistics centers to store the products. However, in fiscal 2011, due to the results of company-wide effort to reduce inventories, we were able to successfully centralize our logistics bases into two. This successfully achieved high efficiency in logistics and contributed for the reduction of the environmental burden.

The Integral Logistics Center has introduced item-by-item control with QR code and an inspection system. QR codes, which identify each product, are affixed to all products and utilized in many processes in the logistic centers such as when products are brought in and out. By reading the data of QR code, we have drastically improved the quality of logistics by preventing errors and improving the traceability of each item. In addition, the combined use of wireless terminals, real-time operation instruction and actual result collection resulted in a significant improvement of the operations.



Integral Logistics Center



#### **Product Label**

Information includes product code, gas type, production number, production date, production line, etc.

# **Communication with Logistics Partners**

Every April, we hold a logistics policy information meeting to help service providers gain deeper insight into the logistics policy, targets and measures of our company and logistics department. In addition, we arrange a quarterly quality conference to reduce environmental burden related to the transportation and storage of products, and to improve the quality. In fiscal 2011, followed by our logistics partners' presentation, we discussed actual issues and confirmed countermeasures. We also visit their working sites regularly to share issues with them and help them make improvements.

# Our Logistics Partners' Measures to Improve their Logistics Quality

In May 2010, eight mixed consignment carriers\* of our logistics partners voluntarily established a "Logistics Working Group" for quality improvement. To promote the improvement of logistics quality and safe transportation, the Working Group is tackling the issues that are common with mixed consignment carriers through information exchange and improvement activities with the leadership of onsite staff. The Working Group started delivering tangible results such as Specific measures taken by the Working Group in fiscal 2012 include regular visits to premises where cargo is shipped or received, creation of awareness posters, and countermeasures against incorrect deliveries. The Working Group is contributing to the improvement of the logistics services of our company as well as the performance level of each carrier.

\*Mixed consignment carrier: Services to transport consignment collected from any number of consigners, or an operator that offers the services.

# Communication with Logistics Partners

In fiscal 2012, upon the request of our logistics partners, we made it possible to print addresses and names of delivery destinations in *kanji* (Chinese characters) on invoices (delivery statements), on which it had previously only been possible to print *katakana* characters. We have also improved our shipping labels (tags) by allowing the printing of *kanji*. This has made printed characters more legible and facilitated checking by our logistics partners, resulting in reduction of incorrect deliveries caused by characters being misread. We will continue to improve our logistics by cooperating with our partners for further efficiency in logistics operations.



## Measures to reduce shipping amount

The company is designated as a specified shipper under the revised Rationalization in Energy Use Law. Therefore, by cooperating with our logistics partners we strive to reduce  $CO_2$  emissions through such measures as eco-friendly driving and establishment of appropriate transportation routes. In fiscal 2011, we consolidated our logistics bases and eliminated and consolidated warehouses that were scattered around Japan. This enabled us to achieve a reduction of intra-company transportation and more efficient transportation of collected cargo, and to reduce the impact on the environment. Our next environmental measures include the increase of combined shipments grouping products shipped to the same destination and reduction of the transportation routes not heading directly to the final destination.

In addition, we consolidated our logistics bases into two in Aichi, where our four factories are located and streamlined warehouses spread around Japan. This eliminated redundant inventory at logistic centers, the production that is neither urgent nor important, and so called "horizontal transportation"\*. Moreover, improved logistics efficiency contributed to cost reduction and minimization of environmental burden. Our next measures include the following two: to increase combined shipments grouping products shipped to the same destination; and to reduce the transportation routes that are not directly heading to the final destination.

#### Trend of shipping volume and CO<sub>2</sub> emission

	Fiscal 2007	Fiscal 2008	Fiscal 2009	Fiscal 2010	Fiscal 2011	Fiscal 2012
Shipping volume (ton x km)	7,888	7,042	6,519	6,483	6,333	6,687
CO <sub>2</sub> emission volume (TCO <sub>2</sub> )	11,747	11,228	10,013	9,901	9,837	10,238

<sup>\*</sup> Horizontal transportation: transportation that doesn't include final destination (customer site), such as the route between Rinnai factory and its warehouse

# With Our Communities and Society

We disclose fair and impartial information in a timely and appropriate manner, and through open channels to shareholders and investors we pursue investor relations (IR) activities that foster greater trust.

# In Touch with the Community

## **Easter Event at a Welfare Facility**

In April 2012, Rinnai Brazil Heating Technology Ltd. held an Easter event at a welfare facility for handicapped children (APAE) in Mogi das Cruzes. Staff members of the company gave Easter eggs (chocolates) to children and became better acquainted with children and facility staff, together with volunteer staff who wore suits of a rabbit, a popular symbol of Easter.







# Support for the Restoration of the Nakagawa Canal

The Nakagawa Canal that runs near our headquarters used to be alive as a transportation route connecting the Port of Nagoya and the center of Nagoya city for foreign ships to proceed. With the development of transportation by railroads and automobiles, the utilization of canal transportation diminished greatly. In 2010, the Nakagawa Canal celebrated the 80th anniversary of its creation. To commemorate, an art event, "The Nakagawa Canal Art", was held in October 2010 based on a plan to restore the Nakagawa Canal as the new core of the Nagoya-city.

Rinnai's Chairman Naito was appointed as an Honorable Chairman of the Nakagawa Canal Art Planning Committee. The committee arranged various events to add a new value to the water area of the Nakagawa canal. The events included a fantastic digital light art show, "Digital Hanging Scroll" projected onto the walls of warehouses and a live performance combining Japanese traditional performance, Noh, and modern music.

As a local company, last year we began support of a joint government-community-industry project for restoring the Nakagawa Canal, and Rinnai's Chairman Naito was appointed as an Honorable Chairman of the Nakagawa Canal Art Planning Committee. Events at the canal included a fantastic digital light art show, a "digital hanging scroll" projected onto the walls of warehouses along the Nakagawa Canal, and inside the warehouses a live performance of modern music and a violin concert by children who are students of local violin class.

In this way, we continue to promote and encourage community members to come together to utilize and contribute to the restoration of the Nakagawa Canal.



"Digital Hanging Scroll" Projected on the Wall of Warehouses Produced by Akira Hasegawa (Photo: by Yoshiyuki Hata)



Suzuki Method Violin Concert

### Participation in the Cosmos Project

People begin mowing grass, sowing seeds, and watering the area each June so that cosmos flowers bloom in a variety of colors along the Nakagawa Canal in the autumn. Rinnai staff members participate in this Cosmos Project every year, planting and together flowers with student employees of other volunteers, local companies, and local residents.





# Support for fund raising for cystic fibrosis patients

Cystic fibrosis is a hereditary disease and there are many patients who are suffering from this disease in the United States. Rinnai America Corporation is supporting the fund-raising for cystic fibrosis patients through walking events and auctions.



A walking event

# Participation in the program of "Habitat for Humanity" and "Happiness-sharing 'N' Campaign"

Since 1994, Rinnai Korea Corporation has been participated in Habitat's home building program for humanity offering gas stoves to families that live in the houses every year. Rinnai Korea also participates in the "Happiness-sharing 'N' Campaign" promoted by the Korea National Council on Social Welfare (a program under which approximately 1% of sales of products and services with the N Mark as the "symbol of sharing" is gathered as funds for aiding social welfare organizations in need of support.

In fiscal 2012, we planned and held the "Happiness-sharing 'N' Free Cooking Class" jointly with the Mapo Community Rehabilitation Center. The monthly class, held six times in July-December, was aimed at helping people with intellectual disabilities with rehabilitation, and at fostering their independence. Residents of Mapo Ward with intellectual disabilities were invited (25 people each class).



Free cooking class

# **Hosting a Cooking Contest**

In April 2011, P.T. Rinnai Indonesia conducted a cooking contest in Senayan in the center of Jakarta. There were 2,500 participants, the largest number ever for a cooking contest held in the country. Competition was in cooking skills using single-burner stoves. (Rinnai provided 1,300 stoves.)



Cooking contest

# Disaster-prevention and crime-prevention activities for local communities

Each Rinnai Group location actively cooperates with disaster-prevention and crime-prevention activities by the local government and community. In fiscal 2012, we participated in the New Year's parade of fire department brigades of Seto City, Aichi Prefecture, and also joined a team for promoting awareness of local safety that was organized by the city police of Nakagawa, Aichi Prefecture. Other events we took part in include a fire drill competition hosted by the Niwa Association for Safety of Hazardous Materials of Niwa District, Aichi Prefecture.



New Year's parade of fire department brigades in Seto City



A team for promoting awareness of local safety organized by the Nakagawa city police



Fire drill competition

# **Communicating with Students**

# **Factory Tours for Students**

To encourage interaction with the local community, each factory provides cooperation for a factory tour program for local elementary school students. Schools utilizes this program as an opportunity for students to learn about society and *monozukuri* through the presentation of facilities in production lines, assembly method and products.



Seto Factory



Asahi Factory



Aichi Factory

# Acceptance of high-school student trainee

The Rinnai Group cooperates with internship programs by each year proactively accepting high school students as interns at its offices and factories.





Seto Factory

Noto Tech

# **Support for Victims of Disaster**

# Free maintenance services for products damaged with water disaster during rainy season and summer

Since the beginning of 1980, Rinnai Korea Corporation has been dispatching its service group to the areas affected by water disaster to provide free inspection and repairs for gas cooking stoves and gas boilers covered by water. During the water disaster in August 2011, a recovery team consisting of approximately 150 members of Rinnai CS Corporation and the dealer association of the country engaged in activities for supporting people affected by the disaster.



# **Support for Sports and Culture**

The Group supports events that foster international exchange in the arts and culture as well as sporting events.

#### Rinnai Corporation, Actual Results in Fiscal 2012

Major financial contribution	Major sponsorship
*Foundation for the Arts, Nagoya *Chubu High-tech Center (CHC) *Japan Academy of Chamber Music *The Nakagawa Canal Art	* Japan Virtuoso Symphony Orchestra Concert  * Nagoya Philharmonic Orchestra  * Nagoya School of Music, The Music Competition of Japan, Award-winning Celebration Concert  * Campus Venture Grand Prix, Chubu Area  * Nagoya Shonen Shojo Hatsumei Club (Invention and Innovation Youth Club)  * Toyota International Youth Football Championship  * Nippon Domannaka Festival

#### Rinnai America Corporation: Actual Results in Fiscal 2011

Rinnai America Corporation supported Ragnar Relay, the longest relay in the world that takes up to 12 runners to finish the course of about 300km in the U.S, by installing shower rooms in several locations.



# Rinnai POPS Orchestra Program

"Rinnai POPS Orchestra" operated by Rinnai Korea Corporation, is the only one private orchestra in Korea. It was established in 1986 for the emotional development in the youth, the contribution for the growth of culture in the local community and the improvement of the level of culture of the nation. The orchestra provides charity concerts including a regular concert and concert trip visiting various sites based on requests and invitation. In 2011, the orchestra held 28 concerts.



# **Promotion of Greenery Activities**

### "Home Greenery Project"

In 2008, we started "Home Greenery Project" to contribute to the prevention of global warming and provide the sense of enjoyment to participants of the project. We present young blueberry trees, which are easy to grow and absorb  $CO_2$  well. So far, we have offered about 18,000 of young trees trying to reduce  $CO_2$  with the cooperation of the project participants. In 2011, we selected 1,000 people from the applicants to the project by lottery, and presented total 2,000 trees bundling two kinds of trees as a set. We used the young blueberry trees that were planted and grown in the areas affected by the earthquake in the Tohoku region.



# **Ground Golf Course Offered to Local Residents**

In fiscal 2012, RB Controls Co., Ltd. created a ground golf course on its premises by greening part of its car parking area. The course is also open for use by local residents.



# **Our Employee's Voluntary Activities**

### Participation in Environmental Beautification Activities

Each location of the Rinnai Group promotes local environmental beautification activities such as the cleaning of the company vicinity and commuting routes of the employees. Our activities are deeply rooted in each community.



Activities around Kadoma station by Yanagisawa Manufacturing Co., Ltd.



Activities around the Asahi Factory of Rinnai Corporation



Activities around Kakegawa station by Rinnai Technica Co., Ltd.

# **Blood Donation Program**

Rinnai Korea Corporation participated in a blood donation program as a social action program in August 2010. With the help of Incheon Blood Center of Korean Red Cross Society, 26 employees participated in a group blood donation program. This program will be continued every year. In August 2011, Rinnai Korea Corporation cooperated with a blood donation initiative as a social action program, with the help of the Incheon Blood Center of the Korean Red Cross Society. This program will be continued each year.



# **Environmental Policy**

The Rinnai Group recognizes that tackling issues concerning the global environment is one of our leading management priorities and pursues the development of business activities that will concurrently contribute to environmental conservation and business growth in order to be a business entity that society hopes will continue its operations. Toward this end, we have set specific goals for implementing the Basic Environmental Policy to strengthen and expand environmental protection activities.

### **Basic Philosophy on the Environment**

Rinnai's basic philosophy is to embrace environmental protection on a global scale and contribute to society through the pursuit of excellent, people- and planet-friendly technology, and product development, production, sales and service infused with a sense of humanity.

### **Environmental Slogan**

"Our actions are imbued by the wisdom of many and undertaken with due consideration to the sustainability of a people- and earth-friendly environment."

#### **Basic Environmental Policy**

- 1. Provide environmentally conscious products that have minimal impact on the environment. Through the diligent pursuit of product development stressing reduced consumption of resources and energy and higher recycling rates as well as eco-minded materials procurement (E-Procurement), we will provide environmentally conscious products (E-Products) that have minimal impact on the environment and contribute to a healthier planet.
- 2. Create green factories and offices with the environment in mind.

  We will emphasize activities that save energy, reduce waste and limit or eliminate hazardous chemical substances, and we will work toward the establishment of environmentally sustainable factories and offices—E-Factory and E-Office—that fit in with the natural surroundings.
- 3. Consider how sales and service activities might affect the environment.

  We will reduce the impact that sales (E-Marketing), services (E-Service) and other business activities in general might have on the environment.
- **4. Formulate an environmental management system and continuously improve it.** We will formulate an environmental management system and continuously enhance its scope through the establishment and management of appropriate environmental objectives and targets.
- 5. Ensure activities are in compliance with regulations and restrictions, including laws, and self-established standards.

Obviously, we will abide by laws, ordinances, agreements and other regulations and restrictions, but we will also set and adhere to self-established standards corresponding to social demands. We will always strive to enhance our response to meet revised regulations and evolving standards.

- 6. Raise environmental awareness among employees and work with communities to contribute to society. We will raise environmental awareness among all employees through environment-themed training, and we will promote activities undertaken jointly with regional communities and other groups to achieve public good. This perspective is called e-mind.
- 7. Disclose information to employees and the communities in which we work.

  We will disclose environment-related information, such as policies and strategies, to keep employees and society at large in the loop about our perspectives and actions on environmental issues.

# **Basic Environmental Activity**

# "7E" Strategic Initiatives

### Green Activities Involving All Employees in All Business Areas

Based on our goal to achieve a sustainable operation, we have been promoting the "7E" Strategic Initiatives. The employees with a high sense of environmental awareness create environmentally conscious products at green factories to provide these products to customers with our confidence. As a *monozukuri*-driven company, we pay considerable care to the entire lifecycle of our products—from product development to procurement of materials and components and on through production and then sales, use and disposal. Our consideration goes to each element including "procurement" of materials and components, "factories" as the base of our *monozukuri*, "sales" of our products, "services" related to the products used by our customers, "offices", where administration activities take place and "employee", the foundation of our activities.

#### 7E Strategic Initiatives Develop and provide environmentally conscious products E-Products (Products) Emphasize environmentally conscious Promote green procurement E-Service installation and repair services E-Procurement (Installation (Procurement) and repair) Promote activities with reduced Promote activities with reduced environmental impact E-Factory environmental impact at the offices E-Office (Factories) (Offices) E-Marketing Sell environmentally conscious products. Encouragé customers to be (Sales) Improvement of our more environmentally aware employees' environmental awareness and promotion of social action programs through E-Mind environmental education (Employees) Promote activities with reduced environmental impact at the offices.

# **Environmental Management System**

Rinnai maintains an environmental management system based on ISO 14001. We effectively utilize this management system and constantly strive to promote environment management practices aimed at environmentally conscious *monozukuri* and to raise environmental performance. Our goal is to contribute to the formation of a society capable of sustainable development.

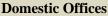
### **Actual Results of Fiscal 2012**

To underpin the systematic and continuous development of environment-oriented activities in line with our stated basic environmental policy, we encourage all members of the Rinnai Group to embrace efforts to acquire and maintain ISO14001 certification. In fiscal 2012, ISO14001 certification was acquired by three sales divisions in Japan – the Kyushu Branch, Hokkaido Branch, and Niigata Branch – and one overseas office (Rinnai Brasil Heating Technology Ltd.). To further expand our environmental protection activities, we will continue to promote introduction of environmental management systems to our domestic sales operations and overseas Group companies.

#### Locations that newly acquired ISO14001



Kyushu Branch





Hokkaido Branch

Niigata Branch



Rinnai Brasil Heating Technology Ltd.

**Overseas Office** 

# **Certification acquisition status**

[ISO 14001: 2004] Environmental management system certification acquisition status

	Location	Certified year/month
	Research and Development Headquarters	October 1997
	Production Engineering Division	October 1997
	Oguchi Factory	October 1997
Rinnai	Seto Factory	December 2000
	Environment Division	December 2000
	Aichi Factory	November 2003
	Asahi Factory	November 2003
	Quality Assurance Division	November 2003
	Head Office	December 2008

	Kansai Branch	May 2010
	Logistic Control Office	May 2010
	Kanto Branch	May 2011
	Chugoku Branch	May 2011
	Components Center	May 2011
	Kyushu Branch	April 2012
	Hokkaido Branch	April 2012
	Niigata Branch	April 2012
	Rinnai Technica Co., Ltd.	December 2003
	Yanagisawa Manufacturing Co., Ltd.	June 2004
Domestic	Rinnai Precision Co., Ltd.	December 2005
Group	Japan Ceramics Co., Ltd.	January 2006
Company	RT Engineering Co., Ltd.	March 2006
	RB Controls Co., Ltd.	March 2006
	Noto Tech Co., Ltd.	January 2007
	Rinnai Korea Corporation	July1997
Overseas	RB Korea Ltd.	October 2006
Group Company	Shanghai Rinnai Co., Ltd.	December 2008
r ·· J	Rinnai Brasil Heating Technology Ltd.	June 2011

**Environment Management System "Eco Action21"** 

Lo	ocation Name	Certified year/month
Domestic Group Company	Techno Parts Co., Ltd.	August 2011

# **Environmental Activities Structure**

Headed by the President, the Environment Management Committee guides corporate efforts to achieve targets based on environmental policy. This committee is chaired by the executive officer responsible for the environment and has the participation of representatives from all divisions. Its mandate is to promote environment-oriented activities from a big-picture view.

### **Environment Management Activities**

The Environment Management Committee discusses and decides important items including the basic environmental basic policy, the goal and a medium to long-term plan. The committee thoroughly informs individual divisions of decisions made by the committee and promotes concrete activities in line with annual plans. We review our objectives as necessary and diligently strive to meet our targets. To perform specific activities, each division has a liaison group and holds routine meetings to make issues known to everyone in the respective division and continue improvement activities.





Review meeting by executives

Liaison group

### **Environmental Audits**

### **External Audits**

The ISO 14011 Certification Division undergoes a routine audit, once a year, by an external screening/registration body to verify that the environmental management system is being properly applied. The routine audit in fiscal 2012 did not turn up any major non-conformances.





External audit

#### **Internal Audits**

Auditing team, comprising impartial internal auditors chosen from within the Corporation who have no direct connection to the division under audit, assess conformity to the established environmental management system and review division activities. Auditors visit worksites of divisions tapped for an audit and perform detailed inspections. Direct contact between auditors and divisions facilitates greater understanding of division activities and auditor concerns. Internal audits in fiscal 2012 found no major non-conformances. There were 10 opportunities for improvement and 60 observations. We swiftly addressed these areas to ensure that they would not develop into problems later on.



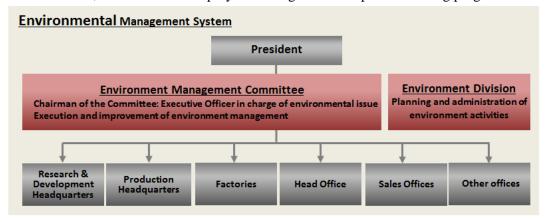




Internal audit

# **Environmental Training**

Raising each employee's environmental awareness is important for promoting environmental activities. To provide as many employees as possible with opportunities to raise their environmental awareness, we plan and offer training programs for developing and fostering human resources who will actually engage in environmental activities, as well as new employee training and rank-specific training programs.



### **Internal Auditor Training**

Internal auditors play a significant role over and above their efforts to continuously improve the environmental management system. The execution of audit requires highly specialized knowledge and communication skill. To upgrade the skills of internal auditors, we conduct regular training by in-house instructors on such topics as laws and ordinances, internal regulations, internal audit observations and improvement measures, and environment- oriented trends. In fiscal 2012, the courses drew 92 participants.





Internal auditor training

#### **General Environmental Training**

We regularly provide general environmental training to people working for our company cafeteria and business operators who frequently visit our offices, so that they will engage in the same environmental activities as our employees do.



DVD on the environment shown during a training session (Production Engineering Division)



Workers in a company cafeteria receive environmental training (Asahi Factory)

#### **Eco-Leader Course**

In every division, we offer an eco-leader course aimed at developing the skills of environment managers who independently and energetically promote environmental activities.

#### **Basic course**

The one-day course is given by in-house and guest instructors and covers a wide range of points, from environmental management basics to concrete examples. In fiscal 2012, 17 people attended the course.



A game on environmental management strategies being played with instructions from an external instructor

#### Intermediate-level course

We held an intermediate-level course for fostering Eco-Leaders. Aimed at allowing participants to master practical energy-saving skills and upgrading their environmental efforts, the course included a classroom lecture and on-the-job training for applying the knowledge obtained in the lecture toward practical operations. The course was attended by 13 people from production divisions.



Lecture being given by an external instructor



On-the-job training

# **Environmental Training for Trainees from Overseas Group Companies**

A range of materials are used for training on topics such as approaches to the environment and basics of environmentally friendly *monozukuri*. Trainees are also given onsite training on methods of production with environmentally friendly facilities and methods of improvement based on case examples. We strive to improve the environmental awareness level of the entire Rinnai Group.



Trainees attend a lecture on our environmental



Trainees receive explanations on our water

initiatives

recycling system

# **Enhancing Global Environment Management: Creating an environmental management system with our business partners**

### **Reinforcement of Chemical Management**

All over the world, governments are implementing tougher restrictions on chemicals, and manufacturers are increasingly required to monitor their use of chemicals used during production processes and the chemical content in finished products. Chemical substances are known to present certain risks, depending on the correlation between the amount of exposure and the harm they could inflict. It is important to identify such information.

In Europe, especially, manufacturers must adhere to strict regulations, such as the Reduction of Hazardous Substances (RoHS) Directive and Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). As a collection of companies, the Rinnai Group must assume a unified approach in managing information on the chemicals contained in its products. We must properly address laws and regulations at home and abroad and respond accurately to requests from customers on the chemicals found in our products. Chemical substances are a critical key component of quality control. They are unseen yet require monitoring. To ensure that use of chemical substances that could harm the human body or the environment is minimized in the entire life cycle of products, members of the Chemical Management Project promote activities to establish and further strengthen the platform for chemical management.

- \* RoHS Directive: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment" Since July 1, 2006, the EU market has been restricting the use of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) and Polybrominated diphenyl ethers (PBDE) in electrical and electronic equipment.
- \* The Registration, Evaluation, Authorization and Restriction of Chemicals (REACH): It is a new regulation on chemical substances in EU that mandates registration, evaluation and authorization of chemical substances manufactured in or imported to EU.

#### Rinnai's Procurement Management Standards







Policy on Chemical Substance Management

### **Support to Establish Environment Management System**

To promote environmentally conscious *monozukuri* working with our business partners, we encourage our business partners to obtain certifications for environment management system including ISO14001, Eco Action 21 and KES.

# **Environmental Action Plan and Results**

#### Fiscal 2012 (Year ended March 31, 2012) Environmental Action Plan and Results

Rinnai lists herewith the targets for key activities-environment management and the 7Es (E-Products, E-Procurement, E-Factory, E-Marketing, E-Service, E-Office and E-Mind)-and the results achieved, as well as an assessment of progress toward respective goals.

\*Progress rating ○: Achieved △: Not achieved ×: Not implemented

Activity	Fiscal 2012 Target	Fiscal 2012 Achievement	Progress
Environmental management system	ISO 14001 certification for one branch and two sales offices     ISO 14001 certification for overseas group offices	<ul> <li>ISO 14001 certification obtained for three divisions - Kyushu Branch, Hokkaido Branch and Niigata Branch.</li> <li>ISO 14001 certification obtained for Rinnai Brasil Heating Technology Ltd</li> </ul>	0

#### **E-Products**

E-1 Toducts			
Activity	Fiscal 2012 Target	Fiscal 2012 Achievement	Progress
Prevent global warming	<ul> <li>Develop high-efficiency appliances Develop condensing heat source for the domestic and overseas markets Develop gas/solar hybrid hot water systems</li> <li>Reduce standby power consumption <i>Eco-Jozu</i> combi boiler, <i>Eco-Jozu</i> hot water and heating source Fan-forced heaters for the domestic market</li> </ul>	<ul> <li>Develop high-efficiency appliances <i>Eco-Jozu</i> hot water units, <i>Eco-Jozu</i> combi-boiler, <i>Eco-Jozu</i> heat source for hot water and heating system</li> <li>Reduce standby power consumption <i>Eco-Jozu</i> combi-boiler, <i>Eco-Jozu</i> heat source for hot water and heating system, fan-forced heaters</li> </ul>	0
Prevent air pollution	• Develop low-NOx <i>Eco-Jozu</i> hot water units	• Develop low-NOx <i>Eco-Jozu</i> hot water units <i>Eco-Jozu</i> hot water units, <i>Eco-Jozu</i> combi-boiler, <i>Eco-Jozu</i> heat source for hot water and heating system	0
Reduce resource consumption, promote recycling	<ul> <li>Conduct product assessments</li> <li>Develop lightweight <i>Eco-Jozu</i> heat source</li> <li>Develop lightweight <i>Eco-Jozu</i> hot water units for overseas</li> </ul>	<ul> <li>Conduct product assessments         Develop lightweight <i>Eco-Jozu</i> heat source         Develop lightweight <i>Eco-Jozu</i> hot water units for overseas     </li> </ul>	0

#### **E-Procurement**

Activity	Fiscal 2012 Target	Fiscal 2012 Achievement	Progress
Green procurement	<ul> <li>Green product development (Promote use of materials conforming to E-Procurement Standard)</li> <li>Strengthen green procurement management (chemical management)</li> </ul>	<ul> <li>Procure and use materials based on E-Procurement Standards</li> <li>Establish Chemical Substance Management Office under Environment Division to strengthen chemical substance management activities</li> </ul>	0

#### E-Factory

Activity	Fiscal 2012 Target	Fiscal 2012 Achievement	Progress
Prevent global warming	• Reduce CO <sub>2</sub> emission factor <sup>1</sup> by more than 2% compared to fiscal 2010 level	• Cut 3.7% CO <sub>2</sub> emission factor comparing to fiscal 2010 (Total CO <sub>2</sub> emissions 1.4% decrease from the previous year)	Δ

Reduce waste	<ul> <li>Reduce waste emission factor*2 by 1% or more compared to fiscal 2010 level</li> <li>Sustain/improve zero emission status</li> <li>Reduce total waste output by 1% or more compared to fiscal 2011 level</li> </ul>	<ul> <li>Cut waste emission factor by 3.7% compared to fiscal 2010</li> <li>Zero emissions Achieved an average recycling rate among all business facilities at above 99.5%</li> </ul>	0
Reduce hazardous chemical substances	<ul> <li>Reduce volume of hazardous chemical substances as listed on the Pollutant Release and Transfer Register by 51% or more</li> </ul>	• Cut volume of hazardous chemical substances by 52.8% compared to fiscal 2001	0

#### E-Marketing, E-Service

Activity	Fiscal 2012 Target	Fiscal 2012 Achievement	Progress
Expand sales of high-efficiency products	• Cut CO <sub>2</sub> emissions from high-efficiency hot water units by 37,000 t-CO <sub>2</sub> /year	• Cut CO <sub>2</sub> emissions from high-efficiency hot water units by 36,000 t-CO <sub>2</sub> /year	Δ
Provide information on environmentally conscious products	<ul> <li>Introduce and promote awareness of environmentally conscious products at trade shows</li> <li>Create and distribute catalogs, flyers and pamphlets</li> </ul>	<ul> <li>Introduce and promote awareness of environmentally conscious products at trade shows</li> <li>Create and distribute catalogs, flyers and pamphlets</li> </ul>	0

#### E-Office

Activity	Fiscal 2012 Target	Fiscal 2012 Achievement	Progress
Green purchasing	Set green purchasing rate above 90% for items including those newly added	Green purchasing rate: Achieved 90% or above (in monetary terms) (including additional items)	0

### E-Mind, Other

Activity	Fiscal 2012 Target	Fiscal 2012 Achievement	Progress
Environmental information disclosure	<ul> <li>Issue Social &amp; Environmental Report for fiscal 2012</li> <li>Upload environment-oriented information on the Rinnai website</li> </ul>	<ul> <li>Issue Social &amp; Environmental Report for fiscal 2012 (August)</li> <li>Upload environment-oriented information to the Rinnai website (August)</li> </ul>	0
Environmental education and awareness	• Promote various educational activities in line with fiscal 2012 plans for the Corporation and all of its places of business	Execute new employee training, internal auditor training and Eco-Leader training	0

<sup>\*1:</sup> CO<sub>2</sub> emission factor = total CO<sub>2</sub> emissions/net sales (100 million yen)
\*2: Waste emission factor = total waste emissions/net sales (100 million yen)

# Fiscal 2013 (Year ending March 31, 2013) Environmental Action Plan

We always assume a new perspective in working toward new targets.

In fiscal 2013, the first year to launch the new medium-to long-term plan, "Jump-Up 2014", we will promote environmental activities designed to take us further ahead on the environmental road. We aim to expand our environmental management system and enhance our environmental performance.

Activity	Basic Action Plan	Fiscal 2013 Target
Environmental management system	• Build a groupwide environmental management system and improve environmental performance through cooperative activities.	• ISO 14001 certification for two divisions- one marketing and sales office and one branches

#### E-Products

2-1 Toducis		
Activity	Basic Action Plan	Fiscal 2013 Target
Prevent global warming  • Push <i>Eco-Jozu</i> (condensing technology) as the de facto standard, develop high-efficiency appliances, expand to double-hybrid hot water/heating systems, develop remote controls with energy-saving display function and high-efficiency appliances, emphasize measures to reduce standby and in-use power consumption, and continually develop energy-saving, industry-leading products		<ul> <li>Develop high-efficiency appliances <ul> <li>Eco-Jozu hot water unit, Eco-Jozu hot water and heating system</li> <li>Double hybrid hot water/heating system</li> </ul> </li> <li>Reduce standby power consumption</li> <li>Eco-Jozu hot water unit, heat source for Eco-Jozu hot water and heating system, fan-forced heaters for the domestic market</li> </ul>
Prevent air pollution	Develop low-NOx products for domestic and overseas market	Develop low-NOx condensing hot water units
Reduce resource consumption, promote recycling	• Save resources by making products and components smaller and more lightweight, and strive to develop products conducive to resource recycling.	<ul> <li>Conduct product assessments.</li> <li>Conducted for all new products</li> <li>Develop lightweight <i>Eco-Jozu</i> heat source.</li> <li><i>Eco-Jozu</i> combi-boiler, <i>Eco-Jozu</i> hot water and heat source</li> </ul>

#### **E-Procurement**

Activity	Basic Action Plan	Fiscal 2013 Target
Green procurement	• Work with suppliers and Group companies and promote procurement of parts with an environmental perspective highlighting resource-saving, energy saving and recycling potential.	<ul> <li>Green product development.</li> <li>(Promote use of materials conforming to E-Procurement Standard)</li> <li>Enhance green procurement management (chemical management).</li> </ul>

#### **E-Factory**

Activity	Basic Action Plan	Fiscal 2013 Target
Prevent global warming	• Reduce CO <sub>2</sub> emission factor by 5% or more compared to fiscal 2009 level (by fiscal 2014)	• Reduce CO <sub>2</sub> emission factor by 3% or more compared to fiscal 2009 level
Reduce waste	<ul> <li>Sustain zero emission status (Recycling rate: More than 99.5%)</li> <li>Reduce the waste emission factor*2 by 4% or more compared to fiscal 2010 level (by fiscal 2014)</li> </ul>	Sustain/improve zero emission status     Reduce total waste output by 2% or more compared to fiscal 2011 level
Reduce hazardous chemical substances	• Reduce PRTR substance handling amounts per unit*3 by 4% or more compared to fiscal 2010 level (by fiscal 2014)	• Reduce PRTR substance handling amounts per unit production by 2% or more compared to fiscal 2010 level

- \*1:  $CO_2$  emission factor = total  $CO_2$  emissions/net sales (100 million yen)
- \*2: Waste emission factor = total waste emissions/net sales (100 million yen)
- \*3: PRTR substance handling amounts per unit = amounts of PRTR substances handled/net sales (100 million yen)

## E-Marketing, E-Service

Activity	Basic Action Plan	Fiscal 2013 Target
Expand sales of high-efficiency products	• Expand sales of high-efficiency products Hot-water units ( <i>Eco-Jozu</i> gas/solar hybrid hot-water system)	• Cut CO <sub>2</sub> emissions from hot-water units by 49,000 t-CO <sub>2</sub> /year.
Provide information on Environmentally conscious products	• Provide information on environmentally conscious products at trade shows and in printed materials, such as catalogs, flyers and pamphlets.	<ul> <li>Introduce and promote awareness of environmentally conscious products at trade shows.</li> <li>Create and distribute catalogs, flyers and pamphlets.</li> </ul>

### E-Office

Activity	Activity Basic Action Plan Fiscal 2013 Target	
Green purchasing	• Increase green purchasing rate to be at or above 91% for items including those newly added from fiscal 2012, by fiscal 2015	• Set green purchasing rate at or above 95% for items including those newly added

## E-Mind, Other

Activity	Activity Basic Action Plan Fiscal 2013 T		
Environmental information disclosure	<ul> <li>Utilize Social &amp; Environmental Report and Rinnai website to spotlight environmental activities and present environment-oriented information.</li> </ul>	<ul> <li>Issue Social &amp; Environmental Report for fiscal 2013.</li> <li>Upload environment-oriented information to the Rinnai website.</li> </ul>	
Environmental education and awareness  • Enthusiastically promote environmental education and awareness activities to employees and continuously enhance environmental consciousness.		• Promote various educational activities in line with fiscal 2013 plans for the Corporation and all its places of business.	

# **Environmental Accounting**

To realize continuous growth while promoting environmental management, we must accurately quantify the cost of environmental protection and the results achieved. We must also ensure that our approaches are effective through appropriate allocation of management resources. We utilize guidelines set by Japan's Ministry of the Environment as the tools in executing these tasks.

Scope of accounting: Rinnai Corporation

Period of accounting: April 1, 2011 to March 31, 2012

# **Cost of Environmental Protection**

(Unit: Ten thousand yen)

Breakdown of Costs for Environmental Protection		Key Activities	Costs
Pollution prevention		Mainly efforts to prevent air and water pollution	2,692
In the scope of operations	Environmental protection	Mainly efforts to save energy	18,830
op or account	Resource recycling	Recycling as well as treatment and disposal of industrial waste	5,103
Upstream/downst	ream	Collection/recycling and volume/weight reduction of materials such as product packaging	1,256
Management activities		Mainly monitoring and surveillance of environmental impact	7,474
Research and development		R&D on environmentally conscious products addressing energy- and resource-saving features and reduction and/or elimination of hazardous chemical substances	49,579
Community efforts		Mainly community activities and beautification/greening at places of business and surrounding areas	241
Total			85,175

(Unit: Ten thousand ven)

	Item		Content	Environmental Impact Reduction
Environmental Protection Effect	On-site results		Saving energy reduced greenhouse gases	367 t CO <sub>2</sub> /year
	Upstream/downstream	Environmental impact reduction	Reduction of NOx with products with low NOx emissions	149 t/year
	through use of	High-efficiency products reduced CO <sub>2</sub>	71,443 t CO <sub>2</sub> /year	

(Unit: Ten thousand yen)

Economic Effects Accompanying	Item	<b>Economic Effect</b>
Environmental Protection Measures	Costs cut through energy-savings and waste reduction	1,420

# **About Environmental Protection Costs**

- R&D costs are associated with the development of environment-related, leading-edge technologies and products for the heat-energy appliance market as well as products that, based on Rinnai's standards, mark an improvement over existing products.
- Costs covering other applications, which include non-environment-oriented activities, are apportioned according to internal rules.
- The calculations above exclude depreciation and amortization expense.

# **About Success of Environmental Protection Efforts**

- The success of environmental protection efforts through energy-saving efforts and waste reduction is not a change in overall volume but rather the assumed effect achieved through associated activities.
- The success of environmental protection efforts through the use of products with the capacity to reduce environmental impact is not an industry result but rather a year-on-year comparison based on Rinnai's sales of such products. We determined these estimates based on annual volume over normal usage.

### **Economic Effect**

- The economic effects achieved through energy-savings and waste reduction are not increases or decreases in overall costs but rather an effective amount regarded for its economic benefit through the associated activities.
- Deemed effects, such as avoiding risks and enhanced product sales, fall outside the scope of economic effects because the standard for evaluation is too vague.
- External economic effects, derived mainly through products that reduce environmental impact, also fall outside the scope of economic effects because the results are too difficult to pinpoint.

# **Developing Environmentally Conscious Products**

Environmentally conscious design addresses such issues as measures to prevent global warming, to facilitate resource recycling, and to reduce the use of substances that have a negative impact on the environment. Based on this perspective and guided by the keywords safety, peace of mind, comfort and convenience, we pursue the development and design of products that contribute to comfortable lifestyles for our customers.

# **Efforts to Save Energy and Resources**

# **Optimum Energy Mix of Electricity and Gas**

Committed to achieving major improvements in household energy efficiency, we have developed next-generation energy-saving products by combining high-efficiency gas hot-water units and *Eco Jozu* technology, as well as heat pump technology, which utilizes air as the heat source.

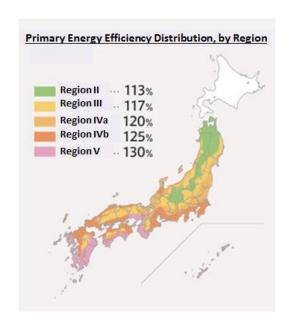
### **New Hybrid Hot-Water/Heating System**



Heat source and tank (in single unit) (100 liters) Heat pump unit RHP-R220 Tank (single unit) RTU-R1000

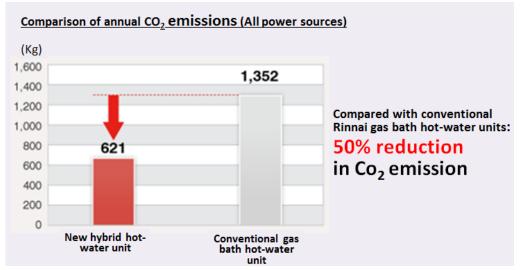
### **Energy Savings**

Attained a primary energy efficiency ratio (\*1) of 125% (\*2)



- (\*1) Primary energy efficiency: "Primary energy" is the energy which can be obtained without changing its form of the way it exists in nature such as coal, oil and natural gas. "Primary energy efficiency" is an efficiency ratio that has been converted from the amount of final energy consumption to its equivalent in the amount of primary energy needed to produce the energy. Higher primary energy efficiency means a lower energy conversion loss rate, better utilization of energy resource and effective energy-saving.
- (\*2) Compiled by Rinnai based on decision criteria of residential business owners (IVb region) of the Institute for Building Environment and Energy Conservation (IBEC). \*Standards of Judgment for Residential Construction Clients: These energy-saving standards for housing for sales were newly established for residential construction clients who design and build houses to reinforce energy-saving measures.

### CO<sub>2</sub> Emissions Reduction



**Annual hot water supply load** 4.03Gcal (Rinnai calculation)

**CO<sub>2</sub> emission coefficient** LP gas 2.23kg-CO2/m<sup>3</sup>

(Act on Promotion of Global Warming Countermeasures, Article 3)

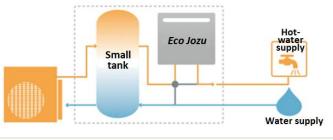
**Electricity** 0.43kg- CO<sub>2</sub> /kWh

(All power sources) (Ministry of Economy, Trade and Industry: Average emission coefficient

for all power sources from 2004 to 2008 based on a medium-to long-term

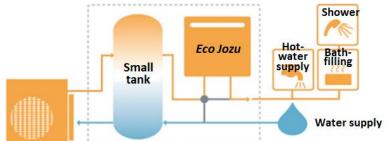
evaluation.)

### **Configuration of Hybrid Hot-Water Unit**



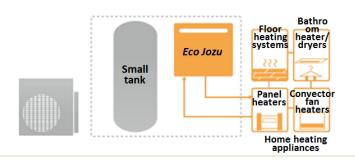
# (1) When a small amount of hot water is used:

Operate a heat pump



# (2) When a large amount of water is

Operate a heat pump and a high-efficiency hot-water unit, *ECO-JOZU*.



(3) When a hot-water heater (for floor heating, bathroom heating, etc.) is used: Operate a high-efficiency hot-water unit, *ECO-JOZU*.

# Aiming to Realize a Low-Carbon Society with Earth-Friendly Hot-Water Units



#### Switch to Eco Jozu by 2013 Campaign

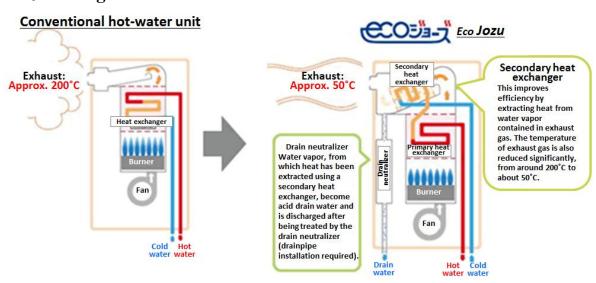
Aiming to convert all gas hot-water units to Eco Jozu products by 2013

Rinnai supports the "Switch to *Eco Jozu* by 2013 Campaign" declared by the Japan Industrial Association of Gas and Kerosene Appliances and the Japan Gas Energy Promotion Association. We are promoting our product development to convert all gas hot-water units to high-efficiency hot-water units, "*Eco Jozu*", which are energy-saving and environment-friendl, by March 2013. To cope with various installation requirements and needs—such as for detached homes, multiple dwelling buildings, and commercial premises—since 2009 Rinnai has developed its *Eco Jozu* E-series of products. These include the RVD-RUFH range of hot-water, bath, and heating systems; the RUF range of hot-water and bath systems; and the RUX dedicated hot-water system.

Eco Jozu High-Efficiency Hot-Water Units: Main Functions and Models

Main <i>Eco Jozu</i> Series	Functions			
Maii Eco Joza Series	Hot water supply	Bath-filling	Hot-water heater	
Gas hot-water, bath, and heating systems RVD-E series RUFH-E series	Hot- water	Bath- filling \$55	Hot- water heater	
Hot-water and bath systems RUF-E series	Hot- water	Fath- filling 555		
Gas hot-water systems RUX-E series	Hot- water			

#### Eco Jozu Configuration



(\*1) *Eco Jozu*: High-efficiency gas hot-water systems that enhance heat efficiency by collecting and reusing heat that would normally be discharged into the atmosphere.

### **RVD-E Series (Gas Hot-Water, Bath, And Heating Systems)**



**Energy conservation** 

Heat efficiency	Hot-water supply	95%
	Bath-filling	89%



RVD-E2401AW2-1

#### **Resource conservation**

Lightweight	45kg → 34kg (11kg less than existing Rinnai model)
Compact	Height: 75cm → 60cm (15cm less than existing Rinnai model)

#### **Comment from Product Designer**

We are currently developing environmentally friendly products that conserve energy and are compact and lightweight, in preparation for March 2013, when the Eco Jozu series of high-efficiency hot-water systems will become the de facto standard. To promote the proliferation of Eco Jozu, with its superior environmental performance, we focused on the important issue of enhancing ease of installation by making the units compact and light in weight. To this end, we reassessed every single specification and harnessed our knowledge about component layouts, including attachability. At present, we are doing our utmost to address the diversity of installation scenarios.



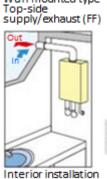
Takeshi Kawashima, Project Manager, Hot Water Unit Development Product Development Division, Research & Development Headquarters

### **RUF-E Series (Gas Hot-Water and Bath Heating Systems)**

**Energy conservation** 

Heat efficiency	Hot-water supply	95%
	Bath-filling	92% (first in industry)





Wall-mounted type



RUF-E2401AFF

# **RUX-E Series (Gas Hot-Water Systems)**

#### **Energy conservation**

**Heat efficiency** Hot-water supply 90%

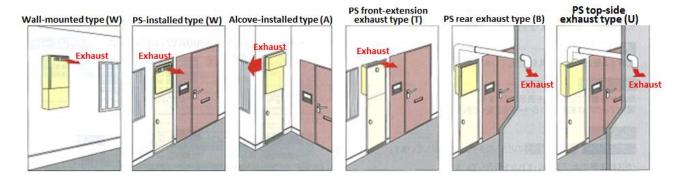


#### **Resource conservation**

Lightweight	28.0kg → 19.5kg (8.5kg less than existing Rinnai model)
Compact	Height: 60cm → 53cm (7cm less than existing Rinnai model)

RUX-E2400W

#### **Diverse Installation Scenarios**



#### **RUF-TE Series**

### (Gas Hot-Water and Bath Heating Systems for Existing Multiple-Dwelling Units PS)

Hot water and bath heating systems for PS installation in existing multiple-dwelling units where conversion to *Eco Jozu* has not progressed due to difficulty in accessing drain-water.



kaecco

#### **Energy conservation**

Lightweight	Hot-water supply 95% Bath-filling 92% (first in industry)	
<b>Power consumption</b>	No. 24: 105W (convention models: 150/170W)	

- \* PS (pipe shaft): Space provided in multiple-dwelling buildings to accommodate pipes/wires (such as water supply/sewage pipes and electric wires) across multiple stories.
- \* Drain water: Water that remains after heat contained in steam exhaust is collected using secondary heat exchanger (the steam, having lost its heat, condenses to become water)



RUF-TE24005AW

### **RUXC-E3200W Series (Commercial-Use Condensing Hot-Water Systems)**

A single 3200W unit can be installed in small-scale premises, such as hair and beauty salons and restaurants. Or two units can be simply joined by a cable to provide 6400W. For facilities requiring large volumes of hot water, such as sports gyms and elderly care centers, up to six units can be combined to provide a maximum of 19200W.

#### **Energy conservation**

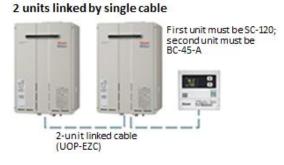


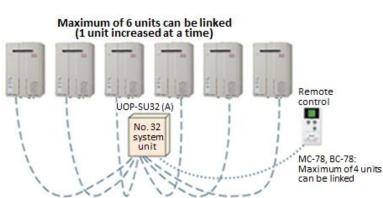
RUXC-E3200W

#### **Environmental performance**

Fitted with low-NOx burner system (maximum 60ppm NOx density)

#### **Series Linked System**





# **Energy-Saving Operation Support Function**

### Remote control 200V series hot-water and heating terminal

- ·Universal design ensuring ease of use (kitchen remote control, bathroom remote control)
- · Visualization of energy consumption (kitchen remote control)

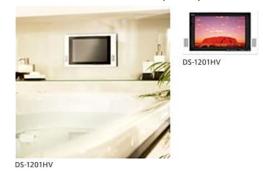


<sup>\*</sup>Measurement of electricity usage requires the RECU-2000 unit, sold separately.

#### **Energy conservation**

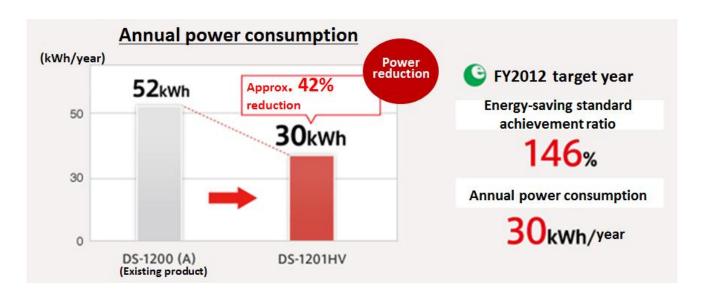
**Heat efficiency** Approx. 75% reduction (vs existing Rinnai models)

### Terrestrial digital HD TV for bathrooms (12V)



#### **Energy conservation**

**12V power consumption** Approx. 42% reduction (vs existing Rinnai models)



<sup>\*</sup> Due to use of organic EL in the bathroom remote control display panel, back-lighting is not necessary.

# Safety and Peace of Mind, Comfort and Convenience

# **Kitchen Appliances**

Verie: built-in stove with non-water, double-sided griller



Verie

RS71W11G14R-S

#### **Heat resistance**

The space between the bottom of the pan and the glass top is expanded, which helps disperse and release heat and control the surface temperature of the glass top. This prevents spills and boil-overs from scorching the surface.





Nearly 65°C reduction of temperature around

Thermographic view of the comparison of heat conduction in the glass top



<sup>\*</sup>The result of the heating test conducted by Rinnai assumes a 10-minute cooking period with high heat using a pan with a 28-cm diameter.

#### Heat sink

The concave and convex on the back diffuse heat and control the temperature of the burner ring.



Structure of back of burner ring

#### **Smoke elimination function**

The dedicated burner helps eliminate smoke and odors; typical nuisances when cooking fish.

Smoke is reduced by 81% (\*1); odors are reduced by 99% or more (\*2) (compared with our conventional product)

- (\*1) Rinnai determined the value from the smoke emitted when four *sanma* (saury pike) were grilled in a double-sided, high-heat mode for 13 minutes.
- (\*2) A collaborative study by Rinnai and Daido University determined the value from the odor emitted when two dried horse mackerel were grilled in a double-sided, high-heat mode for seven minutes.



Comparative experiment: amount of smoke emitted when grilling fish



Comparison of amount of smoke emitted from exhaust port

#### Far-infrared ceramic burner

With far-infrared and near-infrared effects, ingredients can be steadily grilled from within.



#### \*Topics

<u>In June 2011, our smoke-elimination gas far-infrared griller won the 2011 Excellent Product and Technology</u> Award from the Japan Far Infrared Rays Association.

#### **Improved maintainability**

The anti-splatter cover to prevent oil from splattering over the inside of the griller is made larger and easier to remove.



The flat-shaped grid has no legs and is easier to wash in the sink and scratch-resistant. The fluorine-processed grid is also easier to remove stains from.



### **Built-in gas stoves for ASEAN regions**



**Energy saving** 

**Heat efficiency**  $44\% \rightarrow 48\%$  (Compared with natural gas)

**Resource saving** 

**Stove burner**Weight trimmed by approx. 250 grams (Compared with our conventional product)
\*Mold burner remodeled into a stainless burner

# Rinnai Korea Corporation's gas built-in stove



**Energy saving** 

**Heat efficiency** 46% → 52% (Compared with LP gas)

**Resource saving** 

Stove burner

Weight trimmed by approx. 210 grams. (Compared with our conventional product) \*Mold burner remodeled into a stainless burner

Safety and security

**Top plate temperature**  $190^{\circ}\text{C} \rightarrow 150^{\circ}\text{C}$ 

### **Built-in dishwasher/dryer**



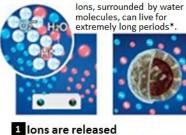
RKW-402LP-ST Received Good Design Award



#### Plasma cluster operation

The ions in plasma clusters powerfully control grease and odor and keep the dishwasher clean after use.

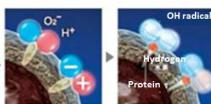
#### Mechanism of sterilization with Plasmacluster (illustrations)





Plasma discharge creates and releases plus (H+) and minus (O2-) ions, the same as those existing in the natural world, into the air.

\*Compared with ions not surrounded by water molecules, according to research by Sharp Corporation



2 lons act on fungi and floating bacteria Ions attach to the surfaces of fungi and

floating bacteria before transforming into OH radicals, which are highly oxidative. Hydrogen (H) is instantaneously extracted from the surface protein before the protein is decomposed.



3 Water forms and returns to the air

The extracted hydrogen (H) and OH radicals combine with each other and transform into water (H2O) before returning to the air.



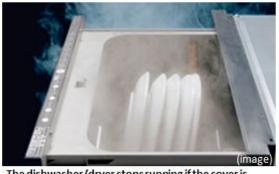
- \*Plasmacluster technology: Plasma discharge creates high-concentration plasma cluster ions and eliminates fungi, floating bacteria and other contaminants.
- \*Plasmacluster mark and Plasmacluster is a registered trademark of Sharp Corporation.

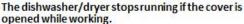
#### **Double-sterile steam cleaning**

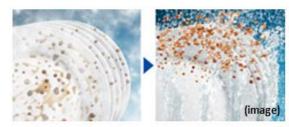
The dedicated heater generates a high amount of high-temperature steam, twice - before washing and before the heat rinse. Fine steam particles permeate the grease that can then be removed after soaking. Spraying sterile steam also boosts the sterilization effects.

#### **Sterilization**

After cleaning, the number of remaining bacteria drops to nearly 1/100. (Compared with our conventional product)







- \*Test period: Japan Food Research Laboratories No. 10100614001-02 December 8, 2010
- \*Method: agar plate incubation
- \*This model has RKW-402LP-ST only.

#### Baking soda washing mode

The built-in dishwasher can be cleaned with baking soda, a natural substance used in cooking and other applications. You can feel safe using it to wash baby bottles and children's dishes.





\*Baking soda is an inorganic substance present in the natural world called sodium hydrogen carbonate (NaHCO3) and also exists in the ocean and in organisms. It is harmonious with the Earth and people.

Purification	Sodium bicarbonate water is a weak alkali component and has purifying effects for removing acidic dirt such as grease and fingerprints.
Deodorization	The neutralizing effects of baking soda facilitate absorption and elimination of odors.
Environmental impact of Baking soda	Effluents resulting from baking soda washing are decomposed into environmentally non-harmful components. They can effectively control the deterioration of water quality and the propagation of microorganisms.

<sup>\*</sup>Available in two different modes: baking soda and dedicated detergent

# **Air-Conditioning System**

#### Gas fan heaters



RC-L4001NP-WH RC-L4001NP-LV RC-L4001NP-BE

#### Plasmacluster technology

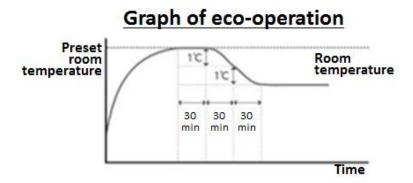
This technology controls the effects of allergens generated from the excrement and dead bodies of indoor ticks. It also decomposes and removes floating fungi and controls adhesion of cigarette odor.



Plasmacluster mark and Plasmacluster is a registered trademark of Sharp Corporation.

#### **Eco-operation function**

When the room temperature reaches a preset value, the value is automatically lowered by one degree twice in a 30-minute interval (cumulative combustion time) and the combustion is stopped to prevent excessing heating. This function improves heating efficiency.



<sup>\*</sup>Since the heater operates in a low-noise ignition mode, there is no annoying ON/OFF noise.

#### **Convenient functions**

The light indicates the status of the heater's operation.

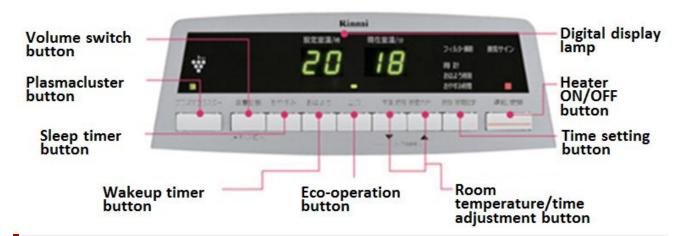


The swing function allows the heater to be manually rotated 20 degrees from side to side.



\*Legs may slip if used on a slippery floor.

The operation panel exemplifies our consideration of usability.



# **Commercial-Use Units**

#### Commercial-use kitchen unit

The commercial-use unit is safe, clean and comfortable to use.

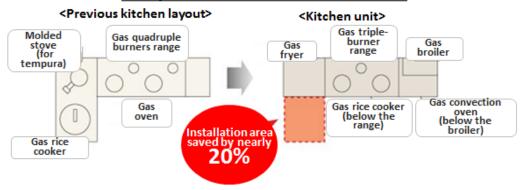


#### **Space-saving**

The installation area is reduced by nearly 20%. (Compared with our conventional product)

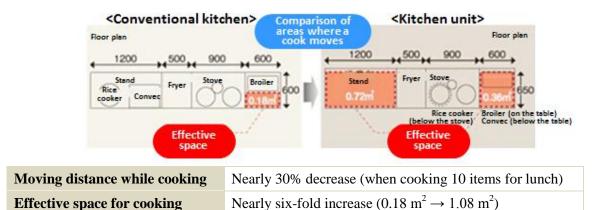
The efficient utilization of space below the gas range and walls and the ergonomic arrangement of cooking appliances help reduce the installation area.

#### Example of installation of the kitchen unit



#### **Improving cooking efficiency**

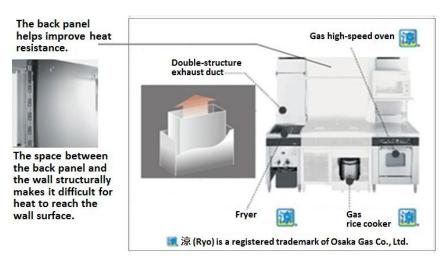
Layout and options can be chosen in accordance with the store's possible options and type of business. This boosts work efficiency in terms of the arrangement of machinery and storage space.



<sup>\*</sup>The values for moving distance and effective space are based on measurements of our test kitchen.

#### Cool and comfortable: Suzuchu

With an air heat-insulation structure, Suzuchu or *suzushiichubo* (cool kitchen) cools the kitchen while controlling thermal radiation from the appliance.



# **Packing**

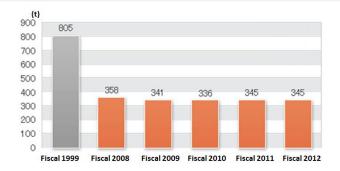
We promote packages which only use corrugated board to reduce the use of styrene foam and waste-related issues. In addition, we are also expanding our use of returnable packing to reuse packing materials and reduce the amount of packing used.

## **Containers and Packaging Materials of Hot Water Units**

We reviewed container and packaging materials used for hot water units and consequently reduced the amount of packaging materials we use and improved the efficiency of transportation and storage.



# **Styrene Foam Use Trend (Volume)**



# Recycling

# **Recycling of Used Products**

Recyclable materials such as iron and copper constitute roughly 80% to upward of 90% (by weight) of materials used for gas appliances. Used gas appliances that do not require installation work are collected and processed via local governments' routes. Those that do require installation work are collected and processed via companies that perform such work.



Plant where recycling demonstration tests are conducted

The Environmental and Recycling Committee of the Japan Industrial Association of Gas and Kerosene Appliances, of which Rinnai is a member, regularly conducts a questionnaire for finding how used gas and kerosene appliances are processed. Recycling demonstration tests at recycling plants and confirmations and information exchanges concerning processing are also undertaken as necessary. The survey of Rinnai in fiscal 2012 confirmed that used gas and kerosene appliances are processed appropriately and a high recycling rate is maintained. We also make use of the results of the survey for designing and improving our products.



Used appliances being thrown into a crusher

# **Recycle Household Electrical Appliances**

Japan's Home Appliance Recycling Law went into effect April 2001 with the goals to reduce the amount of waste going to landfills and incinerators and to promote more effective use of resources. Since then, appliances that consumers no longer want to use have been recycled into new products. Rinnai now has two products-a unit-style air-conditioner and a clothes dryer-that can be redirected from the waste pile.



Unit-style air-conditioner

Clothes dryer

### Rinnai Products Subject to the Home Appliance Recycling Law and Guideline Values

Product	Recycling Rate Statutory Guideline Value
Unit-style air-conditioner	70%
Clothes dryer	65%

#### Used Products Recycled into New Products at Rinnai

Product	Unit-style air-conditioner	Clothes dryer
Number of units brought to designated collection points	4,302 units	1,050 units
Number of units processed for recycling	4,283 units	1,028 units
Weight of units processed for recycling	175.1 tons	34.9 tons
Weight of recycled materials	161.6 tons	31.8 tons
Recycling rate	92%	91%

<sup>\*</sup> Rinnai's bathroom and kitchen televisions are incorporated into the building architecture. Consequently, they fall outside the liquid-crystal television receiver category added to the national recycling law in April 2009.

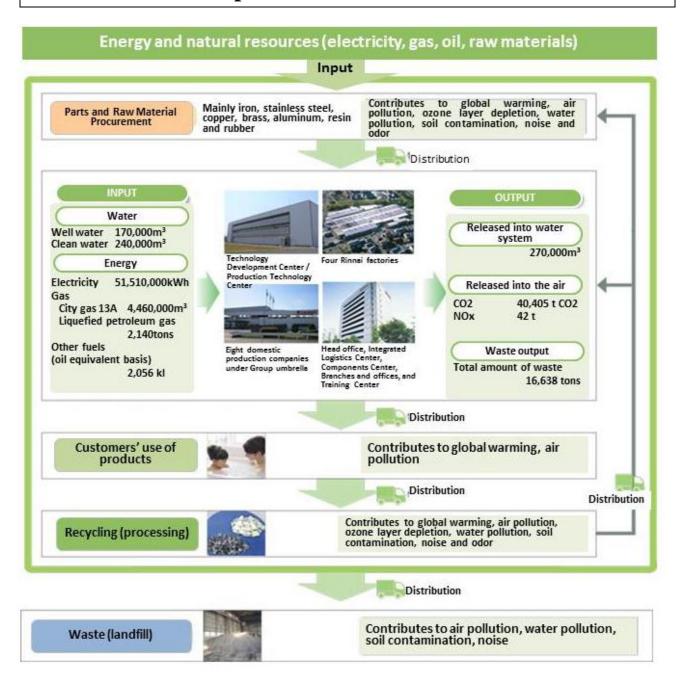
# **Recycle Containers and Packaging**

The Containers and Packaging Recycling Law obligates manufacturers and user businesses to recycle product containers and packaging discarded by households in an effort to make more effective use of resources. In accordance with the law, Rinnai has contracted a designated corporation that recycles containers and packaging on the Corporation's behalf.

# **Environmentally Conscious** *Monozukuri*

Since its establishment, Rinnai has been accumulating its outstanding *Monozukuri* technology and work methodology that shall be followed. By sharing and passing this culture over generations, we have been realizing a wide range of technology innovation that fundamentally supports our vigorous environment-friendly business activities.

# Environmental Footprint in *Monozukuri*



# Pursuit of Monozukuri Reforms

Since its establishment, Rinnai has been accumulating its outstanding *Monozukuri* technology and work methodology that shall be followed. By sharing and passing this culture over generations, we have been realizing a wide range of technology innovation that fundamentally supports our vigorous environment-friendly business activities.



**Production Technology Center** 

# Reducing Environmental Burden by Streamlining Monozukuri

To ensure optimal processing methods and logistics for *monozukuri*, we have consolidated our *monozukuri* facilities that had been dispersed across different locations, and used streamlining to make processes better integrated with each other. For processing, we have promoted in-house processing to improve our technologies and quality. For logistics, we have reduced waste such as that in transportation loss and quality problems. With these streamlining efforts, we have been striving to reduce the environmental burden.

#### Example of improvement in the processing of hot water units for the United States

Rinnai Technica Co., Ltd. (Kagekawa, Shizuoka Prefecture), which produces hot water units for the United States, does not have large processing facilities. Therefore, side panels for the main bodies of hot water units were processed at and supplied by the Seto Factory (Seto, Ehime Prefecture). This led to extra transportation (transportation loss). Because the side panels were supplied as semi-processed goods due to transportation problems related to quality and load efficiency, the company also faced the issue of extra inspection (quality loss).





Forced-draft-balanced flue (FF) internal unit

WD: External unit

To secure quality and establish an efficient manufacturing method, Rinnai Technica made a servo press designed for maximum energy conservation, thereby reducing the environmental burden of the facilities themselves. The company also established an integrated production system that includes pressing, plating, and assembly (streamlining), thereby reducing waste associated with transportation and acceptance inspections of components.

#### Major environmental features of the new pressing machine

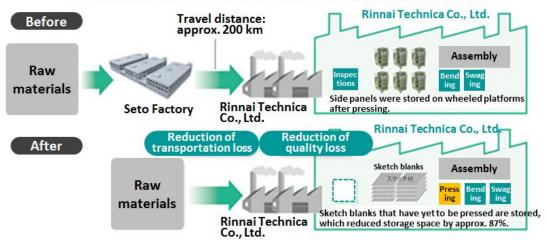
- ·Shorter process enabled by use of a composite mold
- •Reduces environmental burden by differentiating the timing of processing among processes
- •The unit collects compressed air used for processing in an air tank and reuses it, instead of discharging it into the atmosphere.



New pressing machine

# Promotion of Facility Maintenance and Improvement Activities (TPM Activities) by All Staff Members

#### **Efficiency Improvement of Logistics between Factories**



#### **Environmental Effects**

- Environmental effects of the new pressing machine (compared with previous machine)
  - Energy-saving effect: approx. 20% reduction in total amount of energy consumption
  - Space-saving effect: approx. 20% reduction in area occupied by equipment
- Energy-saving effect enabled by reduction of transportation loss
  - CO<sub>2</sub> emission reduction result: approx. 60 t-CO<sub>2</sub>/year



Pressed materials being sent to the next process

#### **Comment from a Facility Designer**

Devising measures for preventing wastage of energy is fundamental for promoting environmentally friendly facility design. We reduced waste by expanding our vision for the design, reflecting it in the *monozukuri* flow of the entire Group in consideration of quality loss and transportation loss; rather than simply reflecting the vision as is in the facilities. We want to remain conscious of the flow of goods and continue striving to improve work efficiency and reduce environmental burden in order to help reduce loss within the entire Group.



Yusuke Mizuguchi

Manager, Facility and Machine Section, Machine Office Production Engineering Division, Production Headquarters

For the burning process in enameling, it is important to maintain a balance between heat efficiency and combustion state. For this reason, each day we take a range of improvement measures for promoting maintenance of facilities and effective use of energy. We regularly check and analyze the condition of the interior of the burning furnace to maintain the stability of burner flames and make effective use of exhaust heat, thereby significantly reducing environmental burden. To facilitate the participation of all staff members in facility maintenance and improvement activities, we have created a text providing key points of advice on themes such as "method of working" and "proceeding with process improvement," and made them accessible to staff members.

CO <sub>2</sub> emission reduction result	approx. 130 t-CO <sub>2</sub> /year
Waste reduction result	approx. 450 kg/year

# **Topic**

For the improvement we made for our burning furnace for the enameling process, we received the *Shigen Junkan-gata Monozukuri Kenkyu-kai* [study group for resource recycling *monozukuri*] President Award at the *Shigen Junkan-gata* [resource-recycling] *Monozukuri* Symposium IMS 2011<sup>\*1</sup> hosted by the city of Nagoya, Nagoya Chamber of Commerce and Industry, and other organizations.

\*1: The *Shigen Junkan-gata Monozukuri* Symposium is a project that introduces initiatives taken in *monozukuri* for recycling resources and energy and curbing global warming, and grants awards to outstanding initiatives.



Inside a burning furnace heated to red heat



Onsite training



Award certificate
(Shigen Junkan-gata Monozukuri
Kenkyu-kai President Award)

# **Efforts to Prevent Global Warming**

# **Observance of Energy-Saving Laws**

In April 2010, the revised Act on the Rational Use of Energy, which mandates that each company manage and report its use of energy, came into full force. Since Rinnai was designated as a "specified business operator" under the law, we have established an energy management system headed by the executive officer in charge of the environment as the energy management control officer. Under this system, we have set energy management policies and targets and been striving to improve the efficiency of energy usage.

# Challenge 25 Campaign

The Rinnai Group was one of the first members to join the Challenge 25 Campaign, a national program by the Ministry of the Environment to prevent global warming. Under the program we actively promote measures for preventing global warming.



# Promotion of Energy-Saving Measures at Domestic Factories and Offices

In response to the power shortage following the Great East Japan Earthquake that struck in March 2011, the Rinnai Group has been promoting energy-saving measures, giving special priority to reducing power consumption, in our efforts to comprehensively eliminate waste.

## **Development of the Electricity Forecast System (Seto Factory)**

Visualization of use of main energies

Reduction of power consumption	5,800 kWh/year
CO <sub>2</sub> emission reduction result	approx. 2 t-CO <sub>2</sub> /year



**Electricity Forecast System** 



## Reduction of compressor discharge pressure (Aichi Factory)

Reduction of power consumption	7,000 kWh/year
CO <sub>2</sub> emission reduction result	approx. 3 t-CO2/year

Reviews of established standards



## **Installation of a motion sensor (Head Office showroom)**

The sensor reduces power consumption by ensuring that lights are shut off while there is no one in the room.

<b>Reduction of power consumption</b>	8,635 kWh/year
CO <sub>2</sub> emission reduction result	approx. 3 t-CO2/year



# **Use of natural energy (roof of the Technology Development Center)**

A solar power generator is mounted on the roof, and the generated power is used for lights and other equipment in the Technology Development Center.

<b>Generated power</b>	5,569 kWh
CO <sub>2</sub> emission reduction result	approx. 2 t-CO2

<sup>\*</sup>Applicable period: November 2011 - March 2012

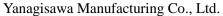


Solar generator panels

#### **Green Curtain**

We produce green curtains out of morning glories and goya (bitter gourd) over portions of exterior wall surfaces at factories and offices.







Techno Parts Co., Ltd.



Japan Ceramics Co., Ltd.

## **Improvement Month (Oguchi Factory)**

The Oguchi Factory sets every August as Improvement Month. Based on the theme of "environment and safety," the factory solicits improvement proposals from employees and each division promotes measures during the month by setting its own targets.

Number of proposals: 305

Awareness poster for Improvement Month



### Mottainai Patrol by female employees (Technology Development Center)

Female employees conduct patrols of the premises to aid in eliminating wasted energy and space in workplaces. From the perspective of women, who generally have a better eye for detail, they look for *mottainai* (wasteful) items. The patrol's findings are immediately reported to staff in charge of maintenance at the workplaces and reviewed.

In fiscal 2012, there were 27 findings in three patrols.



Mottainai Patrol

# Dedicated areas for working overtime or on holidays (Technology Development Center)

To reduce waste of energy used for air conditioners and lighting, the Technology Development Center has designated dedicated areas for working overtime or on holidays. The act of moving to a dedicated area strengthens employees' awareness that they are working extra hours, and this has led to greater work efficiency of individual employees.



Dedicated work area

#### Other initiatives taken at our factories and offices

- Reducing wasted power by controlling the use of air conditioners, refraining from using elevators, using PCs in power-saving mode, powering down devices whenever they are not in use, reducing the number of lights, making sure to keep lights off during lunch breaks, etc.
- Introduction of energy-saving lights, high-efficiency air conditioning systems, etc.
- Early start and extension of the "cool-biz" period

Results of power-saving efforts at our offices and factories nationwide during the summer (July-September)		
Reduction of power consumption	420,000 kWh	*The amount of saved power is equivalent to 6.6% the
Number of power-saving items	228	amount used in the same period of the previous year.

# Promotion of Energy-Saving Measures at Overseas Production Sites

## Use of natural energy (Shanghai Rinnai Co., Ltd.)

Solar heat panels and photovoltaic panels were installed on the rooftop of the factory to reduce energy consumption. The generated power is used internally for lighting. Hot water supplied at the company is also heated by using the solar heat panels.

<b>Reduction of power consumption</b>	4,500 kWh/year
Reduction of gas consumption	6,000 m <sup>3</sup> /year
CO <sub>2</sub> emission reduction result	approx. 15 t-CO2/year



Solar heat panel and photovoltaic panels

## Switch to power-saving boiler (Rinnai Korea Corporation)

To reduce energy consumption, the company has replaced its boiler that provides heat in the winter, which was installed in a basement room of its Welfare Building, with an energy-saving, high-efficiency condensing boiler.

Reduction of gas consumption	11,790 m <sup>3</sup> /year
CO <sub>2</sub> emission reduction result	approx. 26 t-CO2/year



High-efficiency condensing boiler

# **Improving Logistics**

# **Working with Logistics Partners**

Responding to new requirements associated with the amended energy conservation law, which went into force in April 2006, Rinnai has promoted improvements based on a rationalization plan for energy used in logistics activities that was formulated from the perspective of an owner of goods. We properly monitor the status of energy used in procurement and product shipment activities, and work with our logistics partners to reduce the amount of energy consumed reviewing our operations from various viewpoints and ideas such as the loading efficiency.

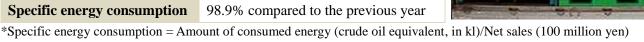
## **Major Activities**

- Review of product delivery routes
- Effective use of round-trip transportation services
- Expansion of consolidated transport between groups
- Increasing the number of stacks per palette

#### Fiscal 2012 results

**Specific energy consumption** 

98.9% compared to the previous year





<sup>\*</sup>The results are for the November 2011 - March 2012 period, when the heater was used.

# **Other Examples of Logistics Improvement**

# Reducing CO<sub>2</sub> emissions by changing method of using highway transportation services (RB Controls Co., Ltd.)

To use highway transportation services effectively, the company studied the number of transportation services used each day, transportation routes (travel distance), load capacity (load efficiency), and other elements, and made improvements including optimization of the number of services and routes. Thanks to the improvements, transshipments and travel distance were reduced compared with fixed-route transportation via multiple terminals. The number of services used per day was also reduced, resulting in improved load efficiency.



Integrated Logistics Center of RB Controls Co., Ltd.

CO2 emission reduction result

approx. 2 t-CO2/year

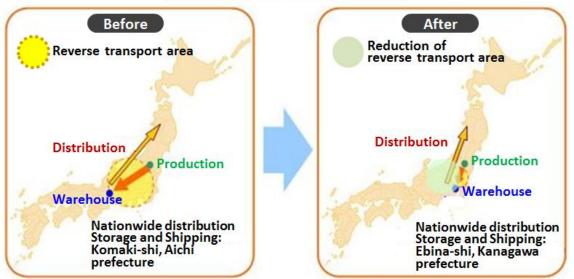
## Reduction of reverse transport

By reviewing locations of warehouses, we reduced the frequency of reverse transport<sup>\*1</sup> which occurred frequently, especially in the Kanto region. This led to a reduction in  $CO_2$  emissions created by transportation from shipping destinations to warehouses.

CO2 emission reduction result

approx. 14 t-CO2/year

# Reduction of reverse transport



<sup>\*</sup>Reverse transport means an overlap of the route from the production site to the warehouse, and from the warehouse to the customer.

# Introduction of environmentally friendly vehicles

By collaborating with gas companies, we are promoting replacement of our existing commercial-use vehicles, which we use for sales activities and other work, with low-emission vehicles.

# **Efforts to Reduce Waste**

# **Reduced Waste Output and Recycle**

#### **Zero Emissions**

We strive to maintain zero emissions and reduce waste output.

#### **Waste Output**

Fiscal 2012 actual results

Emission factor: 3.7% reduction (from fiscal 2011 level)

- \* Definition of zero emissions: More than 99.5% of waste is recycled, leaving just 0.5% or less in waste destined for the landfill.
- \* Waste emission factor = total waste emissions/net sales (100 million yen)

#### **Efforts to Curb Generation of Waste**

#### **Reduce Waste**

- ✓ Don't buy something that will end up as garbage
- ✓ Don't make waste
- ✓ Return reusable items to respective point of purchase
- ✓ Reuse
- ✓ Recycle

#### **Process Waste Economically**

- ✓ Reduce volume
- ✓ Cut unit cost of processing fees
- ✓ Turn waste into a valuable commodity
- ✓ Boost the value of valuable commodities

#### Improvement of recycling quality

We treat waste thermally. To use such waste as raw materials or other resources, we promote activities for improving the quality of recycling by means such as reviewing the methods of waste collection and separation.

As a measure for recycling waste into a valuable resource, we have changed the method of treating glass waste from thermal treatment to crushing, and reuse the crushed glass as a base roadbed material laid under asphalt. (Oguchi Factory)

Amount of collected glass waste

approx. 4 t/year

Recycling box

We conducted separate collection of motors and transformers, which use a great deal of copper wire, and recycled them into valuable resources. (Asahi Factory)

Amount of copper wire (wiring materials) collected

approx. 1 t/year



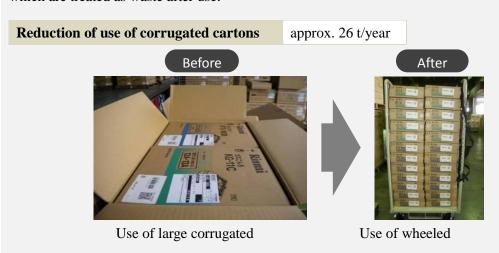
Recycling box Motor and transformers



collected

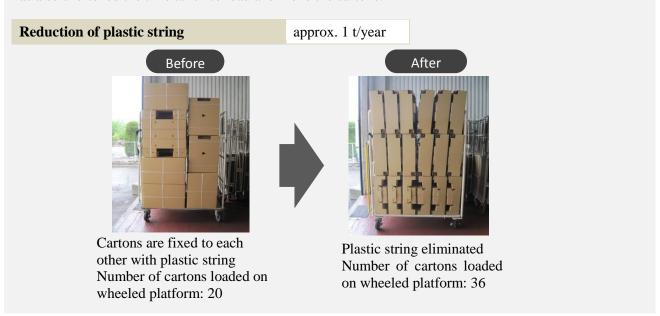
#### Stopped using large corrugated cartons as returnable containers

To reduce the amount of waste, we reviewed the way single gas stoves are transported from the factory to storage warehouses. We introduced wheeled platforms and stopped the use of large corrugated cartons, which are treated as waste after use.



#### **Reduction of plastic string**

Corrugated cartons carried on wheeled platforms used to be fixed to each other with plastic string in order to prevent collapsing. We changed the shape of the corrugated cartons in a way that they can be stacked on the wheeled platform in rows with no gaps between them. This enabled us to stop using plastic string, and has also shortened the time taken to load and move the cartons.



# **Industrial Waste Disposal**

Before outsourcing waste to a business specializing waste processing, we run meticulous backchecks, including business status, and make on-site visits to confirm conditions. To ensure that waste is being properly disposed of by contracted providers, we send representatives annually to the sites for visual confirmation and to exchange information with service providers. In fiscal 2011, we verified that 42 providers were performing waste management operations in an appropriate manner.

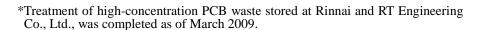


Facility rounds RT Engineering Co., Ltd.

# Polychlorinated Biphenyl Waste Management

Polychlorinated biphenyls (PCB), used primarily in the insulating oils of electrical transformers, capacitors and ballasts, are subject to the Law Concerning Special Measures for Promotion of Proper Treatment of PCB Waste (PCB Special Measures Law), which makes rules on the storage of PCB-containing equipment tougher and gives companies until July 2016 to safely dispose of PCB waste or consign the duty to a certified service provider.

Rinnai is moving to address its responsibilities as quickly as possible. PCB-containing equipment in storage is kept under lock-and-key to prevent loss or damage, and equipment still in use is carefully monitored, mainly through tagging, so that we can respond appropriately in the event of equipment failure, however remote that may be. As for disposed electric appliances in which traces of PCB were confirmed, we will also properly store and process them at facilities which are running certified by Minister for the Environment from fiscal 2011.





Oguchi Factory
Storage for electric appliances
in which a trace of PCB was
found

## **Chemical Substances**

Failure to conduct proper management of certain chemical substances could lead to environmental pollution. Accumulation of such substances over a long period may also affect the health of people and the ecosystem. To minimize the impact of such substances on the environment, we take measures for reducing or eliminating use of harmful chemical substances in our production processes, such as reviews of materials containing certain substances and improvement of processing facilities.

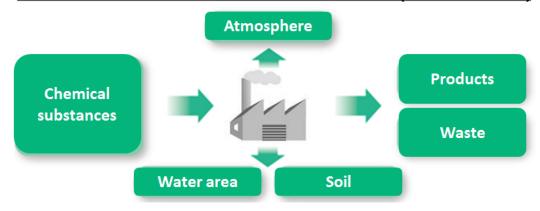
Fiscal 2012 result

Amount of harmful chemical substances handled: 52.8% reduction (from fiscal 2002 level)

# Management of usage amount of chemical substances

At each production site, we check and manage the amounts handled, released, and transferred of the 462 Class 1 chemical substances designated under the PRTR law, for which 500 kg or more is handled each year.

### Flows of release and transfer of chemical substances (PRTR substances)



# Case example of reduction of chemical substances (Oguchi Factory)

We succeeded in reducing the amount of paint used at this factory. We minimized the loss of paint by studying optimal processing conditions, such as the balance between the air pressure of the spray gun and discharge amount, the distance and angle between the spray gun and the painted surface, and the travel speed of the spray gun, based on the production capacity required for the painting process at the factory and the shapes of components subject to processing.

Reduction of paint use	approx. 30% (from fiscal 2010 level)
Reduction of amount of harmful chemical substances	approx. 800 kg/year

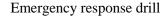
# **Efforts to Prevent Pollution**

# **Preparing for Emergencies**

All offices run annual drills premised on adverse events, such as environmental accidents. To minimize environmental risk, we have also reviewed procedures setting out actions to take in the event of a crisis and have prepared emergency provisions.









Storage of supplies for emergency use

# **Environment-Focused Equipment Inspection**

To prevent accidents that would impact the environment, we identify equipment with the potential to adversely affect the environment and run concerted environment-focused inspections on these pieces of equipment on an annual basis. We strive to prevent the occurrence of serious accidents with environmental repercussions through such approaches as independent inspections of equipment, operating tests for measuring instruments, and emergency simulations.



Round-check of high-priority facilities (Noto Tech Co., Ltd.)



Waste water treatment facilities of Rinnai Korea Corporation

# **Utilization of Water**

# **Consideration for Water**

Recognizing water as our valuable resource, we strive to reduce the consumption of both clean water and well water. We also manage the water we discharge to ensure that it will not have an impact on the environment.

## Management of quality of discharged water

We strive to save and reuse water as a precious resource. At the same time, we continually monitor the quality of water treated at our wastewater treatment facilities. To ensure that the water will not pollute rivers, etc., we monitor water quality based on our voluntary standards for pH, which are stricter than the legal standards.



Water quality monitoring equipment

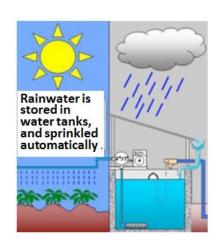


Staff member checking the water quality

### **Utilization of Rainwater**

We collect rainwater and reuse it for watering plants and for other purposes. Rainwater is stored in water tanks selected in consideration of previous rainfall amounts, roof size, and other aspects. The water is sprinkled automatically at specified intervals and used for other purposes.

\*When not enough rainwater is stored, well water is supplied automatically so plants' growth is not affected.



Automatic rainwater sprinkling system (Oguchi Factory)



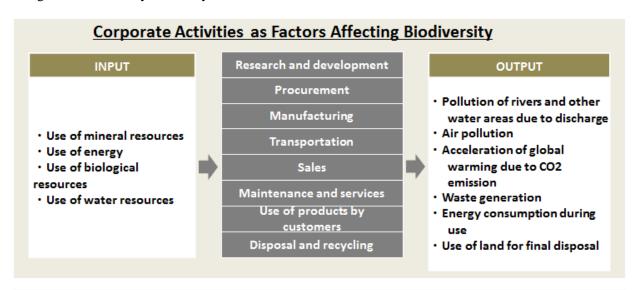


Stored rainwater is used for the vegetable garden on the roof (Aichi Factory)

# **Biodiversity**

Nature provides humankind with immeasurable benefits. The ecosystem, as the source of these benefits, is now deteriorating, and our vital task is to implement measures for protecting the ecosystem.

The natural environment and ecosystem are likely to be affected by the locations of factories and offices, resource procurement in business activities, and release of environmentally hazardous substances into the atmosphere, soil, and water. Accordingly, at each of our offices and factories, we strive to reduce the environmental burden in ways such as strengthening control of the amount of environmental pollutants released and transferred. We therefore promote activities for protecting biodiversity, which is essential for ensuring the sustainability of society.



Factors that will Affect Biodiversity (Influential Factors)	
Amount of use of raw materials	Amount of discharge into the atmosphere
Amount of use of forest resources	Waste disposal
Amount of use of energy	Amount of energy used for physical distribution
Amount of use of water	Living environment
Amount of discharge into water	Land area

# **Status of Legal Compliance**

Naturally, we comply with laws and regulations, but we seek to do better than the minimum required and have set our own benchmarks as targets to achieve. We also perform checks, mainly daily monitoring, routine evaluations and environmental audits, and strive to reduce the release of hazardous chemicals and other pollutants into the air and local water systems. We reinforce equipment operation and maintenance practices and take preemptive action if facility status looks as though it may exceed the level we deem permissible. If we can meet our own tough standards, we will surely meet the levels required by government.



Measurement of soot and smoke (Noto Tech Co., Ltd.)

### **Environmental Rounds of Production Sites**

We routinely perform environmental audits of production sites of domestic Group companies through site visits. Audits include confirmation of management status of facilities, waste, hazardous substances, and other aspects, and status of compliance with laws and regulations. We also check activities for reducing environmental burden and provide instructions and support as necessary, in an effort to standardize and improve environmental protection efforts at each production site.

## Status of Compliance with Laws and Regulations

In fiscal 2012, there were no violations of environment-related laws such as pollution control laws.

#### Major related laws

Major related laws		
Air pollution	Air Pollution Control Act	
Water pollution	Water Pollution Control Act, Sewerage Act	
Land subsidence	Industrial Water Act	
Noise and bad odors	Noise Regulation Act, Vibration Regulation Act, Offensive Odor Control Act	
Hazardous substances	Poisonous and Deleterious Substances Control Act	
<b>Employee safety</b>	Industrial Safety and Health Act (Ordinance on Prevention of Hazards due to Specified Chemical Substances, Ordinance on Prevention of Organic Solvent Poisoning)	
	Fire Service Act (Articles concerning hazardous materials)	
Prevention of global warming	Law Concerning the Promotion of the Measures to Cope with Global Warming	
	Act on the Rational Use of Energy	
Waste	Waste Management and Public Cleansing Act	
Ecosystem	Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof, Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes	

# **Environment Education and Promotion of Awareness**

# **Activities during Environment Month**

We set every June as "Environment Month" to increase awareness of the environment for each employee and implement and enhance various environmental protection and conservation activities at the factories and offices.

## **Rinnai Group Environment Awards Programs**

Seeking to invigorate employees' environmental activities and promote access to excellent approaches within the Group, we established "Environment Awards Programs", effective from fiscal 2011. These awards programs recognize activities undertaken by domestic companies under the Rinnai umbrella to protect the environment and conserve resources over a one year period. The second prize-giving ceremony took place at "Company-wide QC Circle Competition".

<b>Environment</b>
Prize

Development of condensing hot-water units (*Eco-Jozu* E series)

Other prizes

9 prizes



Award presentation



Announcement and explanations of award-winning activities

## **Other Factory Visit**

We visit other companies' factories to learn about their advanced environment-conscious measures.



Explanations given by a business partner about its environmental initiatives



Participants observing roof greening

# **Walking Festival**

In May 2012, an event for learning about biodiversity protection with families was planned and held as part of the Walking Festival (at a 10,000-step course in Higashiyama and the Higashiyama Zoo and Botanical Gardens) organized by the Rinnai Employees' Association.

**Number of participants** 

1,448



Event participants walking on the course



Participants reading a quiz question on biodiversity protection

## **Encouragement of Eco-Friendly Commuting**

At the Technology Development Center, we plan and practice No-car Days to reduce CO<sub>2</sub> emissions and noise caused by commuting by car and to reduce the impact of traffic jams. On No-car Days, employees who commute by car are encouraged to practice eco-friendly commuting such as the use of public transportation and ride-sharing with other employees. Information about eco-friendly commuting practiced by each employee is entered on dedicated website of the Technology Development Center for management and aggregation. In fiscal 2012, eco-friendly commuting was practiced on specified days of the week and resulted in CO<sub>2</sub> emissions reduction of approximately 1 t-CO<sub>2</sub>/year. Eco-friendly commuting also helped employees improve their health since it leads to moderate exercise.



Bicycle parking area for employees

CO<sub>2</sub> emission reduction result

approx. 1 t-CO2/year

## **Environment Policy Card**

We distribute an "Environment Card" that lists selected Environmental Policy to employees to promote their awareness toward environment conservation activities. The back of the card is for them to fill in "My Environment Challenge Declaration".



**Environment Card** 

## Disclosure of Information about our Environmental Activities (once a year)

We published our first Environmental Report in 2000. This marks our 13th such report. In 2006, the scope of the report was expanded to include society-oriented content and its name was changed to the Environmental and Social Report, and then to the current Social & Environmental Report in 2007. We began publishing an English version of the report in 2010.









**CSR** information

#### **Information about Environmental Activities at our Main Production Sites**

In 2010, we began disclosing information about environmental activities at our main production sites in Japan. The information, which is disclosed on the Environmental Report pages of our website's CSR Information section, includes activities at each site for reducing environmental burden, data on the results of such activities, risk management status including emergency response, and communication with local communities.

The website gives environmental information about our main production sites (four factories and eight Group companies engaging in production).





Environmental data on our main production sites

# **Issuance of Environment Company News**

We periodically issue "Environment Company News" to share internal environmental measures and introduce domestic and international trends on environment activities. This is to promote the communication among employees and encourage them to be more environment-conscious.



**Environment Company News** 

# "Safe and Eco-Friendly Drive Seminar"

For the prevention of car accidents and global warming, we invited a guest instructor and held a "Safe and Eco-Friendly Drive Seminar" for employees in sales and management divisions who use a company car. It is on the guidance and explanation on "the basics of traffic safety" and "actual training of eco-friendly training" and 50 employees attended the seminar.



Safe and Eco-Friendly Drive Seminar

# **Green purchasing**

For the purchase of office supplies and office automation equipment, we encourage employees to give priority to purchasing environment-friendly products that are qualified under the Law Concerning the Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities.

\* "Green procurement" and "Green purchasing": "Green procurement" is to acquire goods directly related to our production activity, and "Green purchasing" means purchase of office-related supplies and facilities.

# Visiting Local Dealers with a Vehicle Dedicated for Holding Training Sessions (Rinnai Brasil Heating Technology Ltd.)

In Brazil, demand for durable, weatherproof, high-efficiency hot water units has been growing each year. Rinnai Brasil, which locally manufactures and sells high-efficiency hot water units, solar hot water panels, and other products, visits dealers in each area using a vehicle equipped with actual devices and enabling training sessions. The sessions are aimed at allowing dealers in each area to perform sales activities and installation work with proper understanding of installation, construction, and maintenance methods. Manuals are used for providing dealers with explanations about products. Dealers also learn how to operate and handle hot water units by using the actual unit mounted on the vehicle.





Vehicle dedicated for training

Hot water unit

# **Overseas Exhibitions**

# Exhibition at Feicon Batimat, an international construction industry trade fair (Rinnai Brasil Heating Technology Ltd.)

At Feicon Batimat, an international construction industry trade fair held in São Paulo each year, Rinnai Brasil Heating Technology Ltd. exhibited hot water units, solar panels, and other products it manufactures and sells locally, and introduced environmental features of the devices to constructors and builders.





International construction industry trade fair in São Paulo

# Exhibition at the HOMEDEC Home Decoration Exhibition (Rinnai (Malaysia) Sdn. Bhd.)

Rinnai (Malaysia) Sdn. Bhd. exhibited its products at the HOMEDEC Home Decoration Exhibition, which is Malaysia's largest trade fair for the household products industry. Staff members explained environmental features, comfort, and safety of Rinnai kitchen appliances and other products to visitors. One of our kitchen appliances won the HOMEDEC Good Design Award.



HOMEDEC venue





HOMEDEC Good Design Award given for Rinnai kitchen appliance

# **Exhibition at the International Food Industry Exhibition, Seoul 2011** (Rinnai Korea Corporation)

Rinnai Korea Corporation hosted a booth at the International Food Industry Exhibition, Seoul 2011. Rinnai's environmentally friendly products for commercial use, such as steam ovens, dishwashers, rice cookers, and fryers, were introduced to many visitors, who included buyers.



International Food Industry Exhibition, Seoul 2011

# **Chronology of Environmental Activities at Rinnai**

	March	Drafted Environmental Preservation Action Plan; established Environment Committee		
1993	December	Won prize at 4th Energy Conservation Vanguard 21 for gas-blast type high heat griller RGM-4, 6, 8.		
1994	July	Market debut: low-NOx burner built-in hot-water unit (NOx at less than 60ppm)		
1996	March	Won top prize at 1st Eco-Design Awards, sponsored by Tokyo Gas, Osaka Gas and Toho Gas for hot-water unit, fan heater and small hot-water heater.		
	March	Won special prize at 2nd Eco Design Awards for tabletop cooking stove.		
	June	Market debut: absorption-type gas air-conditioner (non-CFC)		
1997	October	Oguchi site acquired ISO 14001 certification covering factory, Production Engineering Division and Research & Development Headquarters.		
	December	Won prize at 8th Energy Conservation Vanguard 21 for tabletop oven RSBN-096.		
	April	Won grand prize for gas clothes dryer and special awards for small hot-water heater and for absorption-type gas air-condition at 3rd Eco-Design Awards.		
1998	September	Market debut: fan heater with air-purifier that traps dust and removes odors.		
	October	Market debut: Yukko V Series, featuring no styrene packing, low stand-by power consumption and low NOx emissions.		
	April	Oguchi Factory (approved facility under revised Energy Conservation Law) registered as type 2 designated energy management factory.		
1999	July	Established Environment Division.		
1,,,,	September	Market debut: Ecomax burner and Eco burner-equipped gas cooking stove.		
	October	Market debut: condensing hot-water unit boasting 95% heat efficiency and NOx emissions under 30ppm.		
	February	Won Minister of Economy, Trade and Industry award for condensing hot-water unit at ministry's 10th Energy Conservation Awards.		
2000	May	Drafted Rinnai Environmental Action Principles.		
	August	Published inaugural issue of Environmental Report.		
	December	Seto Factory Environment Division acquired ISO 14001 certification		
2001	January	Won Chunichi Newspaper Prize portion of Chunichi Industrial Technology Awards for condensing hot-water unit.		
	June	Won Technology Grand Prize from Japan Gas Association for condensing hot-water unit.		
	June	Won Technology Prize from Japan Gas Association for condensing hot-water unit.		
2003	October	Won Electric Equipment Packaging Category Award in Good Packaging division at 2003 Japan Packaging Contest for built-in 75cm-wide glass-top gas cooking stove.		
	November	Quality assurance divisions at Aichi Factory and Asahi Factory acquired ISO 14001 certification.		
2004	October	Won Logistics Award at Japan Packaging Contest 2004 for bathroom heater/dryer.		
2005	June	Won Technology Grand Prize from Japan Gas Association for development of latent heat recovery high-efficiency hot water/heating unit.		
	September	Got involved in Team Minus 6%, a national movement to prevent global warming.		
2006	October	Won Electric Equipment Packaging Category Award in Good Packaging division at Japan Packaging Contest 2006 for gas fan heater.		
2000	September	Gas tankless water heater sold in the United States captured 2008 Super Nova Star Award (Stars of Energy Efficiency) in the United States from the Alliance to Save Energy.		
2008	October	Won Electric Equipment Packaging Category Award in Good Packaging division at Japan Packaging Contest 2008 for gas fan heater.		
	December	Head office acquires ISO 14001 certification.		
2009	February Market debut: Eco-Jozu condensing hot-water/heating unit RVD-E Series.			

	January	Market debut: Eco-Jozu condensing combi boiler RUF-E Series boasting bathwater heating efficiency rate of 92%.			
2010	February	Won silver at Aichi Environment Awards, sponsored by Aichi Prefecture, for global promotion of high-efficiency combustion appliances and systems, including latent heat recovery hot-water units.			
	April	Market debut: high-efficiency Hybrid Hot-Water Unit ECO ONE.			
	December	Market debut: light-weight and compact Eco-Jozu hot-water unit "RUX-E Series" (Hot-water unit exclusive use).			
	January	Market debut: Eco-Jozu hot-water/heating unit RUFH-E2402 Series.			
	April	Market debut: " <i>kaecco</i> " <i>Eco-Jozu</i> combi boiler (RUF-TE Series) designed for existing apartments (put in existing PS).			
2011	May	Market debut: hybrid hot-water/heating system ECO ONE for colder regions.			
	June	Won Technology Grand Prize from Japan Gas Association for development of gas hot-water system SOLAMO to use solar heat.  Won Aichi Invention Award, sponsored from Aichi Invention Association, for development of low-NOx burners for household gas hot-water units.			
2012	April	Market debut: new hybrid hot-water/heating system ECO ONE.			

# **Major Award Winning History**

Rinnai received following awards from April 1, 2011 to June 30, 2012.

**Awards and Prizes for Rinnai Corporation** 

awaras ana rizes for admar corporation				
	December	Resource Circulation <i>Monozukuri</i> Symposium 2011		
		Resource Circulation Monozukuri Association, Chairman Award, for energy saving at		
		enameled combustion furnaces.		
2011		Good Design Award 2011		
	September	Aichi Invention Award 2011		
	1	The Japan Gas Association, Technology Grand Prize 2011		
	June	Infrared Ray Association Product Excellence 2011, Technology Award		
	October	Japan Packaging Contest 2010, Electric Equipment Packaging Category Award		
	September	Good Design Award 2010		
	August	Japan Manual Awards, Paper Manuals Division, Operations Manuals, No.1 Category, Most		
2010		Outstanding Manual in Category		
	July	Kids Design Award 2010		
	June	The Japan Gas Association, Technology Grand Prize 2010, Technology Prize 2010		
	February	Aichi Environmental Award, Silver Award		

## **Awards and Prizes for the Group Companies**

—Rinnai Korea Corporation

Tumur Horeu Corporation			
2011	October	Korean Industry Customer Satisfaction Index Survey (KCSI) by Korean Management Association Consulting (KMAC) <home-use boiler="" section=""> No.1 - Home-use boiler Korean Good Design Award 2011 by Korean Design Promotion Association Smart boiler, commercial-use steam convection oven</home-use>	
	February	2011 Brand Survey by KMAC	
	and	Korea's most admired company <home-use boiler="" section=""> No.1 - Home-use boiler</home-use>	
	March	Korea Best Brand Award < Gas stove section > No.1 - Gas stove	
2010	October	Korean Industry Customer Satisfaction Index Survey (KCSI) by KMAC <home-use boiler="" section=""> No.1 - Home-use boiler</home-use>	

—Rinnai America Corporation

2012	January January 2012 Green Builder Readers' Choice Awards by Green Builder Greenest Hot Water system - Tankless Water Heater	
2010	August	The 2010 MVP AWARD by BUILDING PRODUCTS (Housing equipment magazine) MVP AWARD Winner - Condensing Tankless Water Heater

#### --P.T. Rinnai Indonesia

2011	July	Indonesia Best Brand Award by SWA (Economic magazine) <table section="" stove=""> Gold Award - Table Stove</table>	
2010	July  Indonesia Best Brand Award by SWA (Economic magazine) <table section="" stove=""> Gold Award - Table Stove</table>		

-Rinnai (Malaysia) Sdn. Bhd.

2011	April	HOMEDEC Good Design Award by HOMEDEC Home Decoration Exhibition - Built-in-stoves
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—Shanghai Rinnai Co., Ltd.

2011	April	Shanghai City Quality Gold Award by Shanghai Cit - product services, production factory, management and others

#### -Rinnai UK Ltd.

	100000				
201	) April	H&V News Award 2010 by Thermal Energy Appliance Industry Association «Commercial appliance section» Best Product Award - Condensing hot water units			

# **Summary of Rinnai Group**

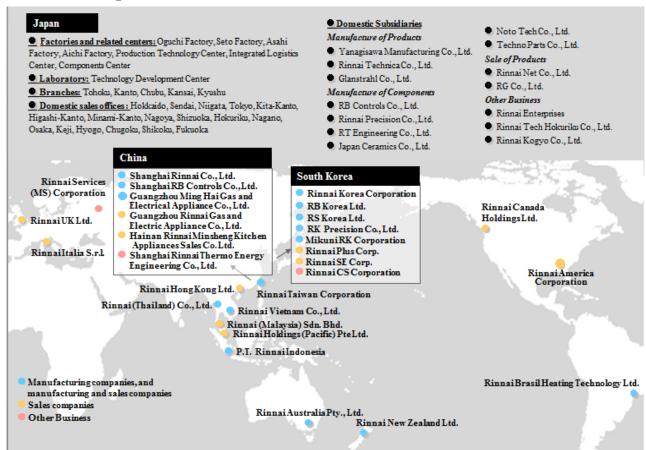
# **■**Corporate Data

Company name	Rinnai Corporation	Incorporated	September 1, 1920
Head office	2-26, Fukuzumi-cho, Nakagawa-ku, Nagoya 454-0802, Japan	Established	September 2, 1950
Telephone:	+81-52-361-8211	Paid-in capital	¥6,459,746,974 (As of March 31, 2012)
Chairman	Susumu Naito	Main business	Development, manufacturing and sales of heat-energy appliance
President	Hiroyasu Naito	Number of group companies	43 (domestic 14, overseas 29)

# **■**Products

Kitchen appliances	Hot-water units	Air-conditioning and heating units	Commercial-use equipment	Others
	in the second se		The second	
<ul> <li>Hot-water units</li> <li>Hybrid hot-water and heating system</li> <li>Gas/solar hot-water system</li> </ul>	<ul> <li>Table stoves</li> <li>Built-in-stoves</li> <li>Built-in-range</li> <li>Dishwashers</li> <li>Rice cookers, etc.</li> </ul>	<ul> <li>Fan heaters</li> <li>Fan-forced heaters</li> <li>Fireplace</li> <li>Infrared heaters, etc.</li> </ul>	<ul> <li>Rice cookers</li> <li>Grillers</li> <li>Fryer</li> <li>Ranges</li> <li>Steam oven, etc.</li> </ul>	<ul> <li>Clothes dryers</li> <li>Infrared burners</li> <li>Components, etc.</li> </ul>
<ul> <li>Gas boilers i, etc.</li> </ul>				

## ■Rinnai Group Network

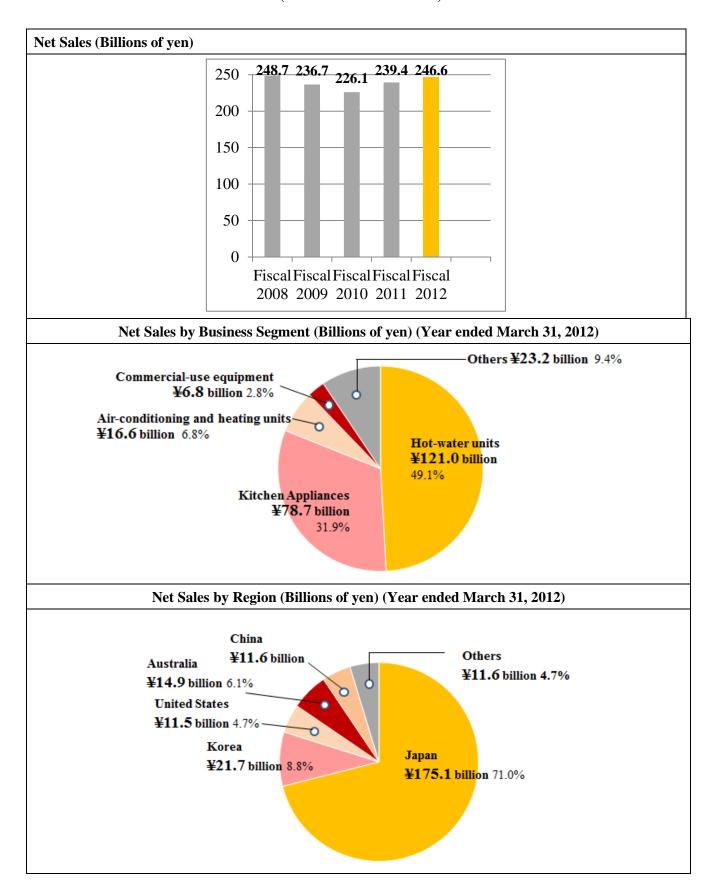


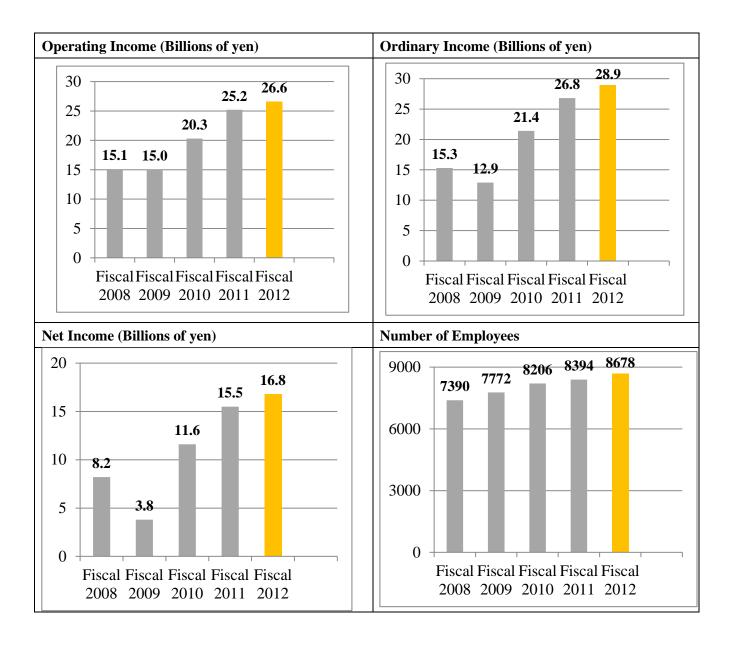
## ■Medium-Term Business Plan "Jump Up 2014"

Rinnai Group formulated its new medium-term business plan, entitled Jump Up 2014, covering the three-year period from April 2012 to March 2015. We will also reinforce our corporate foundation underpinned by core management issues, "three jump up" priorities, in order to build a long-term growth trajectory. Under the plan, we will target further groundbreaking progress as a comprehensive manufacturer of heating appliances that takes the environment and energy-saving into account and contributes to society.

	Medium-Term Business Plan "Jump UP 2014" (From April 1, 2012 to March 31, 2015)					
	As a comprehensive heat-energy appliance manufacturer					
	Product vision: Comprehensive heating appliance in environmentally responsible product		delivers			
	Regional vision: Global company that improves the	lifestyles of peop	le all over the world			
7	<b>Business vision:</b> Company with a unique business multiple business partners	nodel that attracts	people and			
	"Three Jump Up" Priorities	Fiscal 20	015 Targets			
1	Raise product quality in pursuit of zero defects	Net Sales	280 billion yen			
2	Raise versatility through reforms of development, production, and sales processes	Operating income	33 billion yen			
3	Raise organizational strength through human resource development and Groupwide interaction	Operating income ratio	11.8%			

### **■**Consolidated Financial Data (Years ended March 31)





# **Oguchi Factory**

Location:	Kaechi, Oguchi-cho, Niwa-gun, Aichi
Number of	819 (as of the end of March 2012)
employees:	
Business:	Manufacture of gas equipment
Major production	Table stoves, built-in-stoves,
items:	dishwashers and built-in-ranges
Acquisition of	October 1997
ISO14001 certification:	



# Data on environmental load by site

Energy use

Electricity (10,000 kWh)	City gas (13A) (10,000 m <sup>3</sup> )	LP gas (t)	Other fuels (kl) (crude oil equivalent)
450.6	72.9	6	38

#### Emissions into the air

CO <sub>2</sub> emissions (t-CO2)	NOx emissions (t)
3,421	2.7

Discharge of waste

Amount of waste generated (t)	Amount of waste into landfill (t)	Amount of intermediate processing of waste (t)	Amount of recycled waste (t)	Recycling percentage (%)
5,436.2	0.0	0.0	5,436.2	100.0

Substances subject to the PRTR law

(Unit: kg)

	(emi. ng)							
			Amount of emi	ssion/discharge		Amount of transfer		
Number	Class I designated chemical substance name	a. Emissions into the air	b. Discharge into public waters	c. Discharge into the soil at the relevant office (except d.)	d. Landfill at the relevant office	a. Transfer to sewers	b. Transfer outside the relevant office (except a.)	
53	Ethylbenzene	1,200.0	0.0	0.0	0.0	0.0	0.1	
80	Xylene	2,000	0.0	0.0	0.0	0.1	91	
87	Chromium and chromium (III) compounds	0.0	0.0	0.0	0.0	2.0	110	
296	1,2,4-trimethylbenzene	130	0.0	0.0	0.0	0.0	400	
300	Toluene	1,700	0.0	0.0	0.0	0.0	66	
309	Nickel compounds	0.0	0.0	0.0	0.0	1.1	170	
405	Boron compounds	0.0	0.0	0.0	0.0	2.5	630	
412	Manganese and its compounds	0.0	0.0	0.0	0.0	20	360	

#### Air

Equipment	Substance	R	Actual		
Equipment	Substance	National	Prefectural	Voluntary	value*2
Dolring furnage	Soot and dust	0.25	0.25	0.16	0.008
Baking furnace	NOx	180	180	108	99.8
D-il	Soot and dust	0.10	0.30	0.08	0.004
Boiler	NOx	150	150	96	68.9

<sup>\*1</sup> Units of regulation values Soot and dust: g/m³N NOx: ppm

<sup>\*2</sup> Actual values for NOx and soot/dust indicate the maximum measurements versus the regulation values for the relevant type of equipment.

#### Water discharge

Substance	Regulation value			Actual value		
Substance	National	Municipal	Voluntary	Maximum	Minimum	Mean
Amount of discharge	_	-	_	437	0	151
pН	5.7 - 8.7	5.7 - 8.7	5.8 - 8.7	7.9	6.9	7.2
BOD	300	300	240	170.0	19.0	75.5
SS	300	300	240	120.0	26.0	58.1
n-Hex mineral oil	5	5	4	< 1	< 1	< 1
n-Hex vegetable oil	30	30	24	7.0	2.0	4.5
Copper	3	3	2.4	0.09	0.02	0.06
Zinc	2	2	1.6	1.00	0.12	0.30
Soluble iron	10	10	8	0.47	0.05	0.23
Soluble manganese	10	10	8	0.19	0.01	0.06
Nitrogen	150	150	120	53.0	9.4	30.0
Phosphorus	20	20	16	6.2	1.4	3.6
Iodine consumption	220	220	176	23.0	2.9	9.5

- The unit of the amount of discharge is m³/day
- The values are expressed in mg/L except for pH
- Water discharge standard:
- PH: Sewer discharge standard Concentration of hydrogen ions
- \* BOD: Biochemical oxygen demand
- \* SS: Concentration of aqueous suspended solids
- \* N.D.: Equal to or less than the minimum determination limit (undetectable)

#### **Topics**

#### **Energy saving efforts**

#### ♦ Month for improving safety and the environment

August of each year is designated as the month for improving safety and the environment. We ask for reports of best practices, and each department sets a target.

Number of eco-friendly practices reported: 305



#### Efforts to reduce chemical substances

The proper balance between the air pressure and discharge quantity of a paint gun, the proper distance from the coated surface, the angle, operation speed and other optimal conditions for processing were determined in accordance with such factors as the production capacity required for a factory's coating process and the shape of the components processed. The amount of coating materials used was successfully reduced by minimizing the loss of these materials.

Reduction of use of coating materials: approx. 30% (versus fiscal 2009)

Reduction of hazardous chemical substances: approx. 800 kg/year

#### **Communication with local communities**

#### ♦ Receiving the Resource-Recycling Monozukuri Society Chairman Award

Our eco-friendly practice with enamel baking furnaces received the Resource-Recycling *Monozukuri* Society Chairman Award at the Resource-Recycling *Monozukuri* Symposium IMS 2011 organized by the municipal government of Nagoya-shi, the Nagoya Chamber of Commerce & Industry and other organizations.

Resource-recycling monozukuri symposium: Designed to introduce and commend, in terms of monozukuri (manufacturing), the

best practices for the recycling of limited resources and energy and the reduction of

global warming

Reduction of CO<sub>2</sub> emissions: approx. 130 ton-CO<sub>2</sub>/year

Reduction of waste: approx. 450 kg/year



Glowing furnace burner



On-the-job training



Resource-Recycling *Monozukuri* Society Chairman Award certificate

### ♦ Factory visits by local elementary schoolchildren

We welcome factory visits by local elementary schoolchildren as part of their social studies. The pupils experience the joy of *monozukuri* by learning about the structure, operation, safety and convenience of built-in-stoves, ovens, dishwashers and other familiar items and observing the manufacture of components and products up close.



Listening to a brief explanation of *monozukuri* 



Visiting Anzen Dojo (safety seminar)



Visiting the production line

# **Seto Factory**

Location:	Anada-cho, Seto-shi, Aichi
Number of	758 (as of the end of March 2012)
employees:	
Business:	Manufacture of gas equipment
Major production	Hot-water units, hot-water and heating
items:	units and gas/solar hybrid hot-water
	systems
Acquisition of	December 2000
ISO14001 certification:	



# Data on environmental load by site

Energy use

Electricity (10,000 kWh)	City gas (13A) (10,000 m <sup>3</sup> )	LP gas (t)	Other fuels (kl) (crude oil equivalent)
647.6	59.5	33	18

#### Emissions into the air

CO <sub>2</sub> emissions	NOx emissions
(t-CO2)	(t)
3,898	3.1

Discharge of waste

Amount of waste generated (t)	Amount of waste into landfill (t)	Amount of intermediate processing of waste (t)	Amount of recycled waste (t)	Recycling percentage (%)
2,366.3	0.0	0.0	2,366.3	100.0

#### Substances subject to the PRTR law

(Unit: kg)

Duostan	iostances subject to the 1 K1 K law				(Unit. kg)		
			Amount of emission/discharge			Amount of transfer	
Number	Class I designated chemical substance name	a. Emissions into the air	b. Discharge into public waters	c. Discharge into the soil at the relevant office (except d.)	d. Landfill at the relevant office	a. Transfer to sewers	b. Transfer outside the relevant office (except a.)
53	Ethylbenzene	834.6	0.8	0.0	0.0	0.0	244.8
80	Xylene	1,069.3	0.8	0.0	0.0	0.0	144.8
87	Chromium and chromium (III) compounds	0.0	0.0	0.0	0.0	0.0	0.0
300	Toluene	1,470.0	0.8	0.0	0.0	0.0	927.7
308	Nickel	0.0	0.0	0.0	0.0	0.0	0.0
309	Nickel compounds	0.0	0.0	0.0	0.0	0.0	0.0

#### Air

Equipment	Substance	R	Actual		
	Substance	National	Prefectural	Voluntary	value*2
Boiler	Soot and dust	0.10	0.30	0.05	0.002
Doller	NOx	150	150	79	33.7

<sup>\*1</sup> Units of regulation values Soot and dust: g/m³N NOx: ppm

<sup>\*2</sup> Actual values for NOx and soot/dust indicate the maximum measurements versus the regulation values for the relevant type of equipment.

#### Water discharge

Substance	Regulation value			Actual value			
Substance	National	Prefectural	Voluntary	Maximum	Minimum	Mean	
Amount of discharge	_	-	_	101	16	45	
pН	5.8 - 8.6	5.8 - 8.6	6.0 - 8.4	8.0	7.5	7.7	
BOD	160 (120)	25 (20)	20	1.9	< 0.5	1.1	
COD	160 (120)	25 (20)	20	5.3	0.6	1.9	
SS	200 (150)	30 (20)	20	7	< 1	3	
n-Hex mineral oil	5	2	1.6	< 0.5	< 0.5	< 0.5	
n-Hex vegetable oil	30	10	8	< 0.5	< 0.5	< 0.5	
Copper	3	1	0.5	0.04	0.01	0.02	
Zinc	2	2	1	0.15	0.01	0.04	
Soluble iron	10	10	2.5	0.1	N.D.	N.D.	
Soluble manganese	10	10	2.5	0.1	N.D.	N.D.	
Nitrogen	120 (60)	120 (60)	30	8.1	0.2	2.1	
Phosphorus	16 (8)	16 (8)	4	1.7	0.1	0.4	

- The unit of the amount of discharge is m³/day
   The values are expressed in mg/L except for
- pH

  Water discharge standard:
  River effluent standard
- \* pH: Concentration of hydrogen ions \* BOD: Biochemical oxygen demand
- \* COD: Chemical oxygen demand \* SS: Concentration of aqueous suspended solids
- \* N.D.: Equal to or less than the minimum determination limit (undetectable)
- \* Values in parentheses are daily mean values.

#### Topics

#### **Energy saving efforts**

#### ♦ Introduction of power forecast system

To facilitate emergency power saving in the event of a shortage in the electricity supply following the Great East Japan Earthquake, the Demand Control System for monitoring the status of energy consumption by major pieces of equipment is used to indicate the current electricity consumption in different colors. The System has been improved and enables the electricity surplus ratio to be read on computers and monitors. Each individual in the factory can be further motived by keeping up-to-date with the results of the power saving they have planned and implemented.

Reduction of electricity consumption: 5800 kWh/year Reduction of CO<sub>2</sub> emissions: approx. 2 ton-CO<sub>2</sub>/year





The screen shows the electricity consumption status.

#### ♦ Energy-saving illumination

The mercury lamps used in Building 2 have been replaced by energy-saving metal halide lamps. We have also reduced the number of lamps in the areas that require less lighting. This has resulted in reduced electricity consumption.

Reduction of electricity consumption: 56,000 kWh/year Reduction of CO<sub>2</sub> emissions: approx. 21 ton-CO<sub>2</sub>/year



The number of lamps has been reduced to save energy.

#### Resource saving efforts

#### **Efficient use of materials**

To ensure the efficient use of materials in packing punching, we have minimized the amount of waste material by adjusting, within the processing conditions of our equipment, the size of the purchased material to the cutting layout with an optimal combination of punching shapes.

Reduction of material consumption: approx. 10% versus previous year

#### **Consideration for water**

#### o Controlling water discharge

Water is a valuable resource. We discharge water by consistently monitoring values, using our own standards for pH that are more rigorous than those required by the law, to ensure that the water processed at effluent treatment facilities does not affect rivers and other waters, as well as attempting to save and reuse water.



Water pollution monitor



Inspection of water quality

# **Aichi Factory**

Sumiike-cho, Nakagawa-ku,
Nagoya-shi, Aichi
271 (as of the end of March 2012)
Manufacture of gas equipment
Table stoves, remote controllers for
hot-water units
November 2003



#### Data on environmental load by site

Energy use

Electricity (10,000 kWh)	City gas (13A) (10,000 m <sup>3</sup> )	LP gas (t)	Other fuels (kl) (crude oil equivalent)
62.8	4.5	2	3

#### Emissions into the air

CO <sub>2</sub> emissions	NOx emissions
(t-CO2)	(t)
348	0.3

Discharge of waste

Amount of waste generated (t)	Amount of waste into landfill (t)	Amount of intermediate processing of waste (t)	Amount of recycled waste (t)	Recycling percentage (%)
86.5	0.0	0.0	86.5	100.0

### **Topics**

### **Energy saving efforts**

#### ♦ Energy saving through the reduction of the compressor's discharge pressure

To minimize losses from excessive air supply settings, we have reduced electricity consumption by researching and analyzing the status of our air use and reducing the compressor's discharge pressure to a level that is suitable for practical use.

Reduction of electricity consumption: 7,050 kWh/year Reduction of CO<sub>2</sub> emissions: approx. 3 ton-CO<sub>2</sub>/year



Compressor

#### ♦ Energy saving with heat-barrier film

As a means of saving energy in summer, a heat-barrier film has been affixed to the windows facing South in our cafeteria through which glaring sunlight entered. This has helped reduce the load on the air-conditioners, and also reduce our gas consumption. (\*)The figures below were recorded from July to October 2011, during which time air-conditioners were in constant use.

Reduction of gas consumption: 228 cubic meters/year Reduction of CO<sub>2</sub> emissions: approx. 0.5 ton-CO<sub>2</sub>/year



The windows with the heat-barrier film on it

Heat-barrier film

#### Resource saving efforts

#### **Efficient use of water**

We pursue the efficient use of water by, for example, using rainwater to water the plants in the rooftop garden and other places.



This tank is used to store rainwater.



Rooftop garden

#### **Communication with local communities**

We welcome factory visits by local elementary schoolchildren as part of their social studies. The pupils experience the fun of *monozukuri* by learning about the structure, operation, safety and convenience of familiar table-top stoves and observing the manufacture of components and products up close.

Number of participants: 44





Pupils during the factory visit

# **Asahi Factory**

Location:	Nishiyama-cho, Owariasahi-shi, Aichi
Number of	260 (as of the end of March 2012)
employees:	
Business:	Manufacture of gas equipment
Major production	Fan heaters, clothes dryers, bathroom
items:	heaters/dryers, fan-forced heaters and
	infrared heaters
Acquisition of ISO14001 certification:	November 2003



# Data on environmental load by site

Energy use

Electricity (10,000 kWh)	City gas (13A) (10,000 m <sup>3</sup> )	LP gas (t)	Other fuels (kl) (crude oil equivalent)
143.7	17.9	2	9

### Emissions into the air

CO <sub>2</sub> emissions	NOx emissions
(t-CO2)	(t)
966	0.8

Discharge of waste

Amount of waste generated (t)	Amount of waste into landfill (t)	Amount of intermediate processing of waste (t)	Amount of recycled waste (t)	Recycling percentage (%)
587.6	0.0	0.0	587.6	100.0

#### Substances subject to the PRTR law

(Unit: kg)

			Amount of emission/discharge				Amount of transfer	
Number	Class I designated chemical substance name	a. Emissions into the air	b. Discharge into public waters	c. Discharge into the soil at the relevant office (except d.)	d. Landfill at the relevant office	a. Transfer to sewers	b. Transfer outside the relevant office (except a.)	
53	Ethylbenzene	670.0	0.0	0.0	0.0	6.0	1,300.0	
80	Xylene	1,200.0	0.0	0.0	0.0	6.0	1,300.0	
296	1,2,4-trimethylbenzene	180.0	0.0	0.0	0.0	6.0	210.0	
300	Toluene	3,000.0	0.0	0.0	0.0	6.0	5,600.0	

#### Air

Equipment	Cl4	R	Actual		
Equipment	Substance	National	Prefectural	Voluntary	value∗2
Drying furnaces	Soot and dust	0.2	_	0.108	0.027
Drying furnaces	NOx	230	_	200	90.3

<sup>\*1</sup> Units of regulation values Soot and dust: g/m³N NOx: ppm

<sup>\*2</sup> Actual values for NOx and soot/dust indicate the maximum measurements versus the regulation values for the relevant type of equipment.

#### Water discharge

Substance	R	Regulation val	ue		Actual value	
Substance	National	Municipal	Voluntary	Maximum	Minimum	Mean
Amount of discharge	rge –		_	64	26	34.9
pН	5.7 - 8.7	5.7 - 8.7	5.9 - 8.5	7.3	6.6	7.0
BOD	300	300	210	140.0	52.0	83.2
SS	300	300	210	57.0	16.0	34.8
n-Hex mineral oil	5	5	3.5	1.8	< 0.5	0.8
n-Hex vegetable oil	30	30	21	8.8	2.4	5.5
Copper	3	3	2.1	N.D.	N.D.	N.D.
Zinc	2	2	1.4	0.45	0.09	0.23
Soluble iron	10	10	7	0.20	0.10	0.15
Soluble manganese	10	10	7	N.D.	N.D.	N.D.
Nitrogen	240	240	168	46.0	22.0	33.8
Phosphorus	32	32	22.4	4.1	2.0	3.0
Iodine consumption	220	220	154	22	14	18

- The unit of the amount of discharge is m³/day
   The values are expressed in mg/L except for
- pH ■ Water discharge standard: Sewer discharge standard
- PH: Concentration of hydrogen ions
   BOD: Biochemical oxygen demand
   SS: Concentration of aqueous suspende
- \* BOD: Biochemical oxygen demand

  \* SS: Concentration of aqueous suspended solids

  \* N.D.: Equal to or less than the minimum determination limit (undetectable)

#### **Topics**

#### **Energy saving efforts**

#### ♦ Energy saving through the replacement of coating equipment

We have reduced the consumption of energy and water by replacing the old coating pretreatment apparatus with a new one that is smaller overall and is capable of saving more energy and water.

Reduction of electricity consumption: 19,251 kWh/year

Reduction of gas: 6,323 cubic meters/year

Reduction of CO<sub>2</sub> emissions: approx. 21 ton-CO<sub>2</sub>/year

Reduction of water: 2,133 cubic meters/year





Pretreatment equipment

#### Resource saving efforts

#### **♦** Improvement of recycling quality

Motors and transformers with numerous copper wires were collected separately so that they could be treated as valuable resources.

Amount of motors and transformers collected: approx. 1 ton/year



A space for storing the motors and transformers is provided.



Motors

#### **♦** Controlling water consumption

To reduce the water consumption, our control of water consumption has been reinforced with measures including the installation of a remote water meter transmitter in the cooling tower that consumes a large amount of water.







Water meter receiver

#### Efforts to reduce chemical substances

#### **♦** Reuse of thinners for cleaning

The process of coating uses numerous different colors. Each time the colors are changed, the coating pump and other pieces of coating equipment must be cleaned. The thinners used in the cleaning process contain hazardous chemical substances. When switching to a frequently used standard color, we try to reuse thinners that have already been used for the same color change. By doing so, we have reduced the use of the thinners.

Reduction of hazardous chemical substances: approx. 2.8 tons/year

#### **Communication with local communities**

#### **♦** Factory visits

We welcome factory visits by local elementary schoolchildren as part of their social studies. We communicated the fun of *monozukuri* by explaining the structure of familiar fan heaters and showing them how the products are assembled.





Pupils during a factory visit

#### **Beautification activity**

The employees' commuting routes, parking lots and the microbus stop around the Fujigaoka Station are cleaned on a regular basis.

Number of participants: approx. 200 in total



Cleaning of a commuting route



Cleaning of the microbus stop

# Yanagisawa Manufacturing Co., Ltd.

Location:	Yanagi-machi, Kadoma-shi, Osaka
Number of	291 (as of the end of March 2012)
employees:	
Business:	Manufacture of gas equipment
Major production	Commercial-use appliances
items:	
Acquisition of	June 2004
ISO14001 certification:	



# Data on environmental load by site

#### Energy use

Electricity (10,000 kWh)	City gas (13A) (10,000 m <sup>3</sup> )	LP gas (t)	Other fuels (kl) (crude oil equivalent)
187.5	30.5	1	61

#### Emissions into the air

CO <sub>2</sub> emissions	NOx emissions
(t-CO2)	(t)
1,544	1.2

#### Discharge of waste

Bibellarge of Wast	. •			
Amount of waste generated (t)	Amount of waste into landfill (t)	Amount of intermediate processing of waste (t)	Amount of recycled waste (t)	Recycling percentage (%)
455.1	0.0	0.0	455.1	100.0

#### Air

Equipment	Substance	R	Actual		
Equipment	quipment Substance	National	Prefectural	Voluntary	value*2
D-:1	Soot and dust	0.15	0.1	0.1	0.003
Boiler	NOx	150	150	150	18.8
Drying furnaces	Soot and dust	0.15	0.10	0.1	0.0175

<sup>\*1</sup> Units of regulation values Soot and dust: g/m³N NOx: ppm

<sup>\*2</sup> Actual values for NOx and soot/dust indicate the maximum measurements versus the regulation values for the relevant type of equipment.

#### Water discharge

Substance	R	egulation val	ue	Actual value			
Natio		Municipal Voluntary		Maximum	Minimum	Mean	
Amount of discharge	_	-	_	8	3	8	
pН	5.0 - 9.0	5.0 - 9.0	5.9 - 8.5	8.1	7.3	7.6	
BOD	600	600	300	43	5.5	17.8	
SS	600	600	300	22	2	9.2	
n-Hex mineral oil	5	5	5	3.5	1	1.5	
n-Hex vegetable oil	30	30	24	14.9	2.7	6.5	
Copper	3	3	3	0.1	0.03	0.07	
Zinc	2	2	2	0.39	0.05	0.18	
Soluble iron	10	10	3	0.14	0.1	0.11	
Soluble manganese	10	10	10	0.1	0.03	0.07	
Nitrogen	240	240	120	26	12	17.7	
Phosphorus	32	32	22.4	14.8	2.8	7.3	
Iodine consumption	220	220	154	2.0	1.0	1.7	

- The unit of the amount of discharge is m³/day
   The values are expressed in mg/L except for
- pH

  Water discharge standard:
- Water discharge standard:
  Sewer discharge standard
  \* pH: Concentration of hydrogen ions
- \* pH: Concentration of hydrogen ions

  \* BOD: Biochemical oxygen demand

  \* SS: Concentration of aqueous suspended solids
- \* N.D.: Equal to or less than the minimum determination limit (undetectable)

#### **Topics**

#### **Energy saving efforts**

#### ♦ Elimination of air leakages

To reduce energy loss, we make the rounds of the factory and check for air leakages from plumbing, hoses and other parts during its regular non-operating hours. If detected, air leakages are reported to the site maintenance person for repair.



Workers make the rounds and check for air leakages.

#### **♦** Green curtain initiative

As a summertime energy-saving activity, every year we create what we call the green curtain by growing goya (bitter gourds) and other plants that effectively help to reduce the loads on the air-conditioners by absorbing  $CO_2$  through photosynthesis and reducing the amount of sunlight streaming into the office building.





Green curtain

#### Waste management

Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes requires the improvement of the storage and disposal of the polychlorinated biphenyl (PCB) used in insulating oil for condensers and transformers, by July 2016. We are taking action to dispose of these materials promptly. Until the disposal is complete, they will be stored in a stainless container or similar for the purpose of preventing leakages in case the equipment breaks. These materials are also stored in the warehouse, which is locked to prevent the materials from going missing.





Stored PCB

A chart of PCB storage status

#### Resource saving efforts

Used sheets of paper are shredded and reused as package cushioning materials for warm water mats, one of our commercial items.



Cushioning materials made from shredded sheets of paper

#### **Anti-pollution efforts**

#### **♦** Emergency drill

The environmental accident drill is performed. We also review the written procedures for emergency actions and take preventive measures such as equipment inspections to minimize the risks to the environment.



Emergency drill for action against chemical leakage

#### Beautification activity

The employees' commuting routes and the area around the factory are cleaned on a regular basis.



Colleagues participating in the beautification activity



Cleaning of our commuting routes and surroundings

# Rinnai Technica Co., Ltd.

Location:	Sakagawa, Kakegawa-shi, Shizuoka
Number of	446 (as of the end of March 2012)
employees:	
Business:	Manufacture of gas equipment
Major production	Hot-water heaters, hot-water units and
items:	heat exchangers for hot-water units
Acquisition of	December 2003
ISO14001 certification:	



#### Data on environmental load by site

#### Energy use

211018) 450		
Electricity (10,000 kWh)	LP gas (t)	Other fuels (kl) (crude oil equivalent)
284.1	364	34

#### Emissions into the air

CO <sub>2</sub> emissions	NOx emissions		
(t-CO2)	(t)		
2,249	2.0		

#### Discharge of waste

Amount of waste generated	Amount of waste into landfill	Amount of intermediate processing of waste	Amount of recycled waste	Recycling percentage
(t) 934.1	(t) 0.9	(t)	(t) 932.6	(%) 99.8

#### Water discharge

Substance	Regulation value			Actual value			■ The unit of the amount of discharge is m³/day
Substance	National	Prefectural	Voluntary	Maximum	Minimum	Mean	<ul> <li>The values are expressed in mg/L except for pH</li> </ul>
Amount of discharge	_	_	_	53	20.3	37.5	■ Water discharge standard:
pН	5.8 - 8.6	-	6.3 - 8.1	7.4	7.2	7.3	River effluent standard  * pH: Concentration of hydrogen ions
BOD	160 (120)	25 (20)	20 (15)	5.9	1.0	2.6	* BOD: Biochemical oxygen demand * COD: Chemical oxygen demand * SS: Concentration of aqueous suspended
COD	160 (120)	-	20 (15)	5.3	1.4	3.4	* N.D.: Equal to or less than the minimum determination limit
SS	200 (150)	50 (40)	30 (20)	< 2.7	< 2.0	< 2.2	(undetectable)  * Values in parentheses are daily mean values.

#### **Topics**

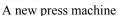
#### **Energy saving efforts**

#### **Efforts in press forming**

We alter procedures by implementing measures such as reducing the load on the motor of the press-forming equipment and changing the press-forming timing to reduce the peak load. Ingenuity is exercised in improving our equipment. For example, mold changes have been sped up. By doing so, we have reduced our energy consumption in parallel with efforts to improve safety. (Cooperation with the Production Engineering Division of Rinnai Corporation)

- Ecological effects of new press machinery (comparison with conventional processed products)
   Energy saving effects: total energy consumption reduced by nearly 20%
   Space saving effects: area of equipment installation reduced by nearly 20%
- ♦ Energy saving effects in the reduction of losses from transportation Reduction of CO<sub>2</sub> emissions: approx. 60 ton-CO<sub>2</sub>/year







The worker is removing components

#### ♦ Switch to energy-saving fluorescent lamps

To reduce electricity consumption, the set of eight 110-watt lamps used in the assembly factory has been replaced with a double connection set of sixteen 32-watt lamps.

Reduction of electricity consumption: 700 kWh/year Reduction of CO<sub>2</sub> emissions: approx. 0.3 ton-CO<sub>2</sub>/year



Fluorescent lighting in the assembly factory

#### Communication with local communities

#### ♦ Factory visits by employees' families

In August, we collaborated with the Rinnai Corporation Shizuoka satellite office to plan and organize a factory visit and BBQ for staff members and their families. This was intended to be an opportunity for the families to see the workplace of their loved ones, deepen their understanding of our work and interact with other families.

Number of participants: 300



Families during the factory visit



BBQ

#### ♦ Beautification activity

We support and participate in the annual activity to clean the area around Kakegawa Station. We also clean the area around the factory on a regular basis.

Frequency of our participation in the beautification activity: 4 times/year



Colleagues cleaning the street.

# RB Controls Co., Ltd.

Location: Head office Kannondo-machi, Kanazawa-shi, Ishikawa Kanaiwa Factory Kanaiwa Higashi, Kanazawa-shi, Ishikawa Tsurugi Factory Oyanagi-machi, Hakusan-shi, Ishikawa Number of 610 (as of the end of March 2012) employees: Manufacture of gas equipment components Business: Major production Electronic units, remote controllers, high-pressure units and audio & video equipment items:



#### Data on environmental load by site

March 2006

Energy use

Acquisition of ISO14001 certification:

Electricity (10,000 kWh)	City gas (13A) (10,000 m³)	LP gas (t)	Other fuels (kl) (crude oil equivalent)
527.3	2.2	237	28

#### Emissions into the air

CO <sub>2</sub> emissions	NOx emissions
(t-CO2)	(t)
2,823	2.5

Discharge of waste

Amount of waste generated (t)	Amount of waste into landfill (t)	Amount of intermediate processing of waste (t)	Amount of recycled waste (t)	Recycling percentage (%)
323.2	21.6	3.7	297.9	92.2

#### Substances subject to the PRTR law

Kanaiwa Factory (Unit: kg)

Tundi wa 1 doto1 y							(Omt. Kg)
			Amount of emi	Amount of transfer			
		a. Emissions	b. Discharge	c. Discharge	d. Landfill	a. Transfer	b. Transfer
	Class I designated chemical	into the air	into public	into the soil	at the	to sewers	outside the
Number	substance name		waters	at the	relevant		relevant
	substance name			relevant	office		to sewers outside the
				office			(except a.)
				(except d.)			
31	Antimony and its compounds	0.0	0.0	0.0	0.0	0.0	2,300.0
37	Bisphenol A	0.0	0.0	0.0	0.0	0.0	16,000.0
186	Methylene dichloride	0.0	0.0	0.0	0.0	0.0	2,400.0
265	Tetrahydromethylphthalic	0.0	0.0	0.0	0.0	0.0	15 000 0
203	anhydride	0.0	0.0	0.0	0.0	0.0	13,000.0
355	Bis (2-ethylhexyl) phthalate	0.0	0.0	0.0	0.0	0.0	580.0
448	Methylenebis (4,1-phenylene)	0.0	0.0	0.0	0.0	0.0	4,200.0
	diisocyanate						

Tsurugi Factory (Unit: kg)

			Amount of emi		Amount of transfer		
		a. Emissions	b. Discharge	c. Discharge	d. Landfill	a. Transfer	b. Transfer
	Class I designated chemical	into the air	into public	into the soil	at the	to sewers	outside the
Number	substance name		waters	at the	relevant		relevant
	substance name			relevant	office		office
				office			(except a.)
				(except d.)			
186	Methylene dichloride	0.0	0.0	0.0	0.0	0.0	2,100.0
448	Methylenebis (4,1-phenylene) diisocyanate	0.0	0.0	0.0	0.0	0.0	35,000.0
460	Tritolyl phosphate	0.0	0.0	0.0	0.0	0.0	480.0

#### **Topics**

#### **Energy saving efforts**

#### ♦ Reduction of losses resulting from heat dissipation

We reduced energy consumption by affixing heat insulating materials to the surfaces around our equipment to reduce losses resulting from heat dissipation from solder baths, industrial dryers and other pieces of equipment for making electronic substrates.





Heat insulating materials to prevent losses resulting from heat dissipation

#### Cooperation with our logistic partners

#### ♦ Streamlining transportation and deliveries through the use of delivery rounds

Numerous delivery destinations are concentrated in Aichi. Transportation and deliveries to Aichi involve the use of numerous delivery services and the consumption of a great deal of energy. To reduce CO<sub>2</sub> emissions, we reduced the overall travel distance by minimizing losses from logistics and using delivery rounds as well as direct shipments.

We will continue to exercise consideration to ensure proper assortment and transshipment in accordance with existing delivery rounds in an effort to reduce losses from transportation/delivery and also further reduce the environmental load.

Reduction of CO<sub>2</sub> emissions: 15.9 ton-CO<sub>2</sub>/year

(\*) Calculated with light oil 2.64 kg-CO<sub>2</sub>/liter.



Logistic center

#### Efforts to reduce hazardous chemical substances

#### **♦** Reduction of consumption of cleaning solutions

We reduced the consumption of cleaning solutions (methylene chloride) by replacing the washable nozzles of filling machinery to inject urethane resin for the protection of electronic components with a disposable type.

Reduction of consumption of cleaning solutions (methylene chloride):

approx. 900 kg/year (a reduction of almost 30% versus the previous year)



Urethane resin filling machine

#### **Communication with local communities**

#### **♦** Interaction within the factory premises

(1) Vegetables are grown on the factory premises with the aim of helping to create opportunities for interaction between our staff members and their families.

Crops such as sweet potatoes, green soybeans and corn are grown, and these are used as cooking ingredients at our annual cultural festival.





Growing vegetables

Vegetable garden

Varieties cultivated: sweet potatoes, green soybeans, corn, goya (bitter gourds), cucumbers, tomatoes, green peppers, sweet peppers and eggplants, among others

(2) Our factory has a courtyard where staff members can take breaks and develop friendships.



Our courtyard

(3) Our factory's parking lot includes a lawn that is available to local people for ground golf.



Ground golf field

# Rinnai Precision Co., Ltd.

Location: Head office

Shimobata, Oaza Honjo, Komaki-shi,

Aichi Kani Factory

Himegaoka, Kani-shi, Gifu

Number of 573 (as of the end of March 2012)

employees:

**Business:** Manufacture of gas equipment components

Valves and cock parts Major production

items:

Acquisition of December 2005

ISO14001 certification:



#### Data on environmental load by site

#### Energy use

Electricity (10,000 kWh)	City gas (13A) (10,000 m <sup>3</sup> )	LP gas (t)	Other fuels (kl) (crude oil equivalent)
1,276.8	123.5	138	81

#### Emissions into the air

CO <sub>2</sub> emissions	NOx emissions
(t-CO2)	(t)
8,141	6.5

#### Discharge of waste

٠.	Discharge of wast				
	Amount of waste generated (t)	Amount of waste into landfill (t)	Amount of intermediate processing of waste (t)	Amount of recycled waste (t)	Recycling percentage (%)
	1,830.6	1.5	0.0	1,829.1	99.9

#### Water discharge

#### Head office, Komaki Factory

Substance	R	Regulation value			Actual value			
Substance	National	Prefectural	Voluntary	Maximum	Minimum	Mean		
Amount of discharge	-	_	_	32	5	25		
pН	5.8 - 8.6	_	6.0 - 8.4	8	6.8	7.5		
BOD	160 (120)	25 (20)	25 (20)	_	_	13		
COD	160 (120)	25 (20)	25 (20)	18.0	4.4	12.0		
SS	200 (150)	-	25 (20)	-	-	< 1		

- The unit of the amount of discharge is m³/day The values are expressed in mg/L except for
- pH Water discharge standard:
- River effluent standard
   PH: Concentration of hydrogen ions
   BOD: Biochemical oxygen demand
   COD: Chemical oxygen demand
   SS: Concentration of aqueous suspended

- solids

  \* N.D.: Equal to or less than the minimum
- determination limit (undetectable)
- \* Values in parentheses are daily mean values.

#### Kani Factory

Timil I woodly							
	R	Regulation value			Actual value		
Substance	National	Written agreement	Voluntary	Maximum	Minimum	Mean	
Amount of discharge	_	_	_	_	_	19.0	
pН	5.8 - 8.6	5.8 - 8.6	5.8 - 8.6	7.5	5.4	6.6	
BOD	160 (120)	15	15	8.7	0.5	2.7	
COD	160 (120)	30	30	9.6	1.6	4.1	
SS	200 (150)	30	30	16.0	1.0	2.8	

- The unit of the amount of discharge is m³/day
   The values are expressed in mg/L except for
- pH Water discharge standard:
- \* PH: Concentration of hydrogen ions

  BOD: Biochemical oxygen demand

  COD: Chemical oxygen demand
- \* SS: Concentration of aqueous suspended
- Solids
   N.D.: Equal to or less than the minimum determination limit (undetectable)
- \* Values in parentheses are daily mean values.

#### **Topics**

#### **Energy saving efforts**

#### **♦** Energy saving through equipment renewal

When the air-conditioner at our die factory was renewed, our gas air-conditioner was replaced with a new one that is capable of saving more energy. By doing this, we reduced energy consumption.

Reduction of gas consumption: 5,069 cubic meters/year Reduction of CO<sub>2</sub> emissions: approx. 11 ton-CO<sub>2</sub>/year



Gas air-conditioner

#### ♦ Visualizing energy consumption

We visualize gas consumption by mounting gas meters on the melting furnace for molding, a piece of equipment that consumes a particularly large amount of energy. This helps strengthen our energy control and reduce gas consumption.



Gas meters are mounted separately.

#### **Environmental education activities**

#### ♦ Appearance on a radio program for energy-saving education

In August 2011, our colleagues appeared on the 11th broadcast of Gifu FM's radio program to teach listeners how to change their lives to save energy and do something beneficial for the environment. Sponsored by the Japan Center for Climate Change Actions, the program introduced our office's good ecological practices in the operation of air-conditioners, for example.



Shot taken during the broadcast in August 2011

#### **Environmental education for staff members**

Our environmental efforts require all our colleagues to boost their environmental awareness. The environment is also included as part of our new employee training program, etc. in an effort to give many of our colleagues an opportunity to boost their environmental awareness.



New employees receiving environmental education

#### **Anti-pollution efforts**

#### **♦** Emergency drill

The environmental accident drill is performed annually. We also review the written procedures for emergency actions and take preventive measures such as equipment inspections to minimize the risks to the environment.



Emergency drill

# RT Engineering Co., Ltd.

Location:	Kamiike-cho, Toyota-shi, Aichi
Number of	187 (as of the end of March 2012)
employees:	
Business:	Manufacture of gas equipment and
	components
Major production	Table stoves and pipe/press
items:	components
Acquisition of	March 2006
ISO14001 certification:	



## Data on environmental load by site

#### Energy use

Electricity (10,000 kWh)	City gas (10,000 m³)	LP gas (t)	Other fuels (kl) (crude oil equivalent)
196.7	12.7	4	21

#### Emissions into the air

CO <sub>2</sub> emissions	NOx emissions
(t-CO2)	(t)
1,086	0.9

#### Discharge of waste

Amount of waste generated (t)	Amount of waste into landfill (t)	Amount of intermediate processing of waste (t)	Amount of recycled waste (t)	Recycling percentage (%)
872.3	1.8	3.9	870.5	99.8

#### Water discharge

Substance	R	Regulation value			Actual value		
Substance	National	Municipal	Voluntary	Maximum	Minimum	Mean	
Amount of discharge	_	_	_	27.5	10	22	
pН	5.0 - 9.0	5.7 - 8.7	5.7 - 8.7	7.3	5.8	6.5	
BOD	600	300	300	2.7	0.7	1.6	
SS	600	300	300	12	< 1	< 3.8	
n-Hex mineral oil	5	5	5	0.6	< 0.5	< 0.5	
Nitrogen	240	150	150	19.0	17.0	18.0	
Phosphorus	32	20	20	0.42	0.01	0.10	

- unit of the amount of discharge is m³/day values are expressed in mg/L except for

- ater discharge standard:
  Sewer discharge standard
  Concentration of hydrogen ions
  DD: Biochemical oxygen demand
  Concentration of aqueous suspended solids
  D.: Equal to or less than the minimum determination limit (undetectable)

#### **Topics**

#### Waste-related efforts

#### **♦** Waste recycling

We reviewed the segregation and collection of used batteries and fluorescent lamps so that they can be recycled for quality improvements. Today, these practices are assigned directly to a recycling manufacturer.





Battery sorting machine

Fluorescent lamp disposal

machine

The photographs above were taken at the assigned recycling manufacturer.

#### ♦ Visiting the industrial waste disposal center

We visit the industrial waste disposal center annually to confirm that the industrial waste is disposed of appropriately and to exchange related information.





Shots from a visit to the disposal center

#### **Anti-pollution efforts**

#### ♦ Emergency drill

The environmental accident drill is performed. We also review the written procedures for emergency actions and take preventive measures such as equipment inspections to minimize the risks to the environment.



Emergency drill for the effluent treatment device

#### **Communication with local communities**

# **♦** Participation in the resource streamlining project established by the municipal government of Toyota-shi

Through comprehensive efforts such as contributions to resource efficiency and energy saving, the Toyota-shi resource streamlining project is aimed at achieving compatibility between the reduction of the environmental load by means of energy saving, resource saving and waste generation control, among other things, and cost reduction for improving corporate competitiveness. We supported the project, which we considered to be a model project of the Environmental Model City Action Plans, and took on numerous challenges.

Examples of suggestions for improvement: Collection of heat generated from the boiler

Change of lighting equipment

Review of the amount of chemicals used in effluent treatment



Meeting regarding the resource streamlining project

#### \* Resource streamlining project

One of the Toyota Environmental Model City Action Plans, the project is designed to help achieve compatibility between the reduction of the environmental load by means of energy saving, resource saving and waste generation control, among other things, and cost reductions for improving corporate competitiveness.

#### **Beautification activity**

The staff commuting routes, parking lot and the area around the factory are cleaned on a regular basis.

Frequency of cleaning activity: four times a year





# Japan Ceramics Co., Ltd.

Location:	Himegaoka, Kani-shi, Gifu
Number of	80 (as of the end of March 2012)
employees:	
Business:	Manufacture of gas equipment
	components
Major production	Ceramic plates for burners, industrial
items:	burners
Acquisition of	January 2006
ISO14001 certification:	•



## Data on environmental load by site

Energy use

Electricity (10,000 kWh)	LP gas (t)	Other fuels (kl) (crude oil equivalent)
132.8	170	375

#### Emissions into the air

CO <sub>2</sub> emissions	NOx emissions
(t-CO2)	(t)
1,870	1.7

Discharge of waste

Amount of waste generated (t)	Amount of waste into landfill (t)	Amount of intermediate processing of waste (t)	Amount of recycled waste (t)	Recycling percentage (%)
181.0	3.0	0.0	178.0	98.3

Substances subject to the PRTR law

(U	nit:	kg
$\sim$	mi.	115

Substantes subject to the Field in							(Chitching)	
			Amount of emission/discharge				Amount of transfer	
		a. Emissions	<ul> <li>b. Discharge</li> </ul>	<ul> <li>c. Discharge</li> </ul>	d. Landfill	<ol> <li>a. Transfer</li> </ol>	<ul> <li>b. Transfer</li> </ul>	
	Class I designated chemical	into the air	into public	into the soil	at the	to sewers	outside the	
Number	substance name		waters	at the	relevant		relevant	
	substance name			relevant	office		office	
				office			(except a.)	
				(except d.)				
53	Ethylbenzene	3,700.0	0.0	0.0	0.0	0.0	980.0	
80	Xylene	4,000.0	0.0	0.0	0.0	0.0	930.0	
300	Toluene	13,000.0	0.0	0.0	0.0	0.0	1,700.0	
412	Manganese and its compounds	0.0	0.0	0.0	0.0	0.0	2,100.0	

#### Air

Equipment	Cubatanaa	R	Actual		
Equipment	Substance	National	Prefectural	Voluntary	value∗2
	Soot and dust	0.2	_	0.13	0.006
Baking furnace	NOx	400	-	90	35
	SOx	0.49	-	0.3	< 0.01

<sup>\*1</sup> Units of regulation values Soot and dust: g/m³N NOx: ppm Sox: m³N/h

<sup>\*2</sup> Actual values for NOx, Sox, and soot/dust indicate the maximum measurements versus the regulation values for the relevant type of equipment.

#### Water discharge

	R	egulation valu	ue	Actual value			
Substance	National	Written agreement	Voluntary	Maximum	Minimum	Mean	
Amount of discharge	-	_	_	5.9	4.6	5.4	
pН	5.8 - 8.6	5.8 - 8.6	5.8 - 8.6	7.7	6.9	7.3	
BOD	160 (120)	30	15	6.1	0.8	2.3	
COD	160 (120)	_	30	_	_	2.9	
SS	200 (150)	40	30	40.0	1.0	11.8	

- The unit of the amount of discharge is m³/day
   The values are expressed in mg/L except for
- pH ■ Water discharge standard: River effluent standard
- \* pH: Concentration of hydrogen ions \* BOD: Biochemical oxygen demand
- \* COD: Chemical oxygen demand \* SS: Concentration of aqueous suspended solids
- \* N.D.: Equal to or less than the minimum determination limit
- (undetectable)

  \* Values in parentheses are daily mean values.

#### **Topics**

#### **Energy saving efforts**

#### **♦** Green curtain initiative

As a summertime energy-saving activity, every year we create what we call the green curtain by growing goya (bitter gourds) and other plants that effectively help to reduce the loads on the air-conditioners by absorbing CO<sub>2</sub> through photosynthesis and reducing the amount of sunlight streaming into the office building. Another example of our ingenuity is the improvement of drainage with the use of ceramic balls, an item we develop by leveraging the porous properties to enhance plant growth.



Green curtain



A view of the green curtain from inside the office building

#### Resource saving efforts

#### **♦** Recycling plastic wrap

We reviewed the segregation and collection of plastic wrap used for packaging shipped products in an effort to ensure that the waste that would otherwise end up in landfill can be effectively reused as resources. The recycling of plastic wrap has been a success.

Amount of plastic wrap collected: approx. 780 kg/year



Plastic wrap used for shipments

#### **Effective use of unneeded calcium carbonate**

The process of manufacturing hot-water unit components generates calcium carbonate in powder form. In the past, this substance was treated as industrial waste and was disposed of accordingly. Since calcium carbonate has the ability to improve acid soil, we utilize the substance effectively as a landscaping material, maximizing soil stabilization and the white color unique to calcium carbonate, by dispersing it over the premises of our office and our affiliates' offices.

Amount of powdered calcium carbonate: approx. 2 tons/year





Landscaping materials using calcium carbonate in powder form (\*The photographs were taken at Rinnai Corporation's Technology Development Center)

#### Communication with local communities

#### **♦** Factory visits by local high-school students

We welcome factory visits by local high school students as part of their field trips. The visitors experience the fun of *monozukuri* by observing up close how the ceramics products and components used for familiar items such as table stoves, built-in stoves and infrared heaters are manufactured.

Number of participants: 5





High school students during a factory visit

#### **♦** Beautification activity

We take part in the annual local activity to clean the Kani River. We also plant trees on the factory premises and clean the area around the factory on a regular basis.

Number of participants: approx. 40/year



Well-trimmed flowers



Our colleagues clean the area around the factory.

# Noto Tech Co., Ltd.

Location:	Mu Fujii, Nakanoto-machi,			
	Kashima-gun, Ishikawa			
Number of	206 (as of the end of March 2012)			
employees:				
Business:	Manufacture of gas equipment			
	components			
Major production	Enamel components, press			
items:	components, resin components and			
	electronics components			
Acquisition of	January 2007			
ISO14001 certification:	-			



# Data on environmental load by site

Energy use

Electricity (10,000 kWh)	LP gas (t)	Other fuels (kl) (crude oil equivalent)
248.7	1,072	122

#### Emissions into the air

CO <sub>2</sub> emissions	NOx emissions		
(t-CO2)	(t)		
4,452	4.0		

#### Discharge of waste

Amount of waste generated (t)	Amount of waste into landfill (t)	Amount of intermediate processing of waste (t)	Amount of recycled waste (t)	Recycling percentage (%)
2,652.6	346.9	5.1	2,300.6	86.7

#### Substances subject to the PRTR law

(Unit: kg)

	j		Amount of emission/discharge				Amount of transfer	
Number	Class I designated chemical substance name	a. Emissions into the air	b. Discharge into public waters	c. Discharge into the soil at the relevant office (except d.)	d. Landfill at the relevant office	a. Transfer to sewers	b. Transfer outside the relevant office (except a.)	
31	Antimony and its compounds	0.0	0.0	0.0	0.0	0.0	170.0	
71	Ferric chloride	0.0	0.0	0.0	0.0	0.0	0.0	
80	Xylene	6.2	0.0	0.0	0.0	0.0	0.0	
265	Tetrahydromethylphthalic anhydride	0.0	0.0	0.0	0.0	0.0	0.0	
296	1,2,4-trimethylbenzene	7.1	0.0	0.0	0.0	0.0	0.0	
309	Nickel compounds	0.0	25.0	0.0	0.0	0.0	740.0	
405	Boron compounds	0.0	260.0	0.0	0.0	0.0	4,300.0	

#### Air

7 Mi							
Equipment	Substance	R	egulation value	*1	Actual		
Equipment	Substance	National	Prefectural	Voluntary	value*2		
Dalring frameses	Soot and dust	0.25	0.25	0.22	0.008		
Baking furnace	NOx	180	180	160	33		

<sup>\*1</sup> Units of regulation values Soot and dust: g/m³N NOx: ppm

<sup>\*2</sup> Actual values for NOx and soot/dust indicate the maximum measurements versus the regulation values for the relevant type of equipment.

#### Water discharge

Substance	R	egulation valu	ıe	Actual value			
Substance	National	Prefectural	Voluntary	Maximum	Minimum	Mean	
Amount of discharge	_	_	_	150.0	70.0	103.0	
pН	5.8 - 8.6	5.8 - 8.6	5.9 - 8.2	7.2	6.9	7.1	
BOD	160 (120)	80 (60)	40 (30)	30.0	6.0	13.2	
COD	-	_	140 (100)	52	14	23	
SS	200 (150)	120 (80)	40 (30)	4.0	2.0	3.2	

- The unit of the amount of discharge is m³/day
   The values are expressed in mg/L except for
- pH ■ Water discharge standard: River effluent standard
- \* pH: Concentration of hydrogen ions \* BOD: Biochemical oxygen demand
- \* COD: Chemical oxygen demand \* SS: Concentration of aqueous suspended
- \* N.D.: Equal to or less than the minimum determination limit
- (undetectable)

  \* Values in parentheses are daily mean values.

#### **Topics**

#### Waste-related efforts

#### ♦ Qualitative improvement of recycling

We are committed to the qualitative improvement of recycling of waste that we generate. After researching the assigned disposer's practices and reviewing waste segregation and collection procedures, we successfully introduced a shift from thermal recycling to material recycling in handling leftovers from substrates and from electronic component terminals. The shift to material recycling also turned waste into valuable resources.

Quantity of leftovers collected from substrates: approx. 500 kg/year (metal collected: copper)

Quantity of leftovers collected from electronic component terminals:

approx. 2 tons/year (metals collected: copper and iron)



Leftover from a substrate



Leftover from an electronic component terminal

#### **Communication with local communities**

#### ♦ Local high school students' job experience

We welcome local high school students on a ten-day corporate long-term seminar as part of their job experience. By experiencing the processing of the rice kettles we manufacture, the students learned about the basics of *monozukuri* and about our focus on quality and ecological consideration.



Students experiencing monozukuri

#### **♦** Factory visits

We welcome factory visits by local high school students as part of their field trips. The visitors experience the fun of *monozukuri* by observing up close how the products and components used for familiar items such as table stoves, built-in stoves and ovens are transformed into finished products.

Number of participants: 30



Students during a factory visit

#### **Anti-pollution efforts**

#### ♦ Emergency drill

The environmental accident drill is performed. We also review the written procedures for emergency actions and take preventive measures such as equipment inspections to minimize the risks to the environment.





Emergency drill

#### Observance of laws

Besides observing laws, we set more rigorous standards for our usual monitoring and regular measurements.



Smoke measurement

# Techno Parts Co., Ltd.

Location: Head office

Fukuzumi-cho, Nakagawa-ku, Nagoya-shi, Aichi

Ichinomiya Office

Nishiougaido Aza Toukouji, Ichinomiya-shi, Aichi

Sango Office

Tsunoda, Sango-cho, Owariasahi-shi, Aichi

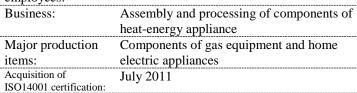
Ida Office

Ida-cho, Owariasahi-shi, Aichi

Komaki Office

Number of	468 (as of the end of March 2012)
mployees:	
Business:	Assembly and processing of components of
	heat-energy appliance

Oaza Mitsubuchi, Komaki-shi, Aichi







Ichinomiya Office

Komaki Office





Ida Office

Sango Office

#### Data on environmental load by site

Energy use

Electricity	City gas (13A)	LP gas
(10,000 kWh)	$(10,000 \text{ m}^3)$	(t)
78.9	5.3	0.9

#### Emissions into the air

CO <sub>2</sub> emissions	NOx emissions
(t-CO2)	(t)
418	0.3

#### Discharge of waste

Distinct Se of Wast
Amount of waste
generated
(t)
95.6

#### **Topics**

We undertake numerous different environmental efforts in accordance with Eco Action 21, an ecological management system.

#### **Energy saving efforts**

#### **♦** Green curtain: Sango Office

In the green curtain activity, the Sango Office grows goya (bitter gourds) and morning glory along the wall of part of the office building. These plants facilitate the absorption of CO<sub>2</sub> through photosynthesis and reduce the amount of sunlight streaming through the window in summer. They help reduce the use of air-conditioners, thus saving energy.

<sup>\*</sup> Eco Action 21 is a certification and registration system that is based on guidelines formulated by the Ministry of the Environment with the aim of improving the effects and efficiency of ecological commitments to develop a sustainable society.





Green curtain

#### ♦ Energy saving with fluorescent lamps: Ichinomiya Office

The Ichinomiya Office reduced electricity consumption by replacing the fluorescent lamps used along the assembly line with new ones that are capable of saving more energy.

Reduction of electricity consumption: 2,206 kWh/year Reduction of CO<sub>2</sub> emissions: approx. 8 ton-CO<sub>2</sub>/year

#### **♦** Energy saving in vending machines

The vending machines in all the company's offices have been replaced with new ones that are capable of saving more energy.

Number of vending machines replaced: 9



Vending machine