YASKAWA

ENVIRONMENTAL & SOCIAL REPORT

2011

SUSTAINABILITY

YASKAWA ELECTRIC CORPORATION

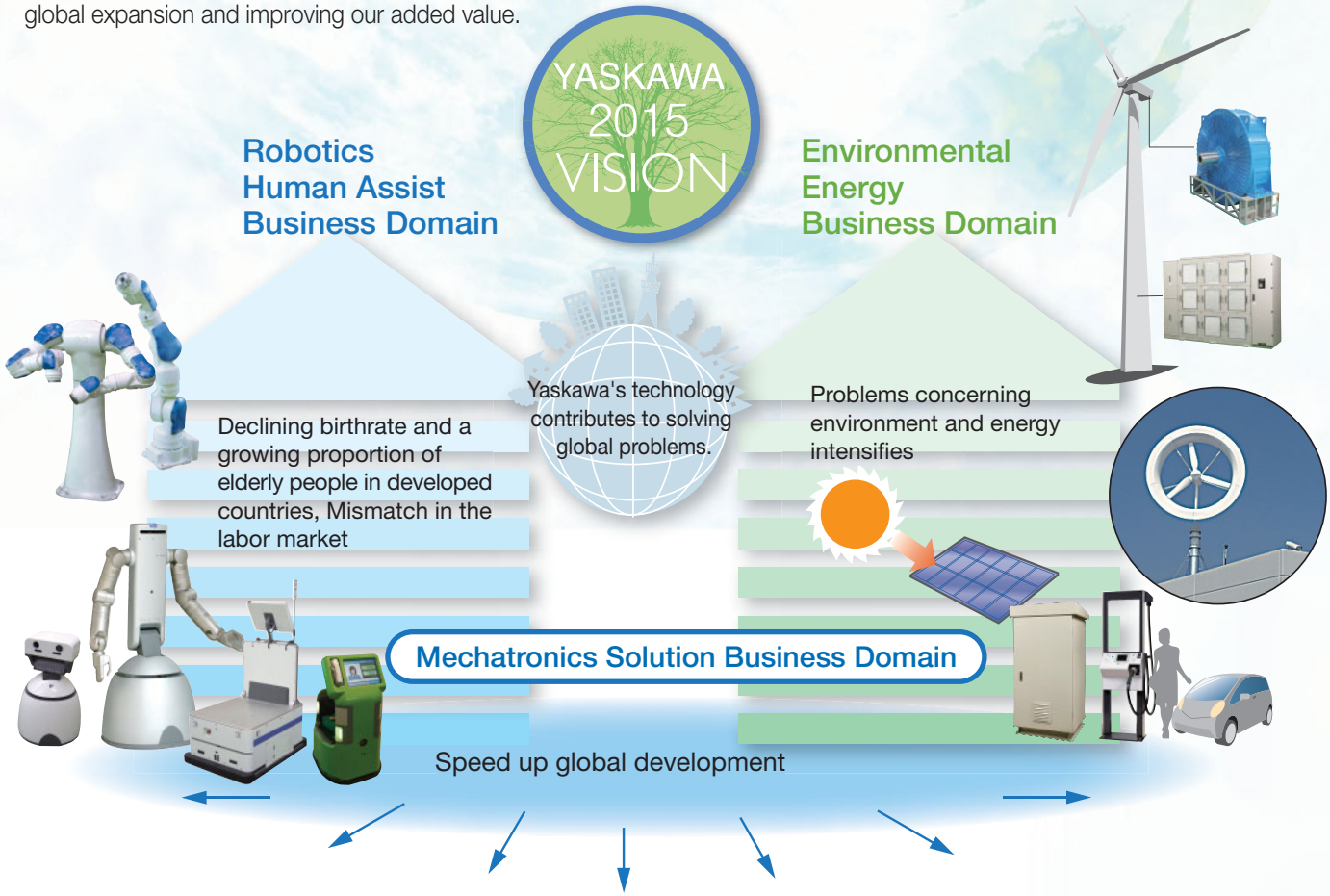
Principles of Management

Our company's mission is to contribute to the evolution of society and the welfare of humankind through the performance of its business.
In order to achieve this mission, we particularly affirm the following three principles and will endeavor to realize them.

1. To emphasize the importance of quality of products and constantly develop and improve technologies in which we can take pride throughout the world.
2. To improve the efficiency of operation and secure profits necessary for the survival and continued growth of the company.
3. To endeavor to keep a market-oriented attitude, to meet the needs of the market and do our utmost to serve our customers in the best way possible.

2015 Vision

Yaskawa Electric was founded in 1915. The Corporate Charter that we formulated and published in 1979 clearly expresses in our management philosophy the same sense of the company's mission that we have held since our founding. Our 2015 vision, which is oriented toward the company's 100th anniversary, declares that Yaskawa will realize this management philosophy by using the company's core technologies to seek solutions to emerging issues that are on a global scale.
This vision calls for us to take "robotics human assist" as our core domain, with industrial robots as the nucleus of the business, and to create a market for robots that coexist with people in fields that are closer to human concerns. In the environmental energy business domain, we will promote business in terms of both energy conservation and energy-creating by the practical application of Yaskawa AC drive technology to date, and will build this into another key business domain. In the mechatronics solution business domain, which supports these activities, we will make our earnings grow by accelerating global expansion and improving our added value.



YASKAWA

Global Unification of the Logo

Yaskawa created a global logo in fiscal year 2010 to serve as a symbolic banner more closely uniting all Yaskawa members in furthering the realization of this management philosophy and this vision. This unified logo was adopted by the entire Yaskawa Group in Japan and overseas. The "beauty Y" mark, a symbol passed down since 1991, expresses the Yaskawa corporate posture of advancing technological innovation while placing value on harmonizing the hard (technology) and soft (people) aspects of business.

INDEX

P8

Approach
to energy creation

P14

Robotics
Human Assist

P16

Eco-conscious
Factory

Scope of Coverage

Period: March 21, 2010 to March 20, 2011 Organizations: Yaskawa Electric and the following affiliates

Performance data: Production centers for Yaskawa Electric and the affiliates

Yaskawa Manufacturing Corporation / Yaskawa Electric Engineering Corporation / Yaskawa Logistec Corporation / Yaskawa Information Systems Corporation

Yaskawa Controls Co., Ltd. / Yaskawa Siemens Automation & Drives Corp. / Yaskawa Motor Corporation / DOEI Corporation

Yaskawa Obvious Communications Inc. / Yaskawa Business Staff Co., Ltd. / Yaskawa Techno Plate Corporation / Field Techno Co., Ltd.

Editor's Remarks

This report presents the basic policies and results of the environmental and social activities of Yaskawa Electric and its group companies listed above during the period from March 21, 2010 to March 20, 2011. This report was compiled by referring to the Environmental Report Guidelines (2007 edition) published by the Japan's Ministry of the Environment.

We are expanding our business in manufacturing, sales, installation, maintenance, engineering, and other aspects of business in motion control, robotics, system engineering, information technologies and other business fields.

Company Overview

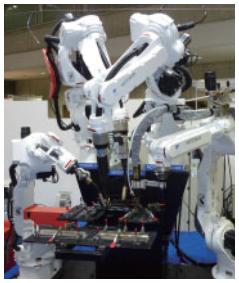
Since its founding in 1915, and based on its management principle of contributing to the evolution of society and the welfare of humankind through the performance of its business, Yaskawa Electric has provided continuing support for the key industries of the times from motors and factory automation to the mechatronics of today. We will further strengthen our core business in servo motors, controllers, AC drives, and industrial robots while we make maximum use of those technologies in new solutions that will contribute to environmental protection and the evolution of society.

Corporate Name : Yaskawa Electric Corporation
Founded : July 16, 1915
Employees : Consolidated 8,085 (5,543)
Non-consolidated 2,798 (756)
The figures in parentheses show the number of temporary employees, which is not included in the larger figure.

MOTION CONTROL

AC servomotors are built into machine tools, robots, food and packaging machines, printing machines, and other such equipment. Their range of application is also expanding to include semiconductor and electronic component manufacturing equipment as well as press manufacturing and related equipment, injection molding machines, and so on. AC drives are of course used in industrial machinery, but also in air conditioners, refrigerators, washing machines, health care equipment, and other consumer areas, as well as in elevators, escalators, cranes, and other such transportation equipment. These are devices that curb wasteful electric power consumption and contribute significantly to energy conservation.

ROBOTICS



Robots function primarily in markets related to automotive and electrical equipment, where they contribute to the automation of welding, painting, handling, transporting, and other such processes. In the semiconductor market, clean robots and vacuum robots are used, and in the liquid crystal market, robots are used for glass substrate transport applications.

SYSTEM ENGINEERING

System engineering contributes to the stable operation of plant system facilities that are essential to everyone's daily lives, including steel mills and water treatment plants (water supply and sewerage). There is also growing demand for medium-voltage AC drives to use in energy conservation measures for fans, blowers, pumps, and other such large hydropower and wind power machinery and facilities.

INFORMATION TECHNOLOGY & OTHERS

The information technologies business involves two Yaskawa Group companies that engage in software development, computer peripheral equipment, and other related activities. The companies are Yaskawa Information Systems Corporation and YE Data Inc.

Network

Head Office	:	2-1 Kurosaki-shiroishi, Yahatanishi-ku, Kitakyushu 806-0004 Japan	Phone: +81-93-645-8801
Tokyo Office	:	New Pier Takeshiba South Tower, 16-1 Kaigan 1 Chome, Minato-ku, Tokyo 105-6891 Japan	Phone: +81-3-5402-4502
Nagoya Office	:	Horiuchi Building, 25-9 Meieki 3 Chome, Nakamura-ku, Nagoya 450-0002 Japan	Phone: +81-52-581-2761
Osaka Office	:	Shin-Fujita Building, 4-27 Doujima 2 Chome, Kita-ku, Osaka 530-0003 Japan	Phone: +81-6-6346-4500
Kyusyu Office	:	Myojyo Building No.7, 1-1 Tenjin 4 Chome, Chuo-ku, Fukuoka 810-0001 Japan	Phone: +81-92-714-5331
Plants and Laboratories	:	Yahata-nishi Plant, Yahata-higashi Plant, Yukuhashi Plant, Tokyo Plant, Technology & Development Division / Corporate Research & Development Center	

Yaskawa Electric has business centers in 25 countries around the world, and production centers in 9 countries.

With links among the group companies and service centers in three regions of the world (Asia, North and South America, and Europe), Yaskawa Electric provides strong support for global businesses and highly localized, thorough support for each area.

Group Companies

JAPAN

- **Y-E DATA INC.**
  Manufacturing and sales of computer peripheral and terminal equipment; Ontrack Data Recovery service
- **YASKAWA INFORMATION SYSTEMS CORPORATION**
  Information processing, software development, sales of system equipment
- **YASKAWA CONTROLS CO., LTD.**
  Manufacturing and sales of electric machines, and parts
- **YASKAWA ELECTRIC ENGINEERING CORPORATION**
  Maintenance, test operation and adjustment of electric machines and facilities and technical training
- **YASKAWA LOGISTEC CORPORATION**
  General product distribution
- **YASKAWA MOTOR CORPORATION**
  Design, manufacturing, sales and maintenance of motors, generators and motor applications

EUROPE

- **YASKAWA EUROPE GmbH** (Germany)
  Sales of AC drives, servomotors and controllers. Manufacturing, sales, and after-sales service of robots
- **YASKAWA NORDIC AB** (Sweden)
  Sales and after-sales service of robots
- **YASKAWA ELECTRIC UK LTD.** (U.K.)
  Manufacturing, sales, and after-sales service of AC drives
- **YASKAWA EUROPE TECHNOLOGY LTD.** (Israel)
  Development, manufacturing, sales, and after-sales service of servomotors and controllers. Sales and after-sales service of robots

ASIA

- **YASKAWA ELECTRIC(SHANGHAI) CO., LTD.** (China)
  Sales and after-sales service of AC drives, servomotors and controllers
- **SHANGHAI YASKAWA DRIVE CO., LTD.** (China)
  Manufacturing and sales of AC drives, servomotors and controllers
- **SG-MOTOMAN ROBOTIC CO., LTD.** (China)
  Sales and after-sales service of robots
- **YASKAWA ELECTRIC (SHENYANG) CO., LTD.** (China)
  Manufacturing, sales, and after-sales service of servomotors and controllers
- **YASKAWA ELECTRIC (SINGAPORE) PTE. LTD.** (Singapore)
  Sales and after-sales service of AC drives, servomotors, controllers and robots
- **YASKAWA ELECTRIC KOREA CORPORATION** (Korea)
  Sales and after-sales service of AC drives, servomotors, controllers and robots
- **YASKAWA ELECTRIC TAIWAN CORPORATION** (Taiwan)
  Sales and after-sales service of AC drives, servomotors and controllers. After-sales service of robots
- **YASKAWA Robotics India Limited** (India)
  Sales and after-sales service of robots

THE AMERICAS

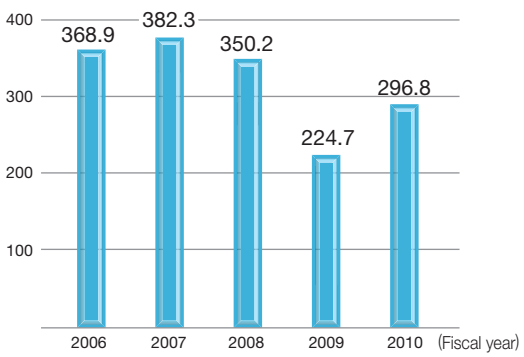
- **YASKAWA AMERICA INC.** (U.S.A.)
  Manufacturing, sales, and after-sales service of AC drives, servomotors and controllers. Sales and after-sales service of robots
- **YASKAWA MOTOMAN CANADA, LTD.** (Canada)
  After-sales service of AC drives, servomotors and controllers. Sales and after-sales service of robots
- **YASKAWA ELÉTRICO DO BRASIL LTDA.** (Brazil)
  Sales and after-sales service of AC drives, servomotors and controllers

Overseas subsidiaries and affiliates

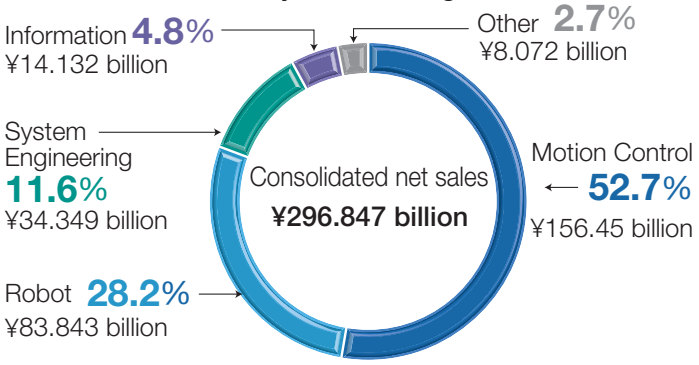
France, Italy, Netherlands, Spain, Czech Republic, Slovenia, Finland, South Africa, Thailand, Malaysia, Indonesia, Mexico

Business Results

Consolidated Net Sales (in Billion of Yen)



Sales Breakdown by Business Segment



Yaskawa aims to realize a sustainable society, and we would like to create the best solution in which people and the Earth can collaborate and move toward a better future.

Introduction

I would like to take this opportunity to express my heartfelt sympathy for residents of the region affected by the TOHOKU earthquake and tsunami, and to extend my best wishes for a speedy recovery. Reconstruction will be a long-term matter, and we are committed to taking on our part of the effort to realize a Japanese society in which we all can live with pride and self-confidence.

This earthquake has revealed weak points in society's systems, and provides an opportunity to reconsider the way we had been consuming goods and energy in our daily lives as a matter of course. Corporations, too, are having to raise their risk management to even higher levels than before. Social infrastructure and manufacturing, which had undergone progressive concentration with an emphasis on efficiency, are now beginning to move in the direction of diversification and decentralization. Environmental programs had tended to be associated with efforts intended to enhance corporate image, but now the values of society have changed, and we expect corporations to take on such initiatives as a responsibility to society that we should work to fulfill as a matter of course. Since our company's founding in 1915, we have played a leading-edge role in control technology for motors and motors themselves, which account for approximately 50% of annual world electric power consumption. We take the resolution of environmental and energy problems for the realization of a sustainable society to be the mission of Yaskawa Electric and we intend to engage in problem-solving with a global environmental perspective.

The Challenge of Realizing a Low-Carbon Society

Green innovation exemplifies the way in which realization of a low-carbon society is the greatest economic growth strategy for this century, and this understanding has been on the rise worldwide. The world population is growing at an annual rate of 1%, and energy demand is going to be increasingly on the rise together with the economic growth of the non-OECD countries. Yaskawa considers innovation that encourages dynamism and paradigm shifts to be necessary for realization of a low-carbon society.

The Yaskawa Group's Challenge 100 four-year mid-term business plan that started in fiscal year 2009 positions Environmental Energy and Robotics Human Assist as business domains that address the challenge of creating new value and new markets. In the Environmental Energy domain, we are advancing business through the dual aspects of energy conservation and energy-creating. As to energy conservation, we have fostered motor drive technology over many years as a way to conserve energy and to make effective use of regenerative energy. This has enabled us to provide environmentally upgraded products and expanded solutions for electrical drive systems for use in electric vehicles, etc. For example, we work jointly with the Kitakyushu Asian Center for Low Carbon Society and with the cooperation of the Chinese government to demonstrate that the adoption of high-efficiency motors and AC drives could have the effect of reducing energy consumption in Beijing by 10% or more. We intend to continue our global efforts to provide products and services with added environmental value.

In the energy-creating domain, we have used Yaskawa power conversion technology as a base to promote business that focuses on the efficient use of regenerative energy as an alternative to fossil fuels. This business includes solar power and wind power, which are areas from which society expects a great deal, as well as battery charging and discharging equipment. As part of our contribution to society, we participate in the Kitakyushu Smart Community Creation Project, which is the part of the next-generation energy and social system demonstration master plan. We are actively engaged in demonstrating and providing suggestions regarding new energy and energy management.

Yaskawa holds that minimization of the environmental impact is a fundamental element of environmental management for business activities. The Green 1000 environmental initiative, which started in fiscal year 2009, includes the adoption of LED lighting and transition to AC drives in manufacturing facilities as active measures. We have also devised further measures that we are taking to demonstrate these kinds of environmental initiatives and make them appealing to employees and customers. We will go on working to fulfill our corporate responsibility to contribute toward the realization of a low-carbon society through these activities.

Yaskawa's Human-Centric Approach Enhances Future Communities

One more business designated a challenge in the Yaskawa medium-term plan is the Robotics Human Assist domain, which aims for a society in which people and robots coexist. There is great demand for automation on the world market. Even China is experiencing sharply rising personnel costs, and there are growing calls for improvement of the work environment. We are also considering the expansion of roles for robots in our society because of decreasing birth rates and an aging population.

Robots are the best solution to improve the work environment and minimize costs. The Yaskawa's aim is to move ahead with work on robots that collaborate with people and are easier to use, and so encourage the development of a service robot market. Our goal is the creation and expansion of new markets for services not included in manufacturing.

Yaskawa initiated the R1000 project in fiscal year 2009 with the

TOP MESSAGE

aim of providing readily understandable suggestions for new robot systems. We have introduced large numbers of robots into Yaskawa under this program to date, and have accumulated expertise in robotization. We are bringing the robots into our mass-production lines, and using our facilities as showrooms where we can provide our customers with suggested problem solutions. In order to stimulate interest in robots, we also brought out Yaskawa-kun, a soft-serve ice cream robot. It has given us new opportunities in receiving inquiries from corporations with which we had no previous dealings. Yaskawa will continue as a pioneer with the challenge of opening and developing new markets for robots, and will continue contributing to the resolution of social issues.

A Global Corporation Supported by Its Personnel

It is important to make contributions locally and to promote production in demand areas for the efficient supply of products if we are to continue our global growth in China and other countries with high rates of economic growth, as well as in Europe and America. We intend to increase our ratio of overseas production to 30% by the year 2012, as called for by the Yaskawa mid-term business plan. People are the most important factor for corporate growth. In order to heighten our global corporate capabilities, it is crucial that we create a corporate climate in which personnel address issues in a spirit of bold challenge. I myself will take the lead in providing a locus for dialogue with employees in every division and at every level, so I can share my thinking and direction for the future with them. We will also make every effort to share the pleasures of manufacturing with the young people of the coming generation. Yaskawa does this, for example, by being broadly receptive to study tours to our plants and other establishments, cooperating with measures to stimulate dynamism in local communities, supporting robot contests for students, and organizing hands-on educational workshops for children.

This document is a report to our stakeholders not only about Yaskawa's programs for environmental protection, but also our compliance systems, our measures to act as responsible corporate citizens, and other such matters. We are loolking forward to hearing your frank opinions and comments so that we can contribute to the society even more.

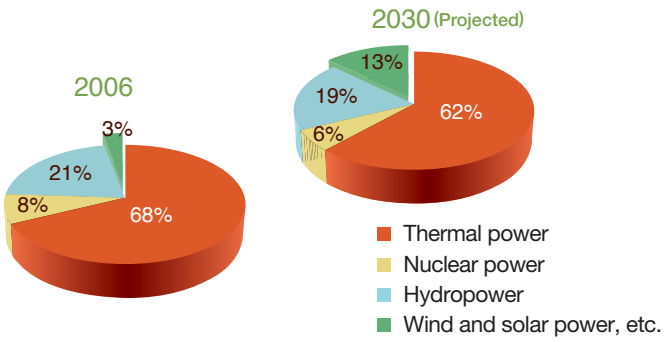
J. Tsuda

Junji Tsuda, President

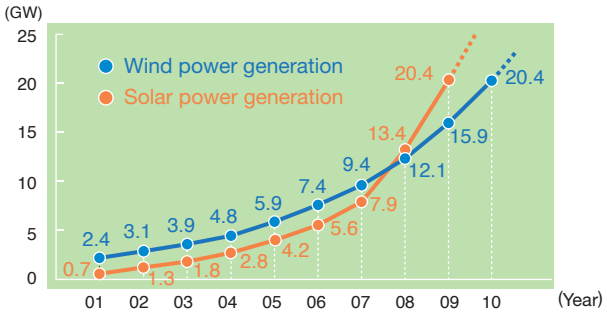
Approach to energy creation

In the "environmental energy" domain, we will concentrate on electric power conversion devices that apply our existing AC drive technology with the aims of energy conservation and effective use of natural energy. To that end, we will advance our business from the dual perspectives of energy conservation and energy-creating. We are also working on drive systems for electric vehicles, which are expected to be widely adopted as one approach to solving environmental and energy problems.

●World Electric Power Consumption



●Rapidly Growing Environmental and Energy Markets



Source: Based on information released by IEA and WWEA.

1 Energy-creating Products

We announced the Enewin series of large-scale wind-power generation equipment in May 2010. And our PV1000 power conditioner for solar power generation realized the highest level of conversion efficiency in the industry. Products such as these can be expected to make major contributions to heightened efficiency in wind and solar power generation. We have begun actively expanding this business, and have also placed electrical equipment for small-scale wind-power generation, charging and discharging equipment capable of providing a stable power supply from stored electricity, the Enewell-CEV rapid charger for vehicle-mounted batteries, and other such products on the market. Yaskawa efforts in energy-creating will be introduced here and will focus on the individual markets for solar-power generation systems, small-scale wind-power generation systems, and large-scale wind-power generation systems.

Energy-creating Products

For the Market of the Large-Scale Wind-Power Generation

EC Energy Creation

Efforts being pursued to increase the profitability of the market for the wind-power generation include increasing rated output through economies of scale, development of wind turbines that support low wind speeds, and offshore wind-power generation. A common trend in these projects is the move toward larger wind turbines.

As wind turbines are progressively converted to larger sizes, constraints from strength and cost aspects become issues. It therefore becomes necessary to heighten the performance and efficiency of the equipment, and to reduce the size and weight of generators and other such electrical equipment. There are also demands for environmental durability and maintenance reduction.

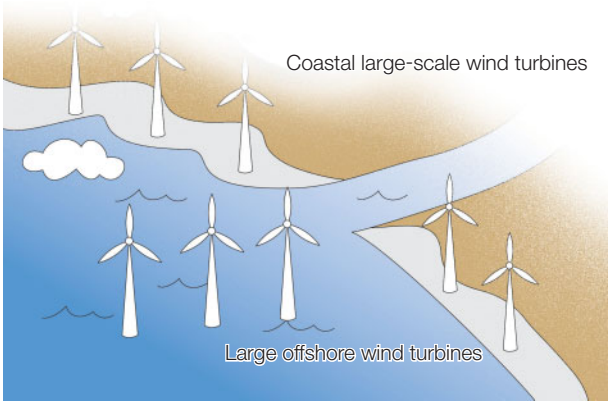
Yaskawa is responding to these kinds of needs by developing the Enewin series system electrical equipment for large-scale wind-power generation and providing it to the market.

●The Mechanism of Wind Power Generation

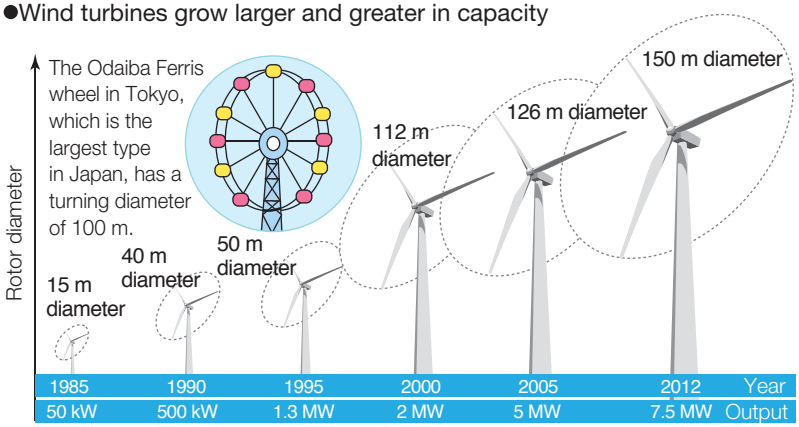
Wind Energy → Rotational Energy → Electrical Energy

- Wind hits the blades and makes them rotate.
- The rotating shaft (rotor) turns.
- The rotation is made faster by a multiplying gear.
- That rotation is transmitted to the generator and converted to energy.

The wind energy is increased in proportion to the cube of the wind speed and the rotor area (wind-receiving area). The wind turbine efficiency is said to be 40 to 45%.



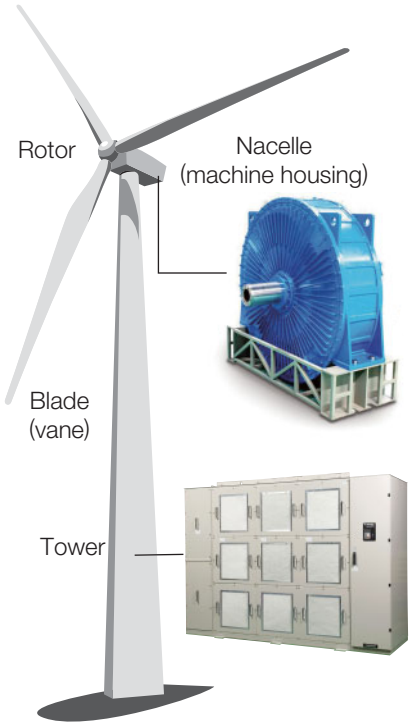
●Wind turbines grow larger and greater in capacity



●Market Needs for Large-Scale Wind Turbines

- Higher voltage as capacity is increased
- Greater efficiency in conversion of generated electric power
- Reduction in size and weight of electrical products
- Environmental durability against lightning, salt damage, vibration
- Longer life, maintenance reduction

●Structure of the Large-Scale Wind Turbine



System Electrical Products for Large-scale Wind-power Generation ---------- Enewin

The Enewin takes the energy obtained from the large-scale wind turbine and uses a high-efficiency generator and generation converter to convert it for output as high-quality AC power that is synchronized with the power grid from the electric utility companies. The Yaskawa power generation converter is the only such equipment in the world that embodies a practical implementation of Medium-voltage Matrix Converter technology, and it has realized electric power conversion efficiency of 98% or more.

Generator

Housed inside the nacelle, this converts the rotational energy from the motor into electrical energy.

Wind Power Generator Converter

Housed in the lower part of the tower, this uses a direct AC-AC converter to convert the generated electric power to the required voltage and frequency.

Main Features

・Higher voltage

Generator and converter changed from 690 V to 3 kV high-voltage specification

・Compact, lighter weight

Permanent magnet synchronous generator using rare earth magnets

Converters that do not need main circuit capacitors or harmonic filters

・Improved efficiency

Synchronous generators have permanent magnets for enhanced efficiency

Converters using the AC-AC system provide output current that does not include any harmonics

・Environmental durability

Salt damage countermeasures using varnish and special coatings

Vibration countermeasures using vibration-proof structure

・Reduced maintenance, lower total cost

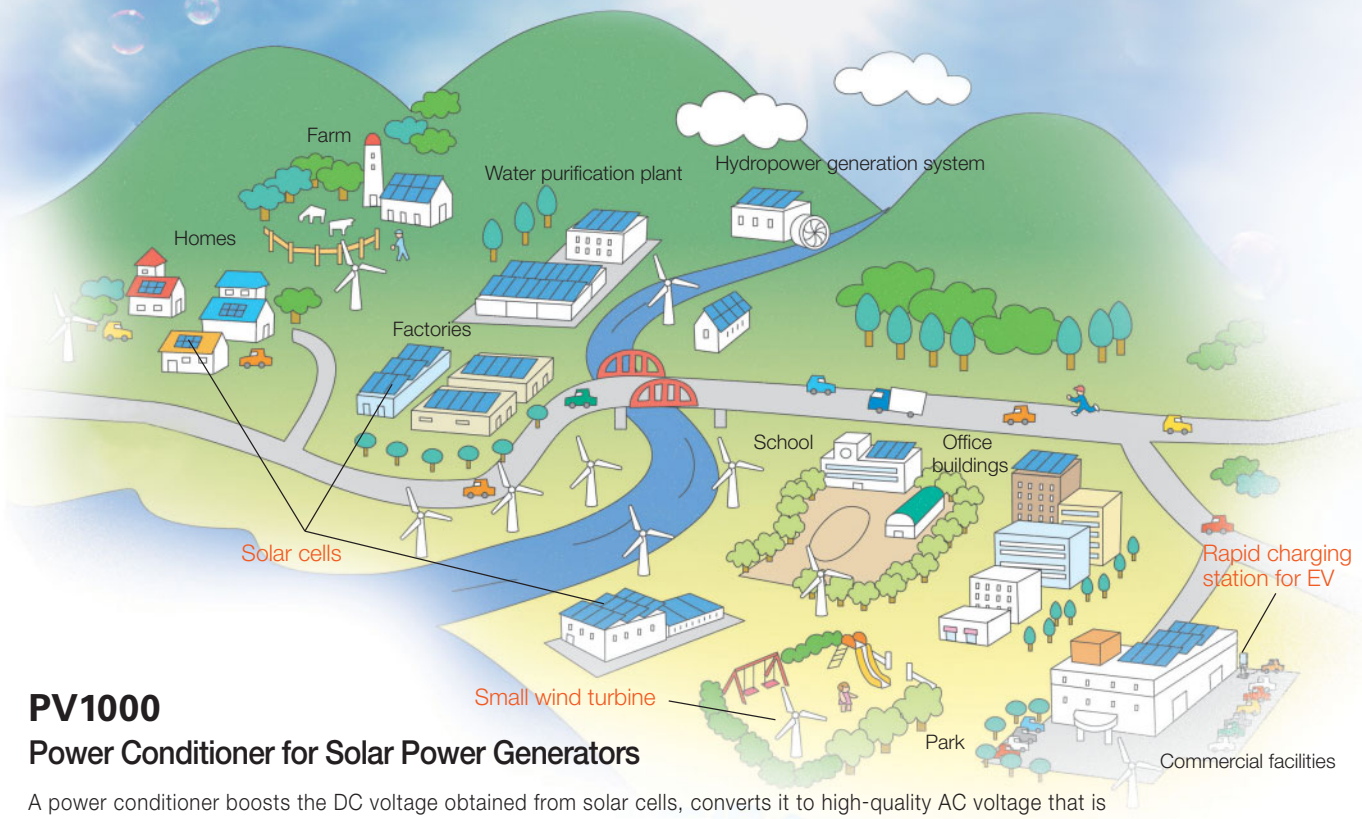
Converter with reduced need for maintenance parts because there is no capacitor and the current is lower (voltage is increased)

EC
Energy Creation

Energy-creating Products

For the Market of the Solar Power Generation

The question of how the electric power generated by solar cells can be converted to AC power without waste is crucial. Yaskawa power conditioners realize the high conversion efficiency of 94%. The use of 3-level Control, which is a proud Yaskawa accomplishment, and other such AC drive technology makes it possible to raise the efficiency and reduce the size of our power conditioners.



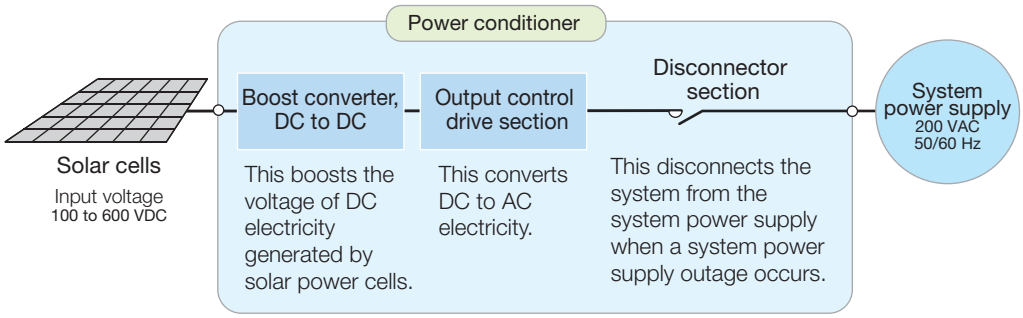
PV1000

Power Conditioner for Solar Power Generators

A power conditioner boosts the DC voltage obtained from solar cells, converts it to high-quality AC voltage that is synchronized with the power grid from the electric utility companies, and outputs that power to the system power supply.

System Structure

PV1000



Main Features

- **High-efficiency control**
  Highest level of conversion efficiency in the industry realized by the world's most advanced high-efficiency power conversion technology developed with general-purpose AC drives
- **Broad input voltage range**
  Capable of operating with maximum 600 VDC input voltage
  Capable of providing rated output at 250 VDC or higher
- **Auto-run function**
  Equipped with auto-run function for emergency load operation during system power outages
- **JET* certification** (pending for single-phase models)

*: Japan Electrical Safety & Environment Technology Laboratories

Small-scale Wind-power Generator

Energy-creating Products

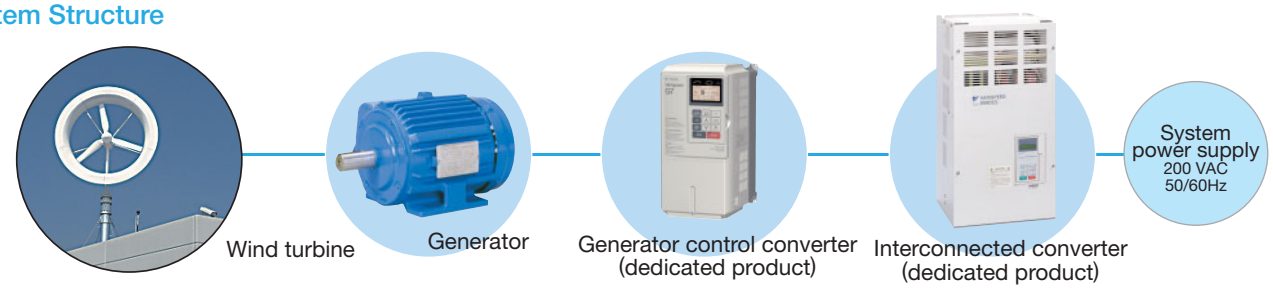
For the Market of the Small-Scale Wind-Power Generation

EC Energy Creation

Many small-scale wind turbines are located in urban and other built-up areas, where the wind speed and wind direction can sometimes fluctuate drastically due to the influence of the ground surface and buildings. Measures for turbine control become necessary in order that power can be generated safely and stably in these kinds of unstable wind conditions. Yaskawa has realized control for maximum efficiency with generator control converters that adapt to fluctuations in output.

These efficiently convert wind energy into electricity and output it to the system power supply of the electric utility companies.

System Structure



Note: The wind turbine in the photograph is a "wind lens" made by WINDLENS Co., Ltd. It has a diameter of 3.4 m and outputs 3 kW at wind speeds of 10 m.

This converts the rotational energy of the motor to electrical energy.

This controls the generator to maximize generating efficiency.

This converts the generated electricity to the required voltage and frequency.

Main Features

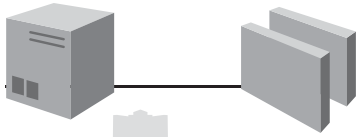
- High-efficiency power generation
- Realizes high-efficiency power generation by an IPM* generator
  * : Interior Permanent Magnet
- Realizes control that maximizes electric power output by efficient operation of the wind turbine even when wind speeds fluctuate
- Improves capacity utilization by control for continuous operation even in high winds

- Safety and reliability
- Monitors wind speed and rotating speed, enables runaway control to prevent excessive speed
- Equipped with a powerful mechanical brake to keep the fan stationary without fail in storm winds
- Remote monitoring control enables monitoring and operation from a remote location

2 Energy System-related Products

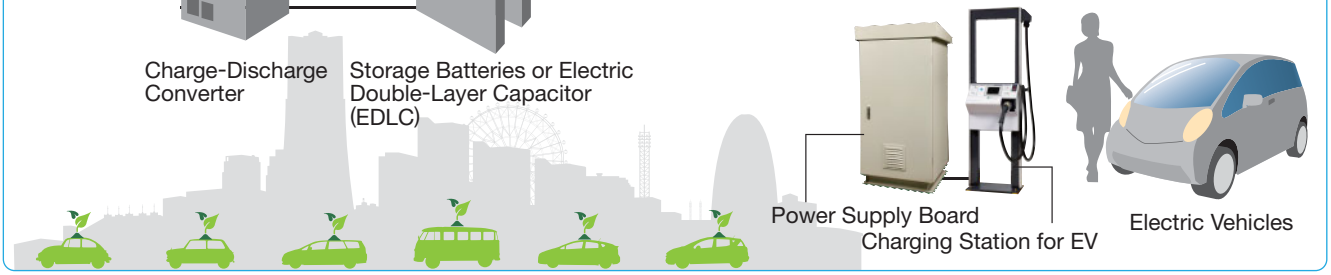
Electric Power Stabilizing Charge and Discharge Device

This controls battery charging and discharging, and is used to stabilize the output of electric power generated from unstable natural energy, to level fluctuating loads, and other such purposes.



Enewell-CEV Rapid Charger for Vehicle-Mounted Battery

This device uses electric power conversion technology to charge electric vehicles (EV) in a short time. It does not affect the surroundings with harmonics generated during electric power conversion or other such phenomena, so it can be located in residential neighborhoods and commercial areas that are convenient for EV users. The charging station portion can have a monitor or panel display attached for use in showing charger operation instructions, advertisements, and so on.

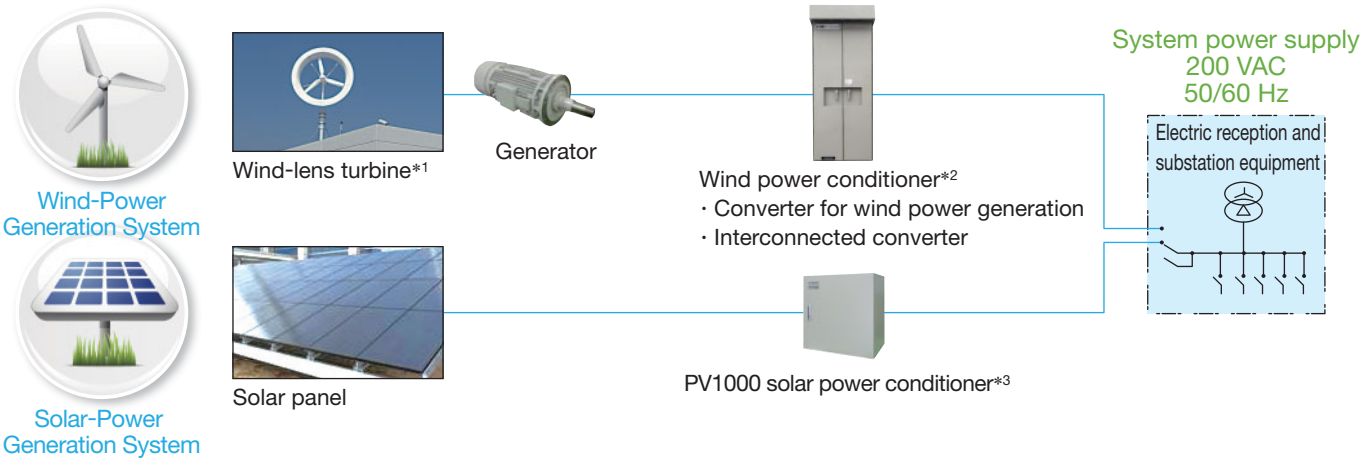


3 Examples of Solar-power and Wind-power Generation Systems : Kitakyushu City

EC Energy Creation

Yaskawa is actively promoting efforts in the Environmental & Energy area as a main pillar of our new business fields. To date, we have placed a hybrid power system that uses both a solar-power and a small-scale wind-power generation system with a dedicated power conditioner and other Yaskawa electrical products at the Yukuhashi Plant, where we have demonstrated their efficiency and safety. Here we will introduce the case of our delivery of a solar-power generation system and a small-scale wind-power generation system at Yaskawa headquarters in Kitakyushu City. The systems we delivered are all interconnected, they furnish a portion of the electric power used at each facility, and they contribute to the ecological promotion by Kitakyushu, which aims to be the environmental capital of the world.

●System Configuration



School New Deal

Solar-Power Generation System

10 kW × 3 schools

The Japanese government announced the School New Deal plan in 2009 as a way to comprehensively upgrade the educational environment to make it suitable for 21st-century schools. Kitakyushu has responded by installing solar-power generation equipment in its primary and lower secondary schools. This includes the first solar-power generation system from Yaskawa, already installed at three schools, and we are contributing to the building of safe, secure, environmentally friendly schools.

Solar Panels:
Panel surfaces have protective netting attached because they are installed on athletic fields.

Power conditioner*3

Power generation display

Hiagari Drainage Treatment Center, Kitakyushu

Large-Scale Solar-Power Generation Systems

75 kW × 2 systems

As an environmental model city, Kitakyushu has positioned its drainage treatment centers as energy recycling centers for the region. The Yaskawa large-scale solar-power generation systems were delivered in March 2011. The solar panels were installed in the space above the drainage treatment facility in the plant, making effective use of the facility.

Yaskawa's first high-capacity power conditioner*3
(100 kW × 2 sets)

Kyushu Human Media Creation Center

Hybrid Power Generation Systems

Small-scale wind-power generation 3 kW × 1 unit
Solar power generation 10 kW × 1 system

The Kyushu Human Media Creation Center seeks to reduce 20% of CO_2 emissions from standard buildings by introducing new energy and building energy management. As part of this program, a Yaskawa hybrid power system that uses both a solor-power and a small-scale wind-power generation system has been installed. They are generating electricity efficiently, with the power being used for lighting and other such purposes, and they are contributing to reduction of electric power consumption.

Generator monitoring system: This system monitors operating status and displays power generation status on a monitor in the Center. (made by Yaskawa Information Systems Corporation)

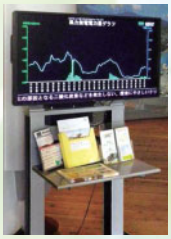
Kitakyushu Environment Museum

Small-Scale Wind-Power Generation Systems

3 kW × 1 unit

The Environment Museum is a facility provided by Kitakyushu as a comprehensive center for citizen learning and exchange about the environment. The museum installed a Yaskawa small-scale wind-power generation system to promote citizen learning about the environment and environmental education programs in primary and lower secondary schools.

Wind power conditioner*2 installed on a rooftop



Display monitor installed inside the Center entrance

Remote operation and monitoring panel installed in the staff office

Wind-lens turbine*1 installed at the front entrance (visitors' entrance)

Explanation of terms:

*1: This is a registered trademark of WINDLENS Co., Ltd.

*2: This equipment feeds the electric power generated by wind power generators into the electric power grid, creating power that ordinary electrical equipment can use.

*3: This equipment boosts the DC voltage obtained from solar cells, converts it into high-quality AC voltage that is synchronized with the power grid from the electric utility companies, and outputs it to the system power supply.

Participation in the "Kitakyushu Smart Community Creation Project"

Yaskawa is participating in the Kitakyushu Smart Community Creation Project in Kitakyushu. This is one of the operational trials being conducted under the Master Plans for the Demonstration of Next-Generation Energy and Social Systems, an initiative by the Ministry of Economy, Trade and Industry to investigate the smart grid, which is a next-generation electric power grid.

We are actively engaged in the demonstration of small-scale wind-power generation and other new energy as well as in systems development of charging facilities and other such activities by means of the stepped-up adoption of new energy, the introduction of energy conservation systems in buildings and structures, the efficient utilization of energy through regional management systems, and the improvement of traffic systems and other such social systems.

Robotics Human Assist

Our aim in the robotics human assist business domain is to focus on our core business of industrial robots. At the same time, we also intend to create a market for robots that are easier to use and that function in domains more closely involved with people. The key words that inspire these new robot markets are: co-existence with people, close proximity to people, and assistance for people.

On the one hand, we are pressing ahead with the development of next-generation service robots, starting with the SmartPal, on the assumption that robots will coexist and collaborate with human beings in the society of the future. On the other hand, we are also working to further accelerate the rapid expansion of the service robot market by going ahead and placing existing industrial robots in the service field first, and we have initiated measures to open up that market even sooner.

1 Service Robot

Yaskawa-kun is an initiative to deploy the Yaskawa industrial robot MOTOMAN series in the service (nonmanufacturing) business.

As our first move, here is a soft-serve ice cream vendor.

As our first move, we have developed the Yaskawa-kun Soft-Serve Ice Cream Vendor, a robot that sells soft-serve ice cream in a vending unit that takes up about 3.3 square meters. The Yaskawa-kun Soft-Serve Ice Cream Vendor is built on the MOTOMAN-SDA10 new-generation industrial robot configured with equipment required to sell soft-serve ice cream. Customers insert payment and make a selection from the touch panel menu. The Yaskawa-kun then retrieves a cone from a large pile and operates the soft-serve ice cream freezer controls to neatly dispense ice cream into the cone. The robot then pours on the strawberry, melon, or other topping the customer selected from the menu and places the order on the delivery rack. When the robot has finished putting down the order, the door on the customer side opens to allow the customer to pick up the completed soft-serve ice cream order. The concept design for the Yaskawa-kun gives it an external image, background music, and other elements to portray the robot as a character that customers will easily relate to. We intend to proceed both with the SmartPal as prior technology development conducted with a view to the service robots of the future, and with Yaskawa-kun as an effort aimed at using existing products to open up the existing service market. These two are indispensable twin aspects of our integrated effort.

1 Dispensing ice cream into a cone

2 Pouring on sauce and toppings

3 Placing on the delivery rack

●Exterior view of the Yaskawa-kun Soft-Serve Ice Cream Vendor

2 R1000 PROJECT

What exactly is the “R1000 Project”?

With the goal of introducing robot-based, automated in-house facilities and developing new production technologies and functional parts, in 2009 we instituted the R1000 project, where the “R” stands for “robot” and the “1000” stands for our goal of installing 1,000 robots. We are moving forward every day under the slogan “We will install 1,000 robots in our facilities.”

This program has now entered its third year, and we are continuing with daily efforts to deploy even better installations than before within the company. For the automation equipment itself, deployment is following the keywords of "compact" and "fast" to concentrate on small-sized installations.

In parallel with the project to automate our equipment and facilities, we are also developing components for visual, tactile, force, and other such sensors. Our aim is to combine the sensors we will develop with our robots to create robots that have the capability to work while making judgments as people do about what they see and touch, and about the proper force of their grip.

Examples of How the "R1000 Project" is Working Out

We will introduce a compact dual-arm robot called the MOTOMAN-SDA5D (hereafter SDA5D) as a representative example of the equipment introduced under the R1000 Project. (Please see the figures and explanatory text to the right.)

Use of the SDA5D made it possible to install the entire device within an area smaller than two square meters, thus saving space. Changing the tools held in the robot's hands would also make it possible to handle different kinds of work with the same size device. Given a screwdriver to hold, the robot can be used as a screw-tightening device, and given an applicator, it can be used as a coating device.

Future aims of the R1000 Project are to promote further automation and to expand deployment with an eye to Yaskawa plants in other countries. By advancing with automation, we will make our plants around the world capable of manufacturing products with the same quality. The result should be to enhance the Yaskawa brand image. We also intend to pursue a variety of measures for energy conservation, such as reducing standby power consumption when robots are not operating, and eliminating compressed air as a power source by switching to all electric-powered equipment.

▲ Small parts (cooling fin) assembly device installed at our AC drive plant

We are automating small part assembly work by installing equipment that uses the SDA5D at the Drive Center of our Drives Division to work on preparatory processes in the circuit board fabrication process. Parts were formerly put together manually, after which the job of screw tightening would be carried out. We have automated this work, equipping one of the robot's arms with a hand that holds parts and the other with a hand that holds an electric screwdriver. This enables the robot to perform the same work as a person at greater speed.

▲ Motor parts assembly device installed at our Tokyo Plant

We are installing a device using the SDA5D in the motor fabrication process at our Tokyo Plant to automate the work of motor assembly. This device has an SDA5D with hands for holding motor parts. The device is carrying out assembly work by grasping parts with both hands.

R1000 PROJECT

Eco-conscious Factory

Inauguration of New Plant and Environmental Measures in Shenyang City, China

The Yaskawa mid-term business plan Challenge 100 calls on us to "Improve response capabilities to changes in markets and accelerate expanding business worldwide." It positions China, with its particularly high growth rate, as a key market, and we are working to expand our market share there. As part of this effort, we established the Yaskawa Electric (Shenyang) Co., Ltd., in the Economic & Technological Development Zone of Shenyang City, Liaoning Province, People's Republic of China, and began production of servo motors and servo amplifiers there on June 12, 2010.

In addition to contributing to the advancement of the equipment and machinery industry in China, this plant together with the Shanghai Yaskawa Drive Co., Ltd., which is our existing production base in Shanghai, provides broad coverage of the China market. They give Yaskawa the capability to respond speedily to the diversifying needs of our customers while also building a stable supply structure, thus enhancing customer satisfaction. We are also taking active environmental measures at the new plant. We have installed a heat pump air conditioning system that uses groundwater, we operate a large bus for commuting employees, and we are carrying on greening of the plant grounds, among other such ongoing efforts to contribute to the regional environment. We are also making preparations for acquisition of ISO 14001 certification for environmental management systems by 2012.

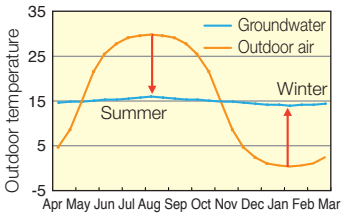
Yaskawa Electric (Shenyang) Co., Ltd., on the day of the completion ceremony

Ribbon-cutting ceremony

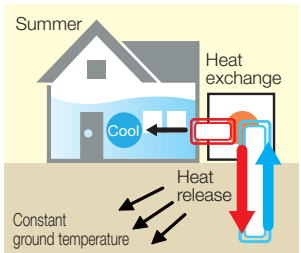
●Installation of Heat Pump Air Conditioning that Uses Groundwater

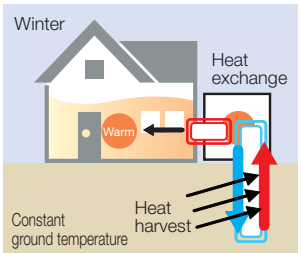
Temperatures underground are cooler than outside air temperature in the summer and warmer in the winter. Using the ground to release heat during the summer and to harvest heat during the winter can therefore help to realize extremely efficient air conditioning year round. In Shenyang, there is ground frost to a depth of 1.2 m during the winter, but the temperatures at levels 10 m or more below the surface remain fixed at 10-15˚C year round, regardless of temperature changes at the surface. The technology that uses a heat pump to carry on a heat exchange based on this temperature differential with the underground is a ground-source heat pump system. A ground-source heat pump uses the water(15℃) from underground for heating or cooling, making it possible to reduce electric power costs compared to ordinary air conditioning by 65% or more during the summer and 30% or more during the winter. The new plant is piping groundwater up from 80 m underground to use. This circulation of air combined with the building's exterior insulation are effective for cooling and heating. Even if the heating is turned off at closing time during the coldest part of winter, when the outdoor temperature drops to -25˚C, the plant interior will maintain a 15˚C temperature the next morning at starting time.

●Groundwater temperature remains stable all year round



●Use of groundwater heat for air conditioning





Operation of a Commuter Bus

A large bus was acquired and is operated on a fixed schedule for commuting employees, taking them to and from work in groups. The bus can transport 45 employees at once, and helps to curb CO_2 emissions.

Greening and Tree Planting on Plant Grounds

Efforts have also been directed to greening since the new plant was opened. As of June 2011, this has extended to 6000 m² of lawn, 36 cherry trees, and 180 other varieties of tree, and this activity will be continued into the future.

Measures to Institute Waste Recycling

Efforts are being made to implement thoroughgoing separation and recycling of scrap wire, cans, plastics, and other such waste materials generated at the plant.

Scrap wire

Empty cans

Plastic bobbins

Environmental Report

Basic Philosophy of Environmental Protection

Our management philosophy is that our company's mission is to contribute to the evolution of society and the welfare of humankind through our business activities. The Yaskawa Group recognizes that the protection of the environment is one of the most important issues for all humankind. In every aspect of business, we must consider and act in ways to protect the environment, and in doing so, we will be in agreement with our own management philosophy and serving our duty to society.

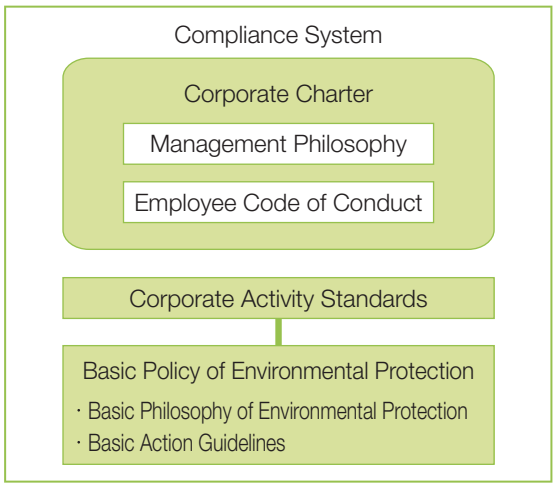
Basic Action Guidelines

1. Set goals for environmental protection and continually improve related activities within feasible technological and economic means, together with recognizing environmental issues as a top management priority and conducting business practices that take environmental protection into consideration.
2. Assess the environmental impact of our business activities and product development and strive to reduce the impact on the environment in each of the phases of the product's lifecycle from manufacturing, distribution, use, to disposal.
3. Observe environmental laws and regulations and furthermore, set our own standards and improve our own levels of control through auditing and other processes.
4. Foster environmental education to increase the awareness of all employees regarding environmental protection and create a plan in which our company will work in cooperation with communities in environmental protection programs.
5. Inform the public as well as all employees of our environmental policies.

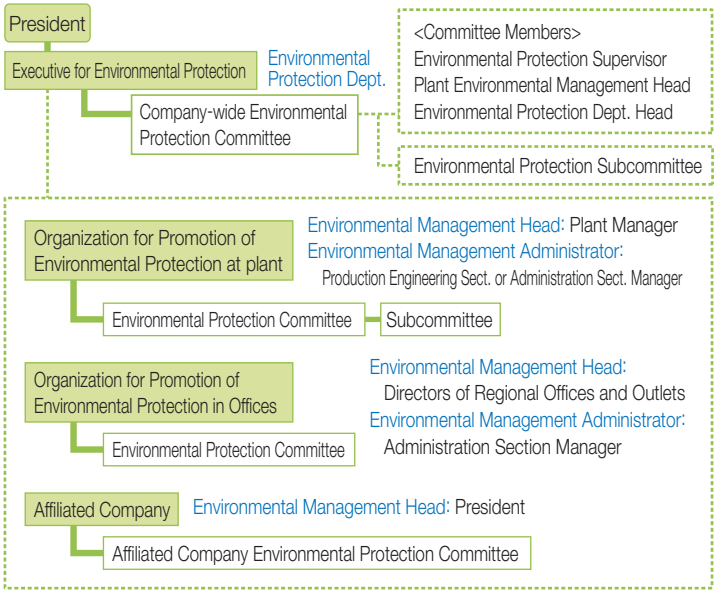
Yaskawa as a whole strives to reduce environmental impact by using our Environmental Management System which is based on ISO 14001.

Basic Philosophy of Environmental Protection

Corporate Standards and Environmental Protection



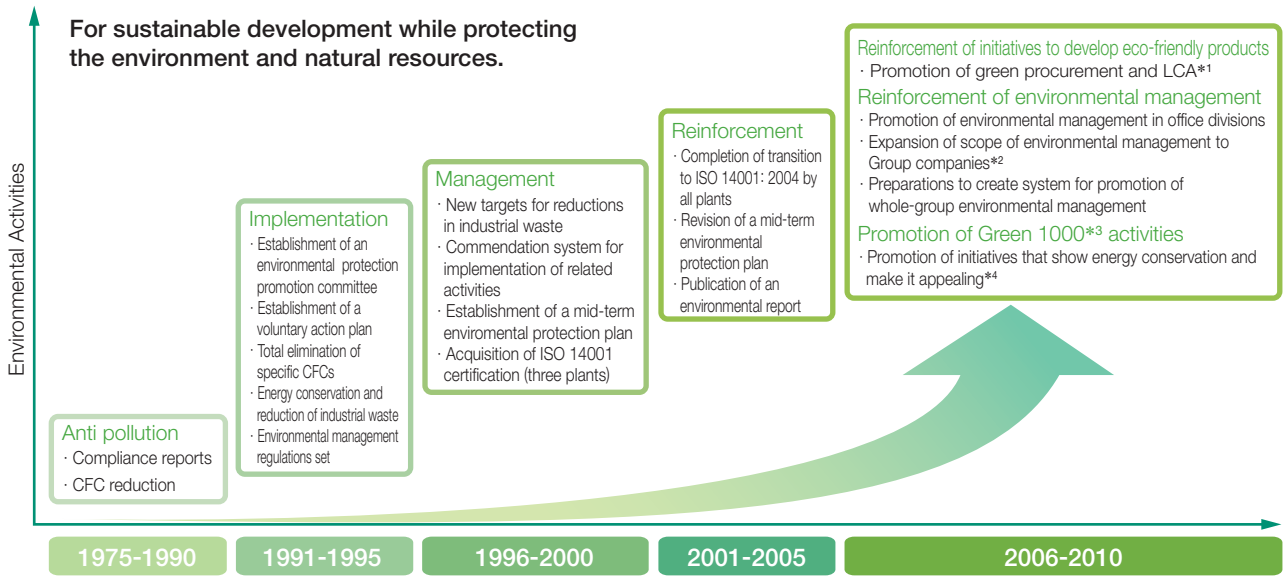
Organization for Promotion of Environmental Protection



Yaskawa and affiliated companies have continued to promote the environmental programs in accordance with group-wide policies and implementation plans that have been deliberated and decided by the Company-wide Environmental Protection Committee.

Saving the Environment

For sustainable development while protecting the environment and natural resources.



*1 LCA (Life Cycle Assessment): We are quantitatively ascertaining and evaluating the environmental impact of the entire life cycle of products, and pursuing efforts to reduce the environmental impact of products and services.
*2 Expand scope of environmental management to Group companies: We have begun managing basic environmental data (energy, waste).
*3 Green 1000: Company-wide activities in which all employees participate to build a workplace environment seeking to care for the environment and reduce costs
*4 Show energy conservation and make it appealing: We are taking steps to vitalize energy conservation activities by shifting to AC drives in facilities and equipment, adopting LED lighting, and engaging in other such measures to (actively) show our energy conservation measures and to feel them (make them felt).

FY2010 Status in Action Plan for Environmental Protection

Category		Midterm Targets	FY2010 Targets	Results	Self Evaluation*
Reduction of Greenhouse Gas Emissions		6% reduction of CO_2 emissions from the FY1990 level for Yaskawa production plants (not including Group company plants) in Japan by FY2012	13% reduction of emissions, 58% reduction per unit of production from the FY1990 level	Worked to reduce CO_2 by optimizing energy management and running "Green 1000" environmental activities in which all staff participate; achieved 18% reduction in emissions, 61% reduction per unit of production.	A
Reduction of Total Wastes (Including revenue-generating waste)		Reduction of final disposal rate to 3% or less for Yaskawa production plants (not including Group company plants) in Japan by FY2011	Generation of total wastes per unit of production: 5% reduction (compared to FY2009)	Generation of total wastes per unit of production: 25% reduction (compared to FY2009)	SA
			Final disposal of total wastes: 3% or less	Final disposal of total wastes: 1.21%	SA
		Industrial waste final disposal rate: 1% or less	Industrial waste final disposal rate: 1% or less	Industrial waste final disposal rate: 0.54%	SA
Hazardous Substances Control	Reduction of Volatile Organic Compounds (VOC)	30% reduction in emissions from the FY2000 level by FY2010	Analysis of emissions Drawing up of priority measures	29.4% reduction (compared to FY2000)	B
	Green Products	Bring the percentage of Green Procurement for new products to 80% or more on a company-wide scale by FY2011.	Release and start operations of guidelines and support systems compliant with the EU REACH regulation	Issued version 4 of guidelines compliant with REACH regulation, adopted new green procurement system and began its operation	A
	PCB Treatment	Proper disposition of all PCB-containing equipment by FY2016	Storage and documenting of applicable equipment in accordance with the relevant laws Disposal of 100 stabilizers	In accordance with company-wide waste disposal plans, we disposed of 145 stabilizers that had been stored at the Kokura plant.	SA
Environmental Management	Environmental Management System	Maintenance of ISO 14004 registration and continuous improvements in environmental performance indexes	All applicable plants passing audits under ISO 14001: 2004	Domestic plants passed all renewal and annual reassessments.	A
	Design for Environment	100% implementation of environmental friendliness evaluations using life cycle assessment (LCA) of environmentally strategic products by FY2011	Establishment of mechanism for enabling visual measurement of environmental impact by means of LCA	Put standardized LCA implementation standards and shared database into operation and confirmed unhindered capability for expanding models undergoing LCA	A

* Self-evaluated achievement ratios to targets: SA - 130% or more, A - 100% or more, B - 50% or more, C - under 50%

We have been providing employees with programs on environmental laws and regulations, so that they will be rigorously observed. As a result, there were no violations of these laws or regulations, nor any penalties under them, in fiscal year 2010.

Law Concerning the Rational Use of Energy was revised in 2008 and put into effect in fiscal year 2010. Management of energy utilization figures, which until now had been carried out by individual plants, will now be carried out collectively by the business operator.

Yaskawa has submitted notifications of energy utilization status in accordance with this law, and has been appointed a designated business operator. Of our six production plants, the Yukuhashi Plant has been designated a Type 1 Designated Energy Management Factories, etc., and the Iruma Plant and Yahata Plant have been designated Type 2 Designated Energy Management Factories, etc.

ISO 14001 Activities

Yaskawa Electric had been acting on environmental issues by focusing on pollution control activities, and established the Basic Philosophy of Environmental Protection and the Basic Action Guidelines in 1993. Formulation of these guidelines included the establishment of an environmental management organization and an internal environmental auditing system. Thus, the system for environmental conservation was fully established. Thereafter, the Environmental Management System was introduced based on the international standards certification ISO 14001 published in September 1996. To become "a global leader that gives consideration to the environment and can continuously reduce the environmental impact," acquisition of ISO 14001 certification by the end of the FY2000 in all plants was planned in 1997, and six domestic plants attained this certification by April 2001.
(The Yahata plant and Yahata-higashi plant are registered as the same site.)

• Plants with ISO 14001 Certification and the FY2010 Reassessment Results

Location (Certification number)	Date Certified/ Date Assessed	Registered Entities	Scope of Registered Activities Including Products, Processes, and Services
Iruma Plant (JQA-EM0202)	Aug. 14, 1998 Renewal reassessment July 2010	- Iruma plant - Yaskawa Manufacturing Corporation, Kanto Company - Yaskawa Logistec Corporation, Kanto Division, Saitama Office	Development, design, and manufacture of servomotors and electronic control equipment No suggestions
Yukuhashi Plant (JQA-EM0498)	Aug. 13, 1999 Annual reassessment July 2010	- Yukuhashi plant - Yaskawa Techno Plate Corporation - Yaskawa Controls Co., Ltd. - Yaskawa Manufacturing Corporation, Yukuhashi Office - Yaskawa Logistec Corporation, Yukuhashi plant - Yaskawa Siemens Automation & Drives Corporation, Yukuhashi plant - Yaskawa Electric Engineering Corporation, Yukuhashi Repair Factory, Yukuhashi Repair Shop - Okazumi Industry Corporation - Suematsu Kyuki Co., Ltd. - Nomiyama Electric Corporation	Design, development & manufacture of system products, control panels, AC drives, electrical-equipment housings, mechatronic equipment, lead switches, and water cleaners. Installation, test operation and incidental service (maintenance, repairs and upgrades) for electric devices. One suggestion
Yahata Plant (JQA-EM0924)	July 7, 2000 Annual reassessment June 2010	- Yahata plant - Yahata-higashi plant - Yaskawa Motor Corporation - Yaskawa Manufacturing Corporation, Seikou Company - Yaskawa Manufacturing Corporation, Yahata Company - Yaskawa Logistec Corporation, Yaskawa Logistec Corporation, Robots Office - Yaskawa Logistec Corporation, Yaskawa Logistec Corporation, Yahata Office	Design, development, and manufacture of medium and large motors, mechatronic equipment, industrial robots and robot control devices, as well as physical distribution services No suggestions
Kokura Plant (JQA-EM1469)	March 30, 2001 Annual reassessment May 2011	- Kokura plant	Planning, research, and development of mechatronic systems. No suggestions
Nakama Plant (JQA-EM1532)	April 20, 2001 Annual reassessment March 2011	- Nakama plant	Manufacture of semiconductor manufacturing equipment and cast parts and welding parts for motors and industrial robots. No suggestions

• Status of ISO 14001 Certification Acquisition by Affiliated Companies (Reference)

Affiliated Companies that Have Acquired Certification	Certification Number (Date of Acquisition)	Scope of Registered Activities, Including Products, Processes, and Services
YE Data Inc. (Including YD Mechatro Solutions Inc.)	JQA-EM0778 (March 17, 2000)	· The design, development and sales of information multimedia products · The design, development and manufacturing of optomechatronics products · Data recovery services
Yaskawa Logistec Corporation (including Kyushu Logistics Center, Kanto Logistics Center)	JQA-EM2127 (February 8, 2002)	· The providing of logistics services (transportation, storage, domestic and export packaging and value added distribution) · The design and providing of packaging materials
Yaskawa Information Systems Corporation	JQA-EM4922 (September 22, 2005)	The software development, the development, design, and sales of electronic control devices, and integrating server products The development and sales of software
Yaskawa America, Inc.	EAGLE-No. 3141 (August 18, 2006)	The design, manufacture, servicing and refurbishment of standard and custom robotic systems, the procurement of spare parts

We recognize that global environment conservation is the main pillar in assuming corporate social responsibility, and based on our Environmental Management System, we have been doing our utmost to reduce the environmental impact resulting from business activities.
To maintain and further improve the Environmental Management System, we use outside auditors to annually check the system. During the FY2010 reassessment, the Yukuhashi plant received one suggestion for improvement. For this item needing rectification, we have drawn up and implemented corrective plans for continued maintenance and improvement of our Environmental Management System.

Internal Auditor Training

Internal auditors are being trained to enable them to perform internal environmental audits. During FY2010, we conducted a training program for new internal auditors three times, and certified 49 internal auditors, as planned.

Internal auditor training at Kokura plant

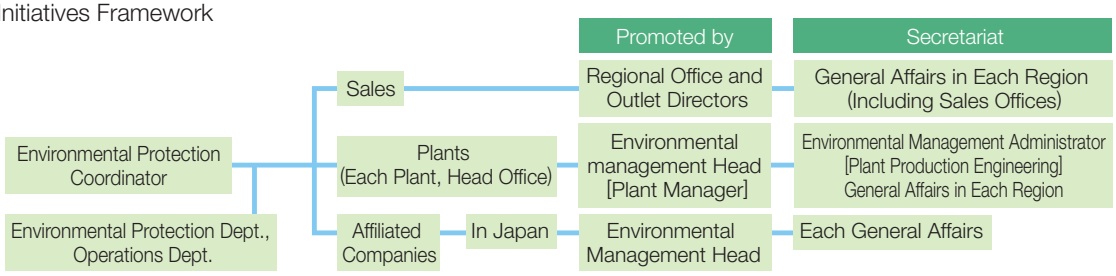
Consciousness-Raising Programs for Employees

"Green 1000" Environmental Activities by All Employees

Yaskawa Electric initiated the Green 1000 environmental activities with participation by all employees in FY2009 to strengthen our environmental management. Our aim is to enhance each member's environmental awareness as well as to create a Green Office and Green Factory that both care for the environment and cut costs by setting energy conservation and resource-saving targets.

In FY2010, we began environmental patrols as part of the Green 1000 activities. Employees are checking each other's worksites with respect to the program themes of energy conservation and resource saving as a measure for thoroughgoing program implementation. We have also begun publishing an "Eco News" for the purpose of raising consciousness about environmental, cost, and security improvement activities through the optimization of printing-related management as well as about environmental impact reduction activities.

• Initiatives Framework



• [Target] Reduce CO_2 emissions by 1 kg per person per day; no paper trash, no waste, but no backlog of work

Printing-Related Energy Conservation and Resource Saving Measures

Yaskawa has begun optimization through streamlining of all types of printing equipment throughout the company (printers, photocopiers, multifunction equipment, fax machines) with the aim of reducing materials printed on paper. We have also begun introducing a printing authorization system.

In FY2010, the Kokura Plant introduced a model system for printing authorization that uses employee ID in the form of IC cards.

The purpose of this project is to strengthen our energy conservation, resource saving, and security (preventing the leak of information from printed media) and to save on costs reducing the amount of printing equipment by half.

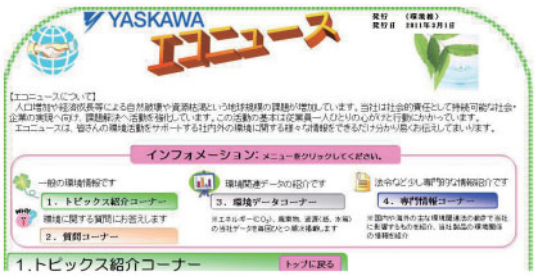
We have achieved a reduction of approximately 45% in printing equipment in number of units. In terms of paper used, we have achieved a reduction of approximately 34% (compared to FY2008).

We intend to use the results from introduction of this model system at the Kokura Plant for future phased deployment to all Yaskawa plants.

The "Eco News"

We have begun publishing an in-house bulletin to provide our employees with easily readable information of various kinds about environmental matters inside and outside Yaskawa. This is the "Eco News" that is available (in Japanese-language version only) on the in-house part of our website.

The "Eco News" is published monthly, and its readership is on the rise. We are making every effort to increase readership by making it easier to read and by using photographs that show specific people, things, and events.

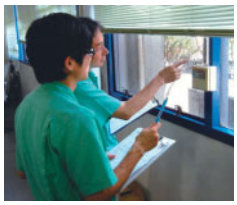


Environmental Patrols

Environmental patrols have been started for the purpose of strengthening our Green 1000 activities related to energy conservation and resource saving themes, which have been implemented since FY2009. Environmental patrols are ways for company divisions to check the implementation status of each other's activities on energy conservation and resource saving themes, and they are intended to encourage mutual consciousness-raising and the discovery of new Green themes.

Environmental Patrols Conducting Checks

Are room temperature standards being followed?



Are any printed materials left unattended?

Environmental Awards

We established the Environmental Protection Promotion Awards in FY1996. Outstanding projects are commended and posted on the in-house website. Activities that have been effective in reducing environmental impact are given point ratings for their idea, effort, and environmental effectiveness, and monetary awards are given in accordance with the total points scored. This system has been vitalizing the environmental conservation promotion activities and heightening the employees' awareness for involvement. There were 27 applications for activities carried out in FY2010. Below are some examples of excellence.

Environmental Accounting

Results for environmental protection costs and their economic and environmental impact for six domestic production plants in accordance with "Environmental Accounting Guidelines 2005" by the Ministry of the Environment are given in the following table.

Environmental Conservation Costs

(10 thousands of yen)

Category		Investment	Cost
Business Area Costs	Pollution Prevention Costs	0	570
	Global Environment Conservation Costs*1	4,690	5,407
	Resources Recycling Costs	0	11,038
	Subtotal	4,690	17,015
Upstream/downstream Costs		–	–
Administration Costs		0	2,713
R&D Costs*2		0	78,750
Social Activity Costs		–	388
Environmental Remediation Costs		–	–
Total		4,690	98,866

*1 : The major investments were the upgrade of the power receiving equipment, installation of more efficient lighting, and so on at the Yahata Plant.
*2 : The major research and development costs were expenses for research and development relating to energy creation and vehicle-mounted drives at the Kokura Plant.

Economic Effects

(10 thousands of yen)

In-house	Energy Costs	104
	Waste Material Disposal Costs	6,123

Reuse of Resources by Solder Recycling at Iruma Plant

The Iruma Plant has changed over to lead-free operation of every line for the circuit board manufacturing process. We took this as an opportunity to start a solder recycling program, and installed equipment that recovers just the solder components from soldering waste for reuse.
Before this equipment was installed, soldering waste was sold to waste contractors as revenue-generating waste. Its installation, however, made it possible to recycle solder, allowing us to reduce waste and cost.
We expect to achieve a 45% reduction in the amount of waste as well as a reduction in procurement expenses in FY2011.

Placing waste in the solder recovery device

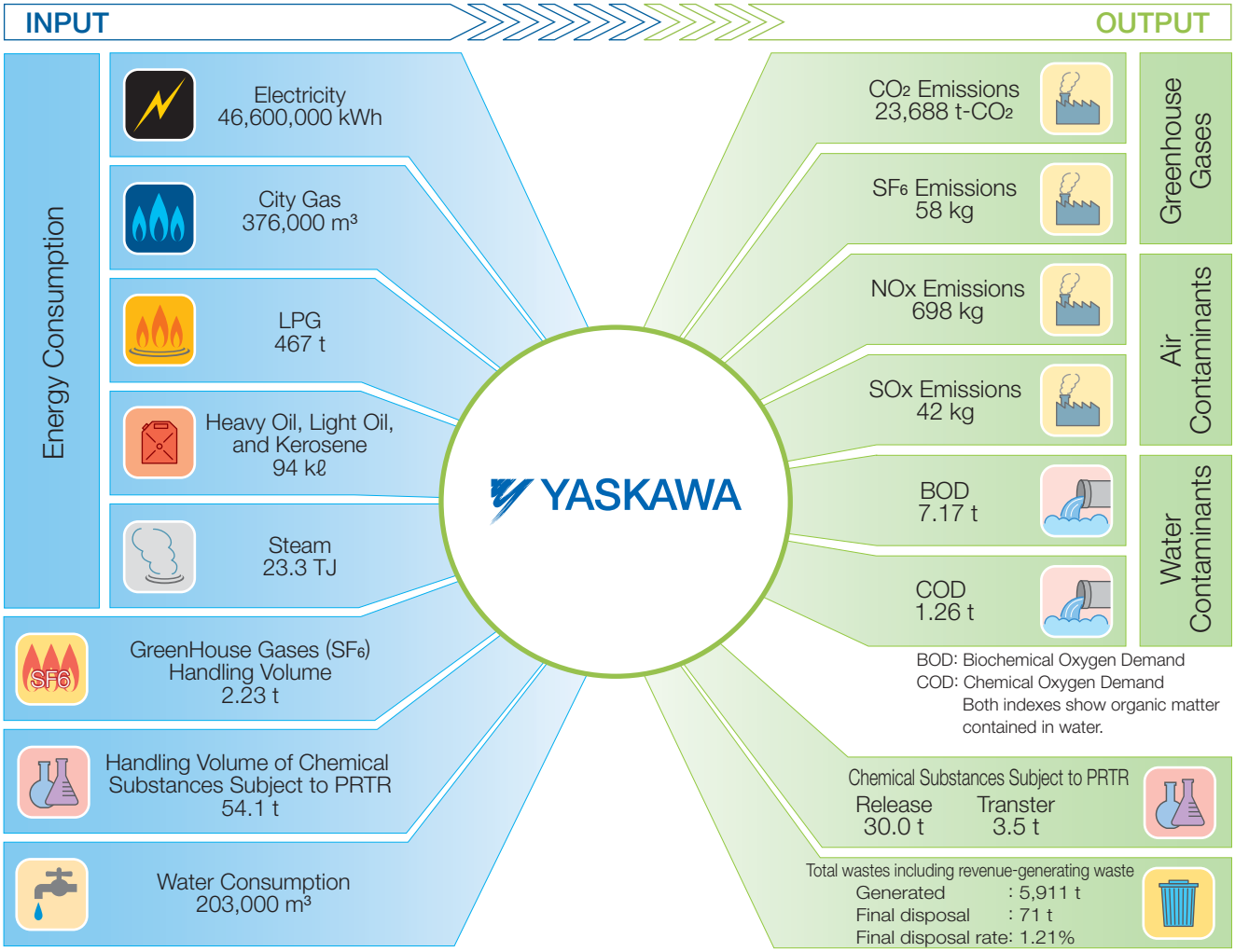
Soldering waste before recycling

Solder recovery device

Solder recovered for reuse

The summary is the input-output information on environmental impact from production activities.

FY2010 Environmental Impact Data Summary



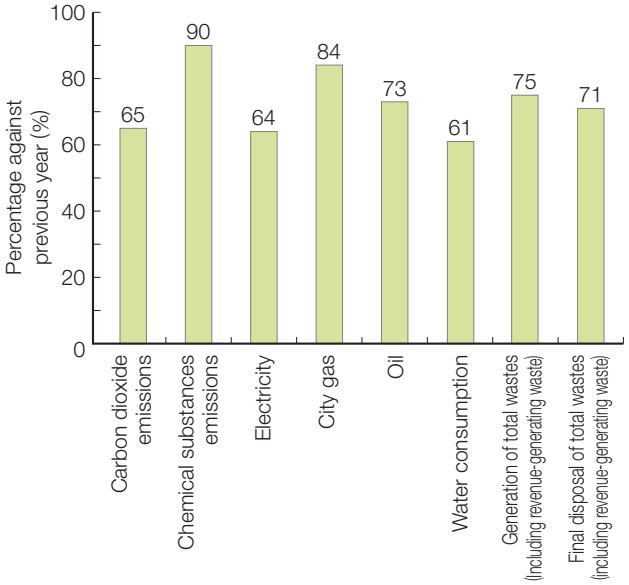
This figure shows energy consumption, the volume of chemical substances and natural resources used, gas emissions (CO_2 and other greenhouse gases), chemical substances emissions, and waste generation in FY2010.

The volume of CO_2 emissions increased by 24% compared to FY2009, but we reduced emissions 35% per unit of production. The shift to LEDs for lighting and the adoption of AC drives for fans and pumps were among the equipment improvements carried out. These and the full participation by all personnel in environmental activities, which yielded a reassessment of equipment and facility operations, together with the heightened awareness of environmental improvement, are major factors in the reduction of CO_2 emissions per unit of production.

The most important issue for FY2011 will be curbing peak electric power as we continue the measures with regard to operations that became established in practice during FY2010 and accelerate the introduction of energy conservation equipment and facilities.

Generation of total wastes (Including revenue-generating waste) increased 41% over the previous year, but we were able to reduce it 25% per unit of production. Promoting the reuse of resources also improved our final disposal rate by 0.06 points.

• Environmental Impact Increase/Decrease (per unit of production)



Note: Percentages shown are rates of volume per unit of production with the volume of the previous year as 100%.

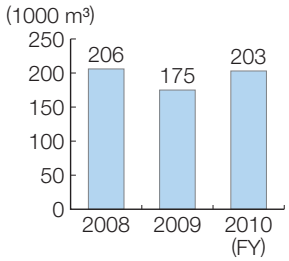
Yaskawa Electric is using its own technology in energy conservation activities to help control global warming.

Resource Saving and Energy Conservation Activities

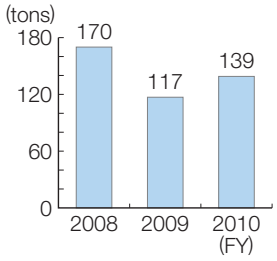
Resource Consumption

To ensure effective utilization of limited resources, we have been working on reducing the amount of water, paper and other resources we use.
The use of water and paper both increased in FY2010, unlike in FY2009, when production fell sharply. The use of IC-card employee IDs for printing equipment to make paper use visible advanced in FY2010, and we began an initiative to reduce the amount of paper used.

• Amount of Water Used



• Amount of Paper Used



Energy Conservation and Prevention of Global Warming

Greenhouse gases emitted by our company are carbon dioxide (CO_2) and sulfur hexafluoride (SF_6), and we are actively working on their reduction.
The largest component in the amount of energy used by CO_2 equivalent in FY2010 was electric power at 83% of the total. We proceeded with measures to reduce electric power use and increase efficiency of power use.
In FY2010, we actively pursued measures to show Yaskawa initiatives and to make them appealing in order to raise employee consciousness regarding energy conservation by making our initiatives real to employees.

Example of Showing and Making Appealing

AC drives installed on seven units of production equipment

Electricity reduction
Approximately
190,000 kWh annually

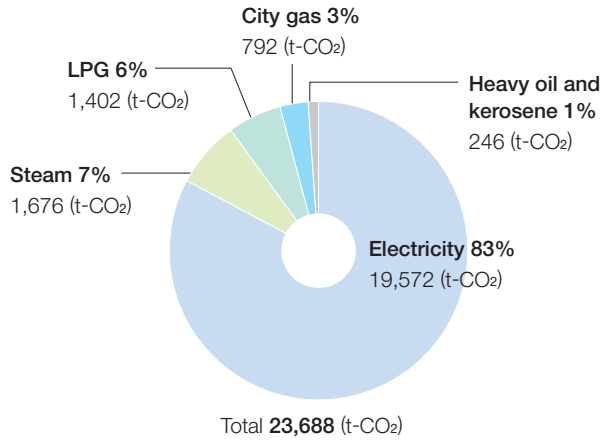
CO_2 reduction
Approximately
80 tons annually

Changed approximately 300 lights to LED lighting in front lobby and other locations

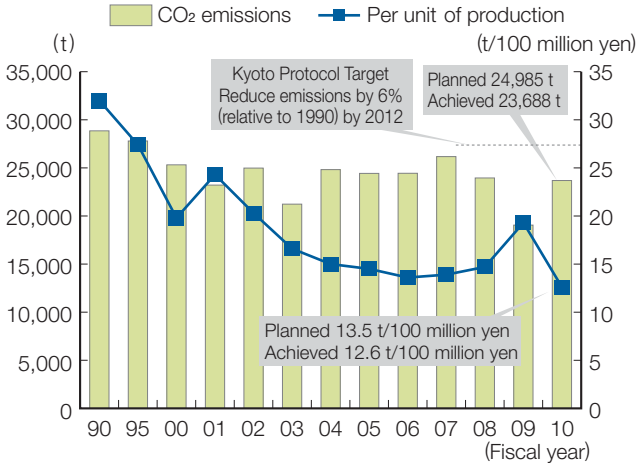
Electricity reduction
Approximately
30,000 kWh annually

CO_2 reduction
Approximately
12 tons annually

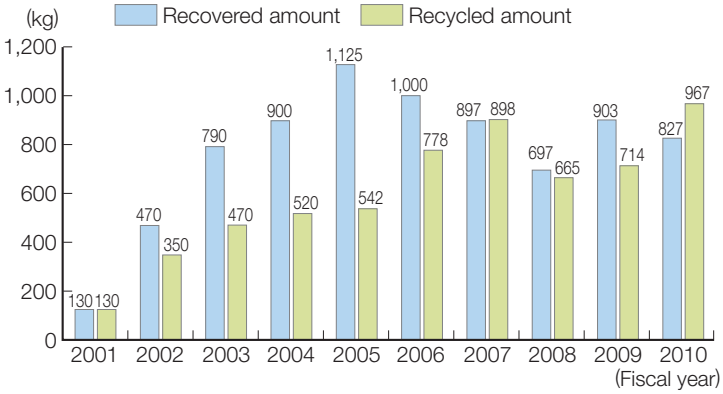
• Energy Consumption in FY2010 (in CO_2 Equivalents)



• Changes in CO_2 Emissions and CO_2 Emission per Unit of Production



• SF_6 Gas Recovery and Recycling



Note: If the amount recovered exceeds the amount recycled, the remainder is stored and then given priority for recycling in the next fiscal year.

Industrial Waste Reduction Activities

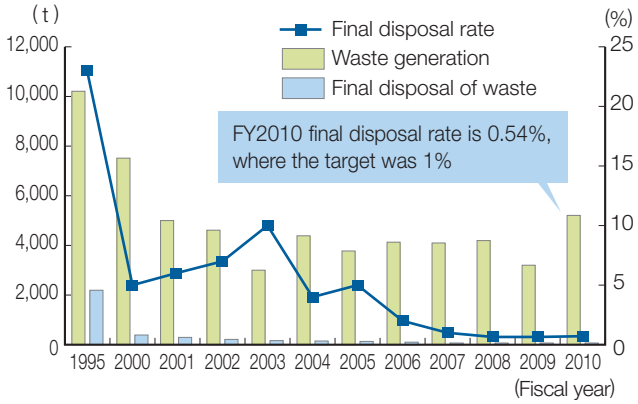
Reduction of Industrial Waste

Since FY1997, we have been taking positive steps towards reducing waste generated in our plants as well as enforcing the sorting in waste collection to facilitate the effective utilization of these wastes.

In FY1999, we reached the industry-imposed FY2010 target of reducing waste by 60% over FY1990 levels. We have achieved and surpassed the target of 1% or less final disposal of waste.

Due to our continuing initiatives to lower our final disposal of waste, in FY2010 we achieved a final disposal rate of 0.54%, maintaining a rate of 1% or less.

• Waste Generation and Final Disposal of Waste



Recycling Waste

At Yaskawa, we have been promoting the recycling of not only industrial waste from our plants but also the more general waste from our offices. We are also giving attention to 4R activities.

4R activities: Activities to promote not buying and not using (Refuse), cutting down on (Reduce), using over again (Reuse), and reconstituting for use (Recycle)

Control of Chemical Substances

Pollutant Release and Transfer Register (PRTR)

Our chemical substances control has been further intensified based on the PRTR system under the Law Concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management that came into force in Japan in April 2001.

We have been reporting to the government every year on class 1 designated chemical substances with an annual handling quantity of one or more tons and on specific class 1 designated chemical substances with an annual handling quantity of 0.5 tons or more on an individual plant basis.

In FY2010, our release and transfer total of the substances designated in the PRTR following its revision increased over the previous year because of increases in production and in regulated substances. In comparison with FY2008 when production was at the same level, however, we have achieved reductions of approximately 52% in the substances regulated at that time.

Yaskawa is slated to pursue reductions in emissions of volatile organic compounds (VOC), which are harmful to humans, in line with voluntary reduction plans in the industry. This will involve detailed efforts in operations to prevent as much VOC release into the atmosphere as possible and study of the introduction of elimination devices.

We are also reviewing our management systems and taking other such actions to support application of the April 2010 revision of the PRTR. We have been carrying on continuing management to include subject substances added under the revised law since FY2010.

• Release and Transfer of Substances Designated under the PRTR in FY2010

(t/year)

Chemical Substance	Release and Transfer	Release	Transfer
Toluene	27.75	13.50	1.19
Xylene	7.05	4.34	0.61
Lead and its compounds	0.94	0.00	0.00
Styrene	4.27	0.22	0.41
Ethyl benzene	1.19	0.31	0.03
Di-n-butyl phthalate	0.00	0.00	0.00
1-Bromopropane	12.87	11.66	1.21
Normal hexane	0.01	0.00	0.01
Total	54.08	30.03	3.46

Example of Waste Reduction Activities

Reuse of Packing Materials

The Yahata-nishi plant transports robots intended for overseas markets to packing and shipping contractors. We recover the leftover transport pallets and cushioning materials periodically for reuse.

These measures yield a combined reduction in pallets and cushioning materials that amounts to approximately 19 tons of waste annually at our business partners. This has led to a reduction of approximately 2.4 million yen per year in new procurement expenses at Yaskawa, as well.

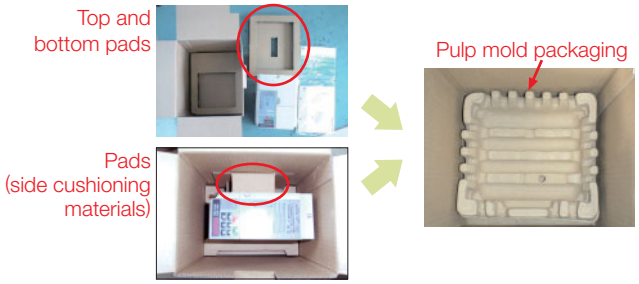

Robot transportation pallet


Cushioning materials to prevent Scratches

Activities to Reduce the Amount of Cardboard Used in Packaging

Packing materials for the Yaskawa V1000 series AC drive products are required to pass Level I drop testing (drop from a height of 80 cm), and they must therefore have high shock-absorbing properties. We are engaged in activities to reduce the amount of corrugated cardboard used as cushioning material on top, bottom, and sides in order to satisfy this requirement.

Changing from corrugated cardboard to pulp mold packaging has made it possible to cut back on cardboard use by an average of 3.36 tons per month. Our business partners have also been able to reduce waste generation by the same amount. This has also yielded cost and man-hour improvements.



Activities in Logistics

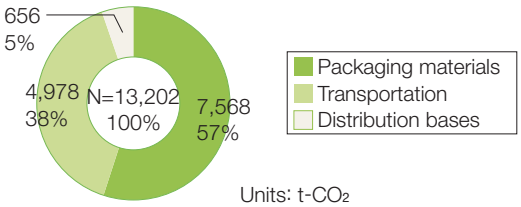
The Yaskawa Group considers the environmental impact of logistics activities to be a serious matter. In coordination with Yaskawa Logistec Corporation, we are implementing environmental impact reduction measures that address the entire range of logistic processes.

Yaskawa does not correspond to a designated shipper*1 as defined in the Revised Law Concerning Rational Use of Energy, which went into effect in April 2006. However, we are using data obtained in the determination of transportation volume (ton-kilometers)*2 to create a mechanism for calculating CO^2 equivalents, and we are engaged in measures to ascertain the total environmental impact of logistics activities and the results of environmental impact reduction measures, and to calculate the CO_2 equivalent of the reduction.

Initiatives to Reduce CO_2 Emissions in the Regular Workplace

We promoted phased measures for a CO_2 emissions reduction program in every workplace from FY2009. As a result, methods for ascertaining the amount of CO_2 reduction became well established, and we therefore started a full-scale program to reduce CO_2 emissions in the regular workplace in all our operational divisions in FY2010.

- CO_2 Emissions from Logistics Activities (FY2010)



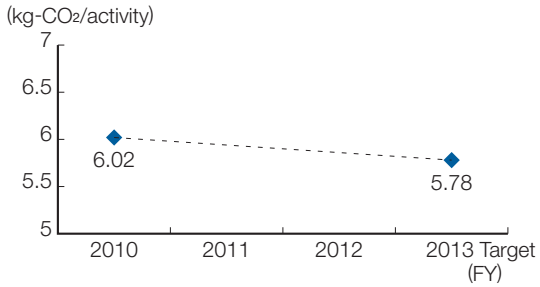
Units: t-CO_2

Initiatives to Manage CO_2 Emissions Volume Per Basic Unit

In FY2010, we instituted management of CO_2 emissions volume per basic unit in logistic activities.

We are working to achieve a 4% improvement in CO_2 emissions volume per basic unit by FY2013 relative to FY2010. The aim is to achieve improvements of 5.78 kg-CO_2/activity.

- CO_2 Emissions Volume per Basic Unit (per Activity Unit)

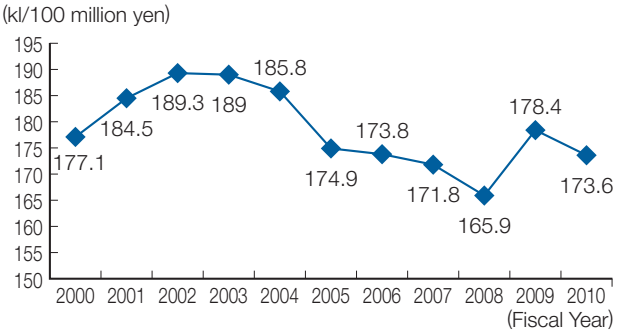


Transportation Initiatives

Our measures on the transportation side include promotion of modal shifts by sending shipments on ferries and using Japan Railways Group containers to ship by rail. For shipments by truck, we have been combining loads from different plants and offices, and now we are seeking further loading efficiency by having production divisions and logistic divisions work together to schedule consolidated shipments.

We also take steps to observe the law by conducting periodic checks for revision of environmental legislation and municipal ordinances throughout Japan.

- Graph of Changes in Volume of Light Oil Used Per Unit of Sales



Initiatives in Package Design

Yaskawa has adopted the LCA*3 as a method to take the 4R concept (refuse, reduce, reuse, recycle) into account from design to disposal at the destination in packaging and packing. We are committed to providing environmentally-friendly packaging materials and providing safe packing materials according to the Law Concerning the Promotion of Procurement of Eco-friendly Goods and Services.

Improvement Case Study

We have made a study at the design stage of packing cases for one-way use and for reuse. We have also made the cases to fold flat after the product is removed, thus minimizing their volume. These measures have contributed to minimization of storage and return costs.

Initiatives at Distribution Bases and Other Measures

· Distribution Base Initiative

We are conducting a program to derive CO_2 equivalents for energy use and waste generation in storage, packing, shipping, and all other such activities at distribution centers, and to realize reductions.

· Switching to Hybrids for Official Vehicles

We have been working to reduce CO_2 emissions by changing over three official vehicles by FY2010.

· Eliciting Efforts by Cooperating Transport Companies

The majority of Yaskawa shipping operations are consigned to shipping businesses. We are therefore encouraging our main shipping contractor partners to acquire green management*4 certification and are providing them with assistance.

*1 Designated shipper: Revised Law Concerning Rational Use of Energy specifies that shippers with an annual transportation volume of 30 million ton-kilometers or more are considered designated shippers that are obligated to create energy conservation plans and submit periodic reports of energy consumption.

*2 Transportation volume (ton-kilometers): Cargo weight (t) × transportation distance (km) = Transportation volume (ton-kilometers)

*3 LCA: An abbreviation for "life cycle assessment." It is a method for evaluating the environmental impact of a product over its life, including manufacturing, transport, use, disposal, and reuse.

*4 Green management: A system for certifying shippers who have instituted environmental improvement programs and achieved results above a certain level

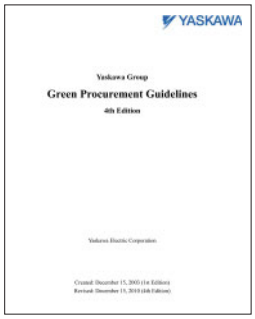
Yaskawa is committed to eco-conscious design and procurement of materials with a low environmental impact, and we work with our suppliers to protect the environment.

Green Procurement Activities

A movement to reconsider regulations on chemical substances has begun, as exemplified by the EU's REACH regulation as well as in individual countries. As Yaskawa further expands in Japan and globally, we are continuing measures to further upgrade our green procurement in order to promote and firmly establish a high level of support for environmental concerns.

The Green Procurement Guidelines, 4th Edition, was published in FY2010. An across-the-board reevaluation of the green procurement system in support of operations was carried out and business partners were briefed, after which we began to support green procurement that complies with REACH regulation.

Green Procurement Guidelines, 4th Edition



Yaskawa has published the fourth edition of Guidelines in compliance with the Joint Industry Guidelines*1 (JIG) for disclosure of chemical substances contained in electrical and electronic products and in support of the REACH regulation.

JIG selects and limits the chemical substances contained in electrical and electronic equipment that should be disclosed. By complying with JIG, we will implement the efficient gathering of information from our supply chain.

Introduction of a New Green Procurement System

We have introduced a cloud-based chemical substance management system as a tool for communication with our business partners. The purpose is to support REACH regulation and other complex regulations in a sure, efficient, and speedy manner.

This system has the four features shown below, and is set up to enable significant improvement of the administrative burden on business partners that provide us with information.

- Members can share information bidirectionally with each other, and information recorded for other customers can be ported over to this system.
- Supports each sector surveys by JGPSSI*2, JAMP*3, JAMA*4 and other research organizations.
- Globalization of data through presentation in Japanese, English and Chinese
- Complete dedicated support service, etc.

Business Partner Evaluation and Operations

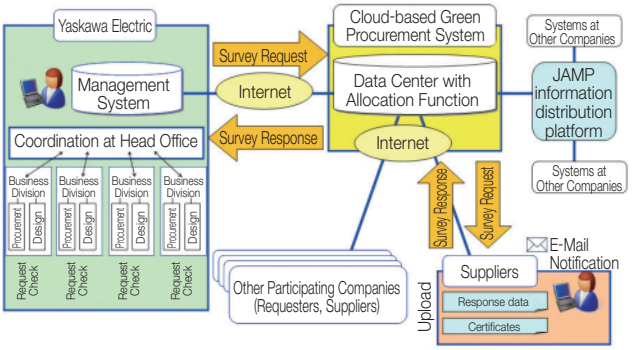
Supplier cooperation is essential to building eco-conscious products. Yaskawa Electric asks suppliers to set up systems for environmental management and chemical content control of products following our green procurement guidelines. We evaluate our suppliers on such by these systems, and in procurement we give preference to suppliers who are actively engaged in environmental conservation. These requirements are not one-way. We trade views at briefing sessions and give support to environmental conservation programs at our suppliers, asking them for understanding and cooperation with our green procurement policy.

The Green Procurement Guidelines (4th Edition) and the Green Procurement System released in FY2010 reflect our business partners' views to a large extent on solutions to green procurement issues.

Green Procurement Evaluation Points

◎**Evaluation Items on Suppliers**
- Establishment and operation of an environmental management system
- Establishment and operation of a management system for chemical substances in products
- Compliance with environmental laws and regulations

◎**Evaluation Items on Procured Goods & Materials**
- Non-inclusion of prohibited substances
- Issuance of a certificate that states prohibited substances are not contained in products
- Determination and report of contained amount of specified controlled substances in products
- Resource saving effort such as reducing the amount of material used or shifting to eco-conscious materials
- Procedures for requesting modifications
- Activities on eco-conscious packaging materials

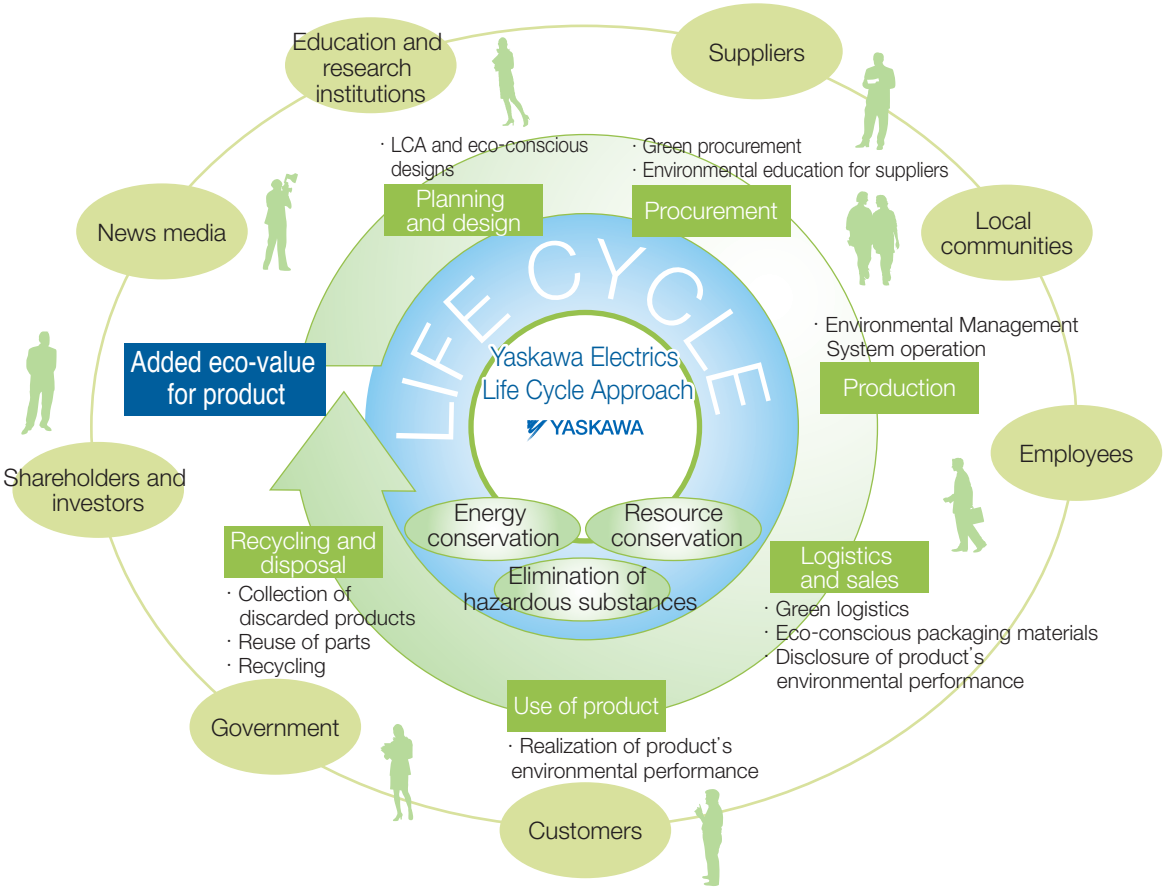


*1 : Supply Chain Communication Guide on Declarable Substance Content in Electrotechnical Products that was released jointly by the Consumer Electronics Association (CEA) in the United States, Digital Europe in Europe, and JGPSSI in Japan
*2 JGPSSI: Japanese Green Procurement Survey Standardization Initiative
*3 JAMP: Joint Article Management Promotion Consortium
*4 JAMA: Japan Automobile Manufacturers Association, Inc.

Activities in Product Development

Consideration for the Environment throughout the Product Life Cycle

Recent worldwide economic growth has inflated environmental problems to global proportions, and enterprises have to care for the environment on a wider scale than before. At Yaskawa, we care for the environment throughout the entire life cycle of our products. Since introducing LCA in FY2006, we have taken concrete measurements of the life cycle environmental loads of our major products. This process has shown that a great proportion of the environmental load comes from the usage stage. Although we concentrate resources and adopt new technologies to conserve energy and enhance efficiency, we do more than focus on a single aspect of environmental impact. Rather, we look at the environmental impact at every stage of a product's life cycle and thus reduce environmental loads throughout that life cycle.



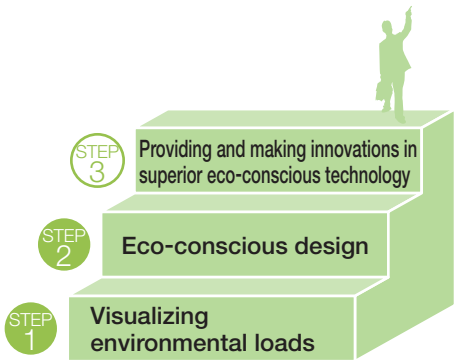
LCA-based Eco-conscious Design

In the mid-term plan, we aim to create an eco-conscious design system that can generate environmental added value, and to offer eco-conscious technologies and demonstrate innovation.

Yaskawa has established rules for product assessment so that we can verify that eco-conscious design is used. We set up the system so a design that does not meet certain standards cannot be marketed as a product.

Eco-conscious design is a process that visualizes environmental loads, which enables us to clarify the issues and to verify the effectiveness of countermeasures. The repetition of this process yields improvements in performance.

In FY2010, we completed a reorganization to strengthen the environmental energy business. Going forward, we intend to roll out products that will make major contributions to reduction of environmental loads across the entire life cycle of solar power conditioners, electrical equipment for large-scale wind power generation, automotive and other electrical drive systems, and other such products.



Establishment of Mechanism for Enabling Visual Measurement of Environmental loads by LCA

Yaskawa Electric considers LCA an important basis for eco-conscious design, and we are therefore working to make standardized LCA methods more efficient and firmly establish them in our business.

Yaskawa adopted the LCA approach in FY2007. We investigated the environmental loads of certain major products throughout their life cycles and evaluated them concretely.

In FY2008, we standardized the LCA method and developed a shared LCA database called Eco-bridge as a support tool. We also brought in third parties to conduct a review of our LCA quality level.

In FY2009, we inaugurated a project team to promote LCA efficiency. This heightened efficiency by lightening the administrative burden of LCA implementation while maintaining the quality of LCA implementation.

In FY2010, we put the previously developed criteria and shared database into operation in the design division without any problem, and this established the LCA mechanism for visualizing environmental loads. We will use this mechanism to develop products while verifying the validity of our eco-conscious designs.

High-Efficiency Electric Drive System for Electric Vehicles Employing SiC* Devices

The SiC-QMET is a new-concept drive system for electric vehicles employing silicon carbide (SiC) devices.

We developed it jointly with ROHM Co., Ltd., combining their device technology with the Yaskawa core technology related to motors and motor control.

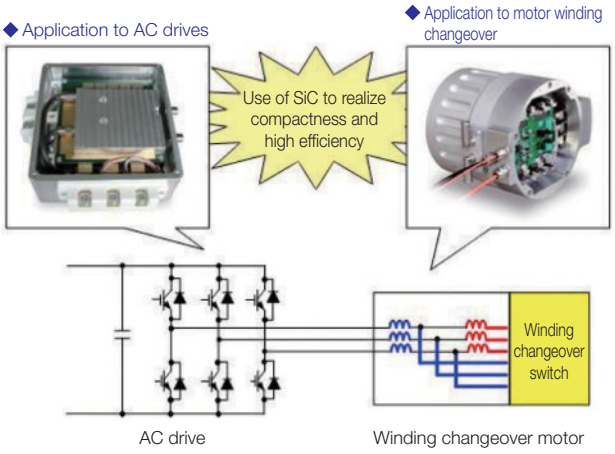
The SiC-QMET is based on the QMET drive systems, which is equipped with Yaskawa Electric's unique electronic winding changeover technology. Where conventional electronic winding changeover used an Insulated Gate Bipolar Transistor (IGBT) and diode made of silicon and built into the motor, this replaces the IGBT and diode with SiC, taking advantage of the high-temperature operating characteristics of SiC to simultaneously make the motor cooling mechanism simpler and more compact and thus realize still higher efficiency. The main circuits of AC drives used as motor drives were also all changed over to SiC to realize significant gains in compactness and efficiency. This reduced the volume of the electronic winding changeover section of the motor, as well as the volume of the AC drive, to one-half or less what it used to be and increased conversion efficiency by 2%.

Motor drives have a high environmental load ratio at the utilization stage. Improvement of conversion efficiency therefore contributes greatly to reduction of the environmental loads over the entire life cycle of the product.

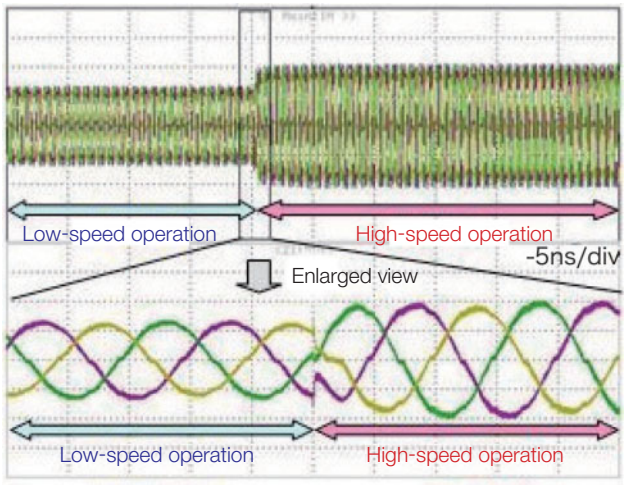
We intend to conduct further development of drive systems in the future, with the aim of realizing greater compactness and higher efficiency.

* SiC: Silicon carbide

• Example of Development: The SiC-QMET
Realize major advances in compactness and heightened efficiency of motor and AC drive



• Operating Wave Form of SiC-QMET During Winding Changeover



The newly developed winding changeover technology realizes smooth automobile acceleration and deceleration without causing changeover torque to fluctuate.

Environmental Performance Data

As a joint effort, the voluntary actions of Yaskawa employees reduce our environmental impact. Environmental performance data from FY2008 to FY2010 is shown in the following tables.

Input			Unit	FY 2008	FY 2009	FY 2010
Input Energy	Production	Electricity	10,000 kWh	4,735	3,819	4,660
		City gas	10,000 m³	36.7	23.6	37.6
		Liquefied natural gas	t	489	372	467
		Heavy oil, light oil, kerosene	kl	99	68	94
		Steam	TJ	21.7	17.0	23.3
	Distribution	Electricity	10,000 kWh	66	55	66
		Gasoline, light oil	kl	57	48	47
Amount of greenhouse gases (SF_6) handled			t	2.27	2.01	2.23
Amount of chemical substances subject to PRTR Law handled			t	57.3	49.1	54.1
Water use	Production		1,000 m³	206	175	203
	Distribution		1,000 m³	1.99	1.72	2.15
Paper resources	All divisions (excluding Distribution)		t	170	117	139
	Distribution		t	3.43	3.81	4.19

Output				Unit	FY 2008	FY 2009	FY 2010
Greenhouse gases	CO_2 emissions	Production		t-CO_2	23,954	19,053	23,688
		Distribution (including packing materials)		t-CO_2	12,003	7,832	13,202
	SF_6 emissions			kg	56	52	58
Air pollutants	NOx			kg	425	491	698
	SOx			kg	80	6	42
Water pollutants	BOD			t	5.50	5.11	7.17
	COD			t	1.06	0.83	1.26
PRTR	Emissions volume			t	37.8	17.5	30.0
	Transfer volume			t	6.8	13.7	3.5
Industrial waste (production)	Emissions volume			t	4,327	3,343	5,198
	Final disposal amount			t	21	16	28
	Final disposal rate			%	0.48	0.48	0.54
Total wastes including revenue-generating waste	Production	Amount generated		t	5,777	4,171	5,911
		Final disposal amount		t	78	53	71
		Final disposal rate		%	1.35	1.27	1.21
	Distribution	Amount generated		t	334	191	237

Environmental Reporting Guidelines (FY2007 Version)

Guidelines		Page
1. Basic Information (BI)		
BI-1	CEO's statement (including summaries, commitment, environmental management policy)	p6
BI-2	Fundamental requirements of reporting	p3
BI-2-1	Organizations, periods and areas covered by the reporting	p3
BI-2-2	Boundary of the reporting organization and coverage of environmental impacts	p3
BI-3	Summary of the organization's business (including management indices)	p4~5
BI-4	Outline of environmental reporting (List of major indicators/Summary of objectives, plans and results regarding environmental initiatives)	p19
BI-5	Material balance of organizational activities (inputs, internal recycling, and outputs)	-
2. Information and Indicators that Describe the Status of Environmental Management (MPI)		
MP-1-1	Status of environmental management (Environmental policy in organizational activities)	p17
MP-1-2	Status of environmental management (Status of environmental management systems)	p20
MP-2	Status of compliance with environmental regulations	p19
MP-3	Environmental accounting information	p22
MP-4	Status of environmentally conscious investment or financing	p22
MP-5	Status of supply chain management for environmental conservation	p35
MP-6	Status of green purchasing or procurement	p27,p35
MP-7	Status of research and development of new environmental technologies and DfE	p28~29
MP-8	Status of environmentally friendly transportation	p26
MP-9	Status of biodiversity conservation and sustainable use of biological resources	p43
MP-10	Status of environmental communication	p21
MP-11	Status of social contribution related to environment	p43
MP-12	Status of products and services that contribute to the reduction of negative environmental impacts	p8~13
3. Information and Indicators that Describe the Status of Activities for Environmental Impacts and Reduction Measures (OPI)		
OP-1	Total amount of energy input and reduction measures	p21,p23~24,p30
OP-2	Total amount of material input and reduction measures	p21,p23~25,p30
OP-3	Amount of water input and reduction measures	p21,p23,p30
OP-4	Amount of materials recycled within an organization's operational area	p22
OP-5	Total amount of manufactured products or sales	p5,p23
OP-6	Amount of greenhouse gas emissions and reduction measures	p24
OP-7	Air pollution, its environmental impacts on the living environment, and reduction measures	p24
OP-8	Amount of release and transfer of chemical substances and reduction measures	p25
OP-9	Total amount of waste generation and final disposal and reduction measures	p25
OP-10	Total amount of water discharge and reduction measures	-
4. Information and Indicators that Describe the Status of the Relationship between Environmental Considerations and Management (EEI)		p22
5. Information and Indicators that Describe the Status of Social Initiatives		p31~43

Social Activities Report

Yaskawa Electric's mission is to contribute to the development of society and the welfare of mankind through the performance of our business. Here, we report on our relationship with our main stakeholders : our customers, suppliers, employees, shareholders, investors, and other people in the local community.

Taking steps to strengthen and enhance corporate governance, we will work to increase shareholder value.

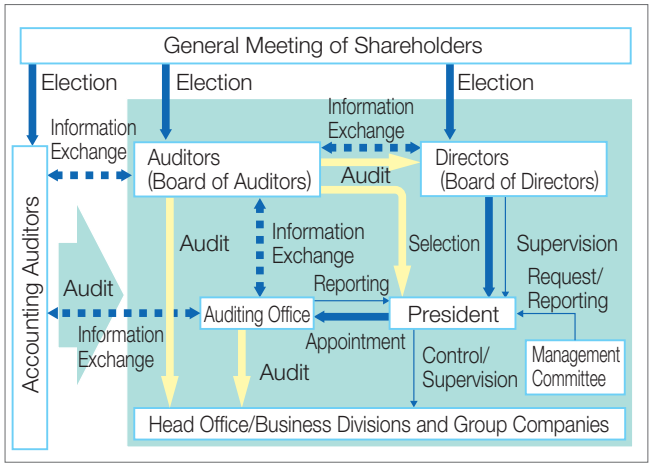
Basic Premise on Corporate Governance

Yaskawa Electric places a high priority on corporate ethics based on compliance with statutes and regulations, and we aim to respond to changes in the social and economic environment with prompt management decision-making. We consider it of great importance to take measures that will enhance the soundness of business operations and increase shareholder value.

We commit ourselves to realizing these aims by establishing better relationships with all of our stakeholders and supporters, including our shareholders, customers, business partners, local communities, and our employees. At the same time, we will work to further enhance corporate governance at Yaskawa Electric by strengthening the functions of our current governance structure, including shareholders' meetings, board of directors, board of auditors and our accounting auditors.

System of Corporate Governance

Yaskawa Electric has formed a Board of Directors, which includes an external director, and a Board of Auditors as the corporate management system for company decision-making, execution of decisions, and oversight of such execution. We have adopted the corporate auditor system, and therefore has established a Board of Auditors that oversees and supervises the administration of corporate affairs.



Status of Corporate Governance

The Board of Directors meets in regular and special sessions as needed to make decisions on important managerial and legal issues and to oversee business operations.

During the past fiscal year, the Board of Directors met a total of 9 times to make decisions on important managerial and legal issues, and to oversee the business operations. Yaskawa Electric adopts an external director in order to assure compliance.

Corporate auditors regularly meet with accounting auditors and internal auditors to exchange information that each of them has learned according to their position. Corporate auditors also meet periodically with the President to exchange general information and share audit information.

Also, in order to ensure transparency and enable multidimensional auditing, two external auditors are appointed.

Ernst & Young ShinNihon LLC is the auditing firm for Yaskawa Electric. As part of the contract for auditing services, we are required to provide accurate management information. The auditors are provided with an environment in which an open and impartial point of view can be attained. In any situation where the accounting auditors' judgment is necessary, we will consult with them to receive the necessary support.

Status of Internal Control System

As to establishing and strengthening internal control systems, the Internal Control Group, a part of the Auditing Office, responds to the need for financial reporting internal control systems as governed by the Financial Instruments and Exchange Law.

A Yaskawa Board of Directors' resolution of May 2006 determined the structure for establishing an internal control system as required under the Corporation Law. We are continuing with efforts to further enrich and upgrade the system. In March 2009 and March 2011, the Board of Directors revised the internal control system with a view to reinforcing compliance and related matters.

Compliance

We have defined norms for corporate actions by formulating the Corporate Charter and the Yaskawa Group Corporate Activity Standards. We have taken measures for compliance by Yaskawa Electric and every Group company as well as for deploying and promoting educational and statutory compliance systems. Our Compliance Guidelines are distributed to all employees. We have also set up an in-house violation information system with contact points both in-house and at outside third-party organizations.

Protection of personal information is a very large corporate responsibility. We formulated the Privacy Policy, the Rules for Dealing with Personal Information, and the Information Security Policy to protect personal information, and have been educating employees of these policies.

To ensure international security export control, moreover, we have set up a compliance program (CP) conforming to export-control-related laws, and the entire Yaskawa Group works to comply with these laws.

We are acting to further strengthen corporate governance by promoting activities for corporate social responsibility (CSR) through committees for compliance, crisis management, environmental protection, corporate communication, disclosure, and so on, placed under an officer in charge of CSR.

We aim for customer satisfaction by putting quality first and assuring safety and security.

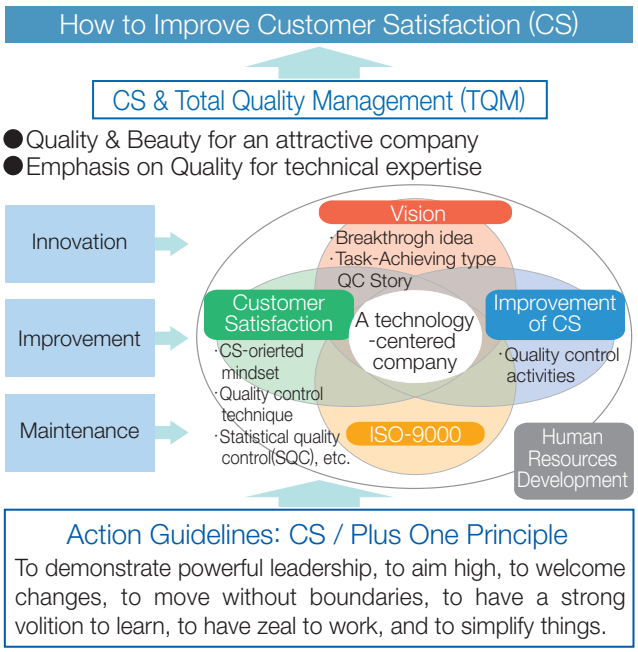
One of the mainstays of our management philosophy is emphasis on quality. This was originated in the founder's beliefs, and the tradition continues today. As a polar precept, it is stipulated in the employee code of conduct. The Yaskawa Group aims to achieve total customer satisfaction (CS) by offering not only the quality of products but also quality of service and solutions tailored to the customer's needs.

Programs for Delivering Satisfaction

Practicing Management Based on CS Principles

Yaskawa Electric aims for the improvement of our corporate value through management based on CS principles. This will lead to the greater emphasis on placing the customer first by following Yaskawa's Plus One Principle* when priorizing quality. We are also holding interactive gatherings between executives and employees, among other such measures, to disseminate the CS philosophy.

CS-based Management and Quality Assurance

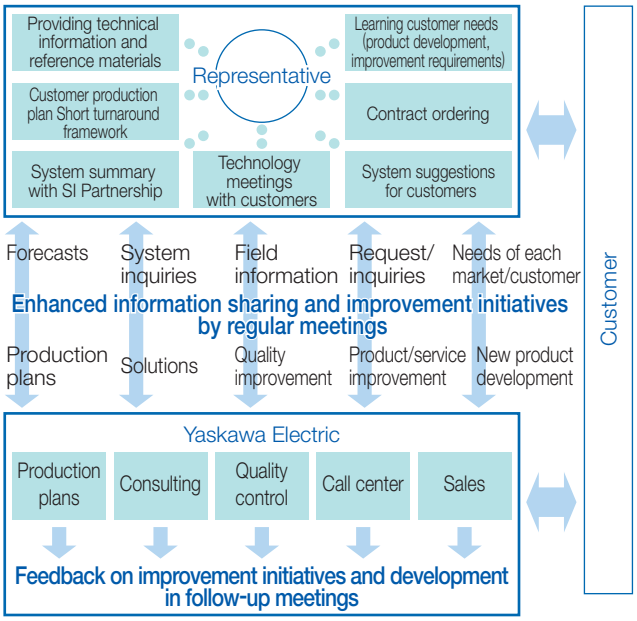


* The Plus One Principle:
A principle that advocates providing service or support above the level that the customer requires so that one not only earns the customer's gratitude but also ends up solving problems of the entire organization as well as those of one's own department.

Taking Customers' Opinions into Account When Doing Business

Yaskawa Electric believes that sharing information with our customers in partnership with our representatives and having our salespeople hear customer opinions directly are very useful, since customer opinions can help us improve our business activities. We also hold periodic meetings (four times a year) with our representatives to exchange views, while our divisions hold follow-up meetings once a month, as we seek to step up our initiatives for improvement and make further enhancements.

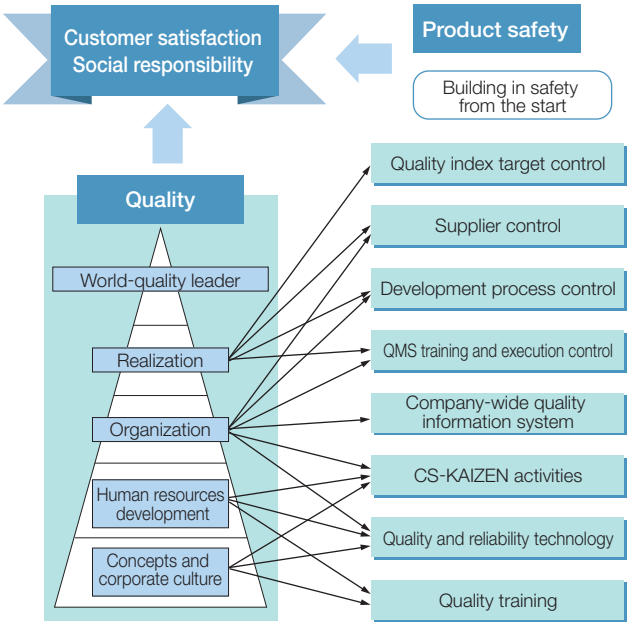
Information Sharing and Improvement Initiatives in Partnership with Representatives



Initiatives to Ensure Safe Use

Developing Quality First Awareness

We fulfill our social responsibility as we develop a culture and capacity for quality and enhance customer satisfaction. In particular, we aim to increase our capacity for quality based on a foundation of greater quality improvement initiatives and stronger human resources development, and to build quality into our products through an emphasis on process control.



Product Safety

If our customers are to use our products with confidence, the most important thing for us is product safety assurance from the very beginning. This is why at the product development stage we perform risk assessments to make sure that products are sufficiently safe, make our products compliant with international standards, verify them and hold safety inspection meetings, among other initiatives.
We also respond immediately in case of trouble and have a global emergency communications network in place.
We also do internal training and provide activities to raise awareness of product liability. Our Buds of PL improvement initiative* is a continuous activity that aims to bring an awareness of problems to internal and external safety information and constantly pursue high targets.

*: Buds of PL (product liability) is a program for fostering a culture that uses near-accidents, etc., to nip product liability problems in the bud (i.e., develop a product safety culture) and thereby fulfill our product responsibility; it is also a general name for all safety improvement initiatives. The basis of these efforts is to take quality problems that occur in the market, as well as those moments when one becomes aware of a safety problem in one's day-to-day activities, provide them to upstream processes as feedback, and thereby work to achieve safer products and a safer work environment in a cycle of continuous improvement.

Quality Improvement

Customer information about nonconformities is collected and analyzed online by our Company-Wide Field Quality Information System and reflected in quality improvement initiatives. In particular, this process leads to cross-organizational deployment to prevent recurrence and initiatives to prevent problems during new product development.

User School

For users to get the most performance out of our products and use them safely, the most important thing is basic knowledge.
We offer Motion Control School for customers of our AC drive and servo (general-purpose) products. We teach two ways: the school-like training in which an instructor explains a product directly; and e-learning, where customers learn over the Internet.
Details are available at our e-Mechatronics site (http://www.emechatronics.com/).
Yaskawa Motoman Engineering Corporation moreover offers Robot School, teaching operation and maintenance of robots and robotic related products.

Test Runs and Service

Adjustments and test runs by our trained engineers are available to check the compatibility of the customer's equipment with our products as well as to improve overall machine/equipment performance.
The entire Yaskawa Group renders support on a global basis for preventive maintenance and recovery at the time of any failure.

After the Production Stoppage

In principle, repair parts for discontinued products are not distributed. However, long term maintenance for customer's equipment can be arranged in cooperation with Yaskawa Group companies and our affiliated service companies.

TOPICS

Our Responses to the Great East Japan Earthquake

(1) Recovery support
Our efforts began when we formed teams and sent them on-site to assist in restoring water treatment facilities in the Tohoku Region. Since then we have been mobilizing the comprehensive abilities of Yaskawa Electric and our Group companies, including the Yaskawa Electric Engineering Corporation, which took responsibility for follow-up service functions, to help with the speedy recovery of our customers. There were electrical products and other equipment that had been exposed to seawater, and which ordinarily would have been replaced with new products. Considering the tremendous scale of this disaster, though, we have been trying as much as possible to repair them while assuring safety.

Electric room that had been submerged by the tsunamis

(2) Protection against contamination by radioactive substances
Our company's closest plant to the Fukushima Daiichi Nuclear Power Station is approximately 220 km away, which is an adequate distance. Even so, however, we are carrying out voluntary controls to make certain there is no contamination by radioactive substances so that our customers will be able to use our products with a sense of security. Export products are particularly subject to difficulties when clearing customs in other countries, and we are taking all possible steps to avoid delivery delays and other such problems, for instance by inspecting products after they have been packed for overseas shipment.

We build better partnerships and fulfill our corporate social responsibility together with our suppliers.

Procurement Policy

We continually strive to improve our procurement system to ensure that the products we purchase meet our standards of quality, cost, and delivery, as well as to build relationships of mutual trust, cooperation, and true mutual benefit with our suppliers.

Open Door Policy

We provide our suppliers an open-door policy and equal business opportunities on the basic condition of free competition in domestic and foreign transactions. We select our partners after a fair evaluation of their ability to meet our quality, delivery, price, service and environmental requirements.

Fair Trade

We practice fair trade founded on a basic trade contract to ensure that both the Yaskawa Electric Group and our suppliers fulfill our respective social responsibility for compliance and environmental protection. We also evaluate our suppliers periodically, using the indices of quality, price, delivery, business conditions, and environmental requirements.

Green Procurement

We formulate the Green Procurement Guidelines for the purpose of procuring materials with low environmental impact, and we work with our suppliers to protect the global environment. We also closely control hazardous substances following the environmental management system.

CSR-based Procurement

Through fair trade that complies with corporate social responsibility (CSR) and the law, we work to build partnerships with our suppliers.

Compliance with EU REACH Regulation

Yaskawa Electric has issued a revised version of the Green Procurement Guidelines and updated the green procurement system in order to ensure compliance with the EU REACH regulation.

We have also completed written agreements with our suppliers for cooperation with green procurement in accordance with the new Green Procurement Guidelines. Along with our suppliers, we are accelerating preparation for our new procurement system to accommodate EU REACH regulation.

Briefings on Support for EU REACH Regulation

We consider the cooperation of our suppliers to be essential to ensuring compliance with EU REACH regulation. We held supplier briefings (see right) to obtain the understanding of suppliers regarding this company's policies and future compliance measures.

We appreciate that the participating suppliers indicated their understanding of the program and agreed to work with new green procurement activities.

Briefings for Suppliers

Yaskawa Electric held a total of six briefing sessions at our Tokyo Plant and at the Head Office. The participants numbered 430 people from 310 companies.

Supplier briefing held at the Tokyo Plant

We have been carrying out company-wide activities to promote human resources development, and implementing human resources development measures that are unique to Yaskawa Electric.

Human resources development forms the foundation for producing good products, providing good service, and being a good company, and it is one of the major components essential to the growth of any company. At our morning assembly, all employees recite the Employees' Code of Conduct, established in 1981 to help achieve the goals outlined in our management philosophy, and thereby share a common sense of values.

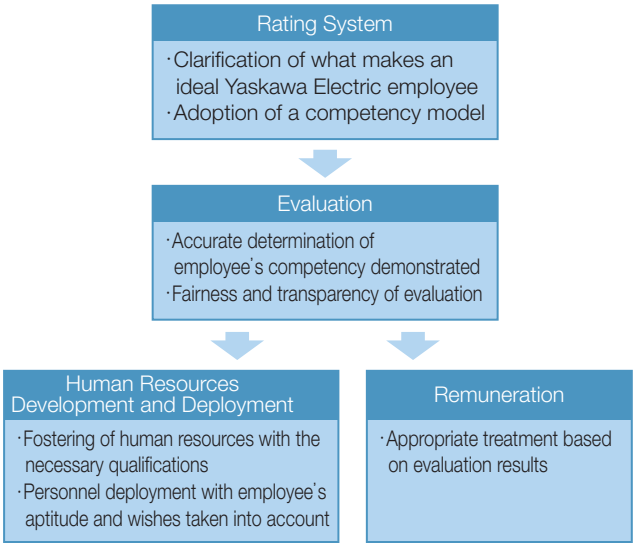
Employees' Code of Conduct

We will honor this company's traditions while striving to realize its management philosophy, at the same time increasing our global reputation for reliability so that we may seek prosperity for the company and happiness for ourselves.

-- We will make the customers' standards our own.
-- We will pursue both high quality and profitability.
-- We will study unceasingly and maintain a tireless resolve as we compete.
-- We will take a broad view and think outside the box.
-- We will build deeper trust in one another and cooperate in our shared efforts.

Personnel System

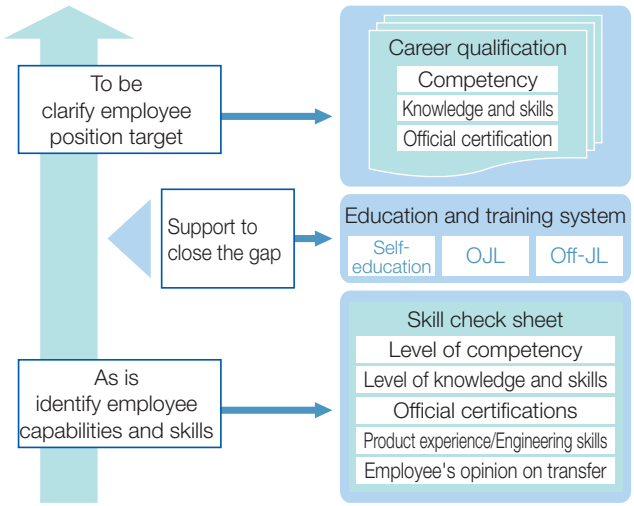
Yaskawa's personnel system stresses action leading to concrete results and equitable treatment of employees while aiming at thorough implementation of a merit-based personnel system, dissemination of CS principles, and enhancement of employee satisfaction (ES). In an effort to establish a merit-based personnel system with an emphasis on process, we have adopted the concept of competency and revised our system to consist of a rating system, an evaluation system, a remuneration system, and a human resources development and deployment system based on a competency model.



Human Resources Development and Deployment System

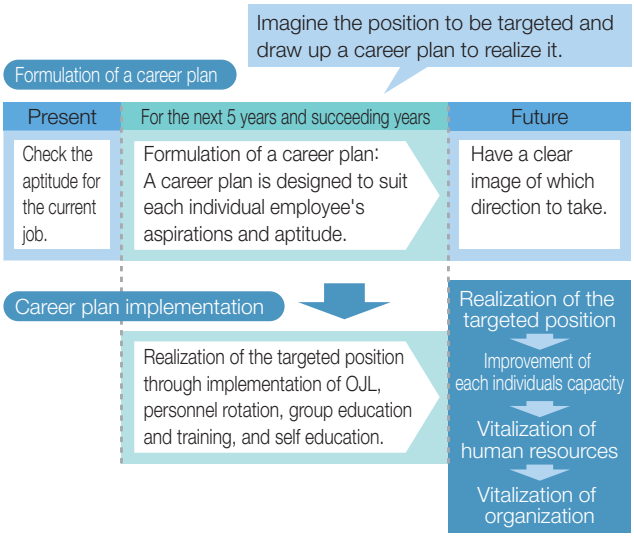
Educational System

In accordance with our personnel guidelines, our educational system places value on autonomy and calls on individuals to be the actors in their own growth. Based on the descriptions of desirable and required traits as defined in the Career Qualifications, employees can check their current traits, such as the skills they have, and the company will support them in education and training that will allow them to attain the desirable and required skills and traits.



Career Plan System

The Career Plan System includes formulation of a mid- and long-term development plan tailored to meet the aspirations and aptitude of each individual. Plans for human resources development are implemented in accordance with the mid- and long-term development plans. This system was introduced in FY2006 and it has continued to be administered in FY2010.



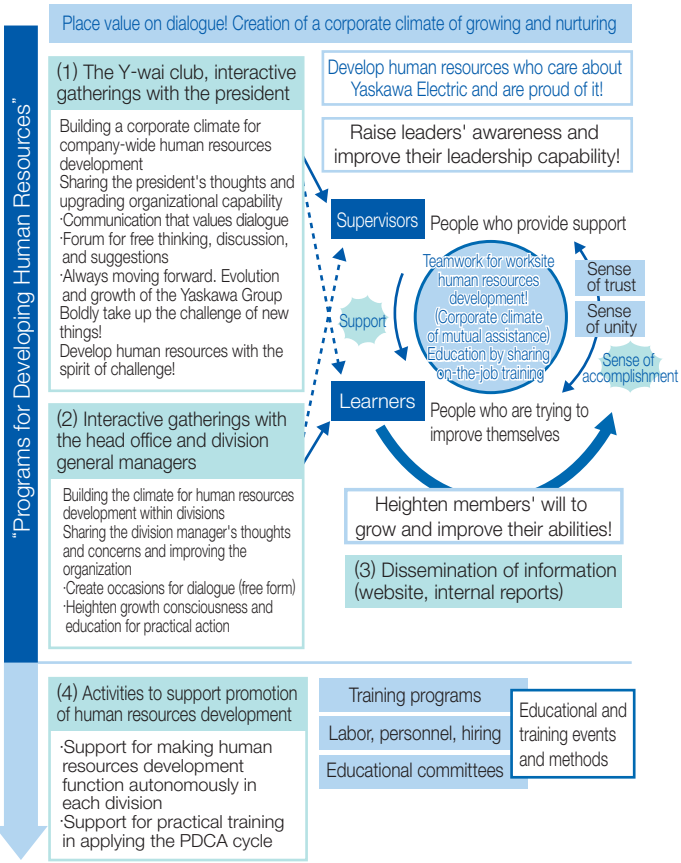
Program for Developing Human Resources

The President of Yaskawa Electric himself took charge of human resources development starting in FY2007, intending to improve programs throughout the company. Aiming to foster a corporate climate of growing and naturing, he has worked to establish an expanding practice of communication that emphasizes dialogue with employees. Specifically, he adopted the policy of fostering employees who care about and proud of Yaskawa Electric. He also sponsored and participated in the interactive gatherings, the Y-Wai Club, which has met 93 times to date and attracted 1170 attendees (FY2007-FY2010). He also started interactive gatherings with the head office and division general managers, and these have been held 355 times to date and attracted 2,992 attendees (FY2007-FY2010).

The President's Thoughts

I want to develop people who have will, who learn on their own, and who accomplish things! I want to create a corporate climate where you support each other until you make it to the goal! I want to build a Yaskawa Group that is always advancing, continuing to evolve and grow!

Overall View of the Activities in the Program for Developing Human Resources



The Y-wai Club, Interactive Gatherings with the President

YASKAWA 安川電機
安川電機を愛し誇りに思う
Yわい倶楽部
～気楽に まじめに～

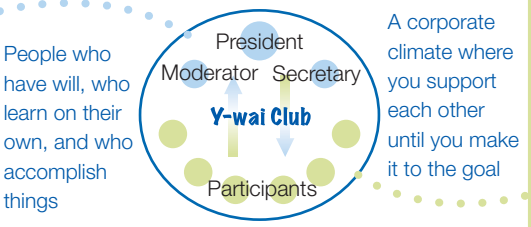
The Y-Wai Club holds interactive gatherings with the president, who visits each plant to meet with employees and talk directly with them. The participants talk freely with each other about the topics set for each session, such as the dreams and visions for the future of team Yaskawa, our own ambitions and goals we aim for, and challenges we would like to take up. These dialogues, following the motto "seriously but relaxed," show the value we place on two-way communication with employees. The purpose is to work, by means of dialogue, toward development of a corporate climate and human resources that take on challenges.

The President's Messages

"Let's raise our own flags (the things we want to do) and boldly take on the challenge of doing something new."
"Let's make our development capabilities, production capabilities, and marketing capabilities evolve steadily, day by day."
"Let's provide our customers with solution suggestions that bring out Yaskawa's qualities (good points)."
"Let's generate new business activities and use them as steppingstones to the future."
"Let's envision team Yaskawa's dream and aim to be the best in the world."
"Yaskawa Electric contributes to the evolution of society."
"Always go forward. From today, farther toward tomorrow."
"Let's think and act freely and flexibly."

Boldly take up the challenge of new things!

Free and active discussion



A Yaskawa Group that evolves and grows

Comments from Participants

"The world's best research and development"
"First in the world: Industrial robot development"
"Yaskawa energy conservation and energy creation business that saves the world"
"The world is ardent about Yaskawa's EV technology and product lines."
"Customer-centered stance"
"Systematic marketing"
"Yaskawa production systems stand proudly in the world."
"We want to act globally overseas."
"Collaboration outside the box"

TOPICS

Yaskawa Electric has advanced technological capabilities and abundant experience, and we therefore have many employees every year who receive awards in their various fields.

58th Electrical Science and Engineering Promotion Awards

(Awarded in recognition of development of vibration-damping control technology for general-purpose servo drives)

From left

Tadashi Okubo and Yasuhiko Kaku
Motion Control Division

Shoji Takamatsu
Technology and Development Division

This vibration-damping control function has made it possible to improve the operating performance of machinery, and we expect it will contribute to some small extent, at least, to raising our international competitiveness in machinery and processed goods produced by machinery. This technology was brought to completion in stages over a long period of time, with cooperation received from many quarters, and we are very pleased to have these steady, prolonged efforts appreciated in this way.

Governor of Fukuoka's Commendation for Excellence in Technical Skills

(Awarded in recognition of technical skill in assembling distribution panels and control panels)

Yuji Kawaguchi
System Engineering Division

I have been involved in system control panel manufacturing ever since I joined the company, and it was as part of that work that I set my own goals for the future and worked hard to move toward those goals. The results have taken this form, and now I am grateful to the company as well as grateful both to my senior colleagues who helped me and to everyone in my workplace who gave me their cooperation. I will continue, in the future, to help train our successors and to pass on my technical skills.

Acquired National Government Certification as a Professional Engineer

Masahiro Touchi
System Engineering Division

One of our employees passed the examination for certification by the national government as a Professional Engineer in the spring of 2010, and was accredited as a Professional Engineer in the electrical and electronic category. This is a national government qualification that is said to be the engineering equivalent of the attorney's qualification in humanities and social sciences, and it is called the highest qualification given to engineers. This makes the eighth person at Yaskawa Electric to receive this certification, and we expect that more of our people will be designated Professional Engineers in the future, as proof of the advanced technological level of this company's engineers and technicians.

Employee Family Communication Activities

Because we believe in a work-family balance and the proper development of the next generation, each plant plans a number of events to bring families in touch with us and each other. Many employee families take part in each event, which lets us actively pursue communication not just with our employees but also their families.

Iruma Plant: Corporate team Ekiden championships support tour

Tokyo Office: Ueno Zoo walking rally

Osaka Office: Bowling Festa

Yukuhashi Plant: Workplace tour for family members and summer festival

Employee Mutual Aid Club Group Activities

We encourage cultural and physical fitness events as part of the activities of the Employee Mutual Aid Club. Every plant has formed its own clubs for rugby, baseball, futsal (indoor five-man football), light music, art, and other such activities that build broader communication among our employees.

Kokura Plant Regional Sports Club

Our health and safety initiatives and health promotion efforts help to build a safe and comfortable place to work.

Health and Safety

We engage in health and safety programs according to the fundamental policy of "creating a safe, friendly and comfortable workplace."

We are actively implementing a hazard prediction program (KY Activities) and near-accident activities. We are also generating risk assessments based on information from cases of disasters that occurred in the past, workplace inspections, and other such information.

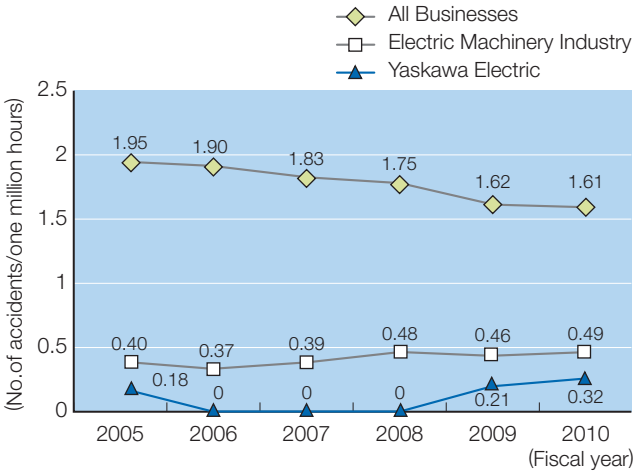
We have placed particular importance on developing work standards, and are concentrating on activities that go back to the fundamentals of what we do.

Risk assessment session

Priority Activity Headings (FY2011)

1 Prepare work standards.
2 Enrich occupational health and safety education.
3 Promote risk assessment.
4 Make use of case examples of how past disasters occurred.
5 Promote 3Ss activities.
6 Expand mental health care programs.
7 Conduct thoroughgoing health checks at time of hiring.
8 Medical checkup for overwork.
9 Promote the prevention of lifestyle-related diseases.

• Frequency of Occupational Accidents and Injuries (only those Resulting in Absence from Work)



Major Health Promotion Programs

(1)Mental-health Care

●By Individual

To encourage individual mental health while protecting personal privacy, we use GHQ28*and an occupational stress questionnaire to evaluate the psychological status of employees. We provide counsel from an industrial physician or other follow-up care depending on the results.

＊ GHQ : General Health Questionnaire, a questionnaire used to assess one's mental health.

●At Work

Mental health seminars are incorporated into training sessions for newly appointed supervisors and other management personnel to foster better working environments.

We also conduct workplace stress surveys and take countermeasures in high-risk workplaces.

●By Industrial Healthcare Staff in Plants

Industrial healthcare staff (industrial physicians, nurses, etc.) at the clinics in each plant play a central role in supporting employee health.

●By Outside Resources

Each plant has a system for easy referral to specialists appointed by the plant.

(2)Medical Checkup for Overwork

When overtime hours have exceeded a prescribed criterion, a physical examination, stress testing, and fatigue level testing are given by an industrial physician. According to the results, detailed advice and guidance are provided including prescription of overtime hour limit, and the patient's progress is carefully monitored.

(3)Lifestyle-related Disease Prevention

Employees found to have indications of any abnormality in a medical examination are provided with periodical follow-up observation and health guidance by an industrial physician or nurse.

(4)Support Return to the Workplace

We provide guidance to employees who are on sick leave due to mental or physical illnesses to help prepare them for return to the workplace, and we also provide support after their return to the workplace.

Yaskawa Electric has an active investor relations (IR) program that provides timely and fair information disclosures and uses comments we hear in our communications to improve business operations.

The Concepts Behind Our IR Program

Yaskawa Group Corporate Activity Standards include stipulations that company information will be disclosed fairly and in a forthcoming manner, and that is the spirit upon which our IR program is based. We will intensify our efforts to improve corporate value and make management more transparent through continual disclosure of information.

Promoting Understanding of Our Products through Day-to-Day Exchanges of Information, Factory Tours and More

The Yaskawa Group considers its IR program as a type of two-way communication with shareholders and investors, and it makes every effort to provide as many venues as possible for exchanges of views.

In FY2010, we made a total of 893 presentations to approximately 1,800 institutional investors, both in Japan and overseas. We also held briefings on the environmental energy business in September, in order to develop a deeper understanding of Yaskawa. In addition, we increased the number of factory tours, booth tours at exhibitions, and other such occasions where our products can be viewed in close proximity.

Environmental energy business briefing (September 2010)

To exchange information with foreign investors, with whom communication is usually difficult, we made trips overseas to visit them, took part in conferences hosted by securities firms and also conducted teleconferences.

We have also taken steps to enhance the information disclosed for shareholders and investors on the investor relations pages of our website.

The comments and opinions we receive from our shareholders and investors in the course of these IR activities are promptly shared in-house as feedback that we will use as contributions to the future improvement of corporate management and business operations.

Returns to Shareholders

Our basic principles include providing stable and continual dividends to our shareholders, enriching our management base, and retaining earnings for future expansion of our business. In addition, we make our decisions based on overall consideration of factors such as our performance, the business environment, and our financial picture.

In the fiscal year ended March 2011, we paid an interim dividend of 2 yen per share. Together with the year-end dividend of 4 yen per share, the cash dividend for the year was 6 yen per share.

Adoption of a Socially Responsible Investment (SRI) Index

The Yaskawa Electric Group has earned praise for its environmental, social and other CSR endeavors. Our stock has been a constituent of the "FTSE4Good Global Index," an international SRI index, since March 2004.

FTSE4Good

Major IR Activities in FY2010

- A financial results briefing
- Small meetings after the release of quarterly financial results
- Environmental energy business briefing
- Factory tours and IR presentations in Shanghai, China
- Visits to overseas investors
  (United States, United Kingdom, Hong Kong, Singapore)
- Conferences sponsored by securities firms

FY2010 financial results briefing (April 2011)

As a corporate citizen that is part of the community, we conduct social initiatives and support the development of future engineers.

Community Exchange

Through plant and office tours, social experience events and cleanups, Yaskawa Electric interacts with the community and builds better relationships.

Tours of Plants and Offices

Yaskawa Electric offers a wide range of plant and office tours for children and adults. Visitors become better acquainted with our robot and other manufacturing sites. In FY 2010, we welcomed about 5,500 visitors.


Local Cleanup Events

We help out in a cleanup activity of the Kurosaki area, where Yaskawa Electric has its headquarters. We work together with area businesses to clean up on shopping streets and around train stations.
Our employees also take turns doing cleanups around our offices. Our aim is not only to maintain the environment, but also to ensure each employee has a sense of morals, which will ultimately enhance their awareness of safety in day-to-day work.


Participating in cleanup event around Kurosaki Station

International Exchange

We take part in a range of international exchanges, from the technical to the personal.

Relations with Finland

The Honorary Consulate of Finland in Kitakyushu opened on the grounds of Yaskawa Electric in 2002. Since then, we have provided assistance to Finnish persons in the Kitakyushu area and taken visa applications from those wishing to visit Finland. Our Chairman (then-President) Koji Toshima was appointed Honorary Consul of the honorary consulate in April 2007.
Yaskawa Electric furthermore serves as secretariat of the Kyushu Finland Society, acting as the contact point for cultural exchanges with Finland.

Crest of the Honorary Consulate of Finland in Kitakyushu

"Yaskawa Cup " Engineering Contest at Shanghai Jiao Tong University

Yaskawa Electric and Shanghai Jiao Tong University opened a joint laboratory on the school campus in 2008. We work together to research service robots and support the development of mechatronics engineers.
In July 2010, the "Yaskawa Cup" engineering contest was held for university students to test their robot technology against each other.

"Yaskawa Cup" engineering contest

Education and Academics

We provide support for students, accept foreign students, conduct joint research with educational institutions, and engage in other such activities to foster the human resources that will lead the next generation.

Supporting Robot Competition for Students

Since 2005, Yaskawa Electric has co-sponsored the annual Technical College Students' Robot Contest, popularly known as "Kosen RoboCon", in which engineers-to-be from around Japan compete in contests focusing on robot production ideas and technology as well as robot performance. 2010 marked the RoboCon's 23nd anniversary. We, as a company in the robotics business, support this educational opportunity to encourage many young students to get involved in manufacturing and hope to foster the next generation of talent.

Technical College Students' Robot Contest 2010

Sponsor of "RT-Middleware Contest"

In December 2010, we supported the "RT-Middleware Contest," open to students and professionals to test their development of "RT-middleware" (software to facilitate the building of robotic systems) against each other. Through this event we promote the spread of technologies to expand the robotics industry for a new generation.

Hands-on Workshops for Children

We hold hands-on workshops for children and other such special events as activities to show more people the pleasure of manufacturing.

In FY2010, we held motor-making workshops for children using magnets and enameled wire at the Monozukuri Taikan Stadium and at the Ai-land Fair 2010, an industrial festival in Yukuhashi City, Fukuoka Prefecture.

Engineers from Yaskawa explained everything from the principles that make a motor work to how to make a motor. Our people were able to observe the children working on their projects with great enthusiasm.

Motor-making workshop at the Monozukuri Taikan Stadium

Arts, Culture and Sports

Yaskawa Electric supports culture and sports by exhibiting art work we own and taking part in track and field events.

Production of Master Shiko Munakata Calendar

Each year since 1958, Yaskawa Electric has produced a calendar decorated with woodblock prints by Master Shiko Munakata. Since the artist's passing, we have continued to work with the Shiko Munakata Memorial Museum of Art to produce these calendars, helping to introduce more people to the master's work.

We also loan out works from the Yaskawa collection for exhibitions. In FY2010, the works we loaned for the "Shiko Munakata: Prayer and Travel" show included parts of the Munakata Woodblock Prints of the Nankaido Region, which has prints depicting various locales in Shikoku.

Track and Field Club Activities

Our team of runners partakes in corporate team Ekiden championships (relay road race) and other races held in various locations. These athletes also actively interact with children in community by running with them and giving advice.

The Yaskawa team won fourth place in this year's corporate team Ekiden championships, and track and field team member Kentaro Nakamoto was selected as representative runner in the men's marathon in the 13th World Track and Field Championships to be held in the summer of 2011.

Competing in the 63rd Lake Biwa Mainichi Marathon

Initiatives of the Yaskawa Mirai (Future) Club

Members of the Yaskawa Mirai (Future) Club, who are employees of Yaskawa Electric and our Group companies, contribute to the community by doing volunteer work, holding events and making donations to various groups.

At Yaskawa Electric's 90th anniversary of its foundation in 2005, the Yaskawa Mirai (Future) Club was established to express our gratitude to our customers, shareholders, residents of the local community, and to many others for their support over the years, as well as to fulfill our role as a good corporate citizen.
Among their specific activities, Yaskawa Electric and Group company employees who endorse the goals of the club and voluntarily participate in it continuously put a portion of their salary aside in installments as donations, and the accumulated donations are used to support groups working in three fields: medicine and welfare, a sound upbringing for young people, and protecting and greening the environment.
We also plan to canvass for members' ideas about activities, groups to support, and so on, and we want to continue building up our activities.
While the amount contributed by each person may be modest, when many employees participate it adds up to a large amount that is helpful to the community. We will continue to recruit new members to help make a difference in the community.

Major Activities in FY2010

April 2010 - March 2011	Volunteers participated in the clearing of bamboo groves and conservation of Satoyama (monthly event)
	We carry out volunteer activities of collecting cancelled postage stamps and PET bottle caps for fundraising
April - October	Farming experiences through Yaskawa Junior Eco-Club
August	Support for J-Leader Program to foster Japan's next-generation leaders
October	Support for Champion's Cup International Wheelchair Basketball Tournament (participation as volunteer supporters)
	Held nature workshops at Itozu-no-Mori Zoological Park
November	Conducted beach cleanup volunteer event
	Donated to Manner Kids Project (NPO)
December	Contribution to Hokujitsukai, a non-governmental organization for sports and health
2011	
February	Contribution to Mulindi Japan One Love Project
March	Supported International Wheelchair Tennis Tournament 2011 Kitakyushu

Volunteer Program for Clearing Bamboo Groves and Protecting the Traditional Satoyama Environment

Since March 2007, we have taken part in the activities of the Kitakyushu Biotope Network Research Group, a non-profit organization that conducts environmental protection programs centered on improving bamboo groves and conserving Satoyama (areas featuring a traditional mix of cultivated and wooded land) in Fukuoka Prefecture. About 10 members volunteer to participate in these activities on the second Saturday of every month. One purpose of this bamboo grove improvement and satoyama conservation program is to clear out groves of Moso bamboo (Phyllostachys edulis), a non-native species that has been multiplying at a tremendous rate in the Kyushu and Yamaguchi regions in particular, in order to conserve the local satoyama. The other purpose is to systematically cultivate groves of bamboo that are said to absorb four times more CO_2 during their growing season than ordinary plants, and by improving these bamboo groves to contribute to global environmental protection.


Cutting bamboo


Hauling out


Cleared out bamboo

Support for Various Groups

The Yaskawa Mirai (Future) Club provides funding for activities of various groups contributing to society.
Recipients of our support in 2010 included the Mulindi Japan One Love Project, a non-governmental organization that founded prosthetic limb factories to assist the handicapped people in Rwanda and Burundi in Africa.

Nature Workshop Held at the Itozu-no-Mori Zoological Garden

The Yaskawa Mirai (Future) Club organized a nature workshop for employees and their families. The purpose was to give children, the leaders of the next generation, opportunities for close contact with nature and the plants and animals that inhabit it. Teaching them the importance of ecosystems and living things is intended to foster caring and consideration for life itself.
The Yaskawa Mirai (Future) Club donated to the Itozu-no-Mori Zoological Garden Foundation in FY2010.
Thanks to the cooperation of the Itozu-no-Mori Zoological Garden, the children were given an excellent opportunity to have contact with animals, learn about the lives of animals, and so to gain a sense of how precious life and living things are. We hope to organize further special events in the future to provide enjoyable learning experiences for our employees and their family members.

Nature workshop organized by the Yaskawa Mirai (Future) Club

Environmental Protection Department
Yaskawa Electric Corporation
2-1 Kurosaki-Shiroishi, Yahatanishi-ku
Kitakyushu, Fukuoka 806-0004, Japan
TEL: (+81)-93-645-7770 FAX: (+81)-93-645-7830
http://www.yaskawa.co.jp/contact/env/html

Issue: October 2011

YASKAWA

About Yaskawa Electric Corporation's Environmental and Social Report 2011

We would like to express our sincere thanks to each of you for your continued use of our products and the many ways in which you have supported us over the years.

We have completed the Social and Environmental Report 2011. This report reveals information not only about our environmental programs, but also about our social programs.

We are aware that these efforts are still insufficient, and we hope that you will respond to the questionnaire so that we may use of your opinions in planning future programs.

Inquiries:

Environmental Protection Department
Yaskawa Electric Corporation

2-1 Kurosaki-Shiroishi, Yahatanishi-ku
Kitakyushu, Fukuoka 806-0004, Japan
TEL: (+81)-93-645-7770 FAX: (+81)-93-645-7830
http://www.yaskawa.co.jp/contact/env/html

Yaskawa Environmental and Social Report 2011 Questionnaire Survey

We appreciate your comments and suggestions by FAX : +81-93-645-7830 (To Environmental Protection Dept.,Yaskawa Corp.)

Q1 Please give us your opinion after reading the Report. Check one.

(1) Easy to Understand	☐ Easy	☐ Average	☐ Difficult
(2) Content	☐ Satisfactory	☐ Average	☐ Unsatisfactory
(3) Information Volume	☐ Too much	☐ Just right	☐ Too little
(4) Design	☐ Satisfactory	☐ Average	☐ Unsatisfactory

・Please state the reason and/or opinion of your choices above.

Q2 Are there any sections you found impressive or interesting in the Report?
Check as many as you think apply.

☐ Management Philosophy ☐ 2015 Vision ☐ Yaskawa Group Overview ☐ Special Feature

Environmental Report

☐ Environmental Management ☐ Environmental Impact Data Summary
☐ Reducing the Environmental Impact from Business Activities
☐ Consideration for the Environment in Our Products
☐ Environmental Performance Data and Environmental Reporting Guidelines

Social Activities Report

☐ Corporate Governance ☐ In Partnership with Our Customers ☐ Working with Our Suppliers
☐ Working with Our Employees ☐ Working with Our Shareholders and Investors
☐ Working with Local Community and Society ☐ Initiatives of the Yaskawa Mirai (Future) Club

Q3 Do you want any items or requests to be included in the next Report?

Q4 Please share your opinion about our efforts on environmental conservation and social contribution.

Q5 What is your position/status? Check one.

☐ Customer / agent ☐ Mass media ☐ Investor / shareholder
☐ Research & education institution ☐ NPO / NGO ☐ Government / administrative body
☐ Employee or employee's family of Yaskawa Group ☐ Student
☐ Supplier (material supplier to Yaskawa) ☐ Other ( )

Thank you for your cooperation. Please fax the completed questionnaire to the number given.