

# Creed

- 1. We strongly believe that the customer comes first and that we are obligated to be an innovative partner to society.
- 2. We base our activities on honesty, harmony, and a clear distinction between public and private life.
- 3. We shall strive for innovative management and technological development from an international perspective.

# **Reason for Instituting the Creed** (Issued June 1, 1970)

In Japan there are many enterprises with their own "creeds" which simply represent their management concept.

Mitsubishi Heavy Industries, Ltd. has a creed of this type, also. It was instituted in 1970 on the basis of the policy advocated by Koyata Iwasaki, president of Mitsubishi Goshi Kaisha in the 1920s, to indicate the essential attitude of the

company, the mental attitude of employees, and the future directions of the company.

The reason for instituting the present creed is so that all of us can call to mind our one hundred years of tradition and strive for further development in the future.

# **Editorial Policy**

MHI uses its website for the comprehensive disclosure of information related to the MHI Group's CSR initiatives. MHI also produces a CSR Report digest version (brochure) to succinctly convey the activities that are the target of great interest from society and are also highly important to MHI.

In 2013, with a greater awareness of dialogues with our stakeholders, we have included an interview of our president conducted by an outside expert, and dialogues with outside experts on human rights issues. The brochure is kept concise for ease of reading, while the website includes more detailed information to offer a greater understanding of matters introduced. In addition, MHI reports on its representative efforts with the aim of resolving issues on a global scale through a wide range of business fields such as Energy & Environment, Transportation, and Aerospace.

Our website contains detailed information — focusing on "Management," the "Environmental Report," and the "Social Contributions Report" — that is not included in the brochure. In the future we will continue to improve these reports in response to your feedback.

# Structure of CSR information disclosure



# **Scope of this Report**

# **Target organization:**

The information contained in this report pertains to Mitsubishi Heavy Industries, Ltd. and its Group companies (110 in Japan and 126 overseas). Some articles, however, only include descriptions of MHI's activities.

# Target period:

From April 1, 2012 to March 31, 2013 (includes information on some activities after March 31, 2013)

# **Guidelines and Other Reference Material**

- Global Reporting Initiative (GRI)

  "Sustainability Reporting Guidelines (G3.1 version)"
- Japanese Ministry of the Environment "Environmental Reporting Guidelines (2012 edition)"
- ISO 26000

NOTE: A "Guideline Comparison List" will be posted on our website.

## **Date of Issuance**

June 2013 (previous issue: June 2012)

Recent efforts are included under "CSR" on the MHI website.

## Disclaimer

In addition to objective information on the past and present status of Mitsubishi Heavy Industries, Ltd. and its Group companies, this report also contains plans, perspectives and forecasts based on business plans and other materials. These forecasts are made using information available at the time of publication and therefore the actual outcome of future business activities may differ from these forecasts.

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Senior Management's Commitment in Interview Format



Large-Scale Offshore Wind Turbines Installed in the U.K. (conceptual image)



MEGANINJA Container-type Gas Engine Generator



Green Mover Max Next Generation Automated People Mover



H-IIB Rocket Launch to Carry Large Cargo into Space



Stakeholder Dialogue on Human Rights

# **Commitment by Management - Interview with the President**



# **Profile**

Shunichi Miyanaga President and CEO, Mitsubishi Heavy Industries, Ltd.

Born in Fukuoka Prefecture, Japan, on April 27, 1948.

Graduated from the University of Tokyo Faculty of Law and joined MHI in 1972. Appointed President of MHI-HITACHI Metals Machinery, Inc. in 2000 (renamed Mitsubishi-Hitachi Metals Machinery, Inc. in 2002). Appointed as Member of the Board and Executive Vice President of MHI, as well as Head of Machinery & Steel Structures Headquarters in 2008. Served as Member of the Board, Senior Executive Vice President and Head of the Presidential Administration Office from 2011. Appointed President and CEO on April 1, 2013.

Mayumi Matsumoto

Visiting Assistant Professor, Special Division for Energy and Environmental Sciences, Komaba Organization for Educational Excellence (KOMEX),

College of Arts and Sciences, The University of Tokyo

Born in Kumamoto Prefecture, Japan, Mayumi Matsumoto graduated from the Faculty of Foreign Studies at Sophia University. After graduating, she worked as a newscaster for TV Asahi and contributed numerous features as a reporter. From there, she joined the Japan Broadcasting Corporation's NHK BS 1 channel as a newscaster and was in charge of its World News programs for six years.

Matsumoto is active in environment- and energyrelated NPOs and joined the University of Tokyo's Research Center for Advanced Science and Technology as a specially appointed researcher in May 2009. Her current position commenced in April 2013.

# Promote CSR aligned to management strategy

## Our commitment reflected in the statement, "Our Technologies, Your Tomorrow"

Matsumoto The world today is characterized by rapid market globalization and increased international competition due to the growing economies of emerging nations. Amidst these changes in the business environment, even greater importance is placed on Corporate Social Responsibility (CSR). Could you tell us about MHI's basic approach to CSR?

## Miyanaga

Our business is integrally linked with various social and industrial infrastructures, such as energy and environmental products, environmentally friendly aircraft and rail transit. I believe MHI's greatest social responsibility is to help solve global social issues and create a sustainable society through the diverse range of products and services we offer.



At MHI, we uphold our corporate identity statement, "Our Technologies, Your Tomorrow." This statement expresses our commitment to become a trusted global business that values the global environment and contributes to the realization of a sustainable society. I think MHI's approach to CSR is also summarized in this statement.

Matsumoto "Our Technologies, Your Tomorrow" -- this is a great phrase that captures profound meaning in just four words.

# Miyanaga

In considering a sustainable society, it's important that we protect and maintain the valued aspects of our society in an ever-changing environment. Our corporate identity statement is our declaration to tackle this task through technology. But this is becoming increasingly more challenging over time.

In today's world, economies and societies are advancing impressively, not only in developed countries but also in newly developing countries as well, and technologies have continued to evolve. Meanwhile, the world population has rapidly increased, which will very likely lead to all manners of discord and strife, including environmental issues and ethnic conflicts. Under such circumstances, we must balance economic development and environmental conservation, and it will be crucial that we respect the varying thoughts and opinions around the world in order to realize a sustainable society.

Matsumoto Indeed, in addition to food and water shortages, poverty, and hygiene, today we also face a wide array of problems like energy and resource depletion, environmental degradation and global warming. Our times require us to take into consideration all of these issues as a whole. I see that MHI's corporate identity statement is a show of your commitment to boldly confront these difficult issues.

# Miyanaga

I am happy you put it that way. In order for people around the world to lead an enriched life, it is an absolute precondition to provide a multitude of lifeline utilities, such as electricity and gas, in addition to ensuring sufficient food and water as well as safe and secure places to live. Over the course of thousands of years, humankind has inherited an array of technology and cultures from the past. From this point of view, it makes sense for CSR - that is, how a business contributes to society - to also keep evolving with the times. In today's globalized world, that social responsibility involves providing an assured future for the entire planet.

## Maximizing incomes and optimizing allocations also essential aspects of CSR

Matsumoto In terms of confronting these complex and diverse global issues, MHI possesses a wide array of technologies and develops business in a broad range of areas and regions.

# Miyanaga

We are proud to have technologies that support society in the broad domains of land, sea, air and space. Our company places great emphasis on technological capabilities. We encourage novel ideas, and we attempt difficult tasks that have yet to be challenged. However, this is premised on the belief that technological advancements are not purely for our own satisfaction, but serve as a means in fulfilling our responsibilities as a company.

In that sense, we believe that optimum allocation of profits is also an essential CSR activity as it allows us to continue existing as a company and to raise business revenue. This ensures our own growth, while also benefitting our diverse stakeholders, such as our customers, shareholders, suppliers, and employees, in addition to local communities and global society.

Matsumoto So you mean that income through your business operations will also contribute to your social responsibilities?

# Miyanaga

Yes. As a company involved in a wide range of businesses, we offer a lot of products. But in working towards the creation of a sustainable society, we will need to contribute through comprehensive strengths, which not only include competitiveness in technology but also an improved ability to compete in the international business arena.

Based on this belief, we established the 2012 Business Plan from the perspectives of our products' business characteristics, such as customers and markets, and the similarity of the technologies and quality control applied to them. We reorganized our businesses into four business domains: "Energy & Environment," "Commercial Aviation & Transportation Systems," "Integrated Defense & Space Systems," "Machinery, Equipment & Infrastructure" Moving forward, we will heighten our competitiveness in the global market and expand our business, and above all provide better products and technologies by progressively developing these business domains to meet the needs of the times. We believe that these efforts will also help lead to the resolution of social issues.

Matsumoto I see. So, for MHI, business strategy is intricately linked to CSR.

# Commitment essential to promoting CSR in communities around the world

# Promoting comprehensive measures based on the United Nations Global Compact

Matsumoto Could you give some examples of MHI's guiding principles in advancing CSR in connection with business activities?

Miyanaga

MHI has been a participant in the United Nations Global Compact since 2004, and we abide by its principles when considering overall CSR activities. Based on the 10 principles across the four areas of human rights, labor, the environment and anti-corruption, MHI promotes activities with a clear corporate vision.

**Matsumoto** Could you explain MHI's approach in each of these areas?

Miyanaga

For example, in the area of human rights, we follow the concept enacted by the United Nations on fundamental human rights in the 21st century, which serves as a guideline for the world. That's why, above all, I think human rights are something that must be defended at all times.

For labor, as stated in MHI's mission statement, we are a business that values harmony and human relationships. We have built a work environment based upon human connections and a safe and supportive organization. That is why labor environments that ignore basic human rights, such as use of child labor, are completely unacceptable, and we strive towards eliminating them entirely. In regard to the environment, I believe that we should always do what we can now, based on a medium- to long-term vision. Of course, while a preventive approach that appeals to a greater number of people is desirable, issues that cannot be solved in this manner will require a different approach. In any case, we must never engage in anything that results in a deadly effect on the environment. There are also differences between countries in terms of environmental standards, but I believe that we should always have the capability to comply with the strictest of standards.

On anti-corruption, I recognize that each country has a different concept, but as a leading global business we must continue to do what is right. We research laws and regulations of each country and thoroughly train our employees to comply with them. In line with globalization, we also implement education and training of our overseas offices and subsidiaries.

I believe the Global Compact will become even more important in the coming years amidst growing world integration. As it stands today, human rights, labor, environment and anti-corruption are all considered differently in each country and region. In light of this diversity, it will be crucial that we establish standards and guidelines for action and explain to local employees the reasons why they should be followed. Foregoing this step would have a negative impact on human relationships and our work.

Matsumoto These days, we often hear the term "global human resources," but it is quite hard to define. The method of dealing with situations in each country, based on an understanding of diversity, will become increasingly important.



Mivanaga

In addition to the Global Compact, we also apply ISO 26000 as an international guide for our CSR activities. MHI began incorporating the seven core subjects of ISO 26000 in its CSR business plans from fiscal 2012.

## Aiming to create new values with safety as the top priority

Matsumoto As you continue to expand and develop your business globally, what aspects are especially important in your view?

## Miyanaga

As a monozukuri business that provides a variety of social infrastructures, our most important responsibility is to ensure the safety and quality of our products. I think this is the cornerstone of our business. At every stage of the production process, from design and construction to quality assurance and research, I call on my employees to return to the starting point - our technology - and ask themselves what they can do to further develop our technology: what types of technical validations should be done now, and what technology should be pursued next. I have worked with many overseas clients, but our top priority when delivering our products is safety. Of course ease of use, reliability and efficiency of the product are also important. We communicate closely with our clients on these aspects to confirm their intentions and requirements in order to create an even better product. I believe that MHI, as a manufacturer of machinery and plants, is able to create new value together with clients and, in turn, we are able to make new contributions to society. We aim to develop a business that satisfies clients over the entirety of the product life cycle, in which we efficiently manufacture and deliver products that fit the needs of our customers, including maintenance and after service. To achieve this, we must

# Keeping past mistakes in mind while challenging new innovations

each location.

Matsumoto I've often heard that monozukuri is about learning from your mistakes. Is this also true at MHI?

correctly recognize the needs of each country and region and build a production system and service network that can efficiently provide corresponding products for

## Miyanaga

The Accident Exhibit and Materials Room located in our Applied Knowledge Business Training Center in Nagoya is intended to thoroughly educate our employees on the importance of safety and quality through videos and exhibitions of artifacts that vividly convey the tragedy and gravity of accidents. As our past presidents have said, accidents should not be covered up but recorded so that future employees can learn from them. It is important for the lessons learned from a serious incident to be handed down to the next generation of workers.

Of course we still continue to take on the challenge of developing new technologies and products. In doing so, we evaluate accident risks that come with new technological achievements during the development phase so they can be eliminated during design. More importantly, we keep all records when problems or accidents occur, so that we can share the lessons learned. This is done carefully throughout our company.

Matsumoto I think it is wonderful that you are continuing to meet the challenges of innovation while learning from past mistakes.

## Miyanaga

In order for everyone to live on this planet peacefully amidst a growing global population, we will need new innovations and technological breakthroughs. Risk of accidents or failure comes hand in hand with new challenges. It is absolutely necessary to implement preventive efforts, but we must also continue our challenges without fear of failure.

If by chance an accident does occur, we must not run away but share the experience with everyone so we can create an even better product. I think the accumulation of such efforts has enriched the civilization of mankind. This may sound exaggerated, but I believe that a company like MHI, because of the nature of our business, has a significant responsibility in the progress of civilization.

# Promoting CSR in overseas procurement

Matsumoto As your company's global developments accelerate, I would assume that this results in new challenges for CSR.

Miyanaga

That is exactly right. Recently we are encountering challenges with global procurement activities. As we noted in the 2012 Business Plan, we are currently expanding our supply chain overseas, especially in several emerging nations. In light of this, we believe CSR procurement is necessary for business partners and raw materials suppliers, and thus have expanded the scope of the Supply Chain CSR Promotion Guidelines established in 2010 to include these partners both in Japan and overseas, and requested that they adhere to our regulations concerning compliance, human rights and labor practices. We plan to carry out initiatives covering CSR procurement in the future, including strict measures to ensure that there is no exploitation of child labor or forced and compulsory labor.

## Establishing guidelines for prevention of bribery

# Miyanaga

We introduced our Guidelines for the Prevention of Bribery Involving Foreign Civil Servants in 2005, recognizing the need to ensure that no bribes or any other irregular transactions occur in social infrastructure-related operations, as many of our customers are overseas governmental bodies. Likewise, we have stepped up efforts to fight corruption, creating Anti-Bribery Rules and Procedural Guidelines in 2012. Ideally, I would like to foster the understanding of these rules and guidelines using a guidebook that defines acceptable and unacceptable practices in order to contribute to everyone's happiness and a sustainable business. It will also be crucial to have more supervisors well-versed in the reasoning behind these rules and guidelines and to emphasize that compliance ultimately leads to a happier society.

Matsumoto So, whether it is in business or CSR activities, the most important factor in carrying out initiatives together with partners is to foster understanding.

## Miyanaga

Equality, fairness and safety are the rules, and following these rules contributes to quality of life. Rules are always necessary in achieving such ends as comfort and happiness, and I believe that following these rules will ultimately lead to CSR.

# MHI's aspirations for energy and environment endeavors

Becoming a world-leading company through integration of thermal power generation systems with Hitachi, Ltd.

Matsumoto I have always been interested in MHI's business activities in the energy and environment field, which is my area of research. I would like to ask you first about your objective for integrating MHI's thermal power generation systems with Hitachi, Ltd. I believe many people in Japan were surprised at this integration of the industry's two leading companies.

## Miyanaga

With the rapidly growing demand for energy across the globe, the reduction of environmental impact has become an urgent global issue. Due to its social importance, the thermal power generation system business is seeing intensifying competition among major manufacturers around the world.

This presents not only an excellent opportunity for MHI business expansion, but also an outstanding opportunity to contribute to the development of a greater number of societies and nations. The aim of the integration is to sharpen our competitive edge in order to compete more effectively in the global market.

MHI and Hitachi have different product types and market strengths when it comes to the thermal power generation system business. We want to contribute to the resolution of social issues as a world-leading company by demonstrating the complementary synergy of our strengths, technology, products and business. By helping each other, we anticipate that the collaboration of our two companies will amount to something more than just the sum of our capabilities.

Matsumoto That is something I personally am very interested in seeing. Although fossil fuels are viewed as the villain in terms of global warming, I believe many people fully realized their importance after the earthquake two years ago. In fact, 90% of the power generation business today is thermal power. However, fossil fuels are limited resources, so it is important that we use them efficiently, and MHI's gas turbines encapsulate this technology.

# Miyanaga

Yes, large-sized gas turbines are one of MHI's strengths. Small- and medium-sized turbines are Hitachi's strengths. Offering only large-sized gas turbines is not enough to meet global demands, and depending on individual customer requirements, smalland medium-sized ones are sometimes better. By combining our technologies in this way, I believe we can further develop our businesses.

## Striving to improve nuclear power safety and develop advanced technologies

Matsumoto I would also like to ask about nuclear power. Since the Great East Japan Earthquake, public opinion surrounding the issue of nuclear power has been severe. Personally, I think nuclear power is an important technology to ensure a stable supply of electricity. What is MHI's standpoint on the nuclear power business?

# Miyanaga

As you said, nuclear power that can be stably generated is a necessary source of electricity over the long term. Nuclear power is proven to achieve overall economic efficiency, considering the environmental impact of CO<sub>2</sub>, energy security, efficiency and long-term use. In a country with an advanced industrial base, an efficient and stable supply of electricity is essential, and from that perspective, nuclear power capabilities are indispensable.

A variety of conditions must be taken into consideration when installing nuclear power plants, such as ready access to large amounts of cooling water. As such, selecting appropriate locations for construction will allow for future global growth of nuclear power. The Japanese government, following its enactment of new regulatory requirements in July 2013, has expressed its policy to restart existing plants, continue and promote nuclear fuel cycles at Rokkasho, achieve stable convergence at TEPCO's Fukushima Daiichi Nuclear Power Station, and decommission outdated plants. MHI will participate in these efforts as a comprehensive nuclear power plant manufacturer.

There have been a multitude of reasons behind the disasters that occurred in nuclear power plants in the past. However, the industry has responded by developing safer nuclear power stations based on lessons learned from those accidents. Overseas, there is growing expectation for Japan's nuclear power technology, which will utilize lessons learned from the accident at the Fukushima Daiichi Nuclear Power Station. At MHI, we hope to respond to these expectations especially through our projects in emerging countries, where the challenge is not merely limited to supplying nuclear power plants.

We will also have to tackle multiple issues, such as improving legislation, securing finances, as well as operation and maintenance, through a joint effort with governments and the private sector. We aspire to contribute to these nations, while working together with their governments.

In regards to nuclear fusion, which is the dream energy source, we are conducting research by participating in the International Thermonuclear Experimental Reactor (ITER) project. AT MHI, we are committed to improving the safety of nuclear power and developing better technologies in order to contribute in supplying a stable source of power and developing society in a sustainable manner.

Matsumoto I am also very interested in the field of nuclear fusion. I went on a tour of the Large Helical Device at the National Institute for Fusion Science, but I heard that the ITER is much larger. It seems that MHI is steadily advancing technological developments 30 to 50 years ahead.

# Miyanaga

We see this as one of our very ultra-long-term CSR activities. By consecutively carrying out these challenging activities, our company can attract talented young engineers and students, which will then enable MHI to undertake more challenging initiatives and develop new technologies. I believe that in the long run, pursuing this will become a large part of our contribution to society.

Contributing to the solution of global social issues by pursuing thermal power generation and "smart communities"

Matsumoto Finally, what are your visions for MHI's energy and environment business endeavors in the future?

# Miyanaga

First, by establishing the joint venture with Hitachi covering thermal power generation systems, we will aggressively expand global businesses related to gas turbines, coal-fired thermal power, gas turbine combined cycle and natural gases. We both possess innovative technologies in coal-fired thermal power generation and will further advance these technologies with the aim of achieving higher efficiency and lower environmental impact.

Renewable energy management is also an area that we will continue to pursue. For example, with wind-power generation, we will



Integrated coal Gasification Combined Cycle (IGCC) plants make significant contributions to securing stable supply of energy

of course work on the development of wind turbine generator systems and batteries that support power generation. But in addition, we will also promote management business on the combination of existing conventional generators, wind turbine generators and batteries. The best mix of these energy sources is an important theme for us.

We will also conceive further developments to these ideas. Specifically, I want to make the most of the technologies, products and expertise in our energy and environment businesses for the efficient use of electricity, gas, water, and transportation necessary for daily life and industries. The goal is to help create "smart communities" that comprehensively manage the energy and environmental operations of entire cities, including the management of CO2 emissions and waste. Feasibility studies (F/S) and demonstration projects are already underway in Japan, India, Abu Dhabi, Iceland and Spain.

In this way, we want to provide solutions to global social issues by pursuing the two areas of thermal power generation and "smart communities." This will also contribute to the realization of goals formulated last year in the MHI Environmental Vision 2030, which targets the achievement of the 3E's - energy security, environmental protection and economic growth - through total solutions incorporating company products and technologies.

Matsumoto "Smart communities" that actualize low-carbon emissions and energy savings, and where people can live comfortably, is precisely the type of concept we expect from MHI, which has a wide range of products and technologies to achieve a total solution.

# Miyanaga

Thank you very much. MHI will continue to contribute to the solution of global energy and environmental social issues through business, products and technology.

# **CSR of the MHI Group**

# **CSR Concepts and Actions**

MHI Group CSR Action Guidelines (formulated July 2007)

# MHI Group CSR Action Guidelines (formulated July 2007)

In order to ensure a secure future for the Earth, we will establish and maintain:

# Close ties with the Earth

Safeguard an abundantly green Earth through environmental technologies and environmental awareness;

# Close ties with Society

Build a relationship of trust with society through proactive participation in society and trustworthy actions;

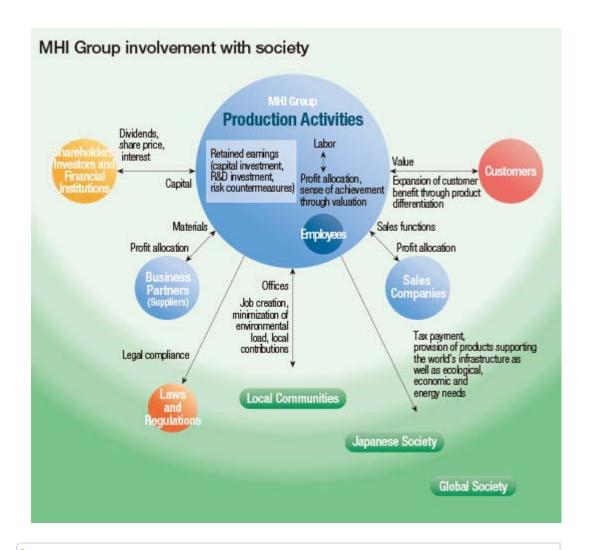
# A bridge to the next Generation

Contribute to the cultivation of human resources who can shoulder responsibility in the next generation through technologies that can realize dreams.

Promoting CSR through manufacturing as an innovative contributor to society

In accordance with the three principles that define the spirit of our creed, the MHI Group serves as a manufacturing corporation that contributes to societal progress through its business endeavors of delivering products and technologies in support of social and industrial infrastructure worldwide. In this way MHI is contributing to the resolution of global issues.

Furthermore, MHI believes the basis of corporate social responsibility (CSR) is to engage in business activities that take its diverse range of stakeholders into consideration and return profits to all stakeholders in optimum fashion, while at the same time providing excellent products and technologies to realize a sustainable society and a secure future for people and the planet. Based on our creed and CI statement, "Our Technologies, Your Tomorrow," the MHI Group has also instituted CSR Action Guidelines to serve as collective standards for all Group employees when conducting business activities centered on the principles of CSR.



# **Undertaking ISO 26000-Focused Initiatives**

The MHI Group has broadened its CSR program from the domestic front to the global stage. From fiscal 2011, we began according priority to ISO 26000, which provides international guidelines on the social responsibilities of organizations. In fiscal 2011, we engaged in dialogue with experts who could be helpful with certain important initiatives while contributing to communities, providing ongoing assistance to disaster-hit areas, and otherwise involving ourselves with communities. We will continue to draw on ISO 26000 in soliciting stakeholder participation as we identify important initiatives for the entire value chain and pursue CSR management based on global standards.

The seven core subjects of ISO 26000, and MHI's main efforts

## 1. Organizational governance

Organizational governance

## 2. Human rights

Due diligence / Human rights risk situations / Avoidance of complicity / Resolving grievances / Discrimination and vulnerable groups / Civil and political rights / Economic, social and cultural rights / Fundamental principles and rights at work

# 3. Labour practices

Employment and employment relationships / Conditions of work and social protection / Social dialogue / Health and safety at work / Human development and training in the workplace

## 4. The environment

Prevention of pollution / Sustainable resource use / Climate change mitigation and adaptation / Protection of the environment, biodiversity and restoration of natural habitats

# 5. Fair operating practices

Anti-corruption / Responsible political involvement / Fair competition / Promoting social responsibility in the value chain / Respect for property rights

# 6. Consumer issues (responsibility towards customers)

Fair marketing, factual and unbiased information and fair contractual practices / Protecting consumers' health and safety / Sustainable consumption / Consumer service, support, and complaint and dispute resolution / Consumer data protection and privacy / Access to essential services / Education and awareness

# 7. Community involvement and development

Community involvement / Education and culture / Employment creation and skills development / Technology development and access / Wealth and income creation / Health / Social investment

# MHI Environmental Vision 2030 Our Technologies, Your Tomorrow

The future of our planet rests in the sustained evolution of humankind while caring, with love and responsibility, for all life forms that inhabit it. MHI will continue to be a company indispensable to ensuring that future.



The MHI Group will pursue energy security while carrying forward environmental protection -- not only of the earth but of space also - through its ability to develop new technologies and products, to achieve a secure future that is kind to the earth.



# **Towards an Assured Future for Mankind and Earth**

Large-Scale Power Generation through Efficient Conversion of Sea Winds

# **Large-Scale Offshore Wind Power Generation**



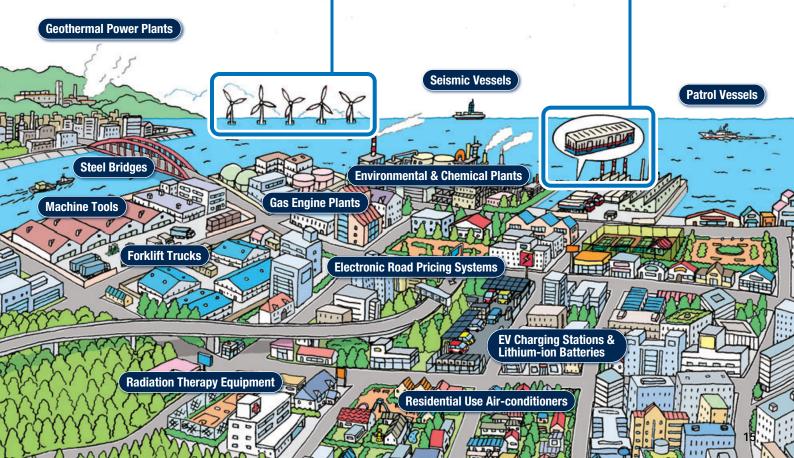
Global expectations for offshore wind power generation are rising. MHI responds to the challenges and demands of increased output with technologies that efficiently convert sea wind into energy. A vast power generation project is unfolding offshore.

Immediate Power Generation in Response to Regional Power Demands

# **Container-Configured Power Generation System MEGANINJA**



This mobile power plant provides a distributed energy supply to meet the diversified expectations of people waiting for stable power supplies.



# Through manufacturing, MHI addresses social issues and responds to expectations across a wide range of social and everyday situations.

Among the many problems facing today's world are environmental pollution, global warming and the energy crisis. Moreover, as societies mature and technologies advance, people around the globe have come to expect lives that are comfortable, safer and more secure.

MHI is a manufacturing company that provides social and industrial infrastructure for land, sea, air and even space environments. Through its lines of business, products and technologies, the company responds to expectations and helps to resolve diversifying social issues, contributing to an assured future.

# Comfortable Travel for All New Urban Transportation Systems



The first domestically produced, people-friendly, "barrier-free" cars, delivering a method of urban transportation that can be used comfortably by more people.

# Launching the World's Dreams into Space H-IIB Launch Vehicle with Greater Launch Capabilities



With its enhanced launch capabilities, the H-IIB contributes to space development, mankind's gateway to the future.



**LNG Carriers** 

**Passenger Ships** 

Nuclear Energy Power Plants

Thermal Power Generation Plants

**Printing Machinery** 

Centrifugal Chillers Centrifugal Heat Pumps

**Turbochargers** 

Vibration & Isolation Systems

**Automated People Movers** 

**Mechanical Parking Systems** 

# **Large-Scale Offshore Wind Power Generation: One Solution to Energy Issues**

MHI is developing the world's first large-scale offshore wind turbine generator to utilize a Digital Displacement® hydraulic drive train. Its success will support an ambitious plan to generate around one-third of the electricity consumed in the United Kingdom from renewable sources and will also contribute to the UK's legally binding carbon reduction target. This project is a great example of MHI's contribution to the wider challenge of helping society move to a more sustainable low carbon footing.





# Development of new 7MW\*1 offshore wind turbine generator by 2015

Wind turbines are attracting attention around the world as a source of renewable energy. With an abundance of strong constant winds, offshore turbines are expected to generate more electricity than onshore turbines, an opportunity that industry is responding to.

Wind power generation in the EU is highly developed: new wind power facilities account for over a third of the capacity of all power plants. The UK is moving forward with plans to take advantage of its strong offshore winds by installing several thousand offshore wind turbine generators by 2020. In the future, the country intends to use wind turbines to generate over 40GW\*2, a third of the electricity it consumes domestically.

In February 2010, MHI signed a memorandum of understanding with the UK Government to cooperate on offshore wind turbine development. MHI's approximately 4,000 previous onshore wind turbine deliveries and its achievements with thermal power generation plants earned it the honor of being the first Japanese corporation to enter the European offshore wind



Nacelle (housing for generator and other equipment) of large-scale wind power generation facility that began test operations in January 2013

turbine market.

Offshore construction and maintenance costs are higher than those for onshore turbines, therefore higher reliability during operation and greater turbine yield and rated output will drive future value for customers. MHI and subsidiary company Artemis Intelligent Power, with support from NEDO\* and the UK's BIS and TSB\*4, brought forward a game-changing engineering solution, developing a substitute for the conventional turbine design: a hydraulic drive train that powers the synchronous

generator. In January 2013, test operations of the world's first multi-megawatt wind turbine with hydraulic drive train began at Yokohama Dockyard & Machinery Works.

In late 2013, MHI will erect an onshore demonstration unit with a rotor diameter of 167m and a rated output of 7MW at Hunterston in Scotland, UK. The Hunterston project will form part of a wider program of demonstration and validation scheduled to run until 2015. A production version of the wind turbine will then be released to the market.

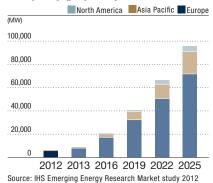
- MW: Megawatt, or 1,000,000W. Amount of electrical power consumed by approximately 640 average households in the UK.
- \*2 GW: Gigawatt, or 1,000,000,000W. The generating capacity of an average nuclear power plant is 1GW.
- \*3 NEDO: New Energy and Industrial Technology Development Organization.

  An Incorporated Administrative Agency under jurisdiction of Japan's Ministry of Economy, Trade and Industry.
- \*4 UK BIS: Department for Business, Innovation & Skills. A UK government department. TSB: Technology Strategy Board, the UK's innovation agency.
- \* Digital Displacement® Transmission is a registered trademark of Artemis Intelligent Power, Ltd., a group company of MHI.

# Larger models sought as turbines move offshore

From onshore to off: Although expectations for offshore wind power may be focused in Europe, interest is spreading around the world. At the same time, there is a demand for developing larger offshore wind turbines with a rated output of 6 to 8+MW, as opposed to current turbines of 3 to 5MW.

# Total offshore wind power generating capacity (projected)

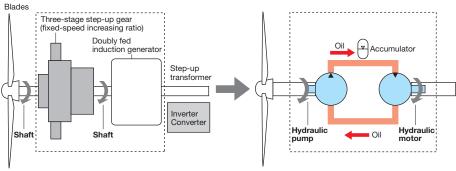


# Hydraulic drive train resolves issues of larger-sized units

In lieu of a step-up gear, the new digitally controlled hydraulic drive train (hydraulic pump and motor) used for wind power generation facilitates larger-sized models and delivers high reliability. In addition, the need for an inverter is eliminated through separate digital control of the pump and motor, allowing a standard synchronous generator. This new design was developed with the superior digitally controlled hydraulic technologies of Artemis Intelligent Power, Ltd., an MHI-affiliated company in the UK.

Hydraulic drive train

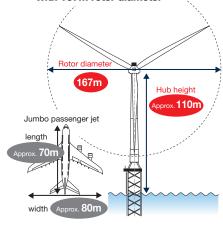
# Conventional gear drive train



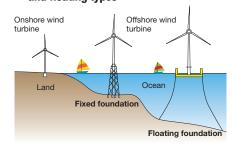
# Offshore wind power generation incorporates multiple MHI technologies

In addition to the technology and expertise gained through production of onshore wind turbines. MHI will apply its comprehensive technologies and experience in thermal power generation, steel structures, aerospace, and shipbuilding and ocean development in its production of large-scale offshore wind turbines.

# Large-scale offshore wind turbine with 167m rotor diameter



# Providing both fixed foundation and floating types



# Aerospace technology

Blades for the 7MW hydraulic drive train wind turbine, currently under development, utilize technologies applied in aerospace, including carbon materials and lightning protection.

Lightning protection



Wind tunnel test



# Demonstration testing of floating offshore wind power generation begins in Japan

Japan's topography limits the size of onshore wind turbine equipment that can be transported, and its marine coastal areas are generally not shallow enough to accommodate fixed foundation offshore wind turbines. For these reasons, floating offshore wind power is being viewed as the next stage in Japanese wind power generation. MHI is participating in the Ministry of Economy, Trade and Industry's floating offshore wind farm demonstration research project, one purpose of which is the implementation of this technology. MHI will provide the project with large-scale 7MW-class wind turbines and floating structures, with test operations for the MHI machines scheduled to begin off the coast of Fukushima Prefecture in late 2014.



Floating offshore wind farm research project in Fukushima Prefecture (conceptual image)

# Voice Expectations of MHI

# Toward low carbon society with our ideal partner MHI

"In 2009, SSE was in the early stages of thinking about potential partnerships for offshore wind and Mitsubishi Power Systems Europe (MPSE) (MHI's power systems business for EMEA) was a good strategic fit for us not only in offshore wind but across the low carbon generation space. SSE, MPSE & MHI then signed a Low Carbon Partnership agreement in 2010."

'Successful project delivery is critically important, success breeds success. Together we have completed HVAC and Lithium-ion battery projects and we are now delivering a GTCC project, and the SeaAngel 7 MW prototype at SSE's Hunterston test site."

There has always been a close cultural and historical alignment between the Scots and the Japanese, right back to Thomas Glover. This, in parallel with Mitsubishi's reputation for technology and quality, makes us feel there's something special and unique that will help sustain a long and prosperous future for SSE and Mitsubishi.'



Jim McPhillimy (Second from right) Managing Director, Scottish and Southern Energy (SSE)

# **MEGANINJA: A Solution to Energy Demands** for Distributed Power Generation Systems

Sales of MEGANINJA, MHI's container-configured gas engine power generation system, began in June 2012. MEGANINJA can begin generating power within 24 hours of delivery, and — as a distributed power generation system — is attracting attention for its ability to rapidly meet power supply demands in regions with insufficient power generation infrastructures and emergency power supply demands in developed countries.





# "Quick mobility, quick installation, quick commissioning!" for regions with insufficient power generation infrastructures

Many emerging countries still have regions where power grids and other infrastructure are unable to keep pace with growing demands for power. In China, the government has announced plans to introduce distributed power systems with a total output of 50GW\* by 2020. Meanwhile, developed nations are working to popularize distributed power systems, which are energy efficient and disaster resistant, and are working towards the construction of smart communities in which such systems are a prerequisite.

Looking to raw materials and fuels, the soaring price of crude oil, vast natural gas reserves identified in Africa, and the extraction of shale gas in the U.S., all seem to forecast the further popularization of natural gas. In addition, natural gas is well-suited for cogeneration systems the high-efficiency energy systems that use heat and steam as well as electricity.

In response to these factors, MHI



A mobile power plant: all the equipment necessary for power generation packaged in an ISO 40-foot container.

developed the MEGANINJA, a distributed power system run on natural gas, and began marketing it in June 2012. The MEGANINJA, a package product consisting of a 1.5MW gas engine, generator, oil tank and control console loaded into an ISO 40-foot (approx. 12m) container, is capable of generating power soon after being transported to its installation site by trailer. It can also

accommodate cogeneration systems through simultaneous use of a 20-foot container for waste heat recovery, and with its quick transport, quick installation and quick commissioning, is able to promptly respond to power and heat demands in any area.

In July 2012, the first two MEGANINJA units were delivered to a Chinese gas company, Dongguan Xinao Gas, where they are being used as backup power sources during interruptions in the power supply. There is also growing interest from regions in other countries with insufficient infrastructures, and from corporations in developed countries examining countermeasures for power peaks as part of their BCPs (business continuity plans).

GW: Gigawatt, or 1,000,000,000W. The generating capacity of an average nuclear power plant is 1GW.

# Power generation within 24 hours, maintenance within 24 hours

Installation of conventional gas engine power generation systems takes approximately 30 days before the system is operable. With the MEGANINJA, all necessary equipment has been packed into the container in advance, and simple coupling units are used for wirings and pipings. Even if several containers are being installed, this configuration makes it possible to "just set them down" and begin power generation within 24 hours of delivery. In addition, when a unit requires major repairs, it may be exchanged with another unit, and this process takes merely 24 hours.

# Conventional gas engine power generation facility



# MEGANINJA's all-in-one configuration

Radiator

# Quick setup method –"iust set it down"



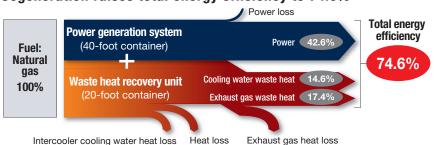




structure Oil tank



# Cogeneration raises total energy efficiency to 74.6%



# High power generation efficiency (42.6%), low NOx concentration (200ppm and less than 200ppm)

A Miller cycle gas engine, in which the expansion ratio is larger than the compression ratio, enables the achievement of a 42.6% power generation efficiency rating. In addition, electronic control results in optimal mixing of fuel and air, maintaining NOx density within 200ppm without after treatment.

# Heart of the MEGANINJA: a high-efficiency Miller cycle gas engine



# Responding to diverse global needs for distributed gas power generation systems

Stable power supplies are in demand around the world, including China and Southeast Asia. MHI responds to these diverse global needs with its distributed gas engine power generation systems.

June 2012: MOU signed with China Huadian Corporation on development of advanced technology for distributed power generation systems and their commercialization

July 2012: First and second MEGANINJA units delivered to China's Dongguan Xinao Gas.

July 2012: Delivered a sample GS16R2-PTK generator set to Russia.

October 2012: Gas Engine Distributed Power Generation Engineering Center established in Shanghai, China,

April 2013: Stationary gas engine generator set delivered to Dongguan Xinao Gas.

July 2013: MEGANINJA installation at MHI's Machine Tool Headquarters (Ritto) for electricity peak-cut during summer.



Left: Director Ying of China Huadian Electric Research Institute Right: (Then) MHI Executive Vice President

Signing of MOU with China Huadian Corporation on distributed power generation systems in June 2012

# Voice Expectations of MHI

# Expectations for MHI's continued contributions to natural gas power generation in Dongguan City, China

We supply natural gas to China's Dongguan City, a city famous for its manufacturing industry. In China, environmental problems caused by coal use are worsening, and clean natural gas power generation, which is gentle on the environment, is seen as promising. Power demands in Dongguan City are on the rise due to economic development, while planned power cuts are being implemented because of chronic power supply insufficiencies. As a result, I found the MEGANINJA appealing; it runs on natural gas and can be promptly installed in areas where power is insufficient. I feel that MHI is putting its total strength into the natural gas power generation business in Dongguan City, and I look forward to continuing our partnership with them in the future.



Dai Wen De Former CEO Guangdong Dongguan XinaoGas

Japan

# **Delivering New Urban Transportation** Systems that Are Safer, More Comfortable, and Friendlier to the Environment

Urban transportation systems are being reviewed in countries around the world against a backdrop of chronic traffic congestion, exhaust air pollution and a rapidly aging society. To help resolve these issues, MHI has developed advanced transportation systems like the Automated People Mover (APM) Systems, and 100% low floor Light Rail Vehicle (LRV), and so on.



# Hiroshima's highly advanced tram system — the most widely used in Japan — features the first domestically produced barrier-free 100% low floor LRV called "JTRAM"

It's an easy means for people to get around. It produces no exhaust gas and is extremely energy efficient. The LRT (Light Rail Transit) is currently drawing attention worldwide for raising convenience to new heights, while leveraging the unique characteristics of trams.

One important player in the transition to LRT is the people-friendly LRV (Light Rail Vehicle). Barrier-free, step-less LRV cars are designed to allow passengers to board or alight directly from or to station platforms, but were not manufactured in Japan until recently.

Japan had long hoped for an LRV suited to its climate, topography and unique urban structure, and in 2005, MHI developed a bogie with an independent wheel system, an essential component of the LRV and the first of its kind in Japan. In the consortium U3 Project,



First domestically produced 100% low floor LRV, Green Mover max (5100-Series)

MHI together with Kinki Sharyo Co., Ltd. and Toyo Denki Seizo K.K., delivered the Green Mover max, the first domestically developed 100% low floor LRV to Japan's largest domestic tramway operator, Hiroshima Electric Railway Co., Ltd.

The development concepts of the U3 Project were defined as "Ultimate,"

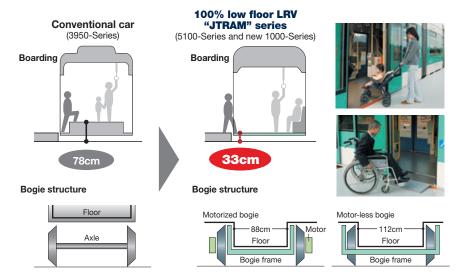
"User-friendly" and "Urban." The conventional step down from the tram to the platform was eliminated, resulting in a more accessible transportation means for senior citizens, parents with baby strollers, and individuals in wheelchairs.

In February 2013, the U3 Project delivered the "JTRAM R" (called 1000-series vehicles in Hiroshima) that maintains the barrier-free design of the Green Mover max while adopting a more compact design and shorter car length. Shortening the overall length made it possible for the 100% low floor LRVs to run on all lines in the city, including those where station platform lengths had previously made introduction difficult.

In the future, MHI will continue to provide transportation systems that are easy to use and reflect the needs of the times.

# Safe and pleasant boarding with a floor height of 33cm

# **▼** Comparison of ease of access and bogie structure

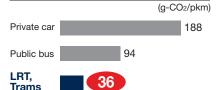


# Improving comfort, safety and environmental performance

# Conserving greater energy with car control

As a means of transportation, trams are environmentally friendly. Using advanced control technology to run the motorized bogies on the U3 100% low floor LRV "JTRAM" makes travel more comfortable while keeping power consumption low and energy savings high.

## CO<sub>2</sub> emissions per passenger-kilometer by modes



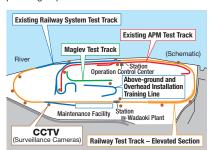
Source: Ministry of Land, Infrastructure, Transport and Tourism, 2002 white paper

# Reduced noise and vibration

In comparison to conventional cars, the new bogie, low center of gravity, light car body and other features of the U3 100% low floor LRV "JTRAM" contribute to a reduction in noise and vibration.

# ▼ Safety demonstrated on dedicated test line

MHI has a large-scale test rail track at its Wadaoki Plant (Hiroshima Prefecture, Mihara City) that was used to thoroughly verify the safety and comfort quality of the cars. In addition, with an eye on global development, MHI plans to establish Japan's first comprehensive railway transportation system verification facility in the same area (in 2014), with the aim of making the facility available to other corporations and public and private groups.



Improvements in safety and comfort to be undertaken at the MIHARA Test Center, Japan's first comprehensive railway transportation system verification facility

# **▼** Newly developed axle-less cars

In conventional cars, the left and right wheels are connected by an axle, which determines the floor height. The newly developed, independent wheel bogie makes it possible to considerably lower floor height of the car by eliminating the axle and bringing the door threshold to within 33cm of the ground.

# Automated people movers and rail transit systems at work around the world

MHI also provides rail transit systems that contribute to the safe operation of railways, and APM (Automated People Mover) systems with fully automated cars running on rubber tires that are used in airports and urban areas. By taking regional issues and characteristics into account and comprehensively providing everything from car manufacture to administration systems, MHI is contributing to the resolution of urban transportation issues around the world.



Singapore Changi Airport (APM)



Tokyo, Yurikamome (APM)



Dubai Metro (Rail Transit System)



New compact 18m 1000-series LRV began commercial operations in February 2013.

# Voice Expectations of MHI

# Admiration for development of domestically produced LRV and high hopes for expansion abroad $\,$

Vehicle comfort as a living space stands alongside vehicle performance as one of the desirable elements in the development of LRVs in Japan. Other differentiating elements from those of overseas include pleasant climate control, adequate number of seats, aisle width that allows for unimpeded movement inside the train, and the necessary facilities for correcting fares. MHI has developed an LRV that specifically meets Japan's uniqueness.

In the future, I hope the company will further refine safety and comfort by expanding the test tracks. In addition, I would like to see the expansion of this LRV, in which Japan's meticulous consideration is given full play, and would like MHI to expand its system coordination and operation services to areas overseas as well.



Hideki Fujimoto Group President, Tram Company, Hiroshima Electric Railway Co., Ltd.

# **Contributing to International Space Activities by Enhancing Launch Capability** and Reliability

A reliable launch vehicle is essential for space development. MHI has developed the H-IIB Launch Vehicle to meet the growing demand of heavier satellites from global users. MHI is also contributing to international space activities by transporting supplies to the International Space Station using the H-II Transfer Vehicle, "KOUNOTORI," launched by the H-IIB Launch Vehicle.



# Providing assured access to space by our reliable launch vehicle

One of MHI's business activities is launch services. In this "space shipping" role, the company is entrusted with satellites (freight) by customers (satellite manufacturers and operators) and delivers the cargo by a launch vehicle to a designated place at a predetermined date and time. MHI entered this business in 2007 with the launch of the JAXA\*1 lunar orbiter "KAGUYA" on H-IIA Launch Vehicle No. 13. All subsequent launches up to and including H-IA No. 22 in January 2013 have been successful.

With H-IIA Launch Vehicle No. 21, MHI was commissioned by KARI\*2 to launch its first non-Japanese satellite by MHI's launch services. Moreover, following the successful launch of the H-IB Launch Vehicle No. 3 - built to transport larger satellites as well as the H-II Transfer Vehicle known as "KOUNOTORI" - MHI will also handle all



Earth as seen from KOUNOTORI3 launched by the H-IIB launch vehicle in July 2012

H-IB launch services beginning with No. 4, scheduled to launch the "KOUNOTORI4" on its way to the International Space Station.

Although several European and American companies are involved in the satellite launch business, there are few that can match MHI's ability to implement the entire process from vehicle manufacture to launch.

Over nearly 40 years of rocket development and manufacturing experience, MHI has amassed a wealth of knowledge and improved its launch success rate. A string of successful on-schedule launches is testament to the world-class reliability of MHI's launch services.

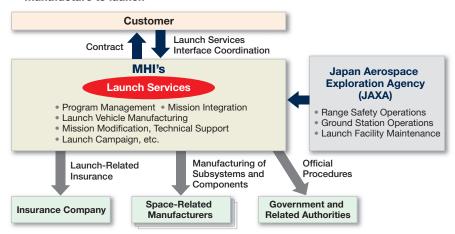
MHI, as a launch services provider, will continue to leverage its technologies and expertise to secure a reliable access to space that can meet a variety of needs from our global customers. MHI will continue to fulfill expectations for space development, paving the way for mankind's future.

- \*1 JAXA: Japan Aerospace Exploration Agency. An independent administrative agency in charge of Japan's space science research, aerospace technology research, and space development research.
- \*2 KARI: Korea Aerospace Research Institute. A government agency that handles the Republic of Korea's aerospace and space development research.

# Utilizing advanced and comprehensive space technologies

MHI coordinates the entire process of launch services from launch vehicle manufacture to interface coordination between the spacecraft and launch vehicle, program management, and execution of the launch campaign.

# ▼ MHI implements the entire process of the launch services from vehicle manufacture to launch



# Doubling the launch capability: From 4 tons of H-IIA to approximately 8 tons of H-IIB

# Meeting diverse launch needs



Parameters		H-IIA Launch <b>H2A202</b> Standard	H-IIB Launch <b>H2B</b> Heavy Lift
Height (m)		53	56.6
Gross Mass (excluding satellite mass) (t)		289	531
Maximum Launch Capacity (t)	GTO	4.0	about 8
	Orbit for HTV	-	16.5

Illustration by JAXA

# Transporting roughly 6 tons of cargo into space

The administration of the International Space Station (ISS) is shared by 15 nations. MHI is in charge of the system coordination and manufacture of the large H-II Transfer Vehicle "KOUNOTORI," which delivers food, clothing, and experimental equipment of all types to the ISS.

▼ H-II Transfer Vehicle "KOUNOTORI," a supply vehicle to the International Space Station





"KOUNOTORI" delivers supplies in space

# Development of a new launch vehicle

The H-IIB Launch Vehicle was jointly developed by JAXA and MHI utilizing the technology and experience cultivated during the development of the H-IIA. The three H-IIB launches to date all served to successfully launch the H-II Transfer Vehicle "KOUNOTORI," which can transport approximately six tons of supplies to the ISS.



Manufacture of core fuselage for H-IIB Launch Vehicle No. 3



Control room at JAXA Tanegashima Space Center where launches and ground facilities are controlled.

# Voice Expectations of MHI

# Becoming an asset to Japan's space development by facing the world's needs directly

As joint developer of the H-IIB Launch Vehicle, MHI's contributions have been tremendous. In space development, even a small error can drastically affect the entire project, but MHI firmly supported JAXA activities, and it did so from a project management standpoint as well as from a technical viewpoint.

Last year, we transferred the H-IIB launch services to MHI as we did before with the H-IIA. In the future, I hope that MHI promotes its launch services to meet not only national demands but also global customer needs because I believe that MHI's launch services activities will benefit Japan's space development as well.



Takumi Ujino

Chief Engineer,
Senior Chief Officer of
Technology Strategy of Space
Transportation Program,
Space Transportation
Mission Directorate,
Japan Aerospace Exploration
Agency (JAXA)

# **Employee activities**

The MHI Group values the passion of individuals and supports employee participation in CSR activities. With the shared desire to contribute to regional communities and society through our work, all of our employees are involved in a wide range of CSR activities.

# World's First Radioactive Waste Storage Tank Facility Completed

# Motofumi Kumagawa

Deputy Manager
Construction Team 1
Construction Engineering & Service Planning Section
Nuclear Power Plant Construction Department
Nuclear Plant Production Division
Nuclear Energy Systems

I was responsible for process management in a construction project installing equipment for the stable storage of radioactive waste (sludge generated in the processing of radiation-tainted water) at the

Fukushima Daiichi Nuclear Power Station, operated by Tokyo Electric

Power Company, Inc. (TEPCO). We commenced construction planning in May 2011 in the immediate aftermath of the Great East Japan Earthquake, and from October of that year - in cooperation with Engineering Headquarters - began grappling with onsite construction work. Since the eyes of the world were fixed on Fukushima, we were determined to deliver the project as soon as possible and without problems. There was also a need to proceed with utmost caution in order to minimize exposure to radiation. Amidst these difficulties, all of us connected by the project were united in a shared sense of working "for the sake of Japan." We successfully completed transfer of the facility to TEPCO in June 2012. Moving forward, I would like to continue contributing to the earthquake recovery efforts through my work at MHI.



G2 Area sludge storage tank equipment at TEPCO's Fukushima Daiichi Nuclear Power Station



Sludge storage tank installation

# Unified in Striving to Create a Safer Workplace

# Tatsunori Sakata

Nagasaki Industrial Safety and Health Team Safety & Environment Management Section Nagasaki & Shimonoseki General Affairs Department Nagasaki Shipyard & Machinery Works

I am in charge of general safety and health management within the Nagasaki Shipyard & Machinery Works. Those of us responsible for safety issues are committed to the safe return of our hardworking colleagues to their families each day, and therefore consider it our responsibility and mission to provide optimal on-site support and quidance



A key step in that regard is to establish strong bonds of trust with employees at their places of work. Whenever I have the opportunity, I visit our workplaces to answer questions and address issues directly in order to develop rapid and appropriate responses. We experienced a major workplace accident at the Nagasaki Shipyard & Machinery Works in recent years, and I was personally involved in dealing with the outcome. I will never forget the sadness and self-reproach I felt at that time. I am therefore committed to creating safer workplaces so we never again suffer such a terrible disaster. To that end and going forward, I join all workplace colleagues in carrying out intensive health and safety activities.

# Commercial ship well received for achieving reduction in environmental footprint and improving work environment

Eiichiro Uchino (photo: far left)

Deputy Director,

Nagasaki Ship & Ocean Engineering Department,

Ship & Ocean Engineering Division,

Shipbuilding & Ocean Development

Our company completed construction of the world's largest roll-on/roll-off (RO/RO) ship, the "TØNSBERG" in March 2011. Its high transport efficiency and outstanding environmental compatibility were recognized by it being awarded "Ship of the Year 2011" from the Japan Society of Naval Architects and Ocean Engineers.



The "TØNSBERG" is the first in a series of four vessels ordered by a shipping group based in Norway and Sweden.

I was in charge of project management, as well as external negotiations and internal coordination. Going forward, I hope to continue providing high value-added ships like the TØNSBERG, which improve the work environment of the cargo room and reduce environmental impact during loading, unloading and sailing.

I also hope to support the streamlining of global logistics.



World's largest RO/RO ship "TØNSBERG"



Wheeled vehicles are directly driven on and off as on a ferry

# Remote-controlled robot developed to aid work in high radiation environments

# Tatsuya Hashimoto

Equipment Designing Section,
Nuclear Plant Component Designing Department,
Nuclear Plant Production Division,
Nuclear Energy Systems

I developed the platform module for a remote-controlled robot capable of working up to significant heights in areas where people cannot enter, such as the high radiation environment at TEPCO's Fukushima Daiichi Nuclear Power Station. With a limited budget and a time frame of just nine months, many employees fully dedicated themselves to developing the new robot, starting from nothing, to meet demand specifications.



As a result, we received high praise from our customers at an achievement presentation they hosted. In the future, I plan to look beyond my main area of machine development, working on my skills as a robotics technician, in order to contribute to the restoration of the Fukushima Power Station.



MHI employees and colleagues involved in the project



Valve opening and closing operated by remote-controlled robot

# Continuing the rescue of photos swept away in the tsunami and their return to the disaster region

# Makiko Takenaka

Group A,
International Sales & Marketing Department,
Power Systems

After volunteering to work in the affected areas of the Great East Japan Earthquake, what I felt most strongly about was that relief efforts should not end after just a few days of volunteer activities. Commencing in August 2011, the Power Systems business headquarters organized the "MM (Minato Mirai) Memory Restoration Brigade," a group of volunteers who clean and return to the disaster region photographs that were swept away in the tsunami and whose owners are unknown.



Over 1,500 people from inside and outside the company have participated in this project at MHI's Yokohama Building, Shinagawa Building and Kanazawa Factory, cleaning over 100,000 photographs. Each and every photograph represents a precious memory of our time on earth and acts as evidence of the lives we and our families have led. I began this activity to save as many photos as possible, but ultimately gained so much in my life through this relationship between the people of Tohoku and Yokohama.



Venue for returning memorable items (Rikuzentakata-shi, Iwate)



Cleaning photographs one by one according to their condition

# Developing talented resources to develop Vietnam's aircraft industry

# Takatsugu Nagahama

MRB Team,

787 Design Section,

Commercial Airplanes Engineering Department,

Commercial Airplanes Division,

Aerospace Systems

MHI Aerospace Vietnam Co. (MHIVA) was established as a subsidiary of MHI in Hanoi, the capital of Vietnam. In conjunction with its establishment, MHI has been working with the Hanoi University of Science and Technology to provide courses and scholarships with the aim of developing talented individuals who can serve in active roles as



aircraft production engineers in the future. MHI has conducted three yearly lectures and an annual workshop, in addition to providing scholarships to 12 people every year since 2009.

I gave a presentation at the workshop held in October 2012 on the use of 3D CAD (CATIA) technology in the manufacturing process. The students there have great enthusiasm for learning, and if the opportunity arises, I would also love to offer them field experience in flying gliders, which is one of my hobbies.



Awarding scholarships to 12 students



Presentation at workshop

# All visitors excited by sheer force of live rocket launch images

# Asami Usuki

Mitsubishi Minatomirai Industrial Museum

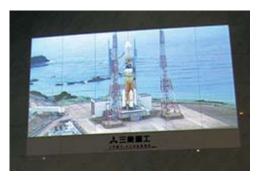
Mitsubishi Minatomirai Industrial Museum is a facility where you can closely examine and learn about state-of-the-art science, technology and MHI manufacturing. This includes MHI's participation in the development, manufacture and launch of the H-IIA and H-IIB Launch Vehicles and KOUNOTORI3, a cargo transfer vehicle to the International Space Station. In July 2012, we held a public viewing of a live feed from a JAXA's rocket launch, which was projected onto a large-screen display at the entrance of the museum.



The dynamic live images excited all visitors, and it also served as a great learning experience for me. We will continue to host events that spread dreams and hopes and generate public interest in science.



Large-screen display captivated visitors



Live feed of rocket launch

# Working on support projects aimed at educating India's next generation of technicians

## **Tomoe Nagasawa**

Corporate Social Responsibility Group, Corporate Communication Department, Presidential Administration Office

"India Scientific Laboratory Support Project" was launched in collaboration with Plan Japan, an international NGO. As part of its philanthropic activities in India, the project will take place from March 2013 until February 2014. I am responsible for conducting field surveys and coordinating with NGOs. In November 2012, I visited a local junior high school that has already set up science laboratories. I listened to a presentation on the effects these laboratories have had



on children's learning and examined the potential for teaching materials we plan on donating. Careers in the scientific fields are popular in India, but the reality is that there is a low completion rate of compulsory education, narrowing students' choices in their careers. Through this project, we hope to contribute to the improvement of education quality and train the next generation of technicians in India.



Interacting with elementary school children in India



Performing scientific experiments with children

# MHI will strive to identify adverse human rights impacts of our business activities and take appropriate steps to respect human rights

MHI has worked to identify human rights impacts of business activities at the Nippon CSR Consortium with other members including representatives of companies and NGOs/ NPOs, academics and experts.

MHI has joined the Human Rights Due Diligence Workshop at the Nippon CSR Consortium, in which MHI worked to identify, prevent, and mitigate adverse human rights impacts of business activities with other members including representatives of companies and NGOs/ NPOs, academics and experts. The Nippon CSR Consortium is a platform to which different actors bring knowledge and expertise, and where they can work together to improve CSR activities in Japan. It is organised by the Caux Round Table Japan\*1, and aims to increase the contribution of Japanese companies to global society by facilitating communications with the global society as well as with different stakeholders.

Through the workshop, we have learned differences in awareness level between Japan and overseas, as well as how other companies address human rights issues. We have also deepened our understandings of human rights and business through lively discussion on sector-specific human rights issues. On the basis of the sector-specific human rights issues identified as "Human Rights Issues by Sector," MHI will strive to take appropriate steps to identify adverse human rights impacts of our business activities, while assessing existing activities and examining how the issues can be addressed.

# Participants in the Nippon CSR Consortium

## NGO / NPOs

- ACE (Action against Child Exploitation)
- Change Fusion
- CSO Network Japan
- Amnesty International Japan
- Ek Sathe
- Oxfam Japan
- Polaris Project Japan

## Companies (Sectors)

Heavy Industry, Electric Equipment, Information Equipment, Chemistry, Automobile, Food, Information Communication, Logistics, Textiles and Apparel, Retail, Finance, Trading, Think-tank, etc. Total 39

# ▼ 5 steps to identify human rights impacts of corporate activities



Dialogue between companies and stakeholders at the Human Rights Due Diligence Workshop Through **dialogue** with different stakeholders, including human rights organizations, participants have **deepened understanding of human rights issues in business,** and clarifying what can actually be an "issue."

- Hearing of what NGOs and experts think about human rights (Sep 21, 2012).
- Discussion between corporate members about business and human rights (Sep 26, 2012).
- Exchanging opinions and clarifying human rights issues between NGOs. Experts and corporate members (Oct 11, 2012).



Identification and intra-sector sharing of main human rights issues by sector at the Human Rights Due Diligence Workshop **Sector-specific human rights issues** are identified through discussion, examination and assessment carried out by sectorial groups, based on the **UNEP FI**\*2 Human Rights Issues by Sector issued 2011.

- Learning about human rights due diligence (Nov 2, 2012)
- Discussing on what could be potential human rights issues in sector groups (Nov 15, 2012)
- Identifying human rights issues by sector (Dec 14, 2012)



Mapping of existing activities at the individual company

# Mapping existing activities concerning human rights issues,

assessing the company's (current) management strategy and examining how the issues can be addressed.

On March 2013, we conducted a stakeholder dialogue to move to the next step, step C to D.



Stakeholder dialogue at the individual company

Company and experts exchange ideas regarding the human rights issues and measures in order to **prioritize the issues**.



Determination of policy and plan, and implementation at the individual company Determining policy and plan by reflecting comments from stakeholders, implementing that plan, and monitoring the progress.

- \*1 Caux Round Table Japan: Caux Round Table was founded in 1986 by business leaders from Europe, the U.S. and Japan, and has been working to promote corporate responsibility in reducing social and economic threats to world peace and stability. Since its establishment in 2000, CRT Japan has been providing support to Japanese companies for integrating social responsibility into corporate strategies and activities.
- \*2 UNEP FI (United Nations Environment Programme Finance Initiative): UNEP FI is a global partnership between UNEP and the financial sector. Over 200 institutions, including banks, insurers and fund managers, work with UNEP to understand the impacts of environmental and social considerations on financial performance.

# MHI held a stakeholder dialogue to discuss the main human rights issues in the manufacturing sector.

MHI held a stakeholder dialogue on March 13, 2013 to learn from stakeholders in order to identify and prioritize addressing adverse human rights impacts of our business activities. Inviting two experts, Mr. Makoto Teranaka and Mr. Hiroshi Ishida, we exchanged ideas on the main human rights issues in the manufacturing sector.





- It is crucial to take preventive measures against health and disaster risks.
- Identifying mental health problems is the first step to addressing these issues. Continuous improvement of existing programs is expected.
- It is difficult for a company to monitor thousands of suppliers in the upstream of the supply chain by itself. Collaboration with other institutions, such as governments and NGOs, should be explored as an effective method for future activities.
- $\bullet$  Sharing policies both inside and outside of the company is essential

It is expected that MHI will set forth clear policies regarding human resource management, to which appropriate human rights consideration is given.

**Bribery and** 

corruption

Non-state

groups and

security

payments

Possible Human Rights Issues in the Manufacturing Sector

Health and

safety

**Child labor** 

Potential human rights issues that would have significant impacts in the manufacturing sector. These issues will be prioritized by assessing their impacts.

and outsi

- It is necessary to consider differences in culture and business practices. In order to ensure full compliance with anti-corruption laws and regulations of each country.
- It is essential to explain the reason why the company deals with Issue A and not Issue B both inside and outside of the company.
- Basic policies to prevent payments to armed forces should be established.
- Disclosure on policies and agreements related to arms export is expected.

# **Comments and suggestions from experts**

# Identification of human rights issues and the establishment of clear policies will be an effective measure for addressing human rights risks.



## Makoto Teranaka

Visiting Professor, Faculty of Contemporary Law, Tokyo Keizai University

Visiting Professor at Tokyo Keizai University, and former Executive Director of Amnesty International Japan (2001-2011). Area of specialization: Human rights, Criminology and International Criminal Law. Publications (co-author): "Heiwa Jinken NGO" and "Kaishain no tameno CSR Nyumon."

Human rights issues naturally involve the entire supply chain, including suppliers and clients. Since it would be almost impossible to manage the entire supply chain, it is crucial to begin with the identification of human rights issues related to the MHI Groups, and to establish clear policies in relation to them. Disclosure of such policies would also help the company to prevent human rights risks. I hope that MHI will set clear policies on CSR and take initiatives in this field as a leading and influential Japanese company.

# I look forward to MHI's participation in global rule-making on human rights



Hiroshi Ishida

Caux Round Table Japan

Executive Director of Caux Round Table Japan, Global CRT Senior Advisor, Professor at Institute of Business and Accounting, Kwansei Gakuin University, Part-time Lecturer Kyushu University Business School.

To address human rights issues, it is essential to know the real conditions. Taking child labor as an example, by conducting in-house audits to the best of your abilities, MHI should deliver a strong message to their business partners that "we are not involved with child labor, and we do not permit you to be involved with child labor either." I look forward to MHI's participation in the global discussion on human rights and its positive contribution to global rule-making as a member of UN Global Compact.

# **Endorsement Statement of Human Rights Due Diligence Status Check**

Caux Round Table Japan herewith confirms that Mitsubishi Heavy Industries (MHI) has participated in a series of Human Rights Due Diligence Workshops at the Nippon CSR Consortium. At the workshop, MHI has contributed to identifying human rights issues related to the manufacturing sector, while joining in discussion, and shared expertise with other members from different sectors. In addition, MHI has mapped existing activities concerning human rights, and conducted a dialogue with stakeholders. I look forward to seeing further progress being made by MHI, including prioritization of the identified issues by placing them in the value chain, and determining policy, in order to integrate human rights into the company's strategy, culture, and day-to-day operations.



Hiroshi Ishida Executive Director, Caux Round Table Japan

# **Highlights of CSR Activities in FY2012**

Herein we will mainly describe new initiatives related to the environment and social contributions from among the CSR activities undertaken by MHI Group in fiscal 2012, or initiatives which saw marked progress. We will continue to fulfill our responsibility as a manufacturer providing social and industrial infrastructure in Japan and overseas.



# Donating storage refrigeration units to local fisheries cooperative for reconstruction support



The Air-Conditioning & Refrigeration Systems business headquarters donated prefabricated MHI storage refrigeration units to the Shichigahama branch office of the Japan Fisheries Cooperative in Miyagi Prefecture.

The region had a vigorous seaweed cultivation and fishing industry, however the cultivation and processing equipment, as well as fishing vessels, suffered severe damaged from the tsunami caused by the Great East Japan Earthquake.

The donated storage refrigeration units are indispensable for the pollination of seaweed in the summer, and are expected to be of assistance in the restoration efforts.

# Promoting conservation of regional biodiversity through forest cultivation and elimination of invasive fish species

The Machine Tool business headquarters together with the Konze Production Forestry Cooperative and Ritto City Commercial and Industrial Association, undertakes a volunteer project for forest cultivation known as "Megumi no Mori."

The initiative took advantage of MHI's "Funds for Community Engagement," and was attended by 60 employees.

We also took part in a competition to eliminate invasive fish such as the black bass and bluegill from Lake Biwa, as part of our efforts to protect the biodiversity of the region.



## Holding Business Partner Conferences for the first time for suppliers in India and China

MHI held its first overseas Business Partner Conferences in Bangalore, India in February 2013, and in Shanghai, China in March 2013. The conference in India was attended by 13 business partners.



# Opening the Safety Transmission Center, a safety education facility, at Nagasaki Shipyard & Machinery Works

This is a facility opened in October 2012 at the Nagasaki Shipyard & Machinery Works to encourage sensitivity to, and a culture of, safety. The facility enables users to learn important points and countermeasures for the prevention of accidents through videos of reenactments and information panels. The facility also offers study on the causes of human error and training in anticipating danger.





# Winning an Environmental Business Award in 2012 with environmentally friendly CO<sub>2</sub> Recovery Plant

MHI received an Environmental Business Award for its carbon dioxide (CO<sub>2</sub>) Recovery Plant in the "eco japan cup 2012," an environmental business contest sponsored primarily by Environmental Business Women and the Ministry of the Environment.

## Declaring Basic Policy Concerning Conflict Minerals

In April 2013, MHI published its Basic Policy Concerning Conflict Minerals on its website, declaring that the company has no intention of abetting human rights abuses or environmental destruction by procuring raw materials, parts or products which contain the conflict minerals.



## Continually implementing measures to improve safety of nuclear power plants

Nuclear Energy Systems business headquarters is deploying safety improvement measures for the pressurized water reactor (PWR) plants in Japan in the wake of the station blackout accident at the Fukushima Daiichi Nuclear Power Station operated by Tokyo Electric Power Co., Inc. Furthermore, since July 2012, we have provided comprehensive support for the restart of Ohi Nuclear Power Station Units 3 and 4 operated by Kansai Electric Power Co., Inc., contributing to the first restart of a nuclear power station in Japan since the Great East Japan Earthquake.

## Selection by Eco-funds and SRI indicators

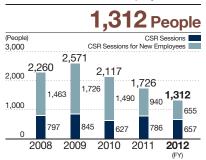
In fiscal 2012, MHI was again included in the eco-funds, formed based upon surveys of companies conducted by corporate rating agencies in Japan and overseas, and MS-SRI, a socially responsible investment index coordinated by Morningstar Japan K.K.

## **CSR Medium-Term Action Plan and Results of Promotion**

To advance the global promotion of CSR activities, activity areas were reorganized in fiscal 2012 according to the seven core subjects of ISO 26000.

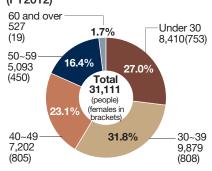
Area	Priority item	Medium-term targets (FY2011-2013)	CSR Action Plans for FY2012
	Broadened CSR awareness	Penetration of global awareness towards CSR including overseas locations and Group companies     Global information dissemination of status of CSR activities	(1) Continue to hold briefings for overseas Group companies     (2) Consider and implement global measures for penetration of corporate culture reforms and CSR     (1) Publish CSR report in Japanese and English     (2) Consider creating a CSR website in Chinese, and updating it alongside publication of the CSR report
Organizational governance	Risk management	Commonizing a consciousness for important risks among all departments and sections and establishing a risk management PDCA cycle through efficient and effective audits	Proactive response through auditing for "Processes to strengthen business" Implement auditing including at corporate regulatory departments for "Compliance consolidation"
	Promotion of IR activities	Improve timely and accurate information dissemination capabilities as per the needs of investors and strengthening in-house feedback on information to be used as reference material by management	Hold more investor events at sites both in Japan and overseas
Human rights	Raising awareness of human rights	Embedding understanding and consciousness about human rights issues company-wide     Development of sexual harassment and "power harassment" (workplace bullying & harassment) prevention efforts     Establish a workplace and corporate culture where human rights issues do not arise     Company-wide penetration of understanding and consciousness regarding the expansion of employment of the differently-abled people     1. Achieve company-wide employment rate of 2.2% by the end of FY2013     2. Plan to increase employment in all divisions	Hold meetings of the Committee for Raising Awareness of Human Rights     Introducing human rights issues in each training program and continuing implementation     Strengthening awareness of sexual harassment and "power harassment" (workplace bullying & harassment) prevention     Continuously implementing positive employment actions so as to achieve the target of a hiring rate of 2.1% for differently-abled people.
Labor practices	Creating a better workplace 1 Enriched education 2 Strengthening mental health 3 Nurturing the next generation	Strengthening global human resource development based on the road map for cultivation of global human resources (G-MAP)     Conduct effective measures to combat mental health problems from prevention to return to work     Continue to maintain the next-generation accreditation mark	I Fully implement global education in accordance with G-MAP Strengthening mental health promotion systems and initiatives in the whole company to reduce absence due to mental health disorders  (1) Promoting increased awareness of mental health initiatives among employees, and promoting effective mental health care  (2) Providing a mental health advice system that is easy for employees to use  Accelerate penetration of knowledge and understanding among employees about next-generation development and work-life balance support

#### Number of recipients of CSR sessions/ CSR sessions for new employees\*

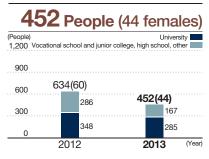


\* Including some Group companies

## Breakdown of employees by age (FY2012)



#### Number of new graduates hired



(females in brackets)

· Results of other activities related to the priority item

#### **Results from CSR activities in FY2012**

#### CSR Action Plans for FY2013

- Continued to hold CSR sessions at all 12 MHI works and selected Group companies, and session participants were again asked to complete a survey
- 2 Continued to publish a CSR Report (brochure and website) in Japanese and English, and posted CSR-related content in Chinese to the Mitsubishi Heavy Industries (China) Co., Ltd. website
- 1 Continue to hold CSR sessions at all locations, including the Head Office, and consider expanding these sessions to overseas Group companies
- 2 Continue to publish a CSR Report in Japanese and English and expand Chinese
- 1 Established a risk management policy and organization. Identified major risks through discussions between general managers of each department and the general manager of the Management Audit Department
- 2 Conducted audits of business segments, administration departments and Group companies, and supported development and improvement of risk management processes
- Identified and reorganized risks to MHI, and assigned risk control managers of each risk
- · Identified major risks to each department and organized processes for managing those risks
- 1 Hosted plant tours in Japan and the U.S. for institutional investors and financial analysts. Continued to hold company briefings at MHI facilities across Japan for individual investors, and also plant tours for shareholders
- Developed a smartphone app that allows users to read the MHI Annual Report (Japanese only)
- Provided an online version of the Annual Report
  Continued to host business briefings and presentations to announce financial results and business plans

- Manage and implement measures for major risks in accordance with the risk
- management policy

  2 Conduct effective, efficient audits of risks and challenges in business segments, administration departments and Group companies, and provide flexible support
- 1 Continue to hold IR events at sites in Japan and overseas
- 2 Promote in-house feedback through two-way communication with stock market
- Continued to hold Committee for Raising Awareness of Human Rights meetings (integrated the Committee
- for the Promotion of Employment of Differently-Abled People into this committee)

  Continued to hold human rights training session and other awareness-raising activities using printed materials throughout the Group
- Conducted awareness education on "power harassment" (workplace bullying & harassment) prevention for senior managers at all MHI works, and continued e-learning curriculum for power harassment prevention
- 4 Reached hiring rate of 2.1% for differently-abled people by using recruiting websites, actively participating in recruitment events and making other recruiting efforts, and following-up on employees in each division
- Hold meetings of the Committee for Raising Awareness of Human Rights
   Introducing human rights issues in each training. Introducing human rights issues in each training program and continuing implementation
- 3 Conduct more effective sexual harassment and power harassment education and awareness activities based on analysis of factors that contribute to harassment
- Continuously implementing positive employment actions so as to achieve the target of a hiring rate of 2.2% for differently-abled people.
- 1 In FY2012, roughly 1,750 employees attended group training and 48 young employees undertook MHI Global Training (MGT) in accordance with G-MAP
- 2 Held an industrial medicine conference for the entire company and sectional meetings to explore and implement an organization and actions to promote mental health
- 3 Hosted MHI's first lecture by a non-Japanese, female external director, and periodically held round-table meetings for employees who are on or have taken childcare leave
- Actively worked to find overseas training opportunities for young employees (since beginning the program in 2012, around 100 young employees were sent abroad in accordance with G-MAP by April 2013)

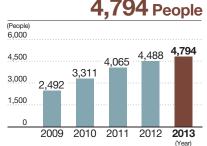
  • Produced curriculum (Starter Kit) presenting the company's history, management philosophy, and business
- overview to impart essential knowledge to employees and cultivate in each individual a sense of connection with the MHI Group. The Starter Kit was distributed to 187 Group companies (84 overseas companies, 103 Japanese companies)
- Around 560 Group company employees in Japan attended stratified education (such as training for division managers), skill-oriented training, English skill enhancement, and other types of training
- Follow the PDCA cycle in advancing global education in accordance with G-MAP
- Continue FY2012 activities
- 3 Strengthen other methods for accelerating penetration of knowledge and understanding among employees

#### Number of female managers\*

#### 293 People (People) 320 288 293 266 248 240 160 80 2009 2010 2011 2012 2013

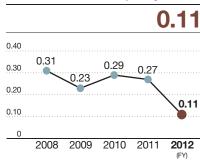
\* section manager and above; excluding medical staff

#### Number of rehired employees\*



\* excluding those from Group companies

#### Industrial accident frequency rate\*



\* Mitsubishi Heavy Industries, Ltd. non-consolidated

Area	Priority item	Medium-term targets (FY2011-2013)	CSR Action Plans for FY2012
	Reduced CO <sub>2</sub> emissions	Average CO <sub>2</sub> emission between FY2008 and FY2012 to be reduced by 6% compared to 1990 level     Establish CO <sub>2</sub> emission reduction target until FY2020 (including Group companies) and promote reduction activities	Promoting CO <sub>2</sub> reduction measures (introduction of or upgrade to energy-saving equipment), implement upgrades based on In-house Air-Conditioner Upgrade Plan Expand the monitoring system to the whole company Implement regular follow-ups for reduction plans of individual works and their actual reduction performances
Environment	Group environmental management	Increase the Group's environmental performance data collection rate both in Japan and overseas     Encourage the acquisition of certifications of environmental ISO standards and others to Group companies in Japan and overseas that are consolidated	Promote acquisition of environmental ISO standards, etc. for domestic and overseas Group companies     Promote the setting of environmental targets for overseas Group companies     Hold the domestic Group company environmental meetings, and hold the Environment Liaison Conferences at each overseas regional supervising office

#### Results of Promotional Efforts of Medium- to Long-Term Environmental Targets

In fiscal 2002, MHI established its Medium- to Long-Term Environmental Targets, earlier than other heavy industry companies, and has made efforts to carry out environmental preservation activities. Moreover, in fiscal 2010 we extended the target for our activities to the end of fiscal 2012 with the aim of establishing environmental targets for the following period, based on the MHI Environmental Vision 2030 (which was established in June 2012). As a result we have been able to achieve our targets for many items, including the realization of a low-carbon society and formation of a recycling-based society. We were unable to achieve our targets related to total generated waste, landfill disposal amount, chemical substance emissions, and energy conservation and reduced CO<sup>2</sup> emissions from product transportation. However, we will continue working to achieve these targets through initiatives such as incorporating them into environmental targets for the next period.

### Results of Promotional Efforts of Medium- to Long-Term Environmental Targets (as of the End of Fiscal 2012)

=target achieved	△=target partially achieved	×=requires further efforts
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tem		Goals	Progress (as of the end of FY2012)	Evaluation
Realization of Reduced CO <sub>2</sub>		6% reduction of the average CO <sub>2</sub> emission amount for the five years from FY2008 to 2012 (from FY1990 level): to be achieved through reduction efforts at all production plants	CO <sub>2</sub> emissions: 452,000 tons (average) 4.1% reduction from FY1990 level The amount that has not been achieved will be allocated as emission credits.	Δ
enciety ell	emissions from business activities	More than 13% reduction of the average CO <sub>2</sub> emission amount for the five years from FY2008 to 2012 (from FY2005 level): to be achieved through reduction efforts at offices and operations divisions (Head Office, domestic offices and research & development centers)	CO <sub>2</sub> emissions: 13,500 tons (average of Head Office (Shinagawa and Yokohama combined) from FY2008 to FY2011) 16.1% reduction on FY2005 level	0
measure)	Reduced energy usage and CO <sub>2</sub> emissions from product transportation	More than 5% reduction of unit energy consumption in transportation in FY2012 (from FY2008 level) by promoting efforts to reduce transportation energy (unit energy consumption of FY2008: 45.7 to 43.4 by FY2012)	FY2012 unit energy consumption: 51.0 11.6% increase on FY2008 level	×
Form a recycling- based society	Reduced waste generation and emissions	By FY2012, reduce total generated waste by 40% of FY1992 level : to be achieved by conserving resources and reducing the purchase of materials	Total emissions:132,000 tons 39.0% reduction from FY1992 level	×
•	Reducing reliance	By FY2012, cut landfill waste disposal volume by 98% relative to FY2000	landfill waste disposal volume cut by 97.5%	×
(waste and water resource	on landfill	The landfill waste disposal ratio in FY2012 will be below 1%	landfill waste disposal ratio 0.5%	0
countermeasures)	More efficient water usage	Water consumption in FY2012 will be cut to 9.35 million tons, a reduction of 2% relative to average consumption of 9.54 million tons in the period FY2005 to FY2007	Water consumption reduced to 7.02 million tons 26.3% reduction	0
Elimination of equipment using PCI and detoxification treatment substances	equipment using PCBs	Detoxification of high concentration PCB waste in storage (transformers, condensers, oils) to be completed by FY2015 (including ballasts and smaller equipment)	Ongoing consignment of processing of high concentrations PCB waste to JESCO (Japan Environmental Safety Corporation)	(To be evaluated
		Analysis and confirmation of low PCB devices (low concentration) to be finished by FY2012, complete detoxification by FY2015	Testing and analysis of machines and devices containing low or trace concentrations of PCBs is underway at all works	in FY2015)
(control of chemical substances)	Reduced VOCs	More than 30% reduction of atmospheric emission of VOCs with focus on xylene, toluene and ethylbenzene (reduced by 704 tons from 2,268 tons in FY2000 to 1,564 tons in FY2012)	Total VOCs emissions 1,782 tons 21.4% reduction from FY2000 level	×
emissions		Aim for zero atmospheric emissions by FY2012 of VOC organochlorinated hazardous air pollutants: dichloromethane, trichloroethylene and tetrachloroethylene	Total combined emissions of dichloromethane, trichloroethylene and tetrachloroethylene = 8.8 tons	×
	Consolidated environmental management system	Ongoing ISO 14001 renewal by domestic works, Head Office, branch offices and research & development centers	Continued ISO 14001 certification renewal at domestic production bases along with research & development centers, Head Office, and domestic branch offices.	0
Group environmental	Collecting and disclosing of environmental management information	Collecting environmental information (environmental data and environmental accounting) from environmental management information systems and disclosing information through CSR Reports and other releases	Collected environmental information (environmental data and environmental accounting) through the database system and disclosing information through this CSR Report.	0
management	Promotion of green purchasing	Promoting the purchase of environmentally friendly products based on the company's own green purchasing guidelines: (Purchasing ratios 90% by volume and 95% by value)	95.0% by quantity 97.2% by value	0
	Development and provision of environmentally friendly technologies and products	Development and provision of new products and technology based on our Basic Guideline on Production of Environmentally Friendly Products (formulated in 2005) to help reduce society's environmental burden In particular, we will work to develop technology and provide products that are revolutionary and contribute to solving global warming and building a low-carbon society	MHI supplied environmental products designed to combat global warming, such as high-efficiency generators (wind power generators, etc.) and CO <sub>2</sub> recovery systems	0
Form a society that coexists with nature (Preserving biodiversity)	Promote activities for the protection of biodiversity and nature	We will continue revegetation, alien fish removal, building biotopes and breeding Japanese honeybees, among other activities relating to biodiversity and examine the possibilities for evaluating the effect of our business activities on the preservation of biodiversity as necessary in light of global trends	Revegetation activities coordinated with various local municipal authorities across Japan, as well as biotope and Japanese honeybee breeding programs were continued Performed evaluations of MHI's degree of initiatives in consideration of biodiversity in its current corporate activities.	0
	-			

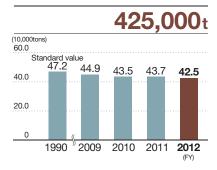
#### Results from CSR activities in FY2012

#### **CSR Action Plans for FY2013**

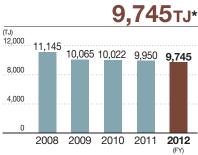
- 1 Upgraded a total of 1,893 air conditioning units based on the plan
- 2 Introduced monitoring systems at five works, including small state introduced at SA Achieved 9.8% reduction of CO<sub>2</sub> emissions (FY2012 results) compared with FY1990 level
- Promoted CO2 emissions reduction at production plants
- Acquired approximately 130,000 tons of CO<sub>2</sub> emission credits from a CDM project
   Reduced greenhouse gas emissions excluding CO<sub>2</sub> emissions from energy use
- Utilizing one million kWh of green power annually thanks to wind power generation
- · Promotion of energy conservation in transport through modal shift and load ratio improvement
- Acquired certifications of environmental ISO standards and others to 83 domestic and 28 overseas Group
- 2 Established the MHI Group 2nd Environmental Targets, including targets for overseas Group companies
- 3 Held Environmental Meetings at six domestic Group companies
- Promoted the preservation of biodiversity in accordance with the Environmental Policy and CSR Action Guidelines
- · Promoted the reduction of waste landfill disposal volumes
- Reduced water usage during production
  Promoted the reduction of chemical substance usage (VOCs, etc.)

- Upgrading of air conditioning units based on the In-house Air-Conditioner Upgrade Plan
- Expanding introduction of monitoring systemsEstablishing a project with the goal of energy conservation, and implementing energy-conservation activities
- 1 Support the acquisition of certifications of environmental ISO standards and others to domestic and overseas Group companies
- Comprehend environmental data for domestic and overseas Group companies
- 3 Holding Environmental Meetings, for domestic Group companies

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

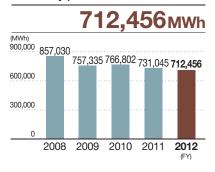


#### Gross energy input

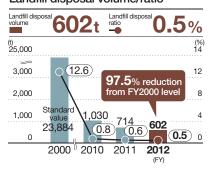


#### \* 1TJ (terajoule) = 1 trillion joules (1,000,000,000,000 J)

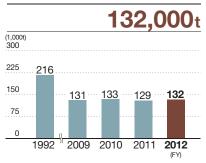
#### **Electricity purchases**



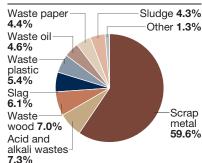
#### Landfill disposal volume/ratio



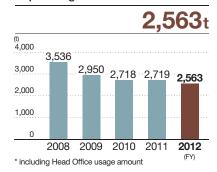
#### Total generated waste



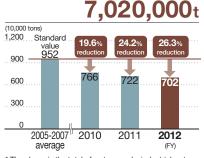
#### Waste generation by material



#### Paper usage'

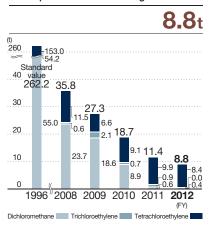


#### Water usage\* and reduction ratio



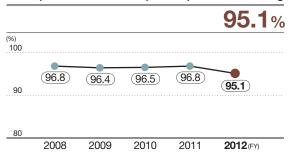
\* The above is the total of water supply, industrial water, and groundwater usage

#### Atmospheric emissions of organochlorides



Area	Priority item	Medium-term targets (FY2011-2013)	CSR Action Plans for FY2012
	Thorough compliance	Decrease matters in need of improvement even at Group companies     Early comprehension and improvement of matters in need of improvement	Strengthen support for overseas Group companies     Strengthen collaboration for crisis and risk management
Order compliance • Po	Continuation of zero policy for violations to the Anti-Monopoly Act     Penetration of order compliance activities     Establishment of order compliance consciousness through awareness and educational activities	Confirm the implementation status of rules of conduct and compliance checks     Implement efficient and effective special monitoring     Promote instructional/educational activities for order compliance	
Fair operating practices	Compliance with the Construction Business Act	Establishment of a self-compliance system (compliance activities incorporated in daily tasks)     Enhancing compliance at Group companies     Enhancing contract compliance with business partners	Implement drafting of measures for detecting problems in maintenance of Installation Organizational Chart Registers     Monitor current status of Group company compliance     Formulate measures to deal with compliance issues in contracts with business partners
	Compliance with export-related laws and regulations	Strengthening the export control management systems and fostering experts in export control management     Further continuous supports for Group companies to strengthen their export control management systems	1 Continuously implement internal training at all levels 2 Promote further acquisition of export control expert qualifications 3 Continuously audit Group companies implement regular training
	CSR procurement	Sharing values regarding the promotion of CSR activities with business partners and avoiding procurement risks with key partners     Effect extensive compliance and adherence to laws and regulations with regard to procurement tasks     Continuous compliance to environmental regulations	Reexamine scope and implementation method of surveys conducted at business partners     Monitoring of procurement-related laws and regulations and effecting improvement follow-ups     Reducing transportation energy
	Product safety	Developing product safety activities within quality management     Steady development of product safety activities     Maintaining the infrastructure for product safety activities	Integrate product safety activities and development work into quality management     Continually develop foundation for product safety activities (developing human resources, maintenance of standards)
Consumer issues	Ensuring quality and safety of nuclear business	Refine and continually improve QMS (Quality Management System) with an eye on global business development Shibit our comprehensive technological strengths and enhance customer satisfaction Enhance the attitude of compliance with laws and rules and cultivate a strong nuclear safety culture	1 Continually strive for better safety and quality through initiatives taken by the "Managing Board for Innovation in the Nuclear Business"  2 Reflect lessons learned from Fukushima and effective countermeasures for accident prevention to the PWR design in order further improve nuclear safety  3 Continually strive to cultivate a strong nuclear safety culture
	Enhancement of brand value	Acquiring broad recognition as a global company and increasing the number of MHI fans	Promoting a global advertisement strategy by building an integrated corporate image
Community involvement and development	Socially beneficial activities	Proactive development of social contribution activities with the cooperation of various stakeholders Examining possibilities for the globalization of social contribution activities and development of social business	Evaluate activities with affiliated NGO/NPOs and formulate plans for the next fiscal year. Begin collaboration with an NGO/NPO for the management of the fund for social contributions     Improve/expand the system for the following year, based on the performance of the fund
	Improvement of the Mitsubishi Minatomirai Industrial Museum	Establish its role as a facility that provides opportunities for children to develop an interest in science by showing them the pleasure of manufacturing	Responding systematically to both the intangible (staff training) and tangible (exhibit refurbishment) aspects

#### Participation rates for compliance promotion training



hange in expenditures on social contribution activities (million yen)						
	FY2012					
Academic research	339	247	164	177		
Education	537	633	596	503		
Community activities	158	141	180	153		
Sports	114	149	133	173		
Other	507	440	1,023	474		
Total	1,655	1,610	2,096	1,480		
Percentage of ordinary profit	6.89%	2.36%	2.39%	1.00%		

(Note 1) Figures include cash donations, payments in kind, activities by employees, free use of company facilities, etc., converted into monetary equivalents; activities privately performed by employees are not included.

(Note 2) Includes group companies under consolidated accounting.

(Note 3) Social contribution expenditures in FY2010 do not include those related to the Great East Japan Earthquake (donations, fund-raising, etc. during March 11-31, 2011). These expenditures were included in FY2011.

(Note 4) Social contribution expenditures in FY2012 are currently being calculated.

#### · Results of other activities related to the priority item Results from CSR activities in FY2012 **CSR Action Plans for FY2013** 1 Visited each Group company in the U.S., Europe and India, to confirm current situations in detail and to exchange opinions with local management 2 Centralized the management of internal audits, risk management, crisis management and compliance, comprehended and analyzed each issue. Confirmed the effectiveness of measures to hedge and/or moderate 1 Strengthen support for overseas Group companies 2 Tighten linkage with crisis and risk management risk, and built a system to organically promote measures, including those to prevent reoccurring risk Reorganized the Compliance Committee into the Risk Compliance Committee 1 Expanded target to include government, public and private demand both in Japan and overseas. Revised the rules of conduct with the expansion of targets 1 Confirm the implementation status of rules of conduct and compliance checks 2 Continued to implement special monitoring for order compliance 2 Implement efficient and effective special monitoring 3 Held seminars at MHI and Group companies in Japan, Europe, the U.S., and China on compliance with 3 Promote instructional/educational activities for order compliance • Clearly defined function of the secretariat for the Order Compliance Committee 1 Revised a standardized company-wide form to record the social insurance enrollment of specified constructors and subcontractors into the Installation Organizational Chart Register, in line with revisions to Implement drafting of measures for detecting problems in maintenance of ministerial ordinances Installation Organizational Chart Registers 2 Implemented regime monitoring at 19 Group companies and construction site monitoring for 16 companies 3 Continued to conduct seminars on Construction Business Act for business partners 2 Monitor current status of Group company compliance 3 Formulate measures to deal with compliance issues in contracts with business partners Implemented regime and construction site monitoring for 9 business segments Continued to conduct seminars on Construction Business Act at all our bases of operation Continued to implement e-learning for all employees engaging in export operations and also training sessions for managers of each division 1 Continuously implement internal training at all levels 2 Continued to promote acquisition of the expert qualification 2 Promote further acquisition of export control expert qualifications 3 Created an English version of e-learning materials to provide support for export control activities at its 3 Continuously audit Group companies implement regular training Implemented surveys for all five points (quality, price, delivery, technology, and management) at around 2,300 companies and had these companies evaluate themselves on the extent to which they are engaging in CSR 1 Reexamine scope and implementation method of surveys conducted at 2 Applied results and examples of improvement from monitoring of procurement-related laws and business partners 2 Monitoring of procurement-related laws and regulations and effecting regulations at each office to similar processes 3 Transportation energy (FY2008 unit energy consumption: 100 attained out of 111.6) improvement follow-ups 3 Reducing transportation energy Continued to hold business partner conferences in Japan and also hold similar conferences in India and China Deploy product safety activities into quality management companywide Incorporated product safety activities into quality management using model products Developing basic product safety activities (developing human resources, maintenance of standards) 2 Continually develop foundation for product safety activities (developing human resources, maintenance of standards) Implemented activities under a new organization by replacing the "Managing Board for Innovation in the 1 Make further advancements and continuous improvement in QMS from a global Nuclear Business" with the "Managing Board for Safety Promotion in the Nuclear Business" as the main perspective body for promoting related activities under the direction of a steering committee 2 Grasp social trends and customer needs to provide products and services with a 2 Proactively responded to anticipated changes in nuclear regulations from Fukushima; implemented caliber of safety and reliability, while leveraging the MHI Group's comprehensive countermeasures for accident prevention and nuclear safety capabilities 3 Promoted "Safety First" culture to further improve nuclear safety by sharing issues throughout the company 3 Further cultivate a strong nuclear safety culture and enhance attitude for and determining actions for resolution, continuing efforts to improve quality management system, and accountability fostering a strong nuclear safety culture In Japan, undertook activities that utilize TV commercials, advertisements in newspapers and public transportation, websites, and radio commercials to introduce manufacturing technologies. As a part of an overseas campaign, in the U.K., launched a series of product advertisements in newspapers 1 Promoting a global advertisement strategy by building an integrated corporate image

Oontinue to promote those activities implemented in FY2012 (rename the fund for

1 Responding systematically to both the intangible (staff training) and tangible

describes the system)

(exhibit refurbishment) aspects

social contributions as Funds for Community Engagement, as this more accurately

 Planned and implemented social contribution activities at each MHI office. As a result, provided support to 16 organizations with the earmarked budget
 Examined the results of CSR activities carried out in FY2012 and compiled a budget and an outline of

those business segments that are mainly in charge of the particular activity

Continued support for reconstruction after the Great East Japan Earthquake

Carried out science classes at each MHI office

activities for FY2013. Also taking into account our reorganization, decided upon the allocation of budget to

■ Held a commemorative ceremony to celebrate the 2 millionth visitor. Engineers from MHI Nagoya Guidance

& Propulsion Systems Works conducted science classes. Revamped the Environment / Energy Zone

#### **Overview of the MHI Group**

#### **Company Profile**

Trade Name: Mitsubishi Heavy Industries, Ltd.

Head Office: 2-16-5 Konan, Minato-ku, Tokyo

President and CEO: Shunichi Miyanaga

Foundation: July 7, 1884

Establishment: January 11, 1950

Capital: 265.6 billion yen (as of March 31, 2013)

Employees: 68,213 consolidated, 31,111 non-consolidated (as of March 31, 2013)

#### **CI Statement**

#### Our Technologies, Your Tomorrow

This CI statement represents our intention to "continuously provide an assured future where people can live safe, secure and enriched lives through technologies that can excite people and passion as a manufacturer for the sustainability of the earth and humankind."

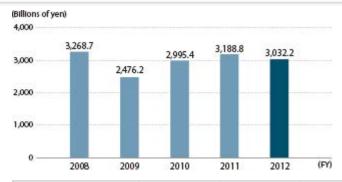
CI (Note1) statement logo



Our Technologies, Your Tomorrow

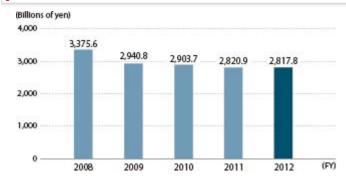
(Note1) CI: Corporate Identity

#### **Orders Received (Consolidated)**



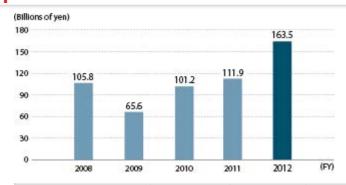
FY	2008	2009	2010	2011	2012
Orders Received	3,268.7	2,476.2	2,995.4	3,188.8	3,032.2
(Consolidated)	billions of yen				

#### **Net Sales (Consolidated)**



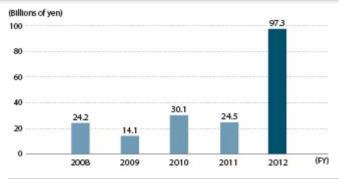
FY	2008	2009	2010	2011	2012	
Net Sales	3,375.6	2,940.8	2,903.7	2,820.9	2,817.8	
(Consolidated)	billions of yen					

#### **Operating Income (Consolidated)**



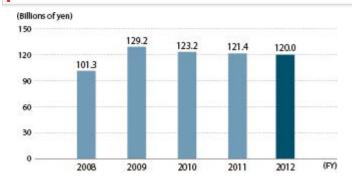
FY	2008	2009	2010	2011	2012	
Operating Income	105.8 billions	65.6 billions	101.2 billions	111.9 billions	163.5 billions	
(Consolidated)	of yen	of yen	of yen	of yen	of yen	

#### **Net Income (Consolidated)**



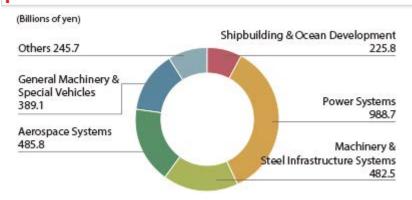
FY	2008	2009	2010	2011	2012
Net Income	24.2 billions	14.1 billions	30.1 billions	24.5 billions	97.3 billions
(Consolidated)	of yen				

#### Research and Development Expenditures (Consolidated)



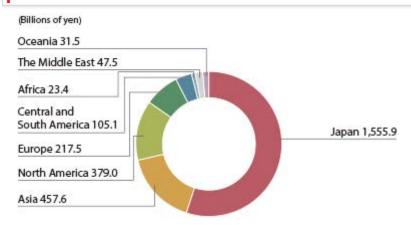
FY	2008	2009	2010	2011	2012
Research and Development	101.3	129.2	123.2	121.4	120.0
Expenditures (Consolidated)	billions of				
	yen	yen	yen	yen	yen

#### **Net Sales by Industry Segment (Consolidated)**



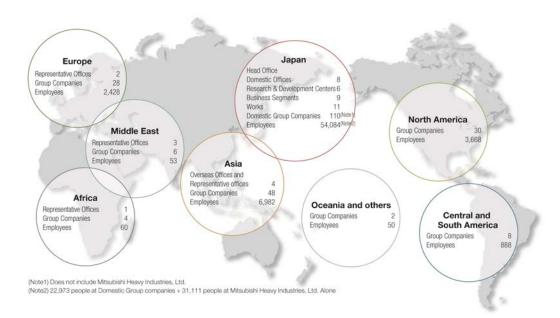
Shipbuilding & Ocean Development	225.8 billion yen
Power Systems	988.7 billion yen
Machinery & Steel Infrastructure Systems	482.5 billion yen
Aerospace Systems	485.8 billion yen
General Machinery & Special Vehicles	389.1 billion yen
Others	245.7 billion yen

#### **Net Sales by Region (Consolidated)**



Japan	1,555.9 billion yen
Asia	457.6 billion yen
North America	379.0 billion yen
Europe	217.5 billion yen
Central and South America	105.1 billion yen
Africa	23.4 billion yen
The Middle East	47.5 billion yen
Oceania	31.5 billion yen

#### **Operating Bases and Employees by Region**



#### (as of March 31, 2013)

Europe	
Representative Offices	2
Group Companies	28
Employees	2,428
Middle East	
Representative Offices	3
Group Companies	6
Employees	53
Africa	
Representative Offices	1
Group Companies	4
Employees	60
Asia	
Overseas Offices and Representative offices	4
Group Companies	48
Employees	6,982
Oceania and others	
Group Companies	2
Employees	50

North America		
Group Companies	30	
Employees	3,668	
Central and South America		
Group Companies	8	
Employees	888	
Japan		
Head Office		
Domestic Office	8	
Research & Development Centers	6	
Business Segments	9	
Works	11	
Domestic Group Companies	110	
Employees of Domestic Group Companies	54,084	

#### **Businesses and Products**

Shipbuilding & Ocean Development

#### **Shipbuilding**

- · Cruise ships
- Ferries
- LNG carriers
- LPG carriers
- Tankers
- Container carriers
- RO/RO ships
- Car carriers
- Destroyer
- Patrol vessels

#### Marine development

- Deep submergence research vehicle
- Oceanographic research ships

#### **Engineering business**

- Shipbuilding engineering
- Marine solution provider

#### **Overseas Shipbuilding Business**



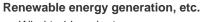
#### Power Systems

## Thermal power generation plants and other facilities

- Combined cycle power plants
- Steam turbines
- Gas turbines
- Boilers
- Pump

#### Nuclear power plants and other facilities

- PWR nuclear power plants
- Advanced reactor plants
- Nuclear fuel cycle plants



- Wind turbine plants
- Geothermal power plants
- Water turbine plants
- Solar thermal generation systems
- · Lithium-ion secondary batteries

#### Marine and others

- Water jet propulsion units
- Pumps for industrial plants





#### **Environmental and chemical plants**

- Flue gas desulfurization systems
- Flue gas CO2 recovery plants
- Fertilizer plants
- · Methanol plants
- Petrochemical plants
- Oil & gas production plants

#### **Transportation systems and ITS**

- · Automated people mover
- Rail transit
- Air brake equipment
- Toll collection systems (ETC, etc.)
- Intelligent transport systems (ITS)
- · Passenger boarding bridge
- Platform screen door system

#### **Machineries**

- Iron & steel manufacturing machinery
- Compressors & mechanical turbines
- Rubber & tire machinery
- · Crane & material handling equipment

#### Printing and packaging machinery

- · Sheet-fed offset presses
- Commercial web offset presses
- · Newspaper offset presses
- Paper converting machinery



#### **Environment preservation**

- · Wastes treatment plants
- · Electrostatic precipitators
- · Biomass utilization systems
- · Water treatment systems

#### Advanced mechanical systems

- Particle accelerator
- Laser welding equipment
- Radiation therapy equipment
- · OLED manufacturing equipment
- OLED panels for lighting application

## Basic facilities & steel structures for infrastructure

- Steel bridges & chimneys
- · Gate facilities
- · Mechanical parking systems
- · Tunnel boring machine
- Vibration and isolation systems

#### Industrial machinery & mechatronics systems

- · Injection molding machine
- Food & packaging machinery
- · Packaging machinery
- Mechatronics system equipment



#### **Aviation**

- · Commercial airplane
- Aeroengines
- Jet fighters
- Helicopters



#### Space systems

- H-IIA launch vehicle
- H-IIB launch vehicle
- Space transporter
- Rocket engines



#### General Machinery & Special Vehicles

#### Engine generation equipment

- · Gas engine generator sets
- Diesel engine generator sets
- Co-generation systems
- Portable gas engine generator/Portable gasoline engine generator

#### **Engines & equipment**

- For agricultural use (Agricultural machinery and small-sized industrial machinery):
   Air-cooled gasoline engines/water-cooled diesel engines
- For industrial use (Construction machinery, generators and power units):
   Water cooled diesel engines/water cooled gas engines
- For marine use (Main propulsion and auxiliary generating set):
   Water cooled diesel engines

#### Physical distribution equipment

- · Forklift trucks
- · Heavy cargo carriers

#### Construction machinery

• Earthmoving and grading machinery

#### Turbochargers

- For passenger & commercial vehicles
- For trucks & buses
- For Industry use and marine use

#### **Defense**

· Special vehicles





#### Others

#### **Air-conditioners**

- Commercial use air-conditioners
- Residential use air-conditioners
- Automotive thermal systems
- Applied refrigeration use machinery
- Transport refrigeration units
- Centrifugal chillers
- Air/Water to water heat pumps

#### **Industrial machinery**

• Machine tools





#### Mariko Kawaguchi

Senior Analyst, ESG Research Department, Daiwa Institute of Research



Scanning the breadth of the MHI Group's business I realize that MHI is not only deeply involved in the infrastructure that supports the cities and industries upon which our lives and livelihoods are based but was also a key player in the modernization and development of Japan since the Meiji Restoration. Yet in a time like today, when the distortions brought about by 20th century-style growth—global environmental problems such as climate change and biodiversity loss, and social challenges such as aging populations and the widening gap between the rich and the poor, to name a few—threaten the sustainability of human civilization, the business models that drove growth in the 20th century must be caught up to the 21st century.

From this perspective, that MHI has delegated CSR management responsibilities to the Presidential Administration Office, which reports directly to the President, established a CSR Liaison Conference made up of groups of managing members for more comprehensive CSR promotion, and drew up an environmental vision for the year 2030—these actions can be seen as a crucial step in this "catching up." The energy and transportation systems initiatives highlighted in the Special Feature articles are good examples of this work. And, as the President articulated, promoting socially responsible procurement across the supply chain based on the UN Global Compact and ISO 26000 and with a special focus on human rights is evidence of MHI's responsibility and commitment as a global corporation representing Japan. I hope these reforms will be put to maximum use in carrying out activities from the boardroom to the factory floor.

I also think it is a responsible attitude that MHI clearly stated its policy for nuclear power and how this clarifies senior management's position on the issue. However, with the accident at TEPCO's Fukushima Daiichi Nuclear Power Station still unresolved (as recent reports of radioactive water leaks attest) and top management foreign nuclear related competitors are now becoming negative on nuclear power, a great deal of discussion and scientific testing is still needed to determine the safety and future viability of nuclear power. Please take extra care and risk management to ensure transparency and accountability. In the environmental field, where energy conservation and efficiency efforts predominate, I would like to see increased efforts to conserve water resources, which are especially valuable for building smart cities, and biodiversity.

Lastly, anecdotes of employee activities are an effective communication tool for making MHI more accessible to consumers who only know air conditioners among the many MHI products that support daily living.

#### Toshihiko Fujii

Visiting Professor, Graduate School of Economic Science, Saitama University



#### 1. Effective communication on social contribution

This report, particularly the Special Feature articles explaining President Miyanaga's commitment to social sustainability and specific projects, comprehensibly communicates MHI's social role in society across a wide spectrum of fields including energy and transportation.

#### 2. Product and service initiatives that go beyond CSR

Addressing social issues not only through products and technologies but also by changing one's business practices is a core part of CSR. Supply chain problems are particularly important given their global nature. While MHI has already begun this effort by, for example, expanding the Supply Chain CSR Promotion Guidelines to overseas business partners, I hope to see an acceleration of such efforts, particularly with regard to conflict minerals.

#### 3. Improve diversity

Building a workplace where women as well as people from diverse nationalities and cultural backgrounds can live up to their full potential is an issue that all Japanese companies share. MHI should make a stronger effort to diversify its workforce based on the perspective that doing so contributes to sustainable social growth.

#### 4. Clearer targets

I applaud MHI for reorganizing its CSR Medium-Term Action Plan according to the seven core subjects of ISO 26000. However, the actions described in certain subjects such as human rights and labor are somewhat vague. Setting more concrete targets for actions in each subject should give readers a clearer idea of what MHI envisions with regard to fulfilling its social responsibility.

The above primarily conveys my expectations with regard to future CSR efforts at MHI. In closing, I would like to emphasize that CSR starts with understanding social issues from a global perspective. For example, poverty is just as important an issue as the environment. What can MHI do to help solve or reduce poverty? I believe that the way companies think in terms of prioritizing the various challenges facing different regions and deciding how to contribute to their solution is in itself an important tool for enhancing competitiveness over the long term.

#### **Acting on Valuable Opinions**



Masahiko Arihara Executive Vice President Executive Officer in Charge of CSR

Based on feedback from past years, in this year's report we tried more than ever to present information visually in order to communicate our pride and responsibility in manufacturing more clearly to our diverse stakeholders.

We are pleased to hear Ms. Kawaguchi's and Mr. Fujii's comments that this year's report is a more accessible and effective communication tool, as such improvements are no doubt a result of the efforts we made.

At the same time, we see the transparency and accountability that Ms. Kawaguchi mentioned as necessary not only in our nuclear power business but also for ensuring safety and peace of mind in manufacturing in general, and will do our best to meet your

expectations. As for Mr. Fujii's thoughtful explanation of CSR starting with an understanding of social issues from a global perspective, we will work to deepen our understanding through dialogue with the various stakeholders of our global operations and in accordance with our corporate creed.

Encouraged by your valuable feedback, we will continue to ramp up CSR efforts across our business and by providing various products and technologies that support social and industrial infrastructure, pursuing all the while a more sustainable society and sure future for humankind and the earth.



## Management

In the course of providing products that support social and economic infrastructures on a global scale, MHI makes every effort to fulfill its social responsibility as a corporation by strengthening and enhancing its corporate governance, internal controls and CSR efforts while acting in full compliance with prevailing laws, rules and social norms in addition to promoting fair and sound management.

#### Corporate Governance -----55

In its quest to continuously develop its business operations and fulfill its social responsibilities, MHI is reforming its management structure while promoting fair and sound management rooted in complete legal compliance.

- Current Status of Corporate Governance and Internal Controls
- Risk Management

#### Promotion of CSR 60

MHI has established the CSR Committee and various other committees in an effort to continuously improve management that is anchored by CSR through the comprehension, assessment, and tracking of initiatives being taken throughout the corporation.

- Promoting Comprehensive and Strategic CSR Activities
- Activities of Major Related Committees in Fiscal 2012

#### Compliance 68

The MHI Group is building a system to promote compliance that will encompass the entire Group, consistent with our mission to always conduct fair and honest business activities.

In addition, the Group is also working to provide education and information to all employees so that each and every employee will act with an awareness of his or her compliance obligations.

- Organizing a Structure to Promote Compliance that Encompasses the Entire Group
- Improving Compliance Principles/Guidelines
- Compliance Training and Increasing Awareness
- Secure Safeguarding of Proprietary Information

#### **Current Status of Corporate Governance and Internal Controls**

## Strengthening the oversight functions of the Board of Directors through such measures as appointing outside directors

The Board of Directors makes important key management decisions and oversees the execution of business operations, while statutory auditors audit the execution of duties of directors and other matters.

Currently, 3 of the company's 19 directors and 3 of its 5 statutory auditors are from outside MHI. These outside directors and statutory auditors provide advice and oversight to the management of MHI based on their broad range of experience and considerable insight as managers, administrators and specialists. They operate from an unbiased position which is independent from the company's executive management. The company has also streamlined the Board of Directors, shortened the term of office, and introduced an Executive Officer System. MHI has sought through these measures to reinforce the oversight functions of the Board of Directors and to clarify the roles and responsibilities of the directors who make decisions on key management issues and oversee the overall management of the company as well as the roles and responsibilities of senior vice presidents who execute business.

MHI has also established an Executive Committee to serve as a forum for discussing important matters related to business execution. This allows for a more cohesive approach in terms of discussions as part of the operational execution framework centered on the President, and consequently leads to more effective management decisions and business execution.

In accordance with the auditing policy and auditing plan determined by the Board of Statutory Auditors, statutory auditors attend key meetings, such those held by the Board of Directors, the Executive Committee, and Business Plan Meetings, to study and monitor the management operation status. They also examine legal and regulatory compliance, and monitor the development and operation of internal control systems, including those related to financial reporting. These auditing operations enable them to ascertain whether the directors are executing their duties in compliance with laws and Articles of Incorporation, and whether company affairs are being appropriately executed.

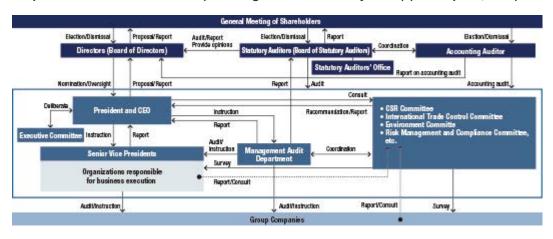
Statutory auditors also periodically exchange information and opinions with the Management Audit Department and accounting auditors, and collaborate closely with them in other ways, including receiving audit results and attending accounting audits. The Statutory Auditors' Office has been set up with its own dedicated staff to support the implementation of auditing tasks and facilitate the work carried out by statutory auditors.

#### ■ Outside Directors and Outside Statutory Auditors and Reasons for their Appointment

Officers	Name	Field / Affiliation	Reason for appointment
Outside Director	Yorihiko Kojima	Chairman of the Board of Mitsubishi Corporation	Mr. Yorihiko Kojima was appointed to the position of Outside Director since he has provided beneficial views and candid assessments on the management of MHI as an Outside Director based on his considerable experience as a business manager, and it is desired that he continues his contribution to improving the soundness and transparency of the decision-making process.
	Christina Ahmadjian	Professor of Hitotsubashi University Graduate School of Commerce and Management	Ms. Christina Ahmadjian was appointed to the position of Outside Director since she has provided beneficial views and candid assessments on the management of MHI as an Outside Director from her global perspective based on her extensive knowledge regarding such fields as corporate governance and management. acquired through her experience as a researcher, even though she has not been directly involved in corporate management except for acting as an Outside Director. Based on this, it is desired that she continues her contribution to improving the soundness and transparency of the decision-making process.
	Hiroki Tsuda	Professor of Waseda University Graduate School of Public Management	Mr. Hiroki Tsuda was appointed to the position of Outside Director since he has extensive views regarding fiscal and monetary policies acquired through his experience as a government administrative officer and a researcher, even though he has not been directly involved in corporate management, and it is desired that he makes a contribution to improving the soundness and transparency of the decision-making process by providing his beneficial views and candid assessment on the management of MHI, based on his experience.

Officers	Name	Field / Affiliation	Reason for appointment
Outside Statutory Auditor	Nobuo Kuroyanagi	Senior Advisor of The Bank of Tokyo- Mitsubishi UFJ, Ltd.	Mr. Nobuo Kuroyanagi was appointed to the position of Outside Statutory Auditor since he has provided beneficial views and candid assessments on the management of MHI as an Outside Statutory Auditor based on his considerable experience as a business manager, and it is desired that he continues his contribution to ensuring sound and appropriate management.
	Haruya Uehara	Senior Advisor of Mitsubishi UFJ Trust and Banking Corporation	Mr. Haruya Uehara was appointed to the position of Outside Statutory Auditor since it is desired that he makes a contribution to ensuring sound and appropriate management by providing his beneficial views and candid assessments on the management of MHI, based on his considerable experience as a business manager.
	Shinichiro Ito	President & Chief Executive Officer, ANA Holdings Inc. Chairman of the Board, All Nippon Airways Co.,Ltd.	Mr. Shinichiro Ito was appointed to the position of Outside Statutory Auditor since it is desired that he makes a contribution to ensuring sound and appropriate management by providing his beneficial views and candid assessments on the management of MHI, based on his considerable experience as a business manager.

#### Corporate Governance Structure (including internal control systems) (as of April 1, 2013)



#### Strengthening the internal control systems

In compliance with legal requirements, the MHI Board of Directors has determined a basic policy for internal control systems. The company is promoting the strengthening of areas including the oversight function of the Board of Directors, management systems in response to risk types, increasing the effectiveness of compliance including a whistleblower system, management systems between MHI and Group companies and a system which permits effective auditing by statutory auditors. MHI is striving to strengthen these initiatives through internal audits and the PDCA management cycle. The designs and operations of internal controls are monitored annually through internal audits, in line with the internal audit policy which was formulated by the Management Audit Department.

Under the internal control reporting system regarding financial reporting, which is stipulated by the Japanese Financial Instruments and Exchange Law (also known as J-SOX), the Management Audit Department and the internal audit divisions of our manufacturing works carried out assessments of the design and operation of the internal controls and concluded that as of the end of March 2013, the MHI Group's internal controls over financial reporting were functioning effectively. The accounting auditors concurred with this assessment.

Every year at the Board of Directors meeting, the current status of initiatives concerning the establishment of internal control systems is reported in order to confirm the effectiveness of our internal control systems.

#### **Risk Management**

## Precisely comprehend risks throughout the Group and steadily implement risk reduction measures

MHI precisely comprehends risks throughout the Group and is carrying out measures to steadily reduce these risks.

In fiscal 2012, MHI reorganized and specified risks for the company assigned directors responsible for each risk to carry out more efficient and effective risk control activities.

In February 2013, the General Manager of the Management Audit Department held discussions with the heads of 19 business segments and administration departments. Together, they identified the important risks to each segment and department, categorized them according to importance and other characteristics, and laid out risk management processes for each risk. Within this process, they first identified "serious management risks," risks that, having a major impact on operation of the company or requiring an emergency response, need to be managed at a senior-management level, and assigned a corporate director to oversee their control. Next, they divided "other important risks" into "risks to be reduced through auditing and monitoring" and "risks that require a risk management structure" and sought to manage them through these two approaches. In fiscal 2013, MHI will strive further to run an effective PDCA cycle and develop and enhance its risk management system throughout the Group by strengthening risk management activities for the above-mentioned important risks and by operating a risk management system that combines controls centered on voluntary management and assessments by process owners (Note) and monitoring by the Management Audit Department.

(Note) Organizations and/or persons responsible for establishing and executing risk management mechanisms for individual business functions.

#### **Promoting Comprehensive and Strategic CSR Activities**

#### Promoting more business-integrated CSR

In October 2006, the company set up the CSR Committee, chaired by the President, and the CSR Department, which reports directly to the President, in order to strengthen CSR-oriented management. Following further organizational reforms in April 2011, in October 2012 these functions were moved to the Corporate Communication Department of the Presidential Administration Office in order to consolidate CSR, public relations, advertising, IR, and other stakeholder communication functions and thus promote more business-integrated CSR activities. Business-integrated CSR activities are those that not only use products and technologies to contribute to the resolution of environmental and other social issues but also prevent or reduce negative impact and increase positive impact on society via efforts to address social issues in all business processes.

The CSR Committee, which holds sessions twice yearly, sets policies for tackling social issues and also sets and focuses on six themes regarding important activity initiatives in areas such as the globalization of CSR activities and Funds for Community Engagement.

Going forward, we will work to build a more effective organizational framework and further promote CSR activities through their integration with business management.

#### CSR Promotion System (as of April 1, 2013)



#### Sustained promotion of PDCA based on the CSR Action Plan

The CSR Committee set the CSR Action Plan for fiscal 2008 to 2010 and strove to embed CSR efforts in company by following a PDCA (plan-do-check-action) cycle.

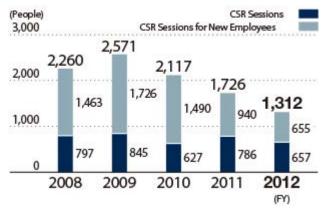
In fiscal 2011, the committee formulated a new CSR Action Plan (for fiscal 2011 to 2013) and supported activities in six priority areas: CSR promotion, compliance, the environment, human rights/labor, product responsibility, and risk management. However, in fiscal 2012 the CSR Action Plan framework was revised and these areas reorganized to match the seven core subjects of ISO 26000: organizational governance, human rights, labor practices, the environment, fair operating practices, consumer issues, and community involvement and development. This global standard was adopted with the intention of introducing the perspective of the international community. Going forward, through stakeholder dialogue and the collection of feedback, we hope to identify the types and relative seriousness of social issues the MHI Group should tackle and revise our activities to reflect those findings.

#### Cultivating CSR awareness through CSR Sessions

CSR sessions aimed at deepening employees' awareness of CSR were held successfully at 12 sites and at a number of Group companies in fiscal 2012 and 657 people participated. CSR sessions for new employees were held at all works, including the Head Office, and 655 people participated in fiscal 2012. CSR sessions and CSR sessions for new employees have been taking place for six years since fiscal 2007 and a total of 10,812 people have now received the sessions. CSR sessions consist primarily of lectures and group discussions. Lectures are designed to provide a basic introduction to CSR, present the latest trends in CSR on a global level, and explain initiatives taking place in the MHI Group. Group discussions encourage employees to approach their day-to-day work from a social responsibility perspective.

To clarify the issues of CSR activities and ascertain employees' understanding of CSR, a survey was conducted based on the CSR Action Guidelines of employees who have participated in CSR sessions since they were commenced. Each year, employees' understanding of CSR is improving as a result of improvements in areas of poor performance and efforts made in the continuation and development of activities.

#### Number of current and new employees who attended CSR sessions (note)



Note: Includes employees from certain Group companies



CSR sessions at Kobe Shipyard & Machinery Works

#### Town Hall Meeting

With the aim of creating an open environment for communication and improving employee motivation, the president or vice president spoke directly with employees at the Town Hall Meeting, which was held at six sites in fiscal 2012.

Three events were held: meetings with general managers, round-table discussions with young employees in their mid-thirties who will play leading roles in the future and worksite visits where management visits worksites where employees are working. These events are designed to reinvigorate worksites through frank communication between top management and employees.



Round-table Discussions with Young Employees at Nagoya Aerospace Systems Works

#### **Activities of Major Related Committees in Fiscal 2012**

#### CSR Committee: Development of Basic Policy for Promoting CSR activities

At the 12th Session of the CSR Committee held in July 2012, the committee resolved to reorganize activities in the CSR Action Plan for fiscal 2011 to 2013 from six priority areas (CSR promotion, compliance, the environment, human rights/labor, product responsibility, and risk management) to the seven core subjects of ISO 26000 (organizational governance, human rights, labor practices, the environment, fair operating practices, consumer issues, and community involvement and development), identify social issues the MHI Group should tackle, and revise activities as needed to reflect the Group's identified goals.

At the 13th Session held in December 2012, prior to beginning the task of identifying social issues, the committee decided that the MHI Group should work on human rights issues and extending CSR programs to the value chain as priorities. It also decided a basic policy for tackling conflict minerals, an urgent problem connected to both human rights and the value chain that needs to be addressed first and foremost.



The 13th Session of the CSR Committee, December 2012

## Risk Management & Compliance Committee: Discussing corporate-wide compliance promotion plans

The Compliance Committee was established in 2001 as an organization that discusses issues such as the state of compliance promotion throughout the Group. It handles the creation of corporate-wide compliance promotion plans and confirms the status of progress.

The committee also endeavors to educate employees on compliance awareness, and since fiscal year 2003 has been continuously holding compliance promotion training.

## **Environment Committee: Discussing the Group's promotion of yearly environmental measures**

The Environment Committee was established as an inter-departmental organization for the entire corporation in 1996. During its twice-yearly meetings, it plans and composes corporate-wide environmental measures for the year and sets the tone for initiatives, as well as promotes and follows up on the yearly environmental preservation plans of individual works and Business Segments.

The 2012 Environmental Management Promotion Plan outlined the strengthening of measures to eliminate accidents which pollute the environment and reducing CO<sub>2</sub> emissions resulting from business operations, and each works and Business Segments implemented measures to meet these targets. Discussions were also held on the implementation of environmental meetings, and the committee has held initiatives for Group-wide promotion of consolidated environmental management. Furthermore, it deliberated on implementing plans for environmental audits of works and Business Segments for the purpose of continually reducing environmental risks and thoroughly complying with environmental laws and regulations. The committee aims to improve the management level at each works and Business Segments by following up on the outcomes of those actions.

## Committee for Raising Awareness of Human Rights: Promoting a workplace where human rights are respected and differently-abled people are actively employed

MHI set up the Committee for Raising Awareness of Human Rights in 1992 to promote the establishment of a sound workplace in which every employee correctly understands the issue and respects the human rights of others. Chaired by the director in charge of personnel and with the membership of general managers in charge of personnel of each works, the committee endeavors to raise awareness of human rights, share information and promote human rights training. Until fiscal 2011, the Committee for Promoting the Employment of the Handicapped, operated separately to discuss employment for differently-abled people, however this was integrated with the Committee for Raising Awareness of Human Rights based on the perspective that, with human rights issues becoming more diverse, the Committee for Raising Awarenesss of Human Rights should handle a broader range of issues, marking a new start for the committee this year. In fiscal 2012, the committee continued to implement a training program for raising awareness among new recruits, newly appointed managers and supervisors. In an effort to strengthen the company's response as a whole to sexual harassment and "power harassment" (workplace bullying & harassment), the committee implemented such activities as educational efforts aimed at executives and the production and distribution of educational material aimed at preventing "power harassment."

In fiscal 2012, the committee continued their efforts to expand employment through proactively advancing recruitment by using its website "mano a mano" in Spanish or "hand to hand," which was created to support the employment of differently-abled people while coordinating with local job-placement offices and skill-building schools for differently-abled people, holding meetings with employment officers, and making requests for cooperation to business segments after setting employment rate targets within the company. As a result, as of April 1, 2012, the employment rate for the differently-abled people at MHI is 2.10 percent, which exceeds the statutory employment rate of 2.0 percent.



The "mano a mano" webpage for differently-abled people

## International Trade Control Committee: Promoting education on legal compliance and updating various rules and manuals

MHI is aware that export controls complying with export-related laws and regulations, such as the Foreign Exchange & Foreign Trade Control Act, are taking on greater importance. Since its inception, the International Trade Control Committee has been meeting regularly on a monthly basis to stringently screen exports of controlled items. Up untill November 2012, the Committee has met 300 times. Through the Committee's activities, MHI carries out transfers of controlled technologies as well as exports of commodities to nations and regions that are subject to international sanctions, in order to prevent our technologies and commodities from being used for nefarious purposes, such as for weapons of mass destruction. The Committee also draws up and revises effective rules, promotes internal audits and conducts consultations and education activities.

In fiscal 2012, MHI continuously promoted e-learning programs for all employees in our export business, and saw around 2,500 staff participating. Further training sessions were regularly held for employees responsible for each division and, in addition to sharing information about past examples of both successful and mistakable export control management, they discussed examples of mistakes that can easily be made in order to deepen their understanding of the issues. English versions of the e-learning materials have also been created to provide support for export control management at overseas subsidiaries.

## **Construction Business Act Compliance Committee: Monitoring compliance at MHI and Group companies**

Since MHI is involved in new construction and repair of sites such as power plants, it is well aware of the great importance of complying with the Construction Business Act, and in 2003 established the Construction Business Act Compliance Committee. In order to abide by the Construction Business Act, the committee is continuing to work to promote revision of various in-house systems and policies, to educate employees, to manage the qualifications and support the training of engineers, and to conduct appropriate management of building construction and subcontracting. In fiscal 2012, MHI conducted on-site monitoring of the nine business segments (including the district business segments) via discussions between the secretariat and business segment to designate certain construction work based on the value of the contract and the scale of the construction work.

Moreover, in order to maintain and further improve the adherence level at all Group companies, certain target companies were selected from the 50 that have continued to hold construction licenses since fiscal 2011, based on whether they were new companies established as a result of business separation or integration or whether they were determined to be important due to their size or number of projects. Nineteen companies were subjected to systems monitoring, and 16 were targeted for onsite construction monitoring.

Following from 2011, workshops for business partners to explain the Construction Business Act were held at four main works (locations) to promote optimization of subcontracts. In fiscal 2012, there were 242 participants from a total of 174 partner companies. Workshops on the Construction Business Act were also held on 10 occasions at various works, drawing 869 participants, including Group employees.

The committee is working to improve the adherence level at Group companies through these activities.

## Order Compliance Committee: Implementing various measures to ensure legal compliance in sales activities

MHI established the Order Compliance Committee in August 2005 to ensure legal compliance in sales activities with the intent of preventing a recurrence of past violations of the Anti-Monopoly Act. The committee has set up rules of conduct for the Public Sector Sales Department and has constructed systems that include implementing compliance checks for competitive construction bids to ensure transparency in sales actions.

In fiscal 2012, the committee revised the rules of conduct as a consequence of a widening of their applicability to cover public-sector and private-sector demand in Japan and overseas. The committee also stepped up initiatives for ensuring legal compliance in sales activities, by transferring the secretariat of the committee in October from the Management Audit Department to the Administration Department of the Global Strategic Planning & Operations Headquarters and by clarifying the control function of the secretariat.

## Nuclear Safety Steering Committee continues efforts to prioritize nuclear safety

The Managing Board for Innovation in the Nuclear Business was established in December 2004 in response to a secondary piping damage incident at Unit 3 of the Mihama Power Station (supplied by MHI and operated by Kansai Electric) in August 2004. In January 2013, the board's name was changed to the Nuclear Safety Steering Committee in order to share issues and decide courses of action relating to MHI's nuclear business, as well as to internally reform and expand the nuclear quality assurance management system. The committee conducts these activities under the guidance of a steering committee whose mission is to manage activities that help ensure nuclear safety.

#### Fiscal 2012 Initiatives

In fiscal 2012, the Nuclear Safety Steering Committee discussed and deliberated on MHI strategy to comply and modify existing plants in accordance with the July 2013 revisions to nuclear regulations, which were made in response to the accident at TEPCO's Fukushima Daiichi Nuclear Power Station. In addition, the committee discussed various efforts to foster a nuclear safety culture within the company, thereby confirming that Mitsubishi will continue to prioritize efforts to improve safety at nuclear facilities.

#### Organizing a Structure to Promote Compliance that Encompasses the Entire Group

## Strengthening crisis-prevention and response capabilities related to compliance

To further focus our attention on preventing compliance violations and responding promptly to whistle-blowing, in October 2012 MHI transferred compliance-related tasks from the General Affairs Department to the Management Audit Department, thus better positioning the company to centrally manage activities aimed at identifying, averting, and reducing risks before a crisis occurs.

## Placing persons responsible for compliance in all departments and Group companies

MHI's Compliance Committee was established in May 2001 to strictly observe applicable laws and social norms and to promote fair and honest business practices (altered to the Risk Management & Compliance Committee in December 2012). This committee is chaired by the Executive Vice President in charge of compliance, and its members consist of senior general managers from relevant departments at the Head Office, general managers of domestic offices, heads of all works, and general managers from all Planning & Administration Departments of business segments. The committee meets twice annually to draw up company-wide compliance promotion plans, confirm progress, and engage in other activities.

In April 2006, Departmental Compliance Committees were established in all departments of the company in order to strengthen compliance measures for each respective department. These committees are chaired by the member of the Risk Management & Compliance Committee in each department. At the same time, Compliance Liaison Conferences were set up for regularly exchanging compliance information with Group companies. Through these two types of organizations, each department works to consistently implement its own compliance and to act independently and responsibly in carrying out compliance activities.

#### Compliance Promotion System (as of April 1, 2012)



## Implementing internal and external whistleblower hotlines for all employees and clients

A hotline has been established specifically for business clients and employees (including contract employees) of MHI and all Group companies, who wish to report or discuss potential unlawful or dishonest acts they have come upon. Contact can be made through email, phone, or fax. The Risk Management & Compliance Committee will promptly investigate the reported information and communicate with the Executive Vice President in charge. Information on what should be reported is contained in the Compliance Guidelines distributed to all employees and in bulletins published in-house

Furthermore, in order to increase choices for informants on compliance, the External Hotline was established in December 2011 in addition to the internal hotline. This was followed by the sequential establishment of Harassment Contact Hotlines inside and outside of the company starting in January 2012 as a measure to respond to "power harassment" (workplace bullying & harassment), which is becoming an increasingly serious social issue.

#### Setting clear protection of the rights afforded to in-house informants

With the operation of the hotline, protection of the rights afforded to informants were set out in the 2007 company regulations, entitled "Compliance Promotion Regulations." These regulations state that the informant's name will not be released without his/her consent, and that the informant will not be placed at any disadvantage because of the information s/he has reported. Employees have been advised of protection of the rights given to in-house informants and have been told of the existence of the hotline. Twice yearly an investigation is conducted to determine whether such individuals' rights have been violated.

#### Establishing an external whistleblower hotline

MHI has created the MHI External Whistleblower Hotline since December 2011. Contact can be made through email, fax, or telephone. If the informant wishes, their name and other information will not be disclosed to the company. The Risk Management & Compliance Committee will promptly investigate the reported information. Answers based on the investigation results can be also received via the lawyers that have been entrusted with the operation of the External Whistleblower Hotline.

The establishment of this External Whistleblower Hotline is based on a proposal from the Public Works Business Process Validation and Advisory Committee, which was created in July 2010. It is an effort to receive a broader range of information and strengthen internal checks and balances functions by increasing choices for in-house reports.

#### Ensuring transparency and legality in order-receiving activities

From 2005 to 2006, MHI was the subject of an investigation by the Japan Fair Trade Commission when it fell under suspicion of violating the Anti-Monopoly Act in construction orders involving steel bridge construction projects and sewage treatment plants. MHI took the investigation very seriously, and established the Order Compliance Committee in an effort to prevent potentially suspect activities from occurring again. MHI has worked diligently to build a stringent system to uphold the Anti-Monopoly Act that ensures the transparency and legality of order-receiving activities. This system includes drawing up rules of conduct for the Public Sector Sales Department, carrying out compliance checks on each instance of competitive bidding for construction contracts, and conducting special monitoring for public-sector order compliance.

In fiscal 2012, we sought to strengthen compliance in order-receiving activities by expanding applicability for the public and private sectors in Japan and overseas and revising our rules of conduct. We strived to build compliance awareness among Group employees by holding workshops on the Anti-Monopoly Act at MHI and at Group companies in Japan, Europe, the U.S., and China. We also continued order compliance audits, this time expanding the scope from not just the public sector in Japan, but also to the overseas public sector and the private sector as well, thus confirming that order compliance activities begun in previous years were continuing and that awareness of the Anti-Monopoly Act was spreading within the Group. MHI will continue to take actions to promote a law-abiding mentality in order-receiving activities.

In fiscal 2012, no warnings were issued against MHI by government offices such as the Fair Trade Commission.

#### **Improving Compliance Principles/Guidelines**

#### The Compliance Principles Clarify Behavior Standards

The MHI Compliance Principles established in September 2001 explicitly set forth required behavior standards so that compliance with applicable laws and social norms can be comprehensively achieved in business activities, societal relationships, and employee relationships. This policy has been printed on cards so that it can be easily carried and has been distributed to all employees, including contract workers. In addition, all employees have been provided with MHI's Compliance Guidelines in the form of a booklet, which contains straightforward explanations on specific areas requiring caution during the execution of daily duties.

Moreover, articles on compliance have regularly been included in company bulletins. From fiscal 2010, illustrated articles have been included to further deepen employee understanding.



Compliance Guidelines

#### MHI Compliance Principles

#### I. Business activities

We will conduct company activities in a sensible and appropriate manner and in compliance with applicable laws and social norms, and will contribute to society by providing safe, high-quality products and services.

- II. Relationship between the company and society We will try to preserve the environment and live in harmony with society as a good corporate citizen.
- III. Relationship between the company and employees

The company will provide a safe, healthy work environment, and company members will make clear distinctions between official and private activities and obligations, comply with applicable laws and internal rules, and execute their duties faithfully.

# Establishing regulations and standards for the more thorough prevention of bribery

MHI strives for fairness in its global commercial transactions by strictly observing the anti-bribery laws of all countries, including Japan's Unfair Competition Prevention Act, which prohibits the giving of illicit benefits by Japanese citizens to overseas government officials.

MHI established the Guidelines for the Prevention of Bribery Involving Foreign Civil Servants in 2005 to define rules of conduct based on the Unfair Competition Prevention Act. In addition, the Anti-Bribery Rules and Anti-Bribery Procedural Guidelines based on these guidelines were created in February 2012 in order to respond to the enactment of British Bribery Act 2010 (Note) of July 2011 and strengthened regulations in various countries.

In fiscal 2012, MHI made efforts to strengthen bribery prevention even further by building compliance mechanisms based on MHI rules and standards and also based on consideration of the form of business operated by each Group company in Japan and overseas as well as circumstances surrounding local laws and regulations and business practices for overseas Group companies.

(Note) Generally said to be the most stringent anti-bribery law in the world, having provisions that make it illegal even to neglect to take actions to prevent bribery. The law applies also to foreign companies operating in the U.K.

#### Firm responses to antisocial forces

MHI's Compliance Principles clearly set forth firm measures to deal with antisocial forces.

All MHI facilities have established departments to take measures if unjust demands are made by antisocial forces. The departments will work together to comprehensively deal with the incident as an organization. In addition, MHI has taken actions, including compliance promotion training, to promote the ideal mindset and essential concepts for responding to undue claims.

Moreover, MHI pro-actively strives to build close cooperative relationships with police, lawyers, and special institutions, to gain advice and support for dealing with unjust demands.

Furthermore, while ordinances for the elimination of organized crime groups have been enacted since October 2011 by the Tokyo Metropolitan Government, Okinawa Prefecture and now all prefectures in Japan, the MHI Group has added clauses to its contracts with clients and business partners based on these ordinances in order to exclude antisocial forces

Adding clauses to contracts with clients and business partners that exclude organized crime groups

With the enactment of ordinances for the elimination of organized crime groups by the Tokyo Metropolitan Government and Okinawa Prefecture from October 2011, all prefectures in Japan have now enacted such ordinances.

The MHI Group regards compliance as the core of its management, and has consistently responded in a firm way to organized crime groups and other antisocial forces. Based on the enactment of these ordinances, MHI adds clauses to its contracts with clients and business partners in order to exclude antisocial forces.

# Eliminating Camouflage Contracts Based on the Policies of the Ministry of Health, Labour and Welfare

In 2007, the Ministry of Health, Labour and Welfare created the Guidelines for Measures that Should be Adopted by Outsourcers Striving to Improve and Optimize Employment Management of Contract Work for Manufacturing Businesses. Based on these guidelines, MHI is working towards making suitable applications such as by creating an independent inspection chart and using it in workplaces.

In addition, MHI is voluntarily and actively working to prevent incidences of the so-called "camouflage contract" problem by implementing compliance training, thoroughly auditing worksite conditions, and holding consultations with the labor department.

### **Compliance Training and Increasing Awareness**

#### Implementing discussion-based training adapted to daily duties

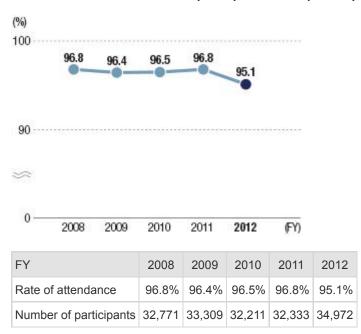
Discussion-based compliance promotion training sessions for all employees have been carried out in all MHI worksites since fiscal 2003.

The training is held with the goal of increasing awareness so that employees can properly judge and act in accordance with compliance, no matter what the situation. In the discussions, employees consider what they would do or what the proper action would be if, for example, they were to feel anxiety over compliance because they are faced with strict cost- or delivery-related demands, or if they are pressured by a supervisor.

In fiscal 2012, discussions centered on the following themes: managing company secrets and gift-giving and business entertainment; skipping manufacturing and inspection processes; and building a compliance violation-free workplace. Around 35,000 employees (more than 95 percent of all employees) participated. In fiscal 2013, the compliance training program will include e-learning sessions as well as group discussions.

In addition to the above, new recruits, newly appointed general managers, section managers and deputy managers, and technical employees in leadership positions receive education according to their respective ranks.

#### Rate of attendance & Number of participants at compliance promotion training



#### Yearly compliance awareness survey

Since fiscal 2004, every year the Risk Management & Compliance Committee conducts a compliance awareness survey.

In fiscal 2012, MHI considered expanding the survey scope to all MHI employees from the current 30% of employees (based on random sampling), and decided to conduct an expanded survey in fiscal 2013 as part of e-learning compliance sessions. The results of the fiscal 2011 survey showed that 98 percent of employees are aware of compliance, while the indicators "level of compliance awareness," "recognition of the MHI Compliance Principles," and "workplace environment regarding compliance" set new highs for the fourth year in a row, suggesting that compliance actions are yielding positive results and that compliance awareness among employees is steadily growing.

### **Secure Safeguarding of Proprietary Information**

# The Legal & General Affairs Department together with the IT Planning and IT Strategic Development Departments head the protection of confidential information

MHI has built a corporate-wide system for confidential information management, information security management, and personal privacy through the Legal & General Affairs Department together with the IT Planning and IT Strategic Development Departments in order to thoroughly safeguard confidential information, such as company management information technological information, and information related to customers and business partners. MHI is working to carry out appropriate information management (including paper documents and electronic data) and improve information security.

#### Using the manual and database to thoroughly protect personal information

In conjunction with the enforcement of the Act on the Protection of Personal Information in April 2005, MHI announced its own Privacy Policy and formulated Personal Information Protection Rules and the Personal Information Management Manual. In addition, the company compiled key points related to our business into a digest and distributed it to all employees in an effort to ensure thorough protection of personal information.

A personal information database registration system has been developed and used as a means for consolidating the handling of personal data by registering all data owned by respective divisions.

#### Constantly reinforcing measures to protect confidential information

In an effort to more appropriately manage confidential information, MHI has established rules such as the Regulations for Managing Confidential Information, the Regulations for Managing Documentation and the Information Security Management Standards, which have been successively revised to respond to new information technologies, threats and legal reforms. MHI created the Confidential Information Management Manual and the Manual on the Rules for Protection of Confidential Information from Leakage and distributed them to improve employee awareness of confidential information management.

In the past, computers from employees at MHI and partner companies have been infected with computer viruses and product information has been leaked, causing trouble for clients. Therefore, MHI strictly enforces measures to prevent a recurrence of such incidents by forbidding the use of private personal computers for work and the introduction of software not required for work. Also, as measures against information leaks as a result of theft or loss of computers and external storage media, MHI has provided employees with comprehensive instructions on encrypting data on PCs, external storage media, and e-mail, and has clarified procedures for taking these devices outside the company.

MHI instructs both domestic and overseas Group companies on improving information security management rules, information management education, and internal audits in an effort to carry out exhaustive information management throughout the Group. MHI also enters into nondisclosure agreements with subcontractors to ensure comprehensive management of confidential information.

#### Preventing computer virus infection

MHI has always taken various measures to maintain a high level of information security, however, we became aware of a case of computer virus infection in August 2011. Because of this incident, MHI is taking efforts to reinforce the checks for viruses attempting to enter the system including strengthening the observation system for unauthorized access and enhancing education on information security. Currently, the various countermeasures implemented in-house in response to the incident are being rolled-out to group companies.

## Implementing employee training to enhance awareness of confidential information management

MHI has incorporated education on protection of personal information into compliance promotion training given to all employees and training by employee level, and also provides e-learning on the overall topic of confidential information and information security to thoroughly educate employees on specific procedures and rules.

Since fiscal 2011, simulation tests have been conducted by sending targeted spoofed e-mails.

### Continuously assessing the status of security measures through internal audits

To safeguard information, it is important to continuously evaluate and reassess the state of security measures being implemented.

MHI has prepared a checklist to be used in all departments and holds an annual internal audit to determine the status of measures being implemented. As a result, when issues are discovered they are revised and the following year during the audit, that revision is assessed, leading to steady improvements.

# Operating PDCA cycles for information security management throughout the Group

MHI has always been aware of the importance of its own products and technologies, and has worked to maintain a high level of information security. Because MHI views the August 2011 virus infection as a serious issue, it is working to further reinforce security by taking measures such as running PDCA cycles for information security management throughout the Group, and by improving information management regulations and conducting internal audits of information management throughout MHI and domestic and overseas Group companies.



# **Environmental Report**

MHI is working to alleviate the increasing environmental burdens across the globe by providing environmentally friendly products and technologies in diverse fields as well as by deploying environmental preservation activities throughout the product lifecycle, from development and design to procurement of raw materials, production, on-site installation and final disposal.

### Environmental Management 78

MHI has in place an environmental management system that covers the entire Group and promotes Group-wide, consolidated environmental management efforts.

- Environmental Management Promotion System
- Establishing and Operating the Environmental Management System
- Preserving Biodiversity
- Controlling and Improving Response to Potential Environmental Impact Risks
- Status of Incidents and Legal Violations Relating to the Environment
- Environmental Management Systems Adopted at MHI and Its Subsidiaries

Targets and Progress	91
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The MHI is working to reduce CO<sub>2</sub> emissions based on medium-term environmental targets set for the entire company. We are aiming for further emission cuts through the introduction of energy-saving devices use of and renewable energy.

- Promotion of Energy-saving and CO<sub>2</sub> Emission Control Measures
- Measures to Curb CO<sub>2</sub> Emissions in Transport
- Energy-saving Activities in Offices
- CO<sub>2</sub> Reductions with MHI Product Usage (FY2012)

# Resource Conservation, Waste Management and Water Resources ------112

In addition to further reducing waste and managing it appropriately, in order to protect water resources MHI established a target to decrease water consumption during production and is working for reduction from fiscal 2011.

- Curbing Waste Generation, Release and Disposal
- Using Electronic Manifests (e-manifests)
- Protecting Water Resources

### Management of Chemical Substances 118

MHI works to consistently manage the chemical substances required for production, and makes efforts for their safe usage and storage.

We are also switching to alternative substances and making efforts to curb the use and emissions of Volatile Organic Compounds (VOCs) such as xylene, toluene, and ethylbenzene.

· Curbing the Use and Emissions of Chemical Substances through Proper Management and Use of Alternatives

### 

• Main Products and Technologies in 2012

### **Environmental Management Promotion System**

## Promotion of environmental management by a company-wide committee and promotion entities for each works and business segments

The Environmental Committee, chaired by the director in charge of the environment, sets out the company-wide annual environmental program. Decisions are conveyed to the entire company and all Group companies. Environmental Committees established at each works and business segments promote policies and conduct environmental management corresponding to the specific features of each works and business segments. In addition, Environmental Liaison Conferences for individuals in charge of the environment at the Head Office, each works and business segments along with Energy Conservation Liaison Conferences, where energy and CO<sub>2</sub> reduction measures are discussed, are held. Furthermore, an Energy Conservation Sectional Meeting and Waste Management Information Exchange Meeting, comprising section heads and subordinates from each works and business segments, are convened.

#### Basic Policy on Environmental Matters (Established 1996)

As clearly laid out in provision 1 of its creed-"We strongly believe that the customer comes first and that we are obligated to be an innovative partner to society."-MHI believes its primary purpose is to contribute to society through its R&D, manufacturing and other business activities. Accordingly, in the performance of its business activities the company shall embrace the awareness that it is an integral member of society and, in all aspects of its business activities, it will strive to reduce burden on the environment and shall devote its comprehensive technological capabilities to the development of technologies and products that will protect the environment, as its way of contributing to the development of a sustainable society.

#### Action Guidelines (Established 1996)

- 1. Accord high priority to environmental protection within company operations, and take steps company-wide to protect and enhance the environment.
- Clarify roles and responsibilities regarding environmental protection by developing an
  organized structure to deal with environmental protection matters, defining environment-related
  procedures, etc.
- 3. Strive to alleviate burden on the environment in all aspects of company business activities-from product R&D and design to procurement of raw materials, manufacture, transport, usage, servicing and disposal-through pollution prevention, conservation of resources, energy saving, waste reduction, reuse and recycling.
- 4. Strive to develop and provide advanced, highly reliable, wholly proprietary technologies and products that will contribute to solving environmental and energy problems.
- 5. Strive continuously to improve and enhance environmental protection activities not only by fully complying with environmental laws and regulations but also, when necessary, by establishing, implementing and evaluating independent standards and setting environmental goals and targets.
- 6. In the performance of business activities overseas and exportation of products, pay full attention to impact on the local natural and social environments and strive to protect those environments; also, become actively involved in technological cooperation overseas in matters of environmental protection.
- 7. Take steps to raise environmental awareness among all employees through environmental education, etc., undertake activities to provide environment-related information to the public, and proactively make environment-enhancing contributions to society.

#### President and CEO Director in charge of the environment **Environment Committee** Company-Wide Entities · Environmental Liaison Conference Committee Chairman: Director Energy Conservation Liaison in charge of the environment Conference Secretariat Secretariat Environment & Energy · Environment & Energy Management Section, Monozukuri Management Section, Monozukuri Innovation Planning Department Innovation Planning Department Technology & Works and business segments Innovation Headquarters Technology Planning Department Environmental Committees at Research & works and business segments **Development Centers** Energy Conservation Liaison Conferences, etc. at works and business segments

#### **Environmental Management Structure (as of April 1, 2013)**

#### Adopting medium- and long-term environmental targets for the entire Group and promoting various activities to reduce environmental burden

The MHI Group formulated the MHI Group mid- and long-term environmental targets, which set common targets for all Group companies in April 2008. Under this plan, special focus is on reducing CO<sub>2</sub> emission by an average of 3 percent between 2008 and 2012 compared to fiscal 2007; promoting zero emissions; and acquiring, maintaining and renewing certifications such as ISO environmental management.

The Environmental Meetings with group companies held in fiscal 2012 reaffirmed the commitment of the companies to incorporating and promoting the medium- and long-term targets of the environmental management program. The Group will continue to work together towards attaining the targets.

#### Environmental audits at all works in Japan

MHI conducts environmental audits at works in Japan to ensure compliance with environmental laws and regulations and to conduct physical, on-site verification of operational conditions. Audits are performed by teams of auditors from works other than the works being audited. Results on environmental performance and improvements are reported to the Environmental Committee, through which they are shared with the rest of the company.

In fiscal 2012, audits were conducted at Takasago Machinery Works, Nagoya Aerospace Systems Works, and Nagoya Guidance & Propulsion Systems Works. The audits confirmed that issues identified by previous audits were being addressed and steps were being taken to improve the level of management.

#### **Initiating Environmental Meetings with Group companies**

Environmental Meetings have been held to unify environmental management across the entire MHI Group. The meetings identify problems and support the study of improvements and the exchange of information related to the environment, with the primary goal of ensuring the compliance of Group companies and preventing environmental pollution.

In fiscal 2012, an Environmental Meeting was held convening six companies that have acquired certification in Eco Action 21, environmental management guidelines issued by Japan's Ministry of the Environment.

At the meeting, the companies reviewed concrete actions that were being taken to reduce CO<sub>2</sub> emissions (conserve energy), reduce industrial waste (promote recycling), and reduce wastewater volume (conserve water), and shared the best practices among Group companies.

The MHI Group will continue to hold Environmental Meetings to promote environmental activities across the Group and meet Group environmental targets.

# Collection of periodic environmental data from Group companies begun in pursuit of 2nd Environmental Targets

Faced with global warming and other global environmental problems, it is becoming increasingly important that companies expand the scope of environmental data collection from their own operations to include the operations of companies with which they are affiliated. Consequently, in fiscal 2011 MHI expanded periodic data collection from an unconsolidated to consolidated scope in Japan and overseas.

In the second MHI Group Environmental Targets issued in April 2013, the MHI Group also set targets for greenhouse gas emissions, waste, and chemicals, etc., at Group companies worldwide. The MHI Group as a whole will continue efforts to achieve the new group environmental targets.

# **Establishing and Operating an Environmental Management System**

# Promoting the establishment of an Environmental Management System at Group companies

MHI is promoting the introduction of an Environmental Management System for both domestic and overseas Group companies. In addition to introduction of ISO 14001, EcoAction 21 and local government environmental management systems, MHI is in the process of introducing two of its own standards, M-EMS and M-EMS EcoAction.

In fiscal 2012 (as of April 2013), 83 out of 111 Group companies in Japan and 28 out of 113 Group companies overseas had introduced environmental management systems, including ISO14001.

# Fostering environmental awareness for every employee through stratified environmental training

At MHI, each works formulates its own environmental education curriculum based on e-learning and other methods to provide environmental education to employees.

In addition to the internal environmental auditor training program organized by our Head Office, specialized training that deals with daily management procedures and handling emergencies also takes place for employees doing painting tasks and handling dangerous materials.

### ■ Registered ISO 14001 Internal Auditors (as of April 1, 2013; Note)

FY	2008	2009	2010	2011	2012	2013
Number	687	815	847	980	995	989

(Note) In principle, all the data represents data of Mitsubishi Heavy Industries, Ltd. non-consolidated.

### **Initiatives to Preserve Biodiversity**

# Promoting the preservation of biodiversity in accordance with the Environmental Policy and CSR Action Guidelines

The Basic Policy on Environmental Matters and Action Guidelines, the MHI Group CSR Action Guidelines and MHI Environmental Vision 2030 includes the concepts of the Guidelines for Private Sector Engagement in Biodiversity released by the Ministry of the Environment and the Biodiversity Declaration from the Japan Federation of Economic Organizations.

Each works pursues various biological diversity activities in accordance with these principles and guidelines.

Breeding program for Japanese honeybees in danger of extinction

An endangered Japanese honeybee breeding program was launched in fiscal 2010 at the Nagoya Aerospace Systems Works. Inspired by the honeycomb structure of airplanes, the breeding program provides beehives for honeybees at the Works.



Breeding Japanese honeybees

Promoting forest conservation and non-native species removal activities

In recent years, MHI has been an active supporter of corporate forestry programs together with local governments and other organizations.

Head Office and five works are involved in ongoing local government forest care programs. Led by employees and their families, there is a continuous effort involving planting, tree thinning and other forest care activities designed to preserve important forest habitats for many different creatures. Working with NPOs and other organizations, MHI also actively participates in programs to remove non-native species that are impacting Japan's ecosystem.



Forest cultivation volunteers (Machine Tool) at Megumi no Mori forest

### ■ Main programs undertaken in fiscal 2012

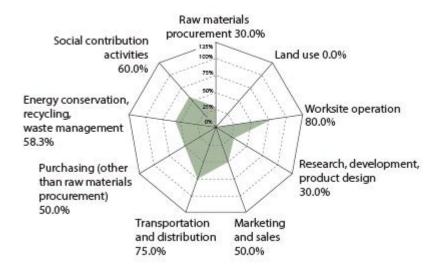
Work/business site	Date(s) conducted	Description
Head Office	May 26	Non-native species removal project Held with support from NPO Mt. Fuji Club. Forty-five employees and others worked to remove Lance-leaved coreopsis (Coreopsis lanceolata), a non-native plant, from the Mt. Fuji foothills.
Kobe Shipyard & Machinery Works	May 26	Onaza forest (Kobe Shipyard & Machinery Works) Eighty-seven employees and others planted saplings and tended the forest.
Takasago Machinery Works	March 9, 2013	MHI Takamikura Forest Conducted tree-planting activities on Mt. Takamikura, where a forest fire took place in 2011. Around 50 employees planted 200 trees of 4 varieties: Japanese cherry (Cerasus jamasakura), bayberry (Myrica rubra), Japanese maple (Acer palmatum subsp. matsumurae), and Japanese chestnut (Castanea crenata).
Mihara Machinery Works	December 2	Hiroshima Forest Development Forum Eighteen employees, including those from Group companies, participated in a forest conservation activity.
General Machinery & Special Vehicles	August 26, September 14, October 15	Tree thinning at Yadoriki Forest Sixty-four employees and others participated.
Air-Conditioning & Refrigeration Systems	-	Participated in "Beaver Forest, Kihoku"
Machine Tool	April 27, September 28	Forest management volunteering at Megumi no Mori forest Held jointly with the Konze Production Forest Union and Ritto-city Society of Commerce and Industry. Sixty employees and others participated.  Held with support from MHI's Funds for Community Engagement.
Machine Tool	May 27	Participation in Lake Biwa non-native fish removal event Around 150 people, including MHI employees, participated in an event to remove black bass, bluegill, and other non-native fish.

#### Results of evaluation of corporate biodiversity activities

MHI has carried out support of forest conservation programs and a wide range of other activities to promote biodiversity and nature protection, as one of our mid- and long-term environmental targets. To obtain a measure of the impact our business activities have had on biodiversity preservation, we asked BirdLife International Asia Division (Note) to conduct an evaluation of our corporate biodiversity activities so we can determine the current state of these activities in fiscal 2012. The results are shown below. We take these results seriously and will work to make our business activities more considerate of biodiversity.

(Note) BirdLife International Asia Division: the Asia Division of BirdLife International (headquartered in Cambridge, UK), an international environmental group working in habitat protection using bird species as an indicator of ecosystem health. Established in England in 1922, BirdLife International is the world's oldest international environmental NGO.

#### Results of evaluation



### ■ Description of evaluation categories

Category	Description
Raw materials procurement	Evaluates efforts made through raw materials procurement. In all manufacturing sectors, this category is considered to have the largest impact on biodiversity.
Land use	Evaluates whether efforts have been made to limit impacts on the environmental and biodiversity in worksite land use management.
Worksite operation	Evaluates whether efforts have been made to limit impacts on the environment and biodiversity at a plant or other worksite.
Research, development, product design	Evaluates whether efforts have been made to limit impacts on and contribute to biodiversity and environmental conservation through products.
Marketing and sales	Evaluates whether efforts have been made to limit impacts on and contribute to biodiversity and environmental conservation through sales, customer management, and other activities.
Transportation and distribution	Evaluates the state of efforts to reduce environmental impact in the transportation and distribution of goods and people.
Purchasing (other than raw materials procurement)	Evaluates whether special considerations for the environment and biodiversity are made in purchasing and procurement.
Energy conservation, recycling, waste management	Evaluates the state of efforts to conserve energy, recycle, and manage waste in the administrative departments.
Social contribution activities	Evaluates whether efforts have been made to limit impacts on and contribute to biodiversity conservation in social contribution activities.

#### **Executive Summary**

MHI's environmental conservation activities thus far have consisted of efforts made on the basis of the company's Basic Policy on Environmental Matters, Action Guidelines, medium- to long-term environmental targets, and, more recently, the MHI Environmental Vision 2030 formulated in June 2012. We commend these efforts as they have made steady progress and are rooted in MHI's core businesses, advanced by ISO 14001-certified environmental management systems and embodied in environmentally friendly products in a wide range of fields.

However, viewing these efforts from a biodiversity conservation perspective, MHI has not fully understood the connection between its businesses and biodiversity and the importance of conservation. Since the company has already undertaken a large number of concrete initiatives in global warming mitigation, resource recycling, and social contribution that may contribute to biodiversity conservation, we strongly urge MHI to take this opportunity to expand environmental efforts in all business activities to include such. That MHI attempted to gauge its biodiversity efforts in light of the 20 Aichi Biodiversity Targets adopted at COP10 for this evaluation is a major break from the norm in that regard. It is crucial that MHI fully recognizes that all of its business activities are linked to biodiversity and dependent on the services that biodiversity provides.

What to do going forward? The first step, and an urgent one, should be the formulation of group-wide policies, guidelines, procedures, and other guiding documents on biodiversity conservation, and to create an action plan or system for implementing these documents in the various domains of business activities. It is also important to introduce basic biodiversity concepts into environmental education programs for employees, particularly for those who have environment-related duties. MHI has experience developing and manufacturing a host of products that are environmentally friendly because they save energy or reduce CO<sub>2</sub> emissions. These products, which span from renewable energy and other energy generation technologies, to energy storage, waste and water treatment, industrial and machine tools, and transportation equipment, can have an extremely broad and powerful positive impact on biodiversity conservation. Going forward, MHI should raise these products to a standard that is more conscious of biodiversity, and by doing so, strive to establish its brand and exert its leadership as a company known as a biodiversity steward in the heavy industries field.

Lastly, overseas operations can be a major risk factor for global companies. We strongly urge MHI to incorporate biodiversity conservation concepts into all business activities—from research and development through worksite operations and supply chain management—not just in Japan but across the group worldwide. With great anticipation, we look forward to seeing MHI make a greater effort and take on new challenges for biodiversity conservation.

Keiko Suzue

Doctor of environmental symbiotic studies

Representative Director, BirdLife International Asia Division

K. Suzue

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Makoto Kawanabe Doctor of agricultural sciences Executive Research Officer, BirdLife International Asia Division

# Controlling and Improving Response to Potential Environmental Impact Risks

## Clarifying the risks at each works and addressing them through daily management

MHI has prepared and uses an ISO-based manual for each works, encompassing such issues as risk identification methods, daily management procedures and contingency plans. At each works, emergency response drills are carried out to confirm the effectiveness of response procedures for emergencies such as oil spills and earthquakes.

In the event of any crisis in any plant, the company's in-house crisis management information system is prepared to quickly convey information to the President.

#### Achieving green purchasing targets

MHI formulated its internal green purchasing policy in March 2002 to systematically promote the purchasing of raw materials, components and products that contribute to the reduction of the environmental burden with the aim of building a circular-flow economy and society. Based on this, we urge the purchasing of office goods, etc. that place the lowest burden possible on the environment.

The annual green purchasing targets of 90% by volume and 95% by value were achieved for the first time in fiscal 2012, at 95 percent by volume and 97.2 percent by value. MHI will keep making efforts through ongoing green purchasing strategies.

### Status of Incidents and Legal Violations Relating to the Environment

### Promoting activities to strengthen measures designed to eliminate environmental incidents

As part of ongoing efforts to strengthen measures designed to eliminate environmental incidents, MHI established in fiscal 2011 "Guidelines for Promoting Measures to Prevent Environmental Incidents," which includes rules for setting up an Incident Investigation Committee to thoroughly investigate the causes of environmental incidents when they occur. Since fiscal 2012, we have formulated an action plan to eliminate accidents that pollute the environment for each work and business segment and have been implementing these plans as part of our company-wide Environmental Management Promotion Plan.

# **Environmental Management Systems Adopted at MHI and Its Subsidiaries**

as of April 4, 2013

	Location or company name	Date of issue (or registration)
MHI sites and plants	Yokohama Dockyard & Machinery Works	Oct. 31, 1997
	Nagasaki Shipyard & Machinery Works	May 22, 1998
	Takasago Machinery Works	Jun. 26, 1998
	Air-Conditioning & Refrigeration Systems	Nov. 20, 1998
	General Machinery & Special Vehicles	May 21, 1999
	Mihara Machinery Works	Sep. 3, 1999
	Hiroshima Machinery Works	Sep. 30, 1999
	Shimonoseki Shipyard & Machinery Works	Nov. 24, 1999
	Nagoya Guidance & Propulsion Systems Works	Dec. 18, 1999
	Kobe Shipyard & Machinery Works	Feb. 18, 2000
	Matsuka Plant	Mar. 17, 2000
	Machine Tool	Dec. 28, 2000
	Yokohama Engineering Center, Engineering Headquarters (Environmental & Chemical Plant Project Management Division)	Jun. 29, 2001
	Nagoya Aerospace Systems Works (unification of certification acquired independently by plants)	Oct. 1, 2003
	Head Office	Apr. 6, 2006
HI research & development centers	Nagasaki Research & Development Center	Aug. 21, 2006
, , , , , , , , , , , , , , , , , , ,	Advanced Technology Research Center	Nov. 9, 2006
	Yokohama Research & Development Center	
	Hiroshima Research & Development Center (Mihara)	Dec. 5, 2006
	Nagoya Research & Development Center	Dec. 26, 2006
	Takasago Research & Development Center	Mar. 9, 2007
	Hiroshima Research & Development Center (Hiroshima)	Aug. 2, 2007

	Location or company name	Date of issue (or registration)
Domestic	MHI Solution Technologies Co., Ltd.	Aug. 28, 1998
	Mitsubishi Agricultural Machinery Co., Ltd.	Jul. 24, 2001
	Nagova Ryoju Estate Co., Ltd.	Mar. 14, 2002
	Nishinihon Ryoju Estate Co., Ltd.	Jul. 12, 2002
	Chubu Jukan Operation Co., Ltd., Head Office	Jan. 13, 2004
	Mitsubishi Heavy Industries Environmental & Chemical Engineering Co., Ltd. (Head Office and Branch Office)	
	Ryoin Co., Ltd., Printing Division, Tokyo Plant (including Head Office and Chubu Plant)	Apr. 23, 2004
	Mitsubishi Heavy Industries Environmental & Chemical Engineering Co., Ltd. (Engineering Division)	Feb. 17, 2005
	Shimonoseki Rvoju Estate Co., Ltd.	Mar. 14, 2005
	Ryoju Estate Co., Ltd.	Mar. 17, 2005
	Mitsubishi Heavy Industries Food & Packaging Machinery Co., Ltd.	Mar. 17, 2005
	Seibu Jukan Operation Co., Ltd., Head Office	Mar. 22, 2005
	Kusakabe Co., Ltd.	Mar. 24, 2005
	Tamachi Building Co., Ltd.	Mar. 25, 2005
	Hiroshima Ryoju Estate Co., Ltd.	Apr. 9, 2005
	Ryoju Cold Chain Co., Ltd.	Apr. 22, 2005
	Mitsubishi Heavy Industries Precision Casting Co., Ltd.	May 11, 2005
	Tokiwa Machinery Works Ltd.	May 18, 2005
	Jukan Operation Co., Ltd., Head Office	Aug. 1, 2005
	MHI Aerospace Logitem Co., Ltd.	Jan. 5, 2007
	Mitsubishi Heavy Industries Air-Conditioning & Thermal Systems Corporation, System Production Department	Sep. 14, 2007
	Mitsubishi Heavy Industries Bridge & Steel Structures Engineering Co., Ltd., Chiba Plant	Mar. 25, 2010
	Kaminoshima Factory and Branch Offices, MHI Oceanics Co., Ltd.	Oct. 28, 2011
verseas	Mitsubishi Heavy Industries-Haier (Qingdao) Air-Conditioners Co., Ltd.	Dec. 14, 1998
	MHI Equipment Europe B.V.	Nov. 9, 2001
	Mitsubishi Caterpillar Forklift Europe B.V.	Jul. 25, 2002
	Mitsubishi Heavy Industries Climate Control Inc.	Jun. 12, 2003
	Thai Compressor Manufacturing Co., Ltd.	Jun. 27, 2003
	Mitsubishi Power Systems Americas, Inc. Orlando Service Center	Feb. 18, 2004
	MHI Automotive Climate Control (Shanghai) Co., Ltd.	Jul. 11, 2005
	CBC Industrias Pesadas S.A.	Dec. 1, 2005
	Mitsubishi Heavy Industries Korea Ltd.	Dec. 17, 2005
	Mitsubishi Heavy Industries-Mahajak Air Conditioners Co., Ltd.	Dec. 21, 2005
	Mitsubishi Heavy Industries-Jinling Air-Conditioners Co., Ltd.	Jan. 24, 2006
	MHI Machine Tool (Hong Kong) Ltd.	Mar. 30, 2006
	Mitsubishi Heavy Industries (Hong Kong) Ltd.	Apr. 5, 2006
	Mitsubishi Heavy Industries, (Shanghai) Co., Ltd.	Jul. 5, 2006
	MH-Pornchai Machinery Co., Ltd.	Jul. 17, 2006
	Mitsubishi Heavy Industries India Private Ltd.	Dec. 7, 2006
	Mitsubishi Heavy Industries Singapore Private Ltd.	Jan. 21, 2007
	Mitsubishi Heavy Industries America, Inc. (Headquarters, Tire Machinery Division) Tire Machinery Division, Headquarters, Mitsubishi Heavy Industries America, Inc.	Oct. 15, 2007
	Mitsubishi Caterpillar Forklift America Inc.	Dec. 6, 2007
	Mitsubishi Heavy Industries (Thailand) Ltd.	Dec. 31, 2007
	Mitsubishi Heavy Industries Dongfang Gas Turbine (Guangzhou) Co., Ltd.	May 14, 2008
	MHI Equipment Alsace S.A.S	Mar. 17, 2009
	Mitsubishi-Hitachi Metals Machinery South Asia Private Ltd.	Jul. 14, 2010
	Mitsubishi Power System Europe Ltd.	Oct. 1, 2010
	Mitsubishi Turbocharger Asia Co., Ltd.	Dec. 22, 2010
	Mitsubishi Heavy Industries India Precision Tools, Ltd.	Mar. 27, 2012

EcoAction 21 certification at MHI Group companies

	Location or company name	Date of issue (or registration)
Domestic	Daiya Building Service Co., Ltd.	Apr. 21, 2005
	Nuclear Development Co., Ltd.	May 30, 2005
	Yokohama Division, MHI Plant Engineering Co., Ltd.	Oct. 31, 2005
	Kyushu Jukan Operation Co., Ltd. Head office	Jun. 11, 2008
	Higashi Chugoku Ryoju Estate Co., Ltd.	Oct. 15, 2009
	Hiroji Center Co., Ltd.	Jan. 29, 2010

#### K-EMS certification at MHI Group companies

	Location or company name	Date of issue (or registration)
Domestic	Seiryo Engineering Co., Ltd.	Dec. 24, 2004
	Kinki Ryoju Estate Co., Ltd.	Feb. 23, 2005
	Mitsubishi Heavy Industries Mechatronics Systems, Ltd.	Feb. 23, 2005
	MHI Nuclear Engineering Co., Ltd.	Mar. 24, 2005
	Nuclear Power Training Center, Ltd.	Mar. 24, 2005
	MHI General Services Co., Ltd.	Mar. 24, 2005
	Ryoin Co., Ltd., Kobe Branch	Mar. 24, 2005
	Techno Data Engineering Co., Ltd.	Feb. 27, 2006
	Energis Co., Ltd.	Mar. 23, 2006

Kamakura EcoAction 21 certification at MHI Group companies

	Location or company name	Date of issue (or registration)
Domestic	Shonan Monorail Co., Ltd.	Apr. 4, 2007

MHI Group companies adopting M-EMS (based on ISO 14001)

	Location or company name	Date of issue (or registration)
Domestic	MHI Power Systems Inspection Technologies, Ltd., Yokohama Division	Apr. 25, 2005
	Ryoin Co., Ltd., Shinagawa Branch and Information & Communication Systems Business Department	Apr. 26, 2005
	Mitsubishi Heavy Industries Air-Conditioning & Refrigeration Systems Corporation	May 13, 2005
	Mitsubishi Heavy Industries Engine Systems Co., Ltd.	Jul. 12, 2005
Overseas	Mitsubishi Engine North America, Inc.	Jan. 19, 2007

MHI Group companies M-EMS EcoAction (based on EcoAction 21)

WITH Group companies W-EWS	coaction (based on Ecoaction 21)	
	Location or company name	Date of issue (or registration)
Domestic	Tokyo Office and Kobe Branch Office, Mitsubishi Heavy Industries Transportation Equipment Engineering & Service Co., Ltd.	Apr. 20, 2005
	Ryoin Co., Ltd., Sagamihara Branch	Apr. 25, 2005
	Shunjusha Ltd.	Apr. 26, 2005
	MHI Sagami High-tech Ltd.	May 9, 2005
	Hiroshima Dia System Co., Ltd.	May 11, 2005
	MHI Marine Engineering, Ltd.	May 16, 2005
	Churyo Engineering Co., Ltd.	May 16, 2005
	Ryoin Co., Ltd., Yokohama Branch, Minatomirai area	May 16, 2005
	MHI Aerospace Systems Corp.	Jul. 12, 2005
	Yokohama Division, MHI Control Systems Co., Ltd.	Jul. 22, 2005
	Ryosei Service Co., Ltd.	Jun. 10, 2009

Group companies within the scop	pe of ISO 14001 accreditation of MHI w		
	Location or companyname	Date of issue (or registration)	Names ofworks and plants which acquired ISO14001
Domestic	Mitsubishi Heavy Industries Plastic	Apr. 1, 2000	Iwatsuka Plant
	Technology Co., Ltd. Ryoin Co., Ltd., Nagoya Branch	Oct. 22, 2004	Nagoya Aerospace Systems Work
	MHI Aerospace Production	Oct. 22, 2004 Oct. 22, 2004	Nagoya Aerospace Systems Work
	Technologies, Ltd.	,	
	Diamond Air Service Inc.	Oct. 22, 2004	Nagoya Aerospace Systems Work
	Ryoin Co., Ltd., Shimonoseki Branch	Nov. 22, 2004 Nov. 22, 2004	Shimonoseki Shipyard & Machinery Works
	Kanmon Dock Service, Ltd. Shimonoseki Ryoju Engineering Co.,	Nov. 22, 2004	Shimonoseki Shipyard & Machinery Works Shimonoseki Shipyard & Machinery Works
	Ltd.	100.22,2001	of in to too ord or apyara a type a interfer vote
	Ryoin Co., Ltd., Nagoya Nishi Branch MH Machine Tool Engineering Co.,	Jan. 6, 2005 Feb. 25, 2005	Matsuka Plant Machine Tool
	Ltd. Ryoin Co., Ltd., Ritto Branch	Feb. 25, 2005	Machine Tool
	MHI Aero Engine Service Co., Ltd.	Apr. 11, 2005	Nagoya Guidance & Propulsion Systems Works
	MHI Logitec Co., Ltd.	Apr. 11, 2005	Nagoya Guidance & Propulsion Systems Works
	MHI Diesel Service Engineering Co.,	May 12, 2005	Kobe Shipyard & Machinery Works
	Ltd.  Nuclear Plant Service Engineering Co., Ltd.	May 12, 2005	Kobe Shipyard & Machinery Works
	Sanshin-Tec. Ltd. Mitsubishi Heavy Industries Parking	May 12, 2005 May 14, 2005	Kobe Shipyard & Machinery Works Yokohama Dockyard & Machinery Works
	Co., Ltd. Ryoin Co., Ltd., Yokohama Branch,	May 14, 2005	Yokohama Dockyard & Machinery Works
	Yokosei area Ryoju Estate Co., Ltd., Yokohama	May 14, 2005	Yokohama Dockyard & Machinery Works
	Branch	•	, ,
	MH Energy & Service Co., Ltd.	May 14, 2005	Yokohama Dockyard & Machinery Works
	MHI Power Systems Inspection Technologies, Ltd., Takasago Division	May 14, 2005	Takasago Machinery Works
	Mitsubishi Heavy Industries Plant Construction Co., Ltd., Power Systems	May 14, 2005	Takasago Machinery Works
	Service Headquarters Takasago Division, MH Plant Engineering Co., Ltd.	May 14, 2005	Takasago Machinery Works
	Takasago Division, MHI Control Systems Co., Ltd.	May 14, 2005	Takasago Machinery Works
	Ryoin Co., Ltd., Takasago Branch	May 14, 2005	Takasago Machinery Works
	Nuclear Plant Service Engineering Co., Ltd., Takasago Division		Takasago Machinery Works
	Mitsubishi Heavy Industries Machinery Technology Corp.	Jun 23, 2005	Hiroshima Machinery Works
	Mitsubishi Heavy Industries Plant Construction Co., Ltd.	Jun 23, 2005	Hiroshima Machinery Works
	Mitsubishi-Hitachi Metals Machinery, Inc.	Jun 23, 2005	Hiroshima Machinery Works
	Ryoin Co., Ltd., Hiroshima Branch	Jun 23, 2005	Hiroshima Machinery Works General Machinery & Special Vehicles
	Sagami Logistics & Service Co., Ltd. Choryo Senpaku Kouji Co., Ltd.	Sep. 13, 2005 Sep. 22, 2005	Nagasaki Shipyard & Machinery Works
	Ryoin Co., Ltd., Nagasaki Branch	Sep. 22, 2005	Nagasaki Shipyard & Machinery Works
	MHI Power Systems Inspection	Sep. 22, 2005	Nagasaki Shipyard & Machinery Works
	Technologies, Ltd., Nagasaki Division	00.0005	N 1:01: 10M 1: M/ 1
	Kowa Kogyo Co., Ltd. Nagasaki Division, MHI Control	Sep. 22, 2005 Sep. 22, 2005	Nagasaki Shipyard & Machinery Works Nagasaki Shipyard & Machinery Works
	Systems Co., Ltd.	Зер. 22, 2005	Nagasan Si lipyal d o Iviad III lei y VVOINS
	Nagasaki Division, MHI Plant Engineering Co., Ltd.	Sep. 22, 2005	Nagasaki Shipyard & Machinery Works
	MHI Maritech, Ltd.	Sep. 22, 2005	Nagasaki Shipyard & Machinery Works
	Choryo Software Co., Ltd.	Sep. 22, 2005	Nagasaki Shipyard & Machinery Works
	Mitsubishi Heavy Industries Machine Tool Sales Co., Ltd.	Jan. 13, 2006	Machine Tool
	Ryoju Estate Co., Ltd., Department of Facilities Management Service	Apr. 6, 2006	Head Office
	Tamachi Bldg. Co., Ltd., Shinagawa Building Management Center	Apr. 6, 2006	Head Office
	MHI Personnel, Ltd.	Apr. 6, 2006	Head Office
	MHI Accounting Service, Ltd.	Apr. 6, 2006	Head Office
	MHI Finance Co., Ltd.	Apr. 6, 2006	Head Office
	Daiya PR Co., Ltd.	Apr. 6, 2006	Head Office
	Diamond Air Service Inc., Tokyo Office E-Techno. Ltd.	Apr. 6, 2006 May 12, 2006	Head Office Kobe Shipyard & Machinery Works
	Choryo Engineering Co., Ltd.	Aug. 21, 2006	Nagasaki Shipyard & Machinery Works
	Mitsubishi Heavy Industries Bridge & Steel Structures	Aug. 2, 2007	Hiroshima Machinery Works
	Engineering Co., Ltd.  MHI Solution Technologies Co., Ltd.  Takasago Branch	Apr. 9, 2008	Takasago Machinery Works
	Shinryo System Corp.	May 1, 2008	Kobe Shipyard & Machinery Works
	Nagasaki Diamond Staff Co., Ltd.	Jun. 16, 2009	Nagasaki Shipyard & Machinery Works
	Nagasaki Ryoko Service Co., Ltd.	Jun. 16, 2009	Nagasaki Shipyard & Machinery Works
	Ryoin Co., Ltd., Mihara Branch	Oct. 15, 2009	Mihara Machinery Works
	Ryoju Estate Co., Ltd., Yokohama Building Service Department Mitsubishi Heavy Industries	Oct. 19, 2009	Head Office Hiroshima Machinery Works
	Compressor Corporation  Mitsubishi Heavy Industries Printing &	Oct. 14, 2010 Nov. 19, 2010	Mihara Machinery Works
	Packaging Machinery, Ltd.		·
	Mitsubishi Heavy Industries Transportation Equipment	Nov. 19, 2010	Mihara Machinery Works
	Engineering & Service Co., Ltd.  Mitsubishi Aircraft Corporation Tokyo Office, Mitsubishi Aircraft	Oct. 14, 2011 Oct. 14, 2011	Nagoya Aerospace Systems Work Head Office
	Corporation		
Overseas	MHI hdustrial Engineering & Services Private Ltd.	Dec. 29, 2011	Yokohama Engineering Center, Engineering Headquarters (Environmental & Chemical Plant Project Management Division)

### **Targets and Progress**

# Results of Promotional Efforts of Medium- to Long-Term Environmental Targets

In fiscal 2002, MHI established its Medium- to Long-Term Environmental Targets, earlier than other heavy industry companies, and has made efforts to carry out environmental preservation activities. Moreover, in fiscal 2010 we extended the target for our activities to the end of fiscal 2012 with the aim of establishing environmental targets for the following period, based on the MHI Environmental Vision 2030 (which was established in June 2012). As a result we have been able to achieve our targets for many items, including the realization of a low-carbon society and formation of a recycling-based society. We were unable to achieve our targets related to total generated waste, landfill disposal amount, chemical substance emissions, and energy conservation and reduced CO<sub>2</sub> emissions from product transportation. However, we will continue working to achieve these targets through initiatives such as incorporating them into environmental targets for the next period.

# ■ Results of Promotional Efforts of Medium- to Long-Term Environmental Targets (as of the end of Fiscal 2012) (Note)

○=target achieved △=target partially achieved ×=requires further efforts

ľ	tem	Goals	Progress (as of the end of FY2012)	Evaluation
Realization of a CO2 low-carbon society from business Energy savings (global warming		6% reduction of the average CO <sub>2</sub> emission amount for the five years from FY2008 to 2012 (from FY1990 level): to be achieved through reduction efforts at all production plants	CO <sub>2</sub> emissions: 452,000 tons (average) 4.1% reduction from FY1990 level The amount that has not been achieved will be allocated as emission credits.	Δ
measure)		More than 13% reduction of the average CO <sub>2</sub> emission amount for the five years from FY2008 to 2012 (from FY2005 level): to be achieved through reduction efforts at offices and operations divisions (Head Office, domestic offices and research & development centers)	CO <sub>2</sub> emissions: 13,500 tons (average of head office [Shinagawa and Yokohama combined] from FY2008 to FY2011) 16.1% reduction from FY2005 level	0
	Reduced energy usage and CO <sub>2</sub> emissions from product transportation	More than 5% reduction of unit energy consumption in transportation in FY2012 (from FY2008 level) by promoting efforts to reduce transportation energy (unit energy consumption of FY2008: 45.7 to 43.4 by FY2012)	FY2012 unit energy consumption of 51.0 11.6% increase on from FY2008 level	×

ltem		Goals	Progress (as of the end of FY2012)	Evaluation
Form a recycling-based society  (waste and water resource	Reduced waste generation and emissions	By FY2012, reduce total generated waste by 40% of FY1992 level: to be achieved by conserving resources and reducing the purchase of materials	Total emissions: 132,000 tons 39.0% reduction from FY1992 level	×
countermeasures)	Reducing reliance on landfill	By FY2012, cut landfill waste disposal volume by 98% relative to FY2000	landfill waste disposal volume cut by 97.5%	×
		The landfill waste disposal ratio in FY2012 will be below 1%	landfill waste disposal ratio 0.5%	0
	More efficient water usage	Water consumption in FY2012 will be cut to 9.35 million tons, a reduction of 2% relative to average consumption of 9.54 million tons in the period FY2005 to FY2007	Water consumption reduced to 7.02 million tons 26.3% reduction	0
Management of chemical substances  (control of chemical substances)	using PCBs and	Detoxification of high concentration PCB waste in storage (transformers, condensers, oils) to be completed by FY2015 (including ballasts and smaller equipment)	Ongoing consignment of processing of high concentrations PCB waste to JESCO (Japan Environmental Safety Corporation)	(To be evaluated in FY2015)
		Analysis and confirmation of low PCB devices (low concentration) to be finished by FY2012, complete detoxification by FY2015	Testing and analysis of machines and devices containing low or trace concentrations of PCBs is underway at all works	
	Reduced VOCs emissions	More than 30% reduction of atmospheric emission of VOCs with focus on xylene, toluene and ethylbenzene (reduced by 704 tons from 2,268 tons in FY2000 to 1,564 tons in FY2012)	Total VOCs emissions 1,782 tons (definitive value in FY2011) 21.4% reduction from FY2000 level	×
		Aim for zero atmospheric emissions by FY2012 of VOC organochlorinated hazardous air pollutants: dichloromethane, trichloroethylene and tetrachloroethylene	Total combined emissions of dichloromethane, trichloroethylene and tetrachloroethylene = 8.8 tons	×

It	em	Goals	Progress (as of the end of FY2012)	Evaluation
Group environmental management	Consolidated environmental management system	Ongoing ISO 14001 renewal by domestic works, Head Office, branch offices and research & development centers	Continued ISO 14001 certification renewal at domestic production bases along with research & development centers, Head Office, and domestic branch offices.	0
	Collecting and disclosing of environmental management information	Collecting environmental information (environmental data and environmental accounting) from environmental management information systems and disclosing information through CSR Reports and other releases	Collected environmental information (environmental data and environmental accounting) through the database system and disclosing information through this CSR Report	0
	Promotion of green purchasing	Promoting the purchase of environmentally friendly products based on the company's own green purchasing guidelines (Purchasing ratios: 90% by volume and 95% by value)	95.0% by quantity 97.2% by value	0
	Development and provision of environmentally friendly technologies and products	Development and provision of new products and technology based on our Basic Guideline on Production of Environmentally Friendly Products (formulated in 2005) to help reduce society's environmental burden In particular, we will work to develop technology and provide products that are revolutionary and contribute to solving global warming and building a low-carbon society	MHI supplied environmental products designed to combat global warming, such as high-efficiency generators (wind power generators, etc.) and CO <sub>2</sub> recovery systems	0

Item		Goals	Progress (as of the end of FY2012)	Evaluation
Form a society that coexists with nature (Preserving biodiversity)	Promote activities for the protection of biodiversity and nature	·	Revegetation activities coordinated with various local municipal authorities across Japan, as well as biotope and Japanese honeybee breeding programs were continued. Performed evaluations of MHI's degree of initiatives in consideration of biodiversity in its current corporate activities.	0

(Note) In principle, all the data represents data of Mitsubishi Heavy Industries, Ltd. non-consolidated.

#### **Establishment of Second MHI Group Environmental Targets**

In line with the MHI Environmental Vision 2030, which was established in June 2012, the Environment Committee established the Second MHI Group Environmental Targets to be achieved by the end of fiscal 2014.

The Environmental Vision lists four categories of environmentally conscious production activities to be addressed: (1) Reduction in greenhouse gas emissions, (2) Reduction in waste generation, (3) Reduction in emissions of chemical substances, and (4) More efficient water usage. For the purpose of promoting these activities throughout the MHI Group, the committee has set separate detailed targets for MHI and the MHI Group, individually attuned to the actual circumstances of each activity. The entire MHI Group will make efforts to achieve these targets.

A common request from society is for CO<sub>2</sub> reductions and biodiversity considerations in the supply chain. In response to this, MHI decided to launch the MHI Supplementary Action Plan for the Second Environmental Targets (to be promoted in conjunction with the Second Environmental Targets).

### ■ Second MHI Group Environmental Targets (FY2013-FY2014)

Category	Item	Scope of target	New target (FY2013-FY2014)
Reduction in greenhouse gas emissions	Reduction in CO <sub>2</sub> emissions	Production bases in Japan	[Production bases in Japan] Reduce unit energy consumption by 3.5% every year.
(Item contained in Environmental Vision)		Offices in Japan (Head Office, branch offices, etc.)	[Offices in Japan] Reduce unit energy consumption by 1% every year.
		Group companies in Japan	[Group companies in Japan] Reduce the unit energy consumption of main manufacturing companies to below FY2012 levels.
		Group companies in countries other than Japan	[Group companies in countries other than Japan] Reduce the unit energy consumption of main manufacturing companies to below FY2012 levels.
	Reduction in greenhouse gases (except CO <sub>2</sub> )	Production bases in Japan	[Production bases in Japan] Reduce unit greenhouse gas (Note 1) emissions to below FY2012 levels. (Note 1) Excluding CO <sub>2</sub> emissions from energy use.
	CO <sub>2</sub> Reductions with MHI Product Usage	All companies (promoted by Head Office)	Promote the manufacture of environmentally friendly products, and report every year on the contribution to CO <sub>2</sub> reductions through the use of products sold.
Reduction in waste generation (Item contained in Environmental Vision)	Reduction in total waste generation	Production bases in Japan	[Production bases in Japan] Reduce total waste generated in FY2014 by 40% compared to FY1992.
	Reduction in volume of landfill waste	Production bases in Japan	[Production bases in Japan] Reduce volume of landfill waste in FY2014 by 98% compared to FY2000.
		Group companies in Japan	[Group companies in Japan] Reduce volume of landfill waste by main manufacturing companies in FY2014 to below FY2012 levels.
	Reduction in landfill disposal ratio	Production bases in Japan	[Production bases in Japan] Ensure that landfill disposal ratio in FY2014 at all works and business segments is less than 0.5%.

Category	Item	Scope of target	New target (FY2013-FY2014)
Reduction in emissions of chemical substances (Item contained in Environmental Vision)	Reduction in VOC emissions	Production bases in Japan	[Production bases in Japan] Reduce the atmospheric emissions of VOC (xylene, toluene and ethylbenzene) in FY2014 by more than 30% compared to FY2000.
	Zero atmospheric emissions of organochlorinated hazardous air pollutants	Production bases in Japan	[Production bases in Japan] Eliminate all atmospheric emissions (Note 2) of dichloromethane, trichloroethylene and tetrachloroethylene by FY2014. (Note 2) Except for use in research and testing purposes.
		Group companies in Japan	[Group companies in Japan] Reduce atmospheric emissions (Note 2) of dichloromethane, trichloroethylene and tetrachloroethylene by main manufacturing companies in FY2014 to below FY2012 levels. (Note 2) Except for use in research and testing purposes.
More efficient water usage (Item contained in Environmental Vision)	water usage	Production bases in Japan	[Production bases in Japan] Reduce unit water consumption by 1% every year. (water: industrial water, tap water, groundwater, rivers, lakes; excluding seawater).
		Group companies in Japan	[Group companies in Japan] Reduce unit water consumption of main manufacturing companies in FY2014 to below FY2012 levels. (water: industrial water, tap water, groundwater, rivers, lakes; excluding seawater).
		Group companies in countries other than Japan	[Group companies in countries other than Japan] Reduce unit water consumption of main manufacturing companies in FY2014 to below FY2012 levels. (water: industrial water, tap water, groundwater, rivers, lakes; excluding seawater).

### ■ MHI Supplementary Action Plan for the Second Environmental Targets

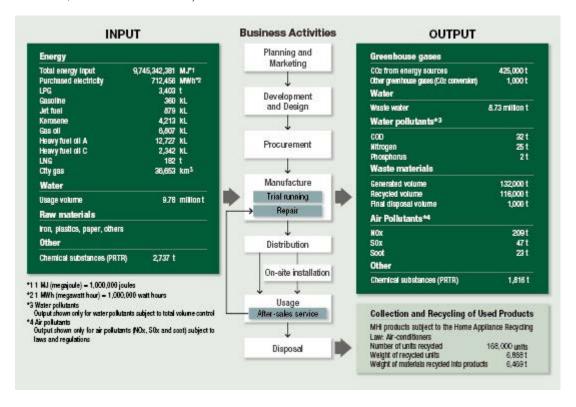
(to be promoted in conjunction with the Second Environmental Targets)

Category	Item	Scope of target	Action plan (FY2013-FY2014)
Reduction in greenhouse gas emissions	Reduction in CO <sub>2</sub> emissions in the supply chain	Head Office (performed by Head Office)	Commence study on the amount of CO <sub>2</sub> emitted along the supply chain.
Biodiversity considerations (Item not contained in	Biodiversity education	Entire company (excluding Group companies)	Incorporate biodiversity principles into environmental education.
Environmental Vision)	Biodiversity considerations in the supply chain	Head Office (performed by Head Office)	Commence study on initiatives for biodiversity in the supply chain.

#### **Material Balance**

To carry out its business operations, MHI uses various types of energy and resources. We consistently strive to reduce environmental load throughout the lifecycle of a product, from development, design, procurement and manufacture to distribution, on-site installation, usage, servicing and disposal.

**Input/Output Status (FY2012)** (In principle, all the data represents data of Mitsubishi Heavy Industries, Ltd. non-consolidated.)



### **Environmental Accounting**

#### **Adoption of Environmental Accounting Guidelines**

MHI quantitatively monitors investments and costs for environment preservation as part of the performance reviews of the company's business activities and also calculates the relative benefits of these efforts. The company refers to the Environmental Accounting Guidelines published by the Ministry of the Environment.

#### 10.5 billion yen in investments and 12.9 billion yen in costs

Total investments amounted to 10.5 billion yen while total costs were 12.9 billion yen for fiscal 2012. The investment increased in comparison with fiscal 2011. The main cause was the increased development costs of environment-related products.

Economic advantages valued at 1.7 billion yen were gained during the fiscal year, consisting mainly of revenues from recycling and reduced costs for purchasing electricity due to energy savings.

# ■ Environmental preservation: costs and economic benefit (In principle, all the data represents data of Mitsubishi Heavy Industries, Ltd. non-consolidated.)

(million yen)

									(IIIIIIOII yCII)
Cost Category	Activities in FY2012	Inves	tment	Co	ost	Е	conom	ic benefit	Environmental preservation:
	F12012	2011	2012	2011	2012	2011	2012	Description	benefit
Production activities		5,292	4,217	6,002	6,079	1,694	1,744		
(1) Pollution control	Maintenance and operation of wastewater and flue gas treatment facility	3,750	1,936	3,168	3,304	_	4		Reduced emissions of air and water pollutants
(2) Global environmental preservation	Energy savings	1,495	2,051	336	291	149	165	Cost reduction from energy savings	Reduced energy input
(3) Recycling	Reduced waste generation, recycling	47	140	2,498	2,484	1,545	1,574	Income derived from recycling, cost reduction from reduced waste generation	
2. Upstream and downstream costs	Recycling of household electrical appliances and container packaging	-	-	9	8	-	-		

Cost Category	Activities in FY2012	Inves	stment	Co	ost	Ed	conomic	benefit	Environmental
	FY2012	2011	2012	2011	2012	2011	2012	Description	preservation: benefit
3. Management activities	Development of environmental management systems, ISO Office, publication of MHI Social & Environmental Report	8	67	1,093	1,008	-	-		
4. R & D	Development of environmentally friendly products	417	5,842	6,890	5,423	-	-		Development of Diverse environmentally friendly products
5. Public and social activities	Support of environmental preservation: initiatives, greening activities	0	1	326	272	-	-		
6. Environmental remediation	Soil remediation measures	447	416	131	89	-	-		Prevention of oil and chemicals spills
Total		6,164	10,452	14,451	12,879	1,694	1,744		

<sup>1</sup> Total capital investments in fiscal 2012: 79.7 billion yen. Portion related to the environment: 10.5 billion yen (13.1 percent).

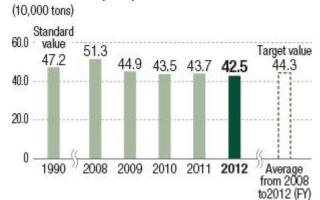
<sup>2</sup> Total R&D outlays in fiscal 2012: 104.3 billion yen. Portion related to the environment: 11.3 billion yen (10.8 percent).

### Promotion of Energy-saving and CO<sub>2</sub> Emission Control Measures

#### **Promoting CO<sub>2</sub> Emissions Reduction at Production Plants**

In fiscal 2012, MHI's CO<sub>2</sub> emissions resulting from energy use were 425,000 tons. Factors, in addition to the CO<sub>2</sub> reduction measures used up till that time, included energy-conservation measures undertaken by the entire company after the Great East Japan Earthquake. Compared to our benchmark year of fiscal 1990 (472,000 tons), this represents a 9.8 percent reduction, thus achieving our single-year target decrease of 6 percent for the third year in a row. Meanwhile, with respect to the company-wide target of an average 6 percent reduction against the benchmark year of fiscal 1990 over the five-year period from fiscal 2008 to 2012, MHI's five-year average CO<sub>2</sub> emissions were 452,000 tons. This represents only about a 4.1 percent reduction compared to fiscal 1990, and thus the target was not attained. MHI plans to appropriate UN-approved emission credits for the unattained portion (a shortfall in reduction of approximately 45,000 tons). MHI will continue to strive for further reductions, such as by steadily expanding the introduction of energy monitoring systems and energy-saving lighting, and updating to energy-saving air conditioners as outlined in its plan for updating in-house air-conditioners formulated in November 2010.

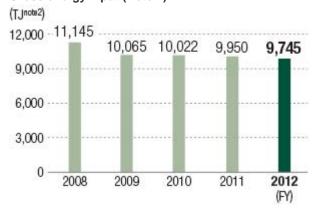
#### CO<sub>2</sub> emissions (Note)



Note: In principle, these data represent production sites data of Mitsubishi Heavy Industries, Ltd. non-consolidated.

FY	1990	2008	2009	2010	2011	2012	Average from 2008 to2012
							(target)
	472,000t	513,000t	449,000t	435,000t	437,000t	425,000t	443,000t

#### **Gross energy input (Note 1)**

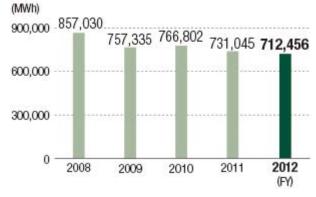


(Note 1) In principle, these data represent production sites data of Mitsubishi Heavy Industries, Ltd. non-consolidated.

FY	2008	2009	2010	2011	2012
	11,145TJ	10,065TJ	10,022TJ	9,950TJ	9,745TJ

(Note 2) 1 TJ (terajoule) = 1 trillion joules (1,000,000,000,000 J)

#### **Electricity purchases (Note)**



(Note) In principle, these data represent production sites data of Mitsubishi Heavy Industries, Ltd. non-consolidated.

FY	2008	2009	2010	2011	2012
	857,030MWh	757,335MWh	766,802MWh	731,045MWh	712,456MWh

#### Switching to alternative types of fuel at works and Group companies

MHI is making efforts to switch to LNG or city gas, which when burned produce small amounts of CO<sub>2</sub> emissions compared to heavy oil or kerosene, as fuel for its boilers and other equipment. For example, at the Nagasaki Shipyard & Machinery Works the switch to alternative types of fuel was carried out systematically from fiscal 2007 to 2010. At the Nagoya Aerospace Systems Works and Hiroshima Machinery Works, fuel switching was implemented in order to reduce CO<sub>2</sub> emissions.

FY	Works	Achievements	
2005	Takasago Machinery Works	The fuel for the forging heating furnace was switched from propane to city gas. CO <sub>2</sub> emissions were reduced by 55 percent, including waste heat recovery.	
2007	Nagasaki Shipyard & Machinery Works	The boiler plant's three heat treatment furnaces were switched from Heavy Fuel Oil A to city gas. CO <sub>2</sub> emissions were reduced by 40 percent.	
2009	Nagasaki Shipyard & Machinery Works	The boiler plant's annealing furnace was switched from kerosene to LPG. CO <sub>2</sub> emissions were reduced by nine percent.	
2010	Nagasaki Shipyard & Machinery Works	·Together with facility renewal for the foundry plant's air compressor, a switch was made from the engine-driven type that used Heavy Fuel Oil A to the electric motor type. CO <sub>2</sub> emissions were reduced by 54 percent.  ·The private generation facilities were switched from Heavy Fuel Oil A to city gas. CO <sub>2</sub> emissions were reduced by 31 percent.	
2011	Nagoya Aerospace Systems Works (Tobishima Plant)	Together with the renewal of the boiler for air conditioning, the fuel was switched from kerosene to city gas. CO <sub>2</sub> emissions were reduced by approximately 45 percent.	
	Hiroshima Machinery Works (Foundry & Forging Shop)	·The tempering furnace was switched from Heavy Fuel Oil A to city gas. CO <sub>2</sub> emissions were reduced by 26 percent. ·The heating furnace was switched from Heavy Fuel Oil A to city gas. CO <sub>2</sub> emissions were reduced by 30 percent. ·The gas tempering furnace was switched from butane to city gas. CO <sub>2</sub> emissions were reduced by 17 percent.	
2012	Hiroshima Machinery Works (Foundry & Forging Shop)	The ladle preheater was switched from Heavy Fuel Oil A to city gas. CO <sub>2</sub> emissions were reduced by 10 percent.	

#### Takasago Machinery Works receives ECCJ Chairman Prize

In fiscal 2012, the Takasago Machinery Works won the ECCJ Chairman Prize as part of the Energy Conservation Grand Prize, (Note) a competition organized by the Energy Conservation Center, Japan (ECCJ) with support from the Ministry of Economy, Trade and Industry. The theme of its entry was "Drastic reductions in fixed energy consumption begin with plant assessment (energy efficiency improvements for air-conditioning and ventilation systems used in office buildings)." This splendid achievement of receiving the prize in the Energy Conservation Examples category was a first for MHI.

In 2004, a plant assessment was carried out on the Takasago Machinery Works by the Kinki Bureau of Economy, Trade and Industry. The assessment revealed that fixed energy consumption, such as for air conditioning and lighting, accounted for about 40 percent of its total energy consumption. Taking this opportunity, the Environment & Facilities Management Section at the works led the way in measures for the office buildings within the works. In addition to having equipment installed for monitoring energy usage and the operating conditions of air-conditioning equipment, it also had ventilation facilities renovated, and introduced adaptive control for related equipment, including controlling the number of heat source units. As a result of building a system for total optimization, a considerable energy-saving effect was achieved, and this was recognized by this prize.

(Note) Energy Conservation Grand Prize: Designed to help spread awareness for energy conservation and popularize energy-saving products, by awarding examples of excellent energy conservation activities and advanced energy-saving products achieved by technological development. The program is currently divided into two categories: Products and Business Models, and Energy Conservation Examples. Awards received for air-conditioners, televisions and other household appliances in the Products category are generally well known.



Award ceremony for the ECCJ Chairman Prize

Left: Kuniyuki Sakata (employee at Takasago Machinery Works), Right: Yasuo Nagashima (Deputy Head of Takasago Machinery Works)

# One million kWh of green power used annually thanks to wind power generation

MHI has contracted with Japan Natural Energy Co., Ltd. (JNE) to purchase 1 M kWh of wind-generated power from JNE each year for a period of 15 years starting April 2002. Of the power purchased in fiscal 2012, 481,000 kWh were used at the Mitsubishi Heavy Industries Head Office Building, and 484,000 kWh were used at the Mitsubishi Minatomirai Industrial Museum.

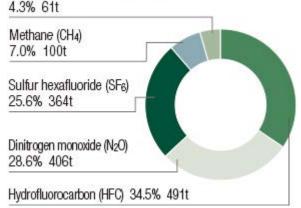


The Certificate of Green Power

#### Greenhouse gas emissions, excluding CO2 emissions from energy use

MHI has been compiling data on greenhouse gas emissions (excluding CO<sub>2</sub> emissions from energy use) since fiscal 2006 under the system enforced in fiscal 2006 for calculating, reporting and publishing greenhouse gas emission amounts. The actual emission amount for fiscal 2012 was 1,000 tons. (In principle, these data represent production sites data of Mitsubishi Heavy Industries, Ltd. non-consolidated.)

### Greenhouse gas emissions (excluding CO<sub>2</sub> emissions from energy use) (Note) CO<sub>2</sub> emissions not resulting from energy use



(Note) In principle, these data represent production sites data of Mitsubishi Heavy Industries, Ltd. non-consolidated.

Hydrofluorocarbon (HFC)	34.5%	491t
Dinitrogen monoxide (N <sub>2</sub> O)	28.6%	406t
Sulfur hexafluoride (SF <sub>6</sub> )	25.6%	364t
Methane (CH <sub>4</sub> )	7.0%	100t
CO <sub>2</sub> emissions not resulting from energy use		61t

# Acquisition of approx. 130,000 tons of CO<sub>2</sub> emission credits from a CDM project

MHI plans to utilize emission rights to ensure that its CO<sub>2</sub> emission reduction targets are reliably met. MHI has concluded emission rights purchasing agreements with four projects undertaken by Kyoto Mechanisms JI (Joint Implementation) (Note 1) and Clean Development Mechanism (CDM) (Note 2).

Among these four projects, in April 2012 MHI acquired approximately 130,000 tons of emission credits through a CDM hydroelectric power generation project at the Xiadongxia in Fujian Province, China, the agreement for which was signed in 2007. Although these emission credits are currently being administered in an MHI holding account, since they will be applied to the shortfall in MHI's target reduction in CO<sub>2</sub> emissions, they will be transferred to a government retirement account without compensation. The transferred emission credits will be added to Japan's greenhouse gas reduction volume.

(Note 1) JI: System in which a company invests in greenhouse gas reduction projects in advanced countries and applies the reduced emissions to achieve its own goals.

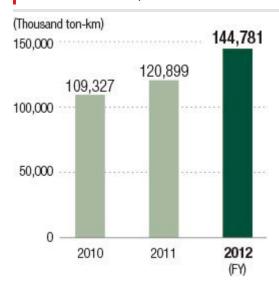
(Note 2) CDM: System in which a company invests in greenhouse gas reduction projects in developing countries and applies the reduced emissions to achieve its own goals.

### Measures to Curb CO<sub>2</sub> Emissions in Transportation

# Promotion of energy-conservation in transportation through modal shift and load ratio improvement

MHI, which handles cargo transportation of over 30 million ton-km per year, is a "specified consigner" according to the revised Act Concerning the Rational Use of Energy. For that reason, MHI is implementing an action plan towards energy conservation during transportation, such as by promoting modal shifts at works and improving load ratios. MHI is also working to streamline this plan, energy consumption, and consumption measured in basic units for energy. Energy consumption (measured in basic units for energy) in fiscal 2012 was 51 units, a 11.6 percent increase from the amount of 45.7 units in the benchmark year of fiscal 2008.

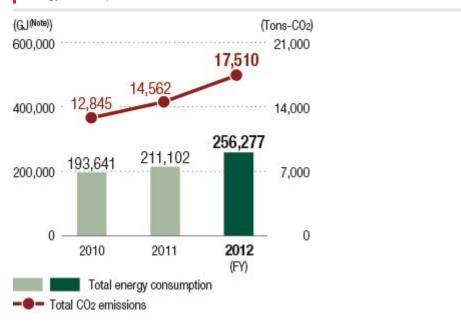
#### Total Volume of Transportation



#### **■ Total Volume of Transportation**

FY	2010	2011	2012
	109,327,000tk	120,899,000tk	144,781,000tk

### Energy consumption and CO<sub>2</sub> emissions



(Note) 1 GJ (gigajoule) = 1,000 MJ (megajoules)

#### ■ Energy consumption and CO<sub>2</sub> emissions

FY	2010	2011	2012
Total energy consumption	193,641GJ	211,102GJ	256,277GJ
Total CO <sub>2</sub> emissions	12,845t-CO <sub>2</sub>	14,562t-CO <sub>2</sub>	17,510t-CO <sub>2</sub>

## **Energy-saving Activities in Offices**

#### Promoting "Cool Biz" and "Warm Biz"

MHI promotes an energy-saving dress code known as "Cool Biz" during the summer (office air-conditioning systems are set to 28°C and employees do not need to wear neckties) and "Warm Biz" during the winter (office air-conditioning systems are set to 20°C and employees are encouraged to bring an extra layer of clothing).

#### Implementing summer and winter power-saving measures

Again in fiscal 2012, in response to the power shortages following the Great East Japan Earthquake, MHI implemented power-saving measures in summer (July 2 – September 7) at 14 sites served by the Kyushu, Chugoku, Kansai, Chubu and Tokyo electric power companies. Reduction targets for maximum power consumption were set in each region, and various measures were taken, such as running in-house power generation facilities and adjusting operating times for facilities that consume a lot of electricity. As a result of these efforts, all of the relevant sites achieved their energy-saving targets, and the total purchased electricity was reduced by 10.1 percent compared to the same period as the previous year.

Following the summer, MHI also conducted energy-saving activities during winter (December 3, 2012 - March 29, 2013).

By continuing its efforts to cut down on electricity consumption, MHI will cooperate in resolving the power shortage.

#### ■ Energy-saving targets and key measures in fiscal 2012

Sites	Summer energy- saving target (rate of reduction) (Note 1)	Winter energy- saving target (rate of reduction) (Note 2)	Key measures
1 site served by the Kyushu Electric Power Company	10 percent	4.5 percent	<ul> <li>Run in-house power generation facilities Nagasaki Shipyard &amp;</li> </ul>
3 sites served by the Chugoku Electric Power Company	5 percent	1.5 percent	Machinery Works: 5,630kW Kobe Shipyard & Machinery Works: 3,600kW
3 sites served by the Kansai Electric Power Company	15 percent	5.6 percent	Yokohama Dockyard & Machinery Works: 5,500kW Sagamihara Machinery Works: 10,745kW
4 sites served by the Chubu Electric Power Company	5 percent	2.8 percent	<ul><li>Adjust operating times for facilities</li><li>Operate at night and on</li></ul>
4 sites served by the Tokyo Electric Power Company	10 percent	5.0 percent	holidays

(Note 1) Outside the region served by the Tokyo Electric Power Company (TEPCO), MHI set targets based on requests from the government and the relevant electric power company. Inside the region served by TEPCO, MHI set its own targets. In each case, the standard value is the maximum power consumption for July to September in 2010.

(Note 2) MHI set targets based on the expected government values for reasonable power savings. The standard value is the maximum power consumption for December 2010 to March 2011.

## CO<sub>2</sub> Reductions with MHI Product Usage (FY2012)

#### ■ CO<sub>2</sub> Reductions with MHI Product Usage (FY2012)

Sector	CO <sub>2</sub> reduction (thousand tons)	Basis of calculation	Remarks
Power plant	25,506	Estimates based on MHI's actual delivery record in FY2012, compared with FY1990. The estimate for nuclear power is based on actual output generated in FY2012 by plants provided by MHI.	Thermal plants (combined, conventional), nuclear plants, photovoltaic, wind turbine and geothermal power generation, etc.
Transportation	2,228	Estimates based on MHI's actual delivery record in FY2012, compared with FY1990.	Ships, transportation systems, etc.
Mass and medium-lot manufactured products	1,458	Estimates based on MHI's actual delivery record in FY2012, compared with FY1990.	Air-conditioners, centrifugal chillers, gas engines, forklift trucks, etc.

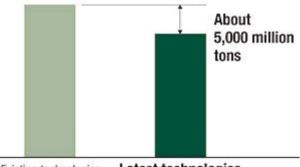
Data for fiscal 1990 is calculated based on the IEA's (International Energy Agency's) "World Energy Outlook 2012"

MHI is working to create a low-carbon society across a broad spectrum of fields, including large-scale power generation technologies such as highly efficient thermal power generation plants and nuclear power plants; power generation systems that utilize wind, geothermal, and other renewable energies; ships and transportation systems for improving the efficiency of the transportation sector; and high energy-saving hybrid forklift trucks and air-conditioning systems that use heat pump technology.

CO<sub>2</sub> reductions from the fiscal 1990 level through the use of MHI's products in fiscal 2012 came to about 30 million tons. The amount was down by 40 million tons compared to fiscal 2011. The main reasons for this included the nuclear power plants that were stopped after regular inspections due to the effects of the Great East Japan Earthquake.

The power generation sector, which accounts for nearly 40 percent of CO<sub>2</sub> emissions, has the potential for reducing emissions by about 5,000 million tons, assuming our latest technologies at the top international level would be deployed across the world. Going forward, MHI will continue to conduct business by maximizing its comprehensive strengths to further reduce the global environmental load.

#### CO2 reduction potential assuming MHI products are introduced globally



Existing technologies Latest technologies

As an example, we estimated the potential CO<sub>2</sub> reduction if MHI products were introduced globally. We will continue working so that MHI's activities may serve to realize further contributions in the area of global warming.

## **Curbing Waste Generation, Release and Disposal**

#### Promoting the reduction of landfill disposal volumes at all works

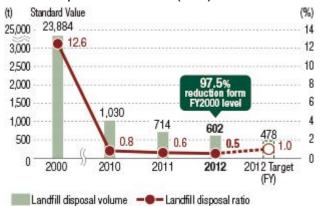
MHI met its target by achieving zero emissions at all 13 works in fiscal 2010. In addition to our target of conserving resources and promoting restraint in purchasing materials to reduce the total amount of waste produced by 40 percent in fiscal 2012 compared to fiscal 1992, we have set two targets: reducing the landfill disposal volume in fiscal 2012 by 98 percent compared to fiscal 2000, and achieving the landfill disposal ratio of one percent or less in fiscal 2012. MHI took actions to achieve these targets.

In fiscal 2012, the last year of the goal, the landfill disposal volume was reduced by 97.5 percent compared to fiscal 2000—barely missing the target figure—and an average landfill disposal ratio of 0.5 percent was achieved for the entire company. Efforts will be made in fiscal 2013 and beyond to achieve even further reductions in landfill disposal volumes.

#### ■ Achievement of landfill disposal ratios of one percent or less

Works	Landfill disposal ratio (percent)
Nagasaki Shipyard & Machinery Works	0.7
Kobe Shipyard & Machinery Works	0.7
Shimonoseki Shipyard & Machinery Works	0.01
Yokohama Dockyard & Machinery Works	0.1
Takasago Machinery Works	0.1
Nagoya Aerospace Systems Works	0.3
Nagoya Guidance & Propulsion Systems Works	0.5
Hiroshima Machinery Works	0.004
Mihara Machinery Works	0.1
General Machinery & Special Vehicles	0.1
Air-Conditioning & Refrigeration Systems	0.5
Machine Tool	0.8
Iwatsuka Plant	0.2

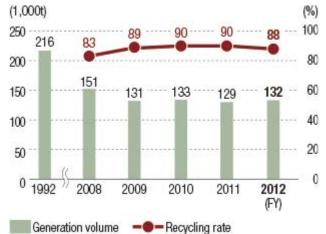
#### Landfill disposal volume/ratio (Note)



(Note) In principle, these data represent production sites data of Mitsubishi Heavy Industries, Ltd. non-consolidated.

FY	FY2000	FY2010	FY2011	FY2012	FY2012 Target
Landfill disposal volume	23,884t 23,884 tons	,			478t 478 tons
Landfill disposal ratio	12.6%	0.8%	0.6%	0.5%	1.0%

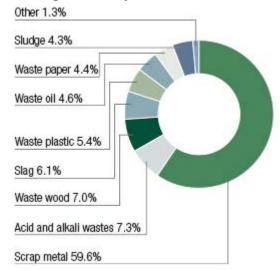
#### Waste generation volumes and recycling rate (Note)



(Note) In principle, these data represent production sites data of Mitsubishi Heavy Industries, Ltd. non-consolidated.

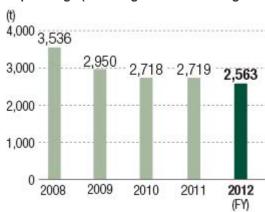
FY	FY1992	FY2008	FY2009	FY2010	FY2011	FY2012
Generation volume	216,000 tons	151,000 tons	131,000 tons	133,000 tons	129,000 tons	132,000 tons
Recycling rate	-	83%	89%	90%	90%	88%

#### Waste generation by material



Scrap metal	59.6%
Acid and alkali wastes	7.3%
Waste wood	7.0%
Slag	6.1%
Waste plastic	5.4%
Waste oil	4.6%
Waste paper	4.4%
Sludge	4.3%
Other	1.3%

#### Paper usage (including Head Office usage amount) (Note)



(Note) In principle, these data represent data of Mitsubishi Heavy Industries, Ltd. non-consolidated.

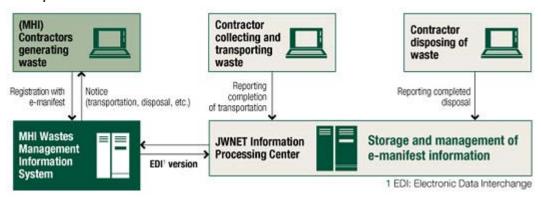
FY	FY2008	FY2009	FY2010	FY2011	FY2012
Paper usage	3,536t	2,950t	2,718t	2,719t	2,563t

## **Using Electronic Manifests (e-manifests)**

#### Completing the introduction of e-manifests throughout the entire company

MHI made efforts based on its policy of introducing e-manifests at all works including the Head Office over the three-year period between fiscal 2009 and 2011. In fiscal 2011, the introduction of e-manifests was completed throughout the entire company. E-manifests are a means to fulfill our responsibility as waste producers to prevent illegal dumping. By digitalizing waste disposal manifests, a better understanding of the flow of outsourced waste disposal can be achieved. MHI introduced a waste management system at all its sites in 2008 that includes management of data such as permissions for waste management operators and their expiry dates. In 2009, all MHI sites registered with the "Electronic Manifest System (JWNET)," which is stipulated by the Waste Management Act and managed by the Japan Industrial Waste Information Center. Our Kobe Shipyard & Machinery Works began operations using e-manifests in November of that year. In fiscal 2010 JWNET was introduced at seven works, followed by activities to introduce JWNET at the remaining works in fiscal 2011. JWNET was introduced at all works by March 31, 2012.

#### Conceptual scheme of e-manifest



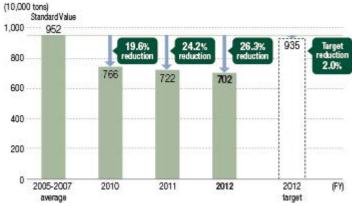
## **Protecting Water Resources**

#### Reducing water usage during production

In fiscal 2010, MHI set a target to reduce its water usage (Note) to 9.35 million tons by fiscal 2012 — a 2 percent reduction compared to the average annual usage (9.52 million tons) from fiscal 2005 to 2007. After making reduction efforts at each works and business segments, the target was met in fiscal 2012 when the usage amount was cut by 26.3 percent to 7.02 million tons. As an example of measures to reduce water usage, water usage was reduced at the Nagasaki Shipyard & Machinery Works by employing a coolant purification system when renovating the compressors. At Takasago Machinery Works, old pipes are regularly replaced, leading to large reductions in water usage.

(Note) Water usage: Total volume of water supply, industrial water, and groundwater

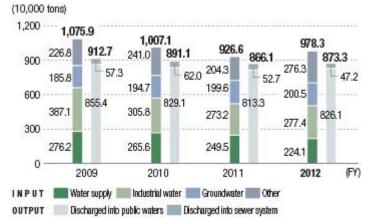
#### Water usage and reduction ratio (Note)



(Note) In principle, these data represent production sites data of Mitsubishi Heavy Industries, Ltd. non-consolidated.

FY	2005-2007 average	2010	2011	2012	2012 target
Usage amount	9,520,000t	7,660,000t	7,220,000t	7,020,000t	9,350,000t

#### Water usage and discharge (Note)



(Note) In principle, these data represent production sites data of Mitsubishi Heavy Industries, Ltd. non-consolidated.

FY	2009	2010	2011	2012
Water supply	2,762,000t	2,656,000t	2,495,000t	2,241,000t
Industrial water	3,871,000t	3,058,000t	2,732,000t	2,774,000t
Groundwater	1,858,000t	1,947,000t	1,996,000t	2,005,000t
Other	2,268,000t	2,410,000t	2,043,000t	2,763,000t
Total usage amount	10,759,000t	10,071,000t	9,266,000t	9,783,000t
Discharged into public waters	8,554,000t	8,291,000t	8,133,000t	8,261,000t
Discharged into sewer system	573,000t	620,000t	527,000t	472,000t
Total discharge amount	9,127,000t	8,911,000t	8,661,000t	8,733,000t

#### Recycled water usage

Recycled water usage by all of MHI in fiscal 2012 was 567,000 tons, a 132,000 ton decrease from 699,000 tons in fiscal 2011. Recycled water is used to cool down products and equipment in manufacturing processes, to clean office floors and restrooms, and for landscaping use at works. We will investigate more methods for utilizing recycled water—including at works where recycled water use is under employed—and make efforts to reduce our water usage.

# **Curbing the Use and Emissions of Chemical Substances through Proper Management and Use of Alternatives**

#### Promoting the reduction of substances subject to the PRTR system

In fiscal 2012, MHI released a total of 1,816 tons of substances subject to the Pollutant Release and Transfer Register (PRTR) (Note 1) system (Note 2).

Roughly 98 percent of these emissions consisted of xylene, toluene, and ethylbenzene, which are primarily used in painting and cleaning applications. Xylene is used for painting ships, and its usage is typically specified by ship owners. It is therefore difficult to use an alternative substance, making reducing the amount of xylene a challenge. In the future MHI will continue promoting the adoption of alternative products (such as water-based paint) and steadily carry out activities to reduce the usage of substances subject to the PRTR system.

(Note 1) PRTR (Pollutant Release and Transfer Register):

The PRTR system requires publication of the sources and emission volume of toxic chemical substances and the amounts of such substances removed from manufacturing plants. The system is provided for under the Pollutant Release and Transfer Register (PRTR) Law.

(Note 2) In principle, these data represent production sites data of Mitsubishi Heavy Industries, Ltd. non-consolidated.

#### PRTR emission and transfer amount

■ PRTR emission and transfer amount of environmental pollutants [The PRTR system data under the amendment of "Cabinet Order for Enforcement of the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof"] (Note 1) (Unit: t)

No.	Name of Substance	FY2	011	FY20	)12
		Emission Amount	Transfer Amount	Emission Amount	Transfer Amount
20	2-Aminoethanol	0.1	3.2	0.1	2.1
53	Ethylbenzene	340.0	27.6	314.7	21.6
57	Ethylene glycol monoethyl ether	6.7	0.2	5.1	0.2
58	Ethylene glycol monomethyl ether	5.2	0.3	-	-
71	Ferric chloride	0.0	0.6	0.0	2.0
80	Xylene	948.9	87.8	904.0	60.3
82	Silver and its water-soluble compounds	-	-	-	-
87	Chromium and chromium(III) compounds	0.3	10.7	0.0	14.6
88 <b>*</b> (Note 2)	Chromium(VI) compounds	0.0	10.2	0.0	11.9
104	Chlorodifluoromethane (HCFC-22)	0.0	0.1	0.0	0.1
132	Cobalt and its compounds	0.5	6.2	0.0	8.1

No.	Name of Substance	FY20	011	FY2012		
		Emission Amount	Transfer Amount	Emission Amount	Transfer Amount	
133	2-Ethoxyethyl acetate	5.8	0.2	4.4	0.2	
181	Dichlorobenzene	0.0	1.6	0.0	1.6	
185	Dichloropentafluoropropane (HCFC-225)	4.5	1.6	-	-	
186	Dichloromethane	0.3	2.7	0.2	2.0	
188	N,N-Dicyclohexylamine	0.0	5.1	0.0	4.2	
238	Hydrogenated terphenyl	0.0	0.3	0.0	0.5	
240	Styrene	14.5	0.0	11.5	0.0	
243 *(Note 2)	Dioxins (Note 3)	0.0	0.0	0.0	0.0	
262	Tetrachloroethylene	9.8	30.7	8.4	1.7	
281	Trichloroethylene	0.9	24.0	-	-	
296	1,2,4-Trimethylbenzene	1.7	0.2	1.7	0.1	
297	1,3,5-Trimethylbenzene	4.9	1.6	2.4	1.0	
300	Toluene	637.7	69.5	552.9	36.6	
304	Lead	0.0	0.0	-	-	
308	Nickel	0.2	8.1	0.0	9.9	
333	Hydrazine	0.0	0.0	1.2	0.1	
336	Hydroquinone	0.0	2.3	-	-	
349	Phenol	1.5	0.0	-	-	
374	Hydrogen fluoride and its water- soluble salts	0.0	0.0	0.0	10.8	
384	1-Bromopropane	2.8	0.7	4.4	1.5	
392	<i>n</i> -Hexane	0.1	0.5	0.2	0.5	
400 <b>*</b> (Note 2)	Benzene	0.0	0.0	0.0	0.0	
408	Poly(oxyethylene)octylphenyl ether	0.0	0.0	3.1	0.0	
410	Poly(oxyethylene)nonylphenyl ether	-	-	1.8	0.0	
412	Manganese and its compounds	0.0	4.7	0.0	7.1	
438	Methylnaphthalene	0.0	0.0	-	-	
448	Methylenebis(4,1-phenylene) diisocyanate	0.0	29.3	0.0	5.7	
453	Molybdenum and its compounds	0.0	0.1	0.0	0.1	

(Note 1) In principle, all these data represent production sites data of Mitsubishi Heavy Industries, Ltd. non-consolidated.

(Note 2): For designated Class 1 specified chemical substances (marked with a star), records are for substances whose annual transaction amount is 0.5 tons or more. For other Class 1 specified chemical substances, records are for substances whose annual transaction amount was 1 ton or more.

(Note 3): The unit of dioxins is mg-TEQd

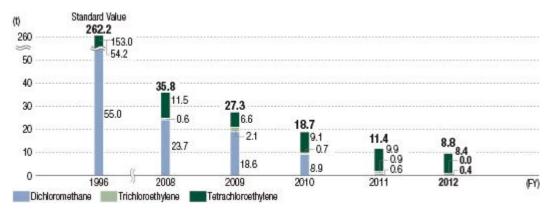
#### Promotion of organochlorides reduction and replacement activities

Dichloromethane, trichloroethylene, and tetrachloroethylene are used as paint removal agents and oil cleaning agents. MHI established a goal of achieving zero atmospheric emissions by fiscal 2012, and made efforts to reduce usage of these substances and switch to alternative substances. As a result, in fiscal 2011, the introduction of replacement equipment for cleaning equipment that used trichloroethylene was completed. Starting from fiscal 2012 we have been able to reduce the entire company's atmospheric emissions of trichloroethylene to zero.

Meanwhile, MHI completed an evaluation of replacing dichloromethane with non-dichloromethane removal agents in fiscal 2008. The company implemented facility improvements for this replacement in fiscal 2009, and the replacement of this substance has been carried out sequentially from fiscal 2010. However, 0.4 tons of atmospheric emissions of dichloromethane remained in fiscal 2012. For tetrachloroethylene, an alternative agent has been selected and facilities for changing over to the alternative agent have been installed, but 8.4 tons of tetrachloroethylene emissions still remained in fiscal 2012.

As a result, we were not able to achieve our goal of zero atmospheric emissions by fiscal 2012. We have therefore included the zero atmospheric emission target into the "Second MHI Group Environmental Targets" commenced in fiscal 2013 and will continue to work towards achieving this target.

#### Atmospheric emissions of organochlorides

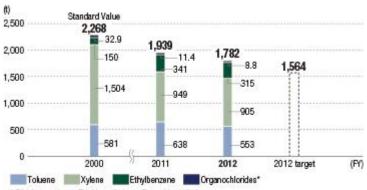


FY	1996	2008	2009	2010	2011	2012
Dichloromethane	55.0t	23.7t	18.6t	8.9t	0.6t	0.4t
Trichloroethylene	54.2t	0.6t	2.1t	0.7t	0.9t	0.0t
Tetrachloroethylene	153.0t	11.5t	6.6t	9.1t	9.9t	8.4t
Total	262.2t	35.8t	27.3t	18.7t	11.4t	8.8t

#### Voluntary targets for the reduction of VOCs atmospheric emissions

Emissions of VOCs, which are causal agents of photochemical smog, are regulated for facilities that release a given volume of these substances under the Air Pollution Control Law. In addition to legal and regulatory compliance, MHI set a voluntary target for decreasing atmospheric emissions of VOCs in fiscal 2012 by 30 percent from the fiscal 2000 level—focusing on xylene, toluene, and ethylbenzene, which are emitted in large volumes—and worked to accomplish reductions. However, the emissions volume in fiscal 2012 was 1,782 tons, only a 21.4 percent decrease from the fiscal 2000 level, short of our target. We have therefore included the 30-percent target into the "Second MHI Group Environmental Targets" commenced in fiscal 2013 and will continue to work towards achieving this target.

#### Atmospheric emissions of VOCs



\* Dichloromethane, Trichloroethylene, Tetrachloroethylene

FY	2000	2011	2012	2012 target
Toluene	581t	638t	553t	-
Xylene	1,504t	949t	905t	-
Ethylbenzene	150t	341t	315t	-
Organochlorides (Note)	32.9t	11.4t	8.8t	-
Total	2,268t	1,939t	1,782t	1,564t

(Note) Dichloromethane, Trichloroethylene, Tetrachloroethylene

#### Promotion of outsourced disposal of equipment using PCBs

As of March 2006, MHI had already registered the disposal of equipment using PCBs (Polychlorinated biphenyls) either currently in use or stored at its works, with the Japan Environmental Safety Corporation (JESCO), a special entity wholly funded by the Japanese government. The company also signed a consigning contract for disposal in 2007. By fiscal 2012, consigned disposal was undertaken at 12 sites (Note).

However, according to the Law Concerning Special Measures for Promotion of Proper Treatment of PCB Waste, even equipment which uses trace amounts of PCBs not disposed of by JESCO must be detoxified by March 2027. Therefore, MHI has begun disposal at Nagasaki Shipyard & Machinery Works and six other works and business segments in fiscal 2012.

(Note) MHI Head Office, Nagasaki Shipyard & Machinery Works, Kobe Shipyard & Machinery Works, Shimonoseki Shipyard & Machinery Works, Takasago Machinery Works, Hiroshima Machinery Works, Mihara Machinery Works, Nagoya Aerospace Systems Works, Nagoya Guidance & Propulsion Systems Works, Air-Conditioning & Refrigeration Systems, Machine Tool, Iwatsuka Plant



PCBs storage facilities at the Nagasaki Shipyard & Machinery Works

## Main Products and Technologies in 2012

#### Promoting development of flue gas carbon capture and storage technology

In its effort to help mitigate global warming, MHI is working on the development of a technology to capture CO<sub>2</sub> from power plant and manufacturing plant flue gas and store it underground, a process called carbon capture and storage (CCS). MHI's CO2 capture technology employs a high-performance, energy efficient chemical absorption method using KS-1<sup>TM</sup>, a solvent jointly developed with Kansai Electric Power Co. MHI has the world's leading track record in commercial CO<sub>2</sub> capture plants, having delivered since 1999 ten CO<sub>2</sub> capture plants from natural gas or fuel oil fired boiler flue gas for chemical plant applications around the world, and one plant currently under construction. Also, as part of the U.S. Department of Energy's Regional Carbon Sequestration Partnership Phase III program, the company is working with Southern Company, on the plant constructed at Power Plant Barry in Alabama, a CO<sub>2</sub> capture plant with a capacity of 500 metric tons of CO<sub>2</sub> per day. Since June 2011, MHI has been conducting demonstration testing for capturing CO<sub>2</sub> from coal-fired flue gas and storing it in a deep saline geologic formation. In February 2013, MHI's CO<sub>2</sub> capture plant received the 2012 Environmental Business Award in the eco japan cup, an environmental business contest hosted by Environmental Businesswomen and Japan's Ministry of the Environment. The award was conferred after MHI gained recognition for its early success in commercializing a product that helps address the global warming problem and for making advances in CCS for coal-fired flue gas, a technology that is likely to see a large expansion in applications and demand going forward.



CCS demonstration plant in the U.S.



eco japan cup 2012 award ceremony

### MALS installed on ferry vessel to verify energy benefit for marine transport

As part of our effort to develop energy-saving technologies for vessels, we are expanding the application of the Mitsubishi Air Lubrication System (MALS), a technology we developed to reduce frictional resistance between the ship hull and seawater by introducing a layer of air bubbles blown from the ship's bottom.

This effort includes developing systems for high-speed, slender vessels (Note), the hulls of which have little flat area, thus rendering the application of this technology more difficult. In September 2012, we installed MALS on a ferry operated by Japan's A-LINE Ferry Co., Ltd. and, testing the system under poor conditions with waves ranging from 2.5 to 3 meters high, confirmed that MALS improved fuel efficiency (reduced requisite propulsion power) by more than 5%. This energy-saving effect is about enough to compensate for the decrease in fuel efficiency caused by complying with more stringent NOx emission regulations that have gone into effect in Japan for diesel propulsion systems. As air bubbles also function as a cushion, MALS also reduces vibration and noise.

(Note) Slender vessel: A vessel with a relatively small block coefficient (Cb). Cb = volume of water displacement divided by the volume of the block defined by a ship's length x breadth (width) x draft (depth to waterline).



Computer illustration of air stream generated by MALS

#### Demand response pilot tests conducted for smart community development

As part of the Keihanna Eco City Next-Generation Energy and Social Systems Demonstration Project, MHI partnered with Kansai Electric Power Co. and Mitsubishi Electric Corporation in conducting the Wise Ways of Using Electricity Program at around 700 normal households from July to September 2012. The program was aimed at testing demand response (Note 1) mechanisms using information and communication technologies. Participating households were given a tablet device with which they could check their electricity use and receive requests to reduce consumption. Three critical peak pricing (CPP) (Note 2) packages were also set up, setting weekday electricity rates at double, triple, and quadruple times the standard rates, to determine their effect in curbing electricity demand.

The results showed that a double rate reduced demand by 9.3%, a triple rate by 11.7%, and quadruple rate by 14.1%. The same program was conducted from December 2012 to February 2013, the results of which are currently under analysis to determine the program's effect in reducing power demand in winter and devise optimum strategies for supply-demand management.

(Note 1) Reduction or a temporal shift in electricity use by end users in response to incentives from the electricity supplier aimed at curbing demand when power supply is reaching maximum output. (Note 2) Pricing scheme that increases the electricity rate during hours of peak power demand to discourage power use.



Screenshot of a tablet device showing CPP warnings

## MHI releases air-cooled heat pump module chiller boasting industry-leading energy efficiency

In December 2012, MHI began sales of the Voxcel, an air-cooled heat pump module chiller (Note 1) that boasts leading energy efficiency in the heat source equipment industry (Note 2). A unique feature of the Voxcel is its ability to provide heating efficiently even in winter temperatures as low as -10°C, which it does by achieving a rated heating capacity of up to 50% higher than regular operation. This allows it to satisfy temporary spikes in heating demand—such as when there is a large temperature difference between interior and exterior spaces, or in early mornings or at other times when the building itself is cold—without the need for equipment expansion.

Voxel is available in four models—30 HP, 40 HP, 50 HP, and 60 HP (67 kW–160 kW)—and, by connecting units (1 unit = 4 modules) in series, is expandable up to 120 units (maximum 7,200 HP, 19,200 kW). Moreover, central control of up to 120 units is possible by linking them to MHI's Ene-Conductor total heat source control system. Linking this system further to a MHI turbo chiller makes it possible to save energy on both heating and cooling, both supplied under optimum control as an integrated heat source system.

(Note 1) General term for systems used as a heating and cooling heat source for large facilities, or for maintaining the temperature of equipment used in various industries (Note 2) MHI research as of November 9, 2012. Coefficient of performance (COP; a measure of energy efficiency) of 4.13 for cooling and 4.18 for heating (30 HP model)



Voxcel air-cooled heat pump module chiller



## Social Contributions Report

MHI maintains relationships with diverse populations in various regions and communities in the course of developing and manufacturing products and technologies that are essential for social infrastructures and industry as well as the day-to-day lives of people across the world. To fulfill its corporate responsibility as a social and public entity, MHI has been pursuing its business operations with due consideration for its diverse stakeholders.

## Commitment to Our Customers 127

MHI's creed: "We strongly believe that the customer comes first and that we are obligated to contribute to the advancement of society."

To establish enduring manufacturing capability and to serve as a truly global corporation, MHI promotes the supply of products and services that place priority on safety and quality.

- Enhancing Product Safety
- Enhancing Customer Satisfaction (CS)
- Maintaining and Strengthening Defense Production and Technological Bases

## Commitment to Our Shareholders and Investors ---- 135

MHI strives to forge relationships of trust with shareholders and investors by accurately and promptly disclosing information, and expanding opportunities and settings for communication.

- Disclosure Principles and IR Activities
- Share and Dividend Report
- Inclusion of MHI in Eco-funds and SRI

## Commitment to Our Business Partners (Suppliers) -- 138

As a corporation that strives to be a leading company of manufacturing, MHI views its suppliers as key partners who provide the company with materials and services for producing products and who share the same desire for mutual prosperity. To remain competitive in a rapidly changing business environment, the company will work together to improve Monodzukuri capability throughout the entire value chain.

- Fair Dealing
- Promoting CSR Procurement
- Procurement Education and Training

## Commitment to Our Employees -----143

Believing that human resources are the company's most important asset and that their growth leads to the development of the entire company, MHI is actively working to utilize and cultivate diverse human resources and build a better working environment in which employees can fully demonstrate their abilities.

- Utilizing and Cultivating Diverse Human Resources
- Building a Better Working Environment
- Forum 35

## Social Contribution Activities 155

MHI is involved in a wide range of local community programs and youth programs, in line with the company's policy on social contribution activities at the community level. In a bid to build closer relationships with local communities, MHI will soon be launching a new initiative that involves working with NPOs and other organizations to address social issues at the local level.

- Fulfilling our Policy on Social Contribution Activities
- Achievements Made through Social Contribution Activities (FY2012)
- Examples of Social Contribution Activities (FY2012)
- Examples of Social Contribution Activities by MHI Group Companies (FY2012)

## **Enhancing Product Safety**

#### Strengthening safety and quality management systems

MHI is continuing to promote product safety activities throughout the company.

One example of our efforts started in fiscal 2005, is the Product Safety Project between the Legal Department and the Production System Innovation Planning Department. The Product Safety Project — which was brought to an end in fiscal 2012 — involved risk assessments to ascertain and reduce areas of risk related to product safety in three product groups — mass and medium-lot manufactured products, built-to-order components and built-to-order plants — along with strategies in other areas such as completion of instruction manuals. In the future it will be expanded to include product business support and thorough training and human resources development.

The QMS Promotion Group was established in April 2013 as part of the Monozukuri Innovation Planning Department at the Technology & Innovation Headquarters. Inheriting responsibility for the activities originally conducted by the Quality Management & Product Safety Planning Center in the same department, the new Group is working to entrench and enhance management systems in the areas of safety and quality.

#### Continuously strengthening product QMS

MHI has created a quality management system (QMS) to offer products that are safe and of assured high quality. As of December 2012, all production facilities in Japan and nearly 90 percent of all facilities worldwide have completed the ISO 9001 certification process. The QMS is optimized to the product categories at each facility and is subject to ongoing improvement. In April 2013, MHI established a QMS Promotion Group in the Monozukuri Innovation Planning Department. The QMS Promotion Group has been working to strengthen quality management, including at Group companies, and improve work processes to meet the needs of globalization by sharing technologies and knowledge horizontally across the Group.

#### Key product quality and safety programs

Nuclear Safety Steering Committee continues efforts to prioritize nuclear safety

The Managing Board for Innovation in the Nuclear Business was established in December 2004 in response to a secondary piping damage incident at Unit 3 of the Mihama Power Station (supplied by MHI and operated by Kansai Electric) in August 2004. In January 2013, the board's name was changed to the Nuclear Safety Steering Committee in order to share issues and decide courses of action relating to MHI's nuclear business, as well as to internally reform and expand the nuclear quality assurance management system. The committee conducts these activities under the guidance of a steering committee whose mission is to manage activities that help ensure nuclear safety.

In fiscal 2012, the Nuclear Safety Steering Committee discussed and deliberated on MHI strategy to comply and modify existing plants in accordance with the July 2013 revisions to nuclear regulations, which were made in response to the accident at TEPCO's Fukushima Daiichi Nuclear Power Station. In addition, the committee discussed various efforts to foster a nuclear safety culture within the company, thereby confirming that Mitsubishi will continue to prioritize efforts to improve safety at nuclear facilities.

#### Measures for enhancing PWR power plant safety

Nuclear Energy Systems set up an emergency task force immediately after the Great East Japan Earthquake to deploy safety improvement measures. After the Advanced Plant Safety Department was established in August 2011, a group dedicated to Fukushima countermeasures, the task force was transferred under the department's direction. The task force has been reflecting lessons learned from Fukushima to all MHI-supplied PWR reactors in Japan, including responses to simulated loss of all AC power sources.

In July 2012, MHI provided Kansai Electric Power Company with across-the-board support for restarting Units 3 and 4 at its Oi nuclear power plant, thus contributing to the first operational restart in Japan since the disaster.

The new safety criteria under deliberation by the Nuclear Regulation Authority (NRA: established in September 2012) will go into effect in July 2013 and will serve as the basis on which all future restart decisions will be made. While the NRA announced an outline of the new safety criteria in February 2013, in partnership with power utilities, Nuclear Energy Systems has already formulated a safety action plan (including countermeasures such as portable pumps and hydrogen recombiners) and begun making a concerted effort to achieve early restarts.

Nuclear Energy Systems has also submitted a proposal to power utilities outlining mid and long term measures for improving safety and reliability (e.g., filtered containment vents and secondary back-up generators) and is working towards action. MHI remains committed to addressing these issues promptly in order to contribute to ongoing improvements in the safety and reliability of nuclear power plants and to ensure a stable energy supply.

#### Shipbuilding: enhancing QMS activities to prevent product accidents

In Shipbuilding & Ocean Development, MHI builds and repair a wide range of ships and marine products in the Nagasaki, Kobe, Shimonoseki, and Yokohama regions. Although each region accommodates different types of ships according to its unique capabilities, the company strives to adopt the same quality indicators, non-conformity management systems, safety and quality education programs, and internal audits in all regions, and is working with each region to improve work processes and quality management capacity to realize a more advanced QMS and cultivate an attitude focused on safety and quality.

Shipbuilding & Ocean Development operations work to deliver products and services that meet customers' expectations by ISO 9001 external audit for QMS activities and by obtaining worksite certification from various classification societies (Note).

(Note) Non-profit organizations that establish rules and standards for the construction and outfitting of ships

Aircraft: endeavoring to ensure aircraft safety through education and training, and promotion of safety measures

Based on the Aircraft Safety Policy established in 1991, Nagoya Aerospace Systems Works has given its highest priority to assurance of aircraft safety. Unfortunately, in 2000 there was an emergency landing accident involving an MH2000 helicopter, and in 2007 an F-2 jet fighter crashed and burst into flames.

MHI understands the gravity of these incidents, and to prevent such incidents from occurring again, MHI pilots give presentations to MHI employees and employees from partner companies in order to ensure safety awareness. In fiscal 2012, 76 presentations were given to many employees of the Nagoya Aerospace Systems Works and other divisions, employees of onsite contractors, and employees of partner companies from April 2012 through March 2013. MHI plans to extend these presentations to employees in our corporate and technical divisions as well.

MHI is also working on applying the three-pronged strategy it has adopted for preventing future accidents with the F-2 jet fighter — more detailed and precise work instructions (publishing of new work instructions), better self-checking by workers (creation of a self-checking program), and better skills management — to other aircraft models manufactured and serviced by the Nagoya Aerospace Systems Works.

Safety and quality assurance reform meetings attended by the general manager of the manufacturing site have been held since 2007. These are used to pursue education activities and improvement activities for increasing the efficacy of measures to prevent the recurrence of wire connection errors that can lead to accidents. To integrate these improvement activities with front-line operations, shop floor discussion meetings are held at each plant, where participants share information such as yearly progress and future goals. MHI will continue to carry out these actions as it strives to improve safety of aircraft manufacturing and maintenance.

Transportation systems: ensuring the safety of transportation systems based on quality management systems

MHI is working on the development of various transportation systems with a high potential for use in public settings, such as an Electronic Toll Collection (ETC) system and Automated People Mover (APM) for use in airports and other facilities in cities. To ensure that such transportation systems function with high degree of safety, MHI operates a quality management system based on ISO 9001 and our own quality policies in all processes from design, procurement, and manufacturing to installation and test operation. Every year, top managers and relevant personnel in Machinery & Steel Infrastructure Systems review these activities, evaluate the effectiveness of the quality management system and propose new actions for improvement. Workshops are also held so that relevant personnel can share information, for example, information on revisions made to laws, regulations and standards pertaining to railways. Mechanisms are also being developed to incorporate safety standards and customer requirements in various countries into the initial design stage of projects developed in and outside Japan.

In addition to these efforts, since fiscal 2011, MHI has been working to facilitate sharing of knowledge within the organization. Employees involved in past projects pass on their experiences and lessons learned so that current project members can relive their experience, acquire useful skills and knowledge, and acquire a stronger awareness of product safety.

Air-conditioners: implementing safety verifications in every stage-development, usage, and disposal, based on design management standards

Air-Conditioning & Refrigeration Systems Headquarters established design management standards in 1994 to ensure the safety of air-conditioners.

To that end, when developing a product, quality check sheets and other measures are used to verify that products, when properly used, will not cause harm to people or property due to reasons such as harmful materials or possible fire or explosion at any point from development through to usage and disposal.

In fiscal 2010, the department participated in the company-wide Product Safety Taskforce, and received instruction from key MHI experts on product safety risk assessment procedures for centrifugal chillers and ground transportation refrigeration units. This information was used to create a risk assessment template for complying with the EU machinery directive, which has been used to verify the safety and quality of MHI products sold in the EU since May 2011.

To further strengthen product safety activities, in fiscal 2013 we plan to create a standardized risk assessment template based on the EU machinery template and apply it to all products manufactured by Air-Conditioning & Refrigeration Systems.

## Conducting training to prevent product accidents with the establishment of an Accident Exhibit and Materials Room and other measures

It goes without saying that, as a global and highly diversified manufacturer, the MHI Group's top priority is to ensure the safety and quality of its products.

To promote product safety, we work to educate employees about safety and quality to prevent product accidents. One example of this is the establishment of the Accident Exhibit and Materials Room based on past accidents. The Accident Exhibit and Materials Room, opened in April 2010 at an MHI training center in Nagoya, introduces examples of serious accidents that have happened involving MHI Group products, such as a large cruise ship that caught fire while under construction. Its mission is to give all employees who handle MHI Group products, whether it be through design, procurement, manufacturing, or after-sale services, to pledge not to allow accidents like these to happen again, to learn from these accidents, and to put the lessons learned from these accidents to use in their respective jobs.

The facility was given an extensive overhaul in April 2012, including the addition of new video presentations and artifacts designed to convey a greater sense of realism in regards to the nature of the accidents and the events experienced at the accident site. Approximately 17,000 visitors have passed through the facility since its opening.

Meanwhile, since 2010 MHI has also held safety and quality training sessions describing past safety incidents, attended by new engineering and administrative recruits, employees in their fourth year at the company, and newly appointed deputy managers. In fiscal 2012 MHI expanded this to include newly appointed managers (approximately 400 people) and newly recruited technicians (approximately 200 people), increasing the total number of employees who have received this training to around 5,200.

Going forward, MHI will continue to expand its product safety education program to give employees more opportunities to become aware of the importance of safety and quality.





The refurbished Accident Exhibit and Materials Room

### **Enhancing Customer Satisfaction (CS)**

## Pursuing products and services that can be trusted from the prioritized customer point of view

One statement of the MHI creed is: "We strongly believe that the customer comes first and that we are obligated to be an innovative partner to society." Therefore, the company's top priority is to always place itself in the customer's shoes and meet their expectations by providing products and services with high added value.

Each headquarters and division of MHI works to boost customer satisfaction (CS) levels by conducting CS surveys and soliciting feedback and suggestions from the market and from customers. Basic CS Training, introduced in 2002, is used to improve employee awareness and foster the development of a customer-oriented corporate culture at MHI.

Through these activities, MHI will continuously work to provide products and services that satisfy customers.



Basic CS training (Hiroshima)

#### Promoting advertising activities

MHI established the Corporate Communication Department to promote advertising activities based on MHI business plans that target stakeholders in all global regions.

As MHI moves ahead with its activities, the department confirms facts in close conjunction with the Global Strategic Planning & Operations Headquarters, the Corporate Department, and other business segments and overseas sites and Group companies, to enable them to provide accurate information to customers, and endeavors to abide by all provisions in related laws and industries. After running advertisements, the Department assesses the improvement in recognition level in each form of media and the spreading of the corporate image.

In fiscal 2012, we ran our first TV commercial series in Japan presenting MHI technologies in 19 years, highlighting the vibration control systems that protect the Tokyo Skytree® tower from wind, the "hollow-head" engine valves that contribute to improved fuel efficiency in luxury sports cars, and other technologies. We also ran corporate ads in newspaper, transit, online, and radio media in conjunction with the TV commercial.

Overseas, we ran a series of ads in the Financial Times (U.K.) promoting our aircraft, H-IIA launch vehicle, LNG carriers, and turbochargers.

There were no legal or regulatory violations related to our advertising activities in fiscal 2012.

#### Implementing technical support as an aspect of preventative maintenance

Since 1999, MHI has maintained high operating rates for thermal power plants (gas turbine) delivered both in and outside of Japan and provided technical support to prevent problems. This is a paid service for observing and supporting the operations of gas turbine plants in real time, around the clock, 365 days a year, from remote monitoring centers established in two locations, one in Japan and one outside of Japan. We are working to prevent the occurrence of problems by applying monitoring diagnostic capabilities that draw upon over ten years of accumulated operational data. Also, by automatization of abnormality diagnosis that utilize Taguchi method, any suspension of operations is kept as short as possible by quickly detecting plant anomalies and immediately implementing troubleshooting procedures.

As of April 2013, the service is used on 84 generators at 35 plants around the world with a combined total output of over 20 million kW, thereby safeguarding the consistency of power generation operations of our customers.



Remote monitoring center

#### Promoting nuclear power Public Acceptance (PA) activities

MHI has been hosting tours of the nuclear power plant production facility at Kobe Shipyard & Machinery Works since 1988. MHI has also been involved in nuclear PA activities since 1989, including publication of the nuclear magazine, Atom Power, which helps to promote awareness of the need and safety of nuclear power generation.

Approximately 1,600 visitors attended tours of the Kobe Shipyard & Machinery Works during fiscal 2012. The total number of visitors over the last decade is more than 43,000.

TEPCO's Fukushima Daiichi Nuclear Power Station utilizes a BWR, which differs from the PWR models supplied by MHI. Nevertheless, MHI provided technical assistance for stabilizing TEPCO's Fukushima Daiichi Nuclear Power Station after the accident. MHI has also been deploying emergency safety countermeasures at MHI-supplied PWR nuclear power plants in order to increase its safety and reliability.

MHI will continue to pursue Public Acceptance (PA) activities by providing information and conducting tours in order to restore public confidence in nuclear power generation.

(Note) Nuclear Power PA (Public Acceptance) activities: Public outreach programs encourage a clearer understanding of nuclear energy



# Maintaining and Strengthening Defense Production and Technological Bases

### Contributing to the peace and safety of Japan through technology

MHI is dedicated to the core vision of supplying cutting-edge technology for national safety and security. As a leading supplier in the Japanese defense industry, MHI endeavours to maintain and strengthen defense production and technological bases. MHI develops and manufactures a vast array of defense equipment based on the requirement of government of Japan, including fighter planes, helicopters, missiles, defense vessels and tanks, and also provides operational support. The environment surrounding the defense of Japan has been changing dramatically over the last few years. In light of the current financial difficulty of Japan and the speed of technological progress, it is increasingly important to maintain and strengthen defense production and technological bases, in order to satisfy the requirements of the government. MHI is focusing on the future security environment and is developing various technologies that meet the needs of the country. This includes research on the Advanced Technology Demonstrator for the purpose of achieving technologies, such as stealth and high maneuver flight control technology to be applied to future jet fighters.

Cutting-edge technologies in the defense sector have a broad reach, and ripple effects to the civilian sector are expected, in the fields of materials, components, and processing technology. So we believe defense technologies can also contribute to long-term technological advances in Japan and the defense sector is expected to develop as a national strategic industry.



UH-60JA utility helicopter (for use by the Japan Ground Self-Defense Forces).

## ■ Ratio of defense-related businesses sales to total sales

FY	Ratio	Amount
2010	12.4%	361.0 billion yen
2011	12.8%	359.7 billion yen
2012	11.0%	308.6 billion yen

## **Disclosure Principles and IR Activities**

## Promoting IR activities to facilitate a detailed understanding of our business

Through Investor Relations (IR), MHI strives to keep institutional and individual investors in Japan and around the world fully informed of the activities of the company.

The Corporate Communication Department, set up for the sole purpose of managing investor relations, provides useful and up-to-date information as well as briefings and meetings designed to provide opportunities for direct communication. Comments and suggestions from these meetings are incorporated into future IR programs.

#### Providing accurate information online that is easy to understand

MHI releases information in accordance with laws and regulations as mandated by the exchanges on which the company is listed. In addition, information is constantly being updated on the Investor Relations section of the website. In an effort to communicate information that is accurate and easy-to-understand, the website also features a range of useful information and data that is not required by laws and regulations, along with charts and explanations of securities terminology. There are also videos of the General Meeting of Shareholders and other meetings such as financial results briefings and meetings on business operations for the benefit of institutional investors and analysts.

In fiscal 2012, we added new communication media to broaden our interface with shareholders and other investors. We developed our first app that allows users to read the MHI Annual Report on a smart phone (iPhone) or tablet device (iPad), allowing access to important company information without constraints of time or space. We also sought to make this information easier to read and search through by providing an online edition of the Annual Report.

#### Implementing various briefings on business operation and strategy

In response to demand from investors and analysts for more information on business performance and future planning of individual operations, MHI holds quarterly financial briefings as well as other types of briefings related to business performance and planning.

The fiscal 2011 Financial Results Briefing and 2012 Medium-Term Business Plan Briefing was held in April 2012, with 191 attendees. This was followed in June by a business briefing on the Engineering Headquarters and eight business segments. Total attendance was 355.

MHI maintained its commitment to good communication with individual investors. Briefings were held twelve times in cities across Japan (mostly in locations close to MHI facilities) and drew a combined attendance of around 1,350. The briefings at Mitsubishi Minatomirai Industrial Museum (in Yokohama, Kanagawa), History Museum (Nagasaki Shipyard & Machinery Works) and M's Square (in Shinagawa, Tokyo) also included facility tours. The first online briefing for individual investors was also held, with investors across Japan listening in.

Given the positive feedback we have received on these briefings, such as comments on how useful they are for understanding MHI's various businesses and financial results, we will continue to make efforts to disclose information in a timely and appropriate manner.

#### Holding plant tours for shareholders

MHI has been conducting twice-yearly plant tours for shareholders since 2005 to provide opportunities to deepen understanding of its business activities.

Plant tours in fiscal 2012 were held at Shimonoseki Shipyard & Machinery Works (in September 2012) and Takasago Machinery Works (in March 2013). Visitors commented that they were thrilled with the rare opportunity to witness ships as long as 200 meters first-hand. Also, visitors said that things such as employees checking on each other and posters encouraging safe work practices indicated the efforts in terms of safety within the company.

MHI will continue striving to incorporate feedback and suggestions on IR programs.

Plant Tours (FY2012)

Shimonoseki Shipyard & Machinery Works (in September 2012 with 73 participants)

·Tour of the building berth, history museum, and Ganryu Island

Takasago Machinery Works (in March 2013 with 71 participants)

·Tour of the Assembly Shop for Gas Turbine, Combined Cycle Power Plant for Verification Test, and Educational and Training Center of Technical and Human Skill



Building berth tour (Shimonoseki Shipyard & Machinery Works)



Assembly Shop for Gas Turbine tour (Takasago Machinery Works)

## **Share and Dividend Report**

#### Fiscal 2011 dividend distributions

For fiscal 2012, a 5 yen per share year-end dividend was distributed.

An interim dividend of 3 yen per share was distributed, which brings the total dividend for the year to 8 yen per share.

### ■ Dividend disbursements over the past five years

FY	Dividend per share		
2008	6 yen		
2009	4 yen		
2010	4 yen		
2011	6 yen		
2012	8 yen		

## Inclusion of MHI in Eco-funds and SRI

#### Selection by Eco-funds and SRI Indicators

The MHI Group practices management with a focus on CSR and conducts a wide range of activities to enhance its business, environment and society, including corporate governance and risk management. Thanks to efforts like these, MHI was again included in the eco-funds, formed based upon surveys of companies conducted by corporate rating agencies in Japan and overseas, and MS-SRI, a socially responsible investment index coordinated by Morningstar Japan K.K.

### **Fair Dealing**

#### Opening a door to new suppliers and ensuring fair evaluation and selection

MHI procures a variety of materials and services both domestically and abroad that include materials such as steel, machinery, equipment, and components. MHI is open to all motivated and competitive suppliers. Suppliers are fairly and equitably selected and evaluated in accordance with the applicable laws and industry practices, in order to build relationships of trust predicated on mutual prosperity.

This approach is stipulated in the MHI Procurement Policy (released in 2002), which can be viewed on the Procurement page of the company website. The Procurement page also includes application guidelines for prospective suppliers and contact information for material procurement for the benefit of companies that are interested in doing business with MHI.

#### MHI Procurement Policy

#### 1. Openness

We strive to provide business opportunities openly to suppliers throughout the world, and welcome creative and competitive suppliers.

#### 2. Fairness

We provide chances for competition to qualified suppliers, and evaluate and select suppliers fairly based on criteria such as the suppliers' product quality, price, delivery schedule, technology and financial conditions.

#### 3. Partnership

We regard our suppliers as partners based on the mutual understanding that both partners should benefit from the relationship.

#### 4. Compliance

We comply with rules, regulations and social norm based on our compliance management policy, and all information submitted to MHI will be kept and used properly.

#### Thoroughly preventing illegal and unfair dealings

The Compliance Principles, which set out compliance requirements under applicable laws and regulations, are used by the Procurement Department to ensure compliance with the Act against Delay in Payment of Subcontract Proceeds, Etc. to Subcontractors, which forbids unfair dealings by large companies towards smaller companies, as well as the Construction Industry Law. MHI is striving to prevent improper practices such as fraudulent ordering through a system of separating the departments responsible for ordering, receiving and utilizing procured goods and having them provide mutual restraints. Compliance is carefully monitored at every stage of ordering and inspection, with the results checked via internal audits in accordance with the PDCA cycle for legal compliance.

## **Promoting CSR Procurement**

#### Guidelines and CSR activities in the entire supply chain

In June 2010, MHI drew up the MHI Group Supply Chain CSR Promotion Guidelines, and provided MHI's business partners with information about CSR activities and programs that are designed to promote a consistent approach to CSR throughout the supply chain. The Guidelines are divided into five points that include comprehensive compliance and promotion of corporate ethics, and assurance of product safety and quality, cost, delivery schedule (QCD), enhanced technological development capabilities, and considerations regarding human rights and workplace safety. Business partners are expected to embrace the MHI Guidelines, which are discussed at dedicated presentations and are also available on the company website.

Some 300 business partners took part in a self-assessment survey of CSR programs conducted in fiscal 2011. MHI has incorporated the CSR efforts of business partners as one item for evaluation and is preparing a method which appropriately evaluates these efforts.

In fiscal 2012, MHI instituted a partner evaluation method with the aim of optimizing its supply chain and strengthening collaboration with business partners. MHI evaluated all five points (quality, cost, delivery, technology, and management) against a group-wide policy at around 2,300 major partners. MHI also asked business partners to conduct a self-assessment of their CSR programs and included the score results in the management category of the partner evaluations.

#### MHI Group Supply Chain CSR Promotion Guidelines

- Compliance and Corporate Ethics
   We ask all Partners to persist in compliance related to all business activities, to foster corporate
   ethics, and also, to work on building and operating an organization to facilitate this.
- Safety, Quality, Cost, Delivery and Innovation
   In order to maintain and improve the value of MHI's products, we ask all of our Partners to provide materials and services with assured safety and quality, cost and delivery ("QCD").
   Moreover, in order to create end products with high added value, we ask for your continuous improvement in developing new technology.
- Human Rights, Health and Safety
  In the business activities of all of our Partners (including their respective supply chains), the
  human rights of all employees must be respected and safe, comfortable working environments
  be assured.
- 4. Respect for the Environment In order to achieve a more sustainable society, we ask all of our Partners to continuously monitor and seek to reduce environmental impact of their activities.
- 5. Contribution to the Region and Society We ask all of our Partners to work positively on the activities to contribute to the development of international society as well as regional society and to foster the next generation etc. Our Partners are free to determine the most effective way to fulfill their social responsibilities, which may include contributions through normal course of their business, charitable donations or contributions of facilities and/or resources.

## Building closer ties with business partners through management reforms and other improvement programs

At the first Business Partners Conference in 2008, MHI pledged to incorporate requests, suggestions and feedback from business partners into management reforms and other improvement programs at MHI. The company remains committed to this process.

During fiscal 2012, MHI continued to solicit Value Engineering (VE) proposals (Note) from business partners through a dedicated website. 3,277 of the 3,922 proposals received have been adopted. The fifth Business Partners Conference in November attracted 295 companies (309 participants). The conference included speeches by the MHI president and general manager of the Procurement Planning & Administration Department, a panel discussion, and presentations on examples of improvement initiatives carried out with business partners. Certificates of gratitude were presented for stronger product price competitiveness, higher quality, and shorter lead times. In addition, individual works and business segments have been holding similar business partner conferences, and in the future we will continue to foster stronger ties with business partners through such reciprocal communication.

(Note) VE: A method for both improving product value and reducing costs



**Business Partners Conference** 

#### First business partners conferences held overseas

MHI held its first overseas Business Partner Conferences in Bangalore, India in February 2013, and in Shanghai, China in March 2013. The conference in India was attended by 13 business partners. Presentations at the India conference featured such topics as MHI's power systems and other businesses, its procurement policy, and examples of VE proposals. The Q&A session that followed attracted numerous questions on VE and other topics, turning the session into an active discussion. The China conference, meanwhile, drew attendance from 60 Chinese business partners. Presentation topics included an overview of MHI, its procurement policy, and examples of VE proposals, during which time partners were also called on to join in continuous cooperation. The Q&A session was as lively as in India, with partners showing an eagerness to participate in the activity.



The business partner conference in India



The business partner conference in China

#### **Declaring Basic Policy Concerning Conflict Minerals**

Armed groups engaged in conflicts in the Democratic Republic of the Congo and neighboring countries have committed serious human rights abuses and acts of environmental destruction. Some of the minerals produced in this region are thought to be a source of funding for these armed groups.

In April 2013, MHI Group published its Basic Policy Concerning Conflict Minerals on its website, declaring that the company has no intention of abetting human rights abuses or environmental destruction by procuring raw materials, parts or products which contain the conflict minerals. Working with our customers and business partners, the MHI Group will continue efforts to avoid benefiting these armed groups .

## **Procurement Education and Training**

#### Training for employees engaged in procurement activities

Procurement departments at MHI provide a range of training programs designed to ensure compliance with the applicable laws and regulations.

In fiscal 2012, MHI concentrated on providing training to more Group companies. Forty-five young employees, including 30 from Group companies, attended a training session covering procurement-related laws and regulations and important points to be aware of when carrying out procurement work. A total of 104 new employees and employees just transferred to procurement departments, including 54 Group employees, were given an introductory course on basic information concerning procurement practices. Additionally, 378 MHI employees and a further 653 Group employees took an e-Learning course on the Act Against Delay in Payment of Subcontract Proceeds, Etc. to Subcontractors.

MHI remains committed to providing procurement training programs tailored to the company's operational plans and ongoing amendments to legislation.



Compliance training

### **Utilizing and Cultivating Diverse Human Resources**

## Active recruitment and utilization of mid-career, overseas and female workers

In addition to new graduates, MHI also hires mid-career professionals in order to ensure the diverse range of human resources required maintain its position as an industry leader. In fiscal 2012, approximately 450 new graduates (who joined the company in April 2013) and approximately 60 mid-career professionals were hired. When hiring both new graduates and mid-career workers, MHI carries out fair screening with an emphasis on human rights and without discrimination due to gender or other reasons. Most mid-career hires fill technical or engineering positions that require a high level of expertise and where they can use the special skills they have developed in their respective fields.

MHI is also actively working within and without Japan to hire personnel to deploy overseas for the global development of its business. The company is hiring overseas university students and international students studying in Japan through proactive recruitment efforts. In fiscal 2012, in addition to the same hiring activities in the U.S., the U.K., Singapore, and Australia we carried out during the previous year, MHI also implemented recruitment PR activities for the first time in India. This resulted in the hiring of about 20 new graduates. (Mid-career employment included three overseas university students and three people with non-Japanese citizenship.)
MHI is also promoting the employment and utilization of female workers. In fiscal 2012, approximately 36 percent of newly graduated clerical recruits were women. In fiscal 2012, 0.9 percent of managers were female; this number has been increasing each year.

#### Helping all seniors use their skills for a longer period after retirement

With the size of Japan's workforce declining as a result of a low birth rate and aging population, MHI introduced on April 1, 2013, an employment extension program to provide veteran employees with opportunities to continue using their extensive knowledge and skills after retirement. The new program is a revised version of a previous program that set standards for eligibility. Now, all retirees are eligible for employment up to the age of 65.

As of April 1, 2013, MHI has rehired approximately 2,500 employees. These re-employed workers are active as experienced professionals, and serve to transfer their skills and expertise to others.

## Expansion of hiring to utilize skills of the differently-abled people

MHI works to expand job opportunities for differently-abled people and to create a suitable working environment for all employees. For example, the Work Supporting Center was established at the Nagasaki Shipyard & Machinery Works in July 2005 to provide a workplace for carrying out the digitization of in-company materials, data entry, shipping work, and other tasks. Other works are also working to create environments that will allow a greater number of differently-abled people to work with peace of mind, for example by educating employees, installing emergency warning lights, and making other efforts, both tangible and intangible, so they can hire people with hearing disabilities.

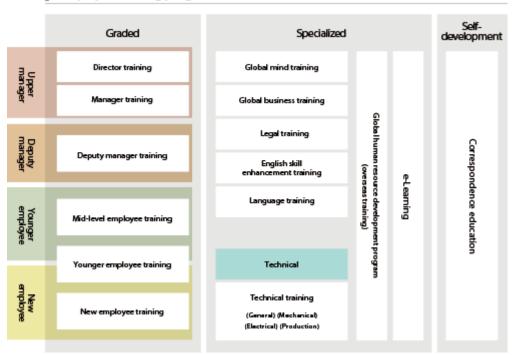
In fiscal 2012, MHI's efforts to promote the expansion of hiring for differently-abled people included strengthening its hiring activities by further raising in-house target values for the employment of differently-abled people, utilizing an employment website for differently-abled people, collaborating with regional "Hello Work" (Employment Security Bureau) offices, and proactively utilizing various types of recruitment information such as job interview events. As a result, MHI's employment rate for differently-abled people reached 2.10 percent as of April 1, 2013, exceeding the statutory minimum of 2.0 percent. We will further increase such hiring in the future with the help of information and close cooperation with each of our main hubs.

## Improving education to strengthen global responsiveness

MHI is working to improve employee capabilities and enhance education with the aim of being a global corporation that is capable of responding to changes in the rapidly transforming market. Based on on-the-job training (OJT) in workplaces, we are implementing various educational programs starting immediately after hiring according to job level and function. The main themes of education according to job level include leadership and management.

With the aim of strengthening our ability to respond to globalization, starting from fiscal 2011 MHI established new systems including MHI Global Training (MGT), in which around 100 employees were dispatched overseas.

## Employee training program



## Strengthening development of local staff

Training and promoting staff who are hired locally is crucial to MHI's effort to accelerate business globalization. It is therefore important that local employees understand MHI's management principles, the history of the MHI Group, and the types of businesses it operates. It is for this reason that MHI has created and begun distributing to local staff around the world the MHI Starter Kit, a succinct educational booklet on the MHI Group. MHI will use these materials to better educate a growing number of local staff.



MHI Starter Kit

## Strengthening the development of junior technicians on the forefront of manufacturing

At MHI, the number of junior technicians is increasing as more senior technicians retire. For that reason there is an urgent need to train technicians who can maintain the front line of manufacturing. To that end, MHI prepared textbooks that are standardized for the entire company to ensure the commonality and uniformity of education. We have also made DVDs to create digital versions of Skills of the Master manuals developed by veteran technicians. These and other efforts are to ensure the steady succession of techniques and the rapid development of junior technicians. In addition, with the aim of improving levels of expertise and energizing our junior technicians, we hold company-wide skills contests in machine assembly, lathing, welding, and other fields. MHI is also working to improve the leadership skills of employees who serve as instructors.

## **Bolstering training activities for Group company employees**

To reinforce the management and overall constitution of MHI Group business operations, employee education initiatives throughout the entire Group are being implemented since fiscal 2007. Since fiscal 2009, MHI has provided Group company employees with group training, where managers take training according to their respective ranks and all employees take courses on English business communication and business skills. In addition to this, in fiscal 2012 approximately 560 Group company employees participated in training, including a new management training course for general managers.



Group training for MHI Group companies

## Encouraging mutual understanding through dialogue and the enhancement of personal capabilities

MHI is taking action to develop the abilities of each person, and to create working environments in which employees can perform invigorating work that is free from anxiety, by encouraging mutual understanding and trust through dialogues between supervisors and subordinates.

A common awareness of issues is created by having supervisors provide regular opportunities for dialogue based on self-reports by subordinates. Supervisors communicate with subordinates about the roles they are expected to fulfill while also paying attention to their requests and business improvement suggestions.

For example, for those working in technical and clerical divisions, MHI operates a Management by Objectives (MBO) system in which work targets are set and progress evaluations are made twice a year. In addition, in manufacturing divisions subordinates and their supervisors hold discussions once a year for the purpose of two-way communication.

## **Basic Data**

## ■ Breakdown of employees by age (FY2012)

	Under 30	30-39	40-49	50-59	60 and over
Male	7,657	9,071	6,397	4,643	508
Female	753	808	805	450	19
Total	8,410	9,879	7,202	5,093	527

## ■ Number of new graduates hired

	University	Vocational school and junior college, high school, other	Total (females in brackets)
Joined the company in April 2012	348	286	634 (60)
Joined the company in April 2013	285	167	452 (44)

## ■ Number of female managers (section manager and above; excluding medical staff)

April 2009	April 2010	April 2011	April 2012	April 2013
219	248	266	288	293

## ■ Number of rehired employees (excluding those from Group companies)

April 2011	October 2011	April 2012	October 2012	April 2013
2,172	2,229	2,259	2,368	2,426

## **Building a Better Working Environment**

## Supporting the balance between childcare, family care and work in various ways

In order to create an environment in which it is easy for employees to work and also have a family, MHI is making efforts to expand its various support systems that give consideration to childcare and family care.

In November of fiscal 2011, MHI newly established the child planning leave system, which can be used for infertility treatment, and the annual holiday by hour system, in which employees can use their leave in increments of one to two hours according to their circumstances for purposes such as childcare and family care, and to make it easier to commute during pregnancy by avoiding rush hour. Furthermore, the periods for family-care leave and family-care work have been expanded; and each can be used for a total of up to one year.

In addition, the systems for childcare leave, childcare and work, family-care leave, and family-care work all now exceed statutory minimums.

Information about the systems and procedures regarding childcare and family care are available on our intranet so that employees can access it easily.

In January 2012, we hosted a lecture on career planning and work-life balance for female employees, given by MHI's first non-Japanese female director. Other initiatives include holding discussion panels between individuals on childcare leave and those who have taken such leave in the past in hopes of enabling a smooth transition back to work. In the future as well, we will go beyond merely operating these systems. We will work to promote employee awareness and understanding, as well as to create comfortable workplaces with consideration given to work-life balance.

#### Programs that focus on work-life balance

Childcare and childbirth	Child planning leave
	Childcare leave system
	Using accumulated paid holidays for childcare purposes (Note 1)
	Childcare work shift system (shortened work hour system)
	Work leave to care for a sick child
	Special grants for employees who balance work and childcare (Note 2)
	Next generation nurturing support grants (Note 3)
	Career Return Program (Note 4)
Family care	Family-care leave system
	Using accumulated paid holidays for family-care purposes (Note 1)
	Family-care work shift system (shortened work hours system)
	Work leave to care for a family member
	Career Return Program (Note 4)
Other	Flex-time system
	Paid holiday system by half day
	Annual holiday by the hour system
	Trips and time off for longtime employees

(Note 1) Accumulated paid holidays is a system in which up to 50days paid holidays can be accumulated to use for illness, injury, childcare, family care, and other purposes.

(Note 2) Special grants for working employees who place their children in daycare provide ¥5,000 per month to working employees who place children in daycare until the end of the fiscal year in which the child reaches three years of age (approximately 867 grants paid in fiscal 2012). (Note 3) Next generation nurturing support grants provide ¥100,000 per employee with three or more children (approximately 236 grants paid in fiscal 2012).

(Note 4) The Career Return Plan is a system that opens the door to individuals who want to reenter the company after having left due to marriage, childbirth, childcare, family care and transfer of spouse.

## Nursery operated on the grounds of our Nagasaki Shipyard & Machinery Works

In April 2010, the Nagasaki Shipyard & Machinery Works opened the first MHI in-house nursery, MHI Kira Kids Nursery. All MHI Group employees working in the Nagasaki area can leave their preschool-aged children at any time between 7am and 8pm.

Since opening its doors, the nursery has held various events such as parent & child picnics and Christmas parties as well as Respect-for-the-Aged events for elderly residents of the community that were well received by participants.

In addition to our goal of continuing to be a nursery well loved by employees and local residents, we look to establish nurseries at other MHI locations as well based on the performance of this nursery.



"Respect-for-the-Aged" party held for local residents



Cooking class as part of kids' food education

#### Efforts for raising awareness of human rights in individual workplaces

Since the establishment of the Committee for Raising Awareness of Human Rights in 1992, MHI has been improving awareness of human rights throughout the company. Human rights awareness training is held each year for new employees and newly appointed managerial staff, such as managers and deputy managers. This training handles themes related to human rights issues and harassment, including fundamental knowledge and points to be aware of. In fiscal 2012, approximately 1,000 new recruits and 1,500 newly appointed managers and supervisors participated in human rights awareness training.

In order to prevent "power harassment" (workplace bullying and harassment), we continued to hold an e-Learning course that was introduced in fiscal 2010, and in fiscal 2012 conducted awareness training for senior managers at all works. Since 2011, we have also been working to educate the rest of the MHI Group, for example by training senior managers at Group companies and creating and distributing a new booklet to raise awareness among all employees.

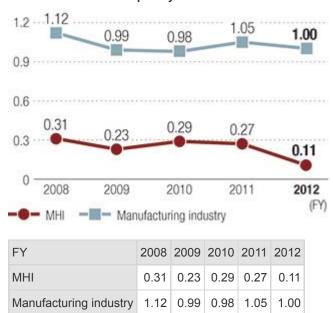
MHI will continue working to strengthen its activities to increase awareness of human rights.

## Creating safe and healthy workplaces centered on a basic policy for employee safety and health

MHI embraces a basic policy for employee safety and health founded on the following three commitments: (1) Always hold fast to the conviction that life is precious, and carry out measures that prioritize safety and are appropriate to each position and location; (2) Devote every effort to safety in creating outstanding products that contribute to the development of society; (3) Maintain awareness that sound health is the basis upon which all else depends, and ensure that all employees have comfortable workplaces that enable them to be sound in body. Based on these principles, we operate an occupational health and safety management system throughout the company to create safe, pleasant workplaces.

We will continue to further enhance our efforts aimed at reducing occupational accidents and leave due to injury or sickness.

#### Industrial accident frequency rate



(Note) Industrial accident frequency rate: number of deaths or injuries sustained through industrial mishaps per million hours on the job. It is calculated as follows: number of deaths or injuries sustained on the job that require one or more days of leave / aggregate number of hours worked  $\times$  1,000,000.

## Risk management and training to prevent work-related accidents and injuries

In order to reduce the risk of occupational accidents, MHI makes improvements based on the results of risk assessments implemented at each works. These assessments are related to tasks and equipment, and are mainly focused on the safety and manufacturing sectors.

We are also implementing safety education for entry-level employees and other people. This education utilizes visual learning materials and hands-on equipment that makes it possible to actually experience accident simulations. This hands-on equipment has been installed at eight works including the Nagasaki Shipyard & Machinery Works and Kobe Shipyard & Machinery Works. Furthermore, in the future MHI will continue to make systematic efforts to improve equipment and update outmoded facilities in order to create safe, comfortable workplaces.

Opening the Safety Transmission Center at Nagasaki Shipyard & Machinery Works

In October 2010, the Nagasaki Shipyard & Machinery Works opened a new educational facility on work safety. Called the Safety Transmission Center, the facility is dedicated to the Nagasaki Shipyard & Machinery Works' resolution not to let any fatal accidents occur in its production operations. The facility consists of two zones: the Accident Case Studies Zone, where videos and displays show employees how accidents happen and what to do to prevent them, and the Human Error Study Zone, where employees can learn, in a hands-on format and using real-life examples, the principles that trigger human error and how to identify risks before accidents occur. The Nagasaki Shipyard & Machinery Works is working to cultivate in its workforce a sensitivity to hazards and a culture of safety, using the Safety Transmission Center as a place where all employees, from mangers to operators, can learn nearly firsthand the horror of accidents and the pain they cause, and decide for themselves what they can and should do to prevent them.





Safety Transmission Center

## Maintaining and improving physical and mental health

At MHI, we create healthcare divisions at each works in order to proactively support employees in maintaining their physical and mental wellbeing. We carry out the maintenance of systems, as well as the drafting and unified development of measures, as part of a project to strengthen health management throughout the entire company.

Specifically, MHI is implementing health promotion measures that include health-related guidance and the setting of company-wide targets based on the Body Mass Index (BMI; a body mass index that serves as a standard for obesity, etc.). Various mental health measures are also implemented.

Health promotion and mental health measures

Health promotion measures (implemented at each office)

- ·Measures to prevent lifestyle diseases (implementing health-related guidance targeted at reducing the ratio of employees with a BMI of 25 or greater)
- ·Health lectures, health consultations
- ·Activities to increase health (walking rallies, athletic meets, long-distance relay races, etc.)

#### Mental health measures

- ·Primary prevention (employee education)
- -Education, training
- -Anti-stress measures in workplaces (stress checks)
- -Interviews regarding long periods of overtime work (more than 45 hours per month)
- ·Secondary prevention (early detection and treatment)
- -Encouraging the usage of consultation hotlines
- -Strengthening cooperation with medical specialists, consultants, industrial physicians, etc.
- ·Tertiary prevention (screening when returning to work, the rehabilitation working program)
- -Implementing work screening and the rehabilitation working program (Note) as support for returning to work
  - (Note) The system is set according to person's plan for returning to work, within the range of four to eight hours of designated working time, or for half-day work in either the morning or afternoon, for a period of up to three months
- -Detailed follow-up after returning to work as a measure to prevent reoccurrence

## Promoting communication between management and employees

MHI believes that communication between management and employees is crucial for carrying out smooth business operations. In line with this thinking, the company's intranet, corporate newsletter and other resources are fully utilized to disseminate management information and messages from top management to all employees as quickly as possible.

In addition, various labor-management consultations provide forums for management to both convey management policies and strategies as well as to hear the views of the employees to be integrated into management practices.

## Forum 35

## Forum 35 inspires people to work through employee exchange

Individuals who are in their mid-thirties take great responsibility for their work as mid-level employees and play central roles at their workplaces. Forum 35 activities promote exchange between employees of this generation—around the age of 35—which surpasses the boundaries of job title and location. Through discussions about a wide range of themes related to the company and society, these activities help invigorate the organization.

Beginning in MHI's Head Office in July 2009, these activities have spread to the Nagasaki Shipyard & Machinery Works, Kobe Shipyard & Machinery Works, Yokohama Dockyard & Machinery Works, Takasago Machinery Works, Nagoya Aerospace Systems Works, Hiroshima Machinery Works, and Ritto Machinery Works. Participating employees hold periodic meetings at their locations, exchange between works and with other companies, and discussions with the president and vice presidents. The feedback received about this activities includes, "I gained a renewed understanding of the importance of the role that a manufacturer must fulfill towards society," and "I realized the broad scope of MHI's products and great technological strengths." Forum 35 has been established as an initiative that energizes the organization.



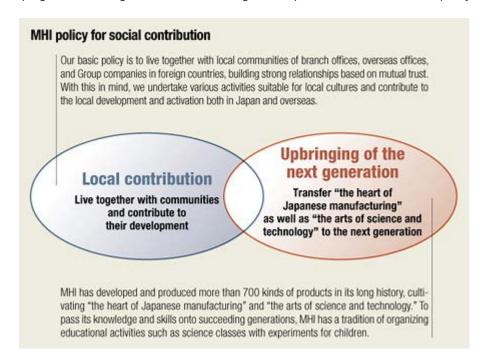
A discussion with the President & CEO and representatives from eight works

## **Fulfilling our Policy on Social Contribution Activities**

## Conducting activities that suit the characteristics of each region based on the MHI policy on Social Contribution Activities

MHI used the opportunity of the publication of the Social and Environmental Report in 2004 to formulate the basic concepts for social contribution, stated as "We are obligated to be an innovative partner to society" and "We place importance on relationships with local communities based on mutual trust."

The MHI policy for social contribution activities was released in 2007 based on extensive discussion and debate regarding the nature of public expectations as well as feedback from external sources. Various programs are being carried out in each region of Japan in accordance with the policy.



#### Local contribution

#### Live together with communities and contribute to their development

Our basic policy is to live together with local communities of branch offices, overseas offices, and Group companies in foreign countries, building strong relationships based on mutual trust. With this in mind, we undertake various activities suitable for local cultures and contribute to the local development and activation both in Japan and overseas.

Upbringing of the next generation

## Transfer "the heart of Japanese manufacturing" as well as "the arts of science and technology" to the next generation

MHI has developed and produced more than 700 kinds of products in its long history, cultivating "the heart of Japanese manufacturing" and "the arts of science and technology." To pass its knowledge and skills onto succeeding generations, MHI has a tradition of organizing educational activities such as science classes with experiments for children.

# Achievements Made through Social Contribution Activities (FY2012)

## Expenditure of approx. 2.096 billion yen on social contribution activities

MHI endorses the "One Percent Club," a program initiated by Nippon Keidanren (Japan Business Federation) in which participating members commit at least 1 percent of ordinary profit to social contribution activities. As a member of the One Percent Club, MHI is actively involved in a range of social contribution activities. The company reports expenditure on social contribution activities each year.

In fiscal 2011, MHI spent approximately 2.096 billion yen on social contribution activities, equivalent to 2.39 percent of ordinary profit.

#### ■ Change in expenditures on social contribution activities

	FY2009	FY2010	FY2011
Academic research	339 million yen	247 million yen	164 million yen
Education	537 million yen	633 million yen	596 million yen
Community activities	158 million yen	141 million yen	180 million yen
Sports	114 million yen	149 million yen	133 million yen
Other	507 million yen	440 million yen	1,023 million yen
Total	1,655 million yen	1,610 million yen	2,096 million yen
Percentage of ordinary profit	6.89%	2.36%	2.39%

(Note 1) Figures include cash donations, payments in kind, activities by employees, free use of company facilities, etc., converted into monetary equivalents; activities privately performed by employees are not included.

(Note 2) Includes group companies under consolidated accounting.

(Note 3) Social contribution expenditures related to the Great East Japan Earthquake (donations, etc., made from March 11 through March 31, 2011) are included in the figures for FY2011, not FY2010.

(Note 4) Figures for FY2012 are now being prepared.

#### About donation recipients

In addition to groups with a close business relationship with MHI, groups that perform the following activities, either in isolation or in conjunction with MHI, were chosen as the main beneficiaries of donations, in accordance with the MHI Group CSR Action Guidelines.

- Close ties with the Earth: environment preservation, etc.
- Close ties with Society: disaster relief, community work, welfare, promoting culture and the arts, international exchange and international cooperation
- A bridge to the next Generation: nurturing the next generation, academic research, boosting technical capabilities

## Robust recovery assistance to areas hit by natural disasters

The MHI Group has long embraced a humanitarian perspective and offered assistance and support across the world in the aftermath of large-scale natural disasters.

Continuing our reconstruction assistance for communities hit by the Great East Japan Earthquake on March 11, 2011, in fiscal 2012 we again engaged in various activities to support children, such as teaching science classes, sponsoring charity musicals, and hosting a rugby workshop. We also launched new assistance efforts, such as the MHI Miyagi Mini-Fund, which provides assistance to community restoration efforts in the disaster regions, and donating (Note) dishes and eating utensils made from a MHI proprietary shape-memory polymer to social welfare facilities.

(Note) In partnership with the labor union, a matching donation given by the company on top of money donated by employees through the Tomoshibi Fund.



Employees soliciting donations to the Tomoshibi Fund

#### Science classes

At a science class held in Iwaki City, Fukushima Prefecture, the site of a large-scale offshore wind farm demonstration and research project, MHI employees used models to explain simply how wind power generation works. Students responded with various comments, such as how much they looked forward to seeing the completed wind turbines. Other science class programs covering topics related to MHI's businesses were also held in Ishinomaki City, Minamisanriku Town, and Kesennuma City, municipalities in Miyagi prefecture, in partnership with the Kodomo Uchu Mirai Association (KU-MA; meaning "Children Space Future Association").

## Charity musicals

The charity musical "Peter Pan and Wendy," which we co-hosted with a theater company and which was performed in Minamisanriku Town and Kesennuma City, Miyagi Prefecture, attracted an audience of 935 students and teachers. The musical, which teaches the importance of hope and friendship, received rave reviews.

#### Rugby workshop

Players of the MHI Sagamihara Dynaboars, the rugby team of MHI's General Machinery & Special Vehicles, coached around 60 city elementary school students and 130 prefectural high school students at a tag rugby workshop in Date City, Fukushima Prefecture. Additionally, in a social exchange program called the "Rugby Smile Program," MHI invited 33 elementary school children in Date City, Fukushima Prefecture, to Sagamihara City to watch a MHI Sagamihara Dynaboars rugby match, spend a night with other tag rugby players from elementary schools in Sagamihara City, and compete in a tag-rugby match.



Rugby workshop

## Yokohama Dockyard & Machinery Works' "Forum 35" group provides recovery assistance

Members of "Forum 35," a group at Yokohama Dockyard & Machinery Works whose mission is to stimulate communication among employees around the age of 35 who perform a core role in the workplace and thus invigorate the entire company, visited Minamisanriku Town, Miyagi Prefecture, in February 2013 and did volunteer work to remove sediment from roadside drainage ditches. The group also held a Tohoku Product Fair at the Yokohama Dockyard & Machinery Works' annual ekiden race. Some of the proceeds from the fair were combined with monetary donations, to a sum of 75,535 yen, and were donated to the Minamisanriku Disaster Volunteer Center along with a multi-function printer.



Removing sediment from a drainage ditch



Tohoku Product Fair

## Prefab refrigeration unit donation

The Air-Conditioning & Refrigeration Systems business headquarters donated prefabricated MHI storage refrigeration units to the Shichigahama branch office of the Japan Fisheries Cooperative in Miyagi Prefecture.

The region had a vigorous seaweed cultivation and fishing industry, however the cultivation and processing equipment, as well as fishing vessels, suffered severe damaged from the tsunami caused by the Great East Japan Earthquake.

The donated storage refrigeration units are indispensable for the pollination of seaweed in the summer, and are expected to be of assistance in the restoration efforts.



Prefab refrigeration unit after installation



Staff member explains features of the prefab refrigeration unit

## ■ Major support activities in recent years

Year	Disaster	Scale of support	Type of support
2012	Great East Japan Earthquake		Cash donation and donation of refrigeration unit and other supplies
2011	Thailand floods	45 million yen	Cash donation and supplies
	Great East Japan Earthquake		Cash donation and donation of solar power systems and forklift trucks
2010	China Qinghai Earthquake	10 million yen	Cash donation
	Chile Earthquake	5 million yen	Cash donation
	Haiti Earthquake		Cash donation and donation of lighting towers with generators
2009	Indian Ocean Earthquake and Tsunami	3 million yen	Cash donation
	Damage from Typhoon Morakot	2.54 million yen	Cash donation
	L'Aquila Earthquake in Italy	2.54 million yen	Cash donation

## Activities that support the development of the next generation

Science classes held by employees of various worksites

The decline in children's interest and understanding of science has been an important issue in Japan in recent years, as such a decline could lead to a drop in global competitiveness for Japan, which depends on science and technology for economic growth. Given this context, since 2008 MHI has been supporting a visiting science class program, where employees in each business segment and works across Japan teach a science class in a variety of formats, such as by visiting local schools, or by inviting students to plants or the Minato Mirai Industrial Museum. The goal of the program is to help raise human resources who can contribute to science and technology and the global community.

Classes were held again in fiscal 2012, with employees in each business segment partnering with local NPOs and other organizations to teach the class using products and technologies from their respective workplaces. More than 5,400 students participated in these classes nationwide. Host schools have responded with great enthusiasm, commenting on how the classes are not only fun but also relevant, and how they are thankful for having classes that pique the children's interest.

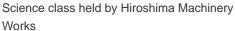
#### ■ Science classes held in FY2012

Taught by	Grade level	Number of participants (Note)	Activities, topics
Nagasaki Shipyard & Machinery Works	Elementary school	16	Pop-pop boat construction
Kobe Shipyard & Machinery Works	Elementary school	150	Air pressure experiment; lecture using "wakamaru" communication robot
Shimonoseki Shipyard & Machinery Works	Elementary school	170	Pop-pop boat construction; lecture on aircraft and ships
Yokohama Dockyard & Machinery Works	Elementary school	224	Lecture on wind turbines
Takasago Machinery Works	Elementary school	150	Lecture on computers; craft workshop
Nagoya Aerospace Systems Works	Elementary, junior high, and high schools	1,104	Lecture on rockets and aircraft
Nagoya Guidance & Propulsion Systems Works	Elementary, junior high, and high schools	1,642	Lecture on rockets
Hiroshima Machinery Works	Elementary school	240	Lecture using robotic fish
Mihara Machinery Works	Elementary school	18	Lecture on motors and brakes and the principles of how trains start and stop
General Machinery & Special Vehicles	Elementary school	48	Lecture on turbochargers
Air-Conditioning & Refrigeration Systems	Elementary school	80	Lecture on the mechanism behind temperature change

Taught by	Grade level	Number of participants (Note)	Activities, topics
Machine Tool	Elementary school	97	Lecture on motors and gears
Head Office	Elementary	456	Lecture on planes and wind power generation systems on water
Mitsubishi Minatomirai Industrial Museum	Elementary and junior high schools	1,036	Paper airplane and ship-themed craft workshops

(Note) Includes repeat participants; participants include students' parental guardians and teachers of host schools







Science class held by Mihara Machinery Works

Supporting the next generation at all stages from junior high to graduate school

In addition to science classes for elementary schools, MHI also extends support to students at various stages in their education, from junior high school to graduate school.

Takasago Machinery Works, held a workplace experience program called "Toraiyaru Week" for 8th graders in Hyogo prefecture, in which it hosted 10 students on request from a local junior high school and offered them various experiences which they would never have in a typical classroom, such as paperweight construction, using CAD to create designs, and learning sandblast surface treatment in the blade plant. Nagasaki Shipyard & Machinery Works held welding demonstrations for students of industrial high schools in Nagasaki prefecture, performed by employees who had won awards at various welding competitions.

In March 2013, MHI and the Institute of National Colleges of Technology, Japan signed a comprehensive partnership agreement aimed at promoting academic excellence and industrial technology in Japan. By providing internships, sharing lecturers, and conducting joint research, we hope to cultivate and strengthen the manufacturing skills of young people.

Teaming up with the University of Tokyo, we established an endowed chair on cutting-edge energy conversion engineering (Power Systems) in September 2008 and an endowed chair on aerospace innovation (Aerospace Systems) in August 2009, thus contributing to the development of the next generation in technical fields related to MHI's business and in public policy research.

In addition to the above programs, MHI Environmental & Chemical Engineering offered a two-week (10 workdays) internship from the end of July 2012. Seven students from six universities and graduate schools were given a course on the design of a waste incineration facility and after-sales servicing.

## Funds for Community Engagement, a new in-house system to promote social contribution activities

MHI introduced a new in-house system Funds for Community Engagement (former Social Contribution Fund) in fiscal 2012 to promote active involvement in social contribution activities designed to address needs and issues of the local communities around company facilities. Under this system, time donated by company employees to volunteer work is converted to a monetary value, which is then converted to an equivalent budget allocation. Money in the budget is used along with the dispatch of employee volunteers to build collaborative relationships with NPOs and other local groups and address social issues together.

In fiscal 2012, the year the system was launched, MHI developed and implemented social contribution activities designed to encourage employees from all works and facilities to get involved in volunteer programs. For example, the Air-Conditioning & Refrigeration Systems' Biwajima Plant received support from the Toki-Shonai River Support Center — an NPO that works in community development and river maintenance throughout the watershed of the Shonai River, which flows near the plant, and the Toki River, the name of the upstream portion of the same river — to run a booth for making reusable chopsticks at the plant's community event (Family Festival). Wood obtained by thinning cedar, cypress, and other tree species from forests at the source waters of the Toki-Shonai River was used to make the chopsticks. Since participants could make their own one-of-a-kind chopsticks, the booth was a big success and allowed time for employees to enjoy interacting with members of the local community. This event included, in fiscal 2012 MHI supported the activities of 16 organizations working in such varied fields as education, social welfare, environmental conservation, culture, the arts, and sports.

Because this new system also creates great opportunities for MHI employees to communicate with people from local communities, MHI will look to expand the scope of activities, for example by supporting activities in fields that have a close connection to MHI's businesses.



Festival visitors make their own reusable chopsticks from thinned wood (Air-Conditioning & Refrigeration Systems)

- List of support recipients in fiscal 2012
- Global Fund for Education Assistance (general incorporated foundation)
- Plan Japan (international NPO)
- LINC (NPO)
- Community Support Center Kobe (NPO)
- Shimonoseki Social Welfare Council (social welfare corporation)
- Sherlock Holmes (NPO)
- Science Café Harima
- Group for Planting 10,000 Cherry Trees on the Kakogawa River (NPO)
- Shimins Seeds (NPO)
- Chubu Philharmonic Orchestra (NPO)
- Komaki (NPO)
- Hitachi Science Club (NPO)
- Mihara City Environmental Committee
- Sagamihara City Rugby Ball Association (NPO)
- Toki-Shonai River Support Center (NPO)
- · Ritto Forest Club projects, Ritto-city Society of Commerce and Industry

## **Examples of Regional Social Contribution Activities (FY2012)**

## Holding a baseball clinic on a remote island

Nagasaki Shipyard & Machinery Works held a baseball clinic for 20 children living in a foster care facility in Kamigoto-cho, a town located on the northern part of the Goto Islands of Nagasaki Prefecture. The coaches, players, and former players of the Works' hardball baseball club served as instructors. The clinic's mission was to contribute to the healthy development of youths, achieved through such activities as technical instruction and a clinic barbeque that allowed the participants and instructors to socialize with one another.





Showing how to use the lower body

Teaching bat control

## Protecting fireflies in collaboration with a local organization

Shimonoseki Shipyard & Machinery Works teamed up with local volunteer organization Toyora Firefly Community Association to carry out firefly preservation activities in the Dangu River area of Shimonoseki in Yamaguchi Prefecture. Around 20 employees and their family members planted plants and laid down stones that are necessary for firefly development.



Employees and local volunteers



Planting and laying stones in the river

## Hosting a charity concert

Every year since fiscal 2003, Takasago Machinery Works has hosted a charity concert in Takasago, Hyogo Prefecture, with the goal of providing local residents with an opportunity to listen to high-quality music for a reasonable price. All proceeds from the concerts are donated to cultural and social welfare programs in the city. The 10th concert, held in fiscal 2012, gathered 1,469,569 yen in donations. The Takasago City Hoden Junior High School chorus club performed in the concert and also joined guest singer Kyogo Kawaguchi.



All who performed in the concert



Junior high school students sing along with Kyogo Kawaguchi

## Foreign currency charity drive

Taking notice of the number of overseas business trips its employees go on, Nagoya Guidance & Propulsion Systems Works began in fiscal 2012 a drive to collect unused foreign currency as part of its CSR program. The drive has gradually expanded, raising in fiscal 2012 9 kilograms of coins and bills for donation to the Japan Committee for UNICEF.

Nagoya Guidance & Propulsion Systems Works will continue this program, which puts tucked-away coins and bills to use benefiting disadvantaged people in developing countries.



Foreign currency collected by employees

## Forest management activities

In May 2012, Kobe Shipyard & Machinery Works held its sixth forest care program in the Onaza satoyama ecosystem (a rural area where humans interact closely with the environment through agriculture and other activities) located in Aogaki-cho in Tamba, Hyogo Prefecture. Eighty-seven employees and their family members took part in the program, planting 60 broadleaf saplings and tending saplings planted at previous programs.







A family plants a tree together

## Hosting wind turbine tours for families

Yokohama Dockyard & Machinery Works took part in "Wind Day 2012 in Yokohama," a wind turbine tour event for families hosted by the Japan Wind Energy Association, the Japan Wind Power Association, and Yokohama City, providing tours to 144 parents and children in June 2012. Participants let out shouts of amazement at the size of an offshore wind turbine nacelle (generator cover housing), and in the mini-lecture that followed, asked lots of questions about the number of wind turbine blades, how wind power is used, and other topics.



Families look up at a wind turbine



Children are shocked by the size of a wind turbine blade

# **Examples of Social Contribution Activities by MHI Group** Companies (FY2012)

## Exhibiting at the 2012 Japan International Aerospace Exhibition (JA2012)

Diamond Air Service took part in Japan International Aerospace Exhibition 2012 (JA2012, held in Nagoya), an event dedicated to promoting understanding and youth interest in the aerospace industry, by exhibiting MHI's MU-300 (JA30DA) aircraft at Chubu International Airport (Centrair).





The MU-300 on display

Visitor of the exhibition

## **Eco-point program utilized for donations**

The Yokohama office of MHI Plant Engineering, Ltd. created its own eco-point program in which employees are awarded points for taking eco-friendly actions (such as using their own reusable chopsticks and drink containers, recycling, and participating in cleanup activities around the plant), which can then be redeemed for cash on their Edy accounts and used to make purchases in the employee cafeteria. The company has also donated 205,000 yen, or the equivalent of half of the points redeemed by employees, to Ashinaga, an organization that collects anonymous donations to provide educational and emotional support to orphans worldwide.



Cleanup efforts



An employee carries his own reusable drink container

## Supporting stray dog rescue activities

Mitsubishi Heavy Industries Air-Conditioners Australia, Pty. Ltd. (MHIAA) supports Doggie Rescue, a volunteer organization that rescues, shelters and finds new homes for stray dogs in the northern part of Sydney. Specifically, MHIAA provides air-conditioning equipment and regular servicing in the organization's building free of charge, and also helps promote the organization by purchasing charity goods and displaying the organization's logo on company business cards. MHIAA will look to expand its support going forward and work to reduce incidences of stray dogs being put down.







The dogs are given a spacious kennel

### Supporting the Thai flood recovery

Mitsubishi Heavy Industries (Thailand) Ltd. (MHIT) employees and their families, a total of 35 people, volunteered at the Sorndee Pracharat Anusorn School in Ayutthaya Province as part of the company's program to support the recovery from the heavy flood in Thailand in 2011. They repaired damaged school buildings, repainted chairs and desks, and donated school supplies.



Repairing damaged school buildings



Employees and their family members who volunteered

## Recognition from Society

Year	Month	Award Name	Organization / Item	Awarded by
Awarded	Awarded			
2012	March	Best Supplier Award	PT. POWER SYSTEMS SERVICE INDONESIA, PT. POESER	PT. PLN (Persero)
	March	Certificate of Appreciation (for MHI's contribution to the Sendai Refinery's early restart of operations following the Great East Japan Earthquake)	Power Systems, Mitsubishi Heavy Industries, Ltd.	Sendai Refinery, JX Nippon Oil & Energy Corporation
	March	Atomic Energy Historic Award	Nuclear Energy Systems, Mitsubishi Heavy Industries, Ltd.	Atomic Energy Society of Japan
	March	Certificate of Appreciation (for early recovery of Sendai Airport facilities, which sustained catastrophic damage in the Great East Japan Earthquake)	Mitsubishi Heavy Industries Engine Systems Co., Ltd.	Tokyo Regional Civil Aviation Bureau
	March	Honorable Mention	Mitsubishi Heavy Industries, Ltd.	Atomic Energy Society of Japan
	April	Certificate of Appreciation (for collection of monetary donations for children affected by the Great East Japan Earthquake)	Mitsubishi Heavy Industries, Ltd.	National Federation of UMESCO Associations in JAPAN
	April	Certificate of Appreciation (for many years of supporting maintenance of SH-60K battle command system software)	Defense Aircraft Division, Aerospace Systems, Mitsubishi Heavy Industries, Ltd.	Japan Maritime Self-Defense Force
	April	Minister of Education, Culture, Sports, Science and Technology Award in the 41st Japan Industrial Technology Awards (for development of the new E5 series high-speed trains)	Mitsubishi Heavy Industries, Ltd.	Minister of Education, Culture, Sports, Science and Technology in Japan
	April	Certificate of Appreciation (for zero work accidents in fiscal 2011)	Mitsubishi Heavy Industries, Ltd.	High-Speed Nuclear Reactor Research & Development Center
	April	Nikkan Kogyo Shimbun Award in the 41st Japan Industrial Technology Awards (for development of the new E5 series high-speed trains)	Mitsubishi Heavy Industries, Ltd.	Nikkan Kogyo Shimbun Ltd.
	April	Certificate of Appreciation (for MHI's contribution to providing school lunches to children in developing countries through continued support of the TABLE FOR TWO program)	Mitsubishi Heavy Industries, Ltd.	TABLE FOR TWO International
	April	1st place among Silver recipients in "machinery" category of Gomez IR Site Rankings	Mitsubishi Heavy Industries, Ltd.	Morningstar Japan K.K.
	May	Zero Accidents Award (for zero accidents in two years of regular maintenance)	Nuclear Energy Systems, Mitsubishi Heavy Industries, Ltd.	Health and Safety Committee, Genkai Nuclear Power Station, Kyushu Electric Power Co., Inc.
	May	2011 JSCE Tanaka Award (for excellence in bridge design and construction)	Hiroshima Airport Bridge and Tokyo Gate Bridge, Mitsubishi Heavy Industries Bridge & Steel Structures Engineering Co., Ltd.	Japan Society of Civil Engineers
	May	Award of Excellence in Driving School Management	Hiroji Center Co., Ltd.	Association of Hiroshima- Accredited Driving Schools Hiroshima Prefectural Office

Year	Month	Award Name	Organization / Item	Awarded by
Awarded	Awarded			
2012	June	Certificate of Appreciation (for MHI's long-standing commitment to safeguarding the public through the prevention of explosives-related accidents)	Sagamihara Machinery Works, Mitsubishi Heavy Industries, Ltd.	Central Kanagawa Prefectural Administration Center
	June	Chairman's Award (ESA30 "Q-ton" CO2-refrigerant heat pump for industrial water heater systems)	Mitsubishi Heavy Industries, Ltd.	Heat Pump and Thermal Storage Technology Center of Japan
	June	Certificate of Appreciation (for commitment to security infrastructure development and enrichment of the Japan Ground Self-Defense Force)	Mitsubishi Heavy Industries, Ltd.	1st Armored Training Unit, Japan Ground Self-Defense Force
	June	Award of Excellence for Nagasaki City Library in 13th Public Construction Prize	Nishinihon Ryoju Estate Co., Ltd.	Public Business Association, Ltd.
	June	Japan Association for Safety of Hazardous Materials Chairman's Award (for exemplary work-site that handles hazardous materials)	Sagamihara Machinery Works, Mitsubishi Heavy Industries, Ltd.	Japan Association for Safety of Hazardous Materials
	June	2012 JSTP Medal for Innovative Technology	Mitsubishi-Hitachi Metals Machinery, Inc.	The Japan Society for Technology of Plasticity
	June	Certificate of Appreciation (for completing installation of power generation facilities during the contruction of Higashi-Niigata Thermal Power Station's No. 5 unit in short time)	Mitsubishi Heavy Industries, Ltd.	Tohoku Electric Power Co., Inc.
	June	Certificate of Appreciation (for completing machinery construction during the contruction of Akita Thermal Power Station's No. 5 unit in short time)	Mitsubishi Heavy Industries, Ltd.	Tohoku Electric Power Co., Inc.
	June	Award for class completions in Continuing Professional Development	Mitsubishi Heavy Industries Bridge & Steel Structures Engineering Co., Ltd.	Japan Association of Bridge Construction Management Engineers
	June	Safety Excellence Award	Tokyo Gate Bridge construction (parts 2 and 5), Mitsubishi Heavy Industries Bridge & Steel Structures Engineering Co., Ltd.	Tokyo Branch, Japan Construction Occupational Safety and Health Association
	June	Model Business Award (for completing construction of magnetic card-based toll collection machines and ETC machines for the Isewangan Expressway without accident or injury)	Mitsubishi Heavy Industries, Ltd.	Safety Committee, Nagoya Construction Office, Nagoya Branch, Central Nippon Expressway Company Limited
	June	Certificate of Excellence	Eba Plant, Hiroshima Machinery Works, Mitsubishi Heavy Industries, Ltd.	Hiroshima Federation of Associations for Hazard Material Safety
	July	Certification of Appreciation for supporting Re-Lifestyle	Yokohama Dockyard & Machinery Works, Mitsubishi Heavy Industries, Ltd.	Re-Lifestyle (NPO)
	July	Certificate of Appreciation (for constructing Kunigami and Motobu state-of-the-art large patrol vessels)	Mitsubishi Heavy Industries, Ltd.	Japan Coast Guard
	July	2012 "4th Engineering Achievement Award"	Developers of a technology for removing mercury from exhaust gas, Mitsubishi Heavy Industries, Ltd.	Engineering Advancement Association of Japan
	July	Commendation of Engineering Service (for completing construction of Haneda Airport D-Runway as a member of team including Kajima Corporation and 13 other companies)	Mitsubishi Heavy Industries, Ltd.	Engineering Advancement Association of Japan

Year	Month	Award Name	Organization / Item	Awarded by
Awarded	Awarded			
2012	July	Ship Job of the Year 2011 (MV Tønsberg RoRo carrier)	Mitsubishi Heavy Industries, Ltd.	Japan Society of Naval Architects and Ocean Engineers
	July	Certificate of Appreciation (for contributing through restoration work to an early restart and stable operations of Kirin Brewery Sendai Plant, which was damaged in the Great East Japan Earthquake)	Mitsubishi Heavy Industries, Ltd.	Kirin Brewery Co., Ltd.
	July	2012 Commendation of Engineering Service and Special Achievement Award	Haneda Airport D-Runway construction team (Mitsubishi Heavy Industries, Ltd. and 14 other companies)	Engineering Advancement Association of Japan
	July	Certificate of Appreciation (for providing rapid recovery assistance to disaster region following the Great East Japan Earthquake)	Mitsubishi Heavy Industries Engine Systems Co., Ltd.	Minister of Land, Infrastructure, Transport and Tourism
	July	Certificate of Appreciation (for providing rapid recovery assistance to disaster region following the Great East Japan Earthquake)	Mitsubishi Heavy Industries Engine Systems Co., Ltd.	NTT Facilities, Inc.
	July	Certification for Excellence in Construction Work (National Route 16 elevation project in Machida, Miyayama Viaduct, Negishi construction, YBB)	Mitsubishi Heavy Industries Bridge & Steel Structures Engineering Co., Ltd.	Kanto Regional Development Bureau
	July	Good Construction Project (Tokyo Gate Bridge (part 5))	Miyaji Engineering Co., Ltd. and Mitsubishi Heavy Industries Bridge & Steel Structures Engineering Co., Ltd. joint venture	Tokyo Bay Waterway Office, Kanto Regional Development Bureau
	July	Commendation for Disaster Reconstruction Service (National Route 357 Bay Bridge repair)	Mitsubishi Heavy Industries Bridge & Steel Structures Engineering Co., Ltd.	Yokohama National Highway Office, Kanto Regional Development Bureau
	July	Safety Award (construction of upper poertion of Suwagawa River Bridge on National Route 208)	Mitsubishi Heavy Industries Bridge & Steel Structures Engineering Co., Ltd. and Nippon Steel Topy Bridge Co., Ltd. joint venture	Kyushu Regional Development Bureau
	July	Good Construction Project (construction of steel upper portion of Honkawa Bridge on National Route 2)	Mitsubishi Heavy Industries Bridge & Steel Structures Engineering Co., Ltd.	Hiroshima National Highway Office, Chugoku Regional Development Bureau
	July	Good Construction Project (construction around spillway gate of Ure Dam)	Mitsubishi Heavy Industries Bridge & Steel Structures Engineering Co., Ltd.	Chubu Branch, Japan Water Agency
	July	Certificate of Appreciation (for providing lecturer for manufacturing engineering class at the Department of Mechanical Engineering, Setsunan University)	Takasago Division, MHI Plant Engineering Co., Ltd.	Department of Mechanical Engineering, Faculty of Science and Engineering, Setsunan University
	July	Certificate of Appreciation (for shortening worktime for replacing part of the high-temperature steam reheat piping in Tachibana Bay Thermal Power Station's Unit No. 2)	Mitsubishi Heavy Industries, Ltd.	Tachibana Bay Thermal Power Station, Electric Power Development Co., Ltd.
	August	Certificate of Appreciation (for helping restore education for children in the disaster zone through contributions to the UNESCO Association Scholarship for 3.11 Disaster-Stricken Children and Students)	Mitsubishi Heavy Industries, Ltd.	National Federation of UNESCO Associations in Japan

Year Awarded	Month Awarded	Award Name	Organization / Item	Awarded by
2012	August	Letter of appreciation for participation in the 21st Nagoya Walkathon	Nagoya Ryoju Estate Co., Ltd.	2012 Walkathon Committee, Chubu Branch, American Chamber of Commerce in Japan
	August	Certificate of Appreciation (for early completion of construction of Kimitsu Cooperative Thermal Power's Unit No. 6 without accident or injury)	Mitsubishi Heavy Industries, Ltd.	Kimitsu Cooperative Thermal Power Co., Ltd.
	August	Certificate of Appreciation (for restart of Oi Nuclear Power Plant's No. 3 and 4 reactors)	Power Systems, Mitsubishi Heavy Industries, Ltd.	Oi Nuclear Power Plant, Kansai Electric Power Co., Ltd.
	September	Certificate of Appreciation (for promoting space development through contributions to test firing at the Noshiro Rocket Testing Center)	Mitsubishi Heavy Industries, Ltd.	Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency
	October	Silver Order of Merit (for many years of service to Red Cross activities)	Mitsubishi Heavy Industries, Ltd.	Japanese Red Cross Society
	October	2012 Good Design Award (Chiba City Monorail)	Mitsubishi Heavy Industries, Ltd.	Japan Institute of Design Promotion
	October	Good Design Award ("MS Solar Tank Base" solar panel mount)	Mitsubishi Heavy Industries Mechatronics Systems, Ltd.	Japan Institute of Design Promotion
	October	Certificate of Appreciation (Hakkai-bashi Bridge)	Mitsubishi Heavy Industries Bridge & Steel Structures Engineering Co., Ltd.	Minamiuonuma City, Niigata Prefecture
	October	Certificate of Appreciation (for recognizing the importance of national defense and long-term commitment to student education)	General Machinery & Special Vehicles, Mitsubishi Heavy Industries, Ltd.	Japan Ground Self-Defense Ordnance School
	October	Certificate of Appreciation (for recognizing and contributing to 3rd Air Depot's mission in national defense through the manufacture and repair of F-2 fighter jet flight simulators and ballistic missile defense support systems)	Mitsubishi Heavy Industries, Ltd.	3rd Air Depot, Japan Air Self-Defense Force
	October	Outstanding VE Activity Award (for making a noteworthy contribution to company management through VE efforts)	Hiroshima Machinery Works, Mitsubishi Heavy Industries, Ltd.	Society of Japanese Value Engineering
	October	2nd Place, Men's Indoor Fire Hydrant Division, 29th In-House Fire-Fighting Competition	General Machinery & Special Vehicles, Mitsubishi Heavy Industries, Ltd.	Sagamihara Disaster Prevention Association
	November	Certificate of Appreciation (for active participation in vaccine assistance activities)	Nagoya Ryoju Estate Co., Ltd.	Japan Committee, Vaccines for the World's Children
	November	Certificate of Appreciation for sponsoring the Children's Eco-Project Program	Yokohama Dockyard & Machinery Works, Mitsubishi Heavy Industries, Ltd.	Japan Relations Office, World Food Programme
	November	Outstanding Reduce, Reuse, Recycle Activities, Yokohama Environmental Action Award (8th consecutive year)	Kanazawa Plant, Yokohama Dockyard & Machinery Works, Mitsubishi Heavy Industries, Ltd.	Resources and Waste Recycling Bureau, City of Yokohama
	November	Outstanding Reduce, Reuse, Recycle Activities, Yokohama Environmental Action Award (7th consecutive year)	Honmoku Plant, Yokohama Dockyard & Machinery Works, Mitsubishi Heavy Industries, Ltd.	Resources and Waste Recycling Bureau, City of Yokohama
	November	2012 Best Project	MIA Mover APM Project	Engineering News-Record
	November	Outstanding Design Award, 2012 Kanagawa Shimbun Advertising Awards	Mitsubishi Heavy Industries, Ltd.	Kanagawa Shimbun

Year	Month	Award Name	Organization / Item	Awarded by
Awarded	Awarded			
2012	November	Certificate of Appreciation (for completing construction of Tomato-Atsuma Power Station without accident or injury)	Mitsubishi Heavy Industries, Ltd.	Hokkaido Electric Power Co., Ltd.
	November	Certificate of Appreciation (for contributing to the advancement of space development through service in the launch of a science satellite and obervation rocket at Uchinoura Space Observatory of Kagoshiima Space Center)	Mitsubishi Heavy Industries, Ltd.	Japan Aerospace Exploration Agency
	November	2012 Internet IR Excellence Award	Mitsubishi Heavy Industries, Ltd.	Daiwa Investor Relations Co., Ltd.
	November	Best Company Website Rankings, 1st place in machinery industry	Mitsubishi Heavy Industries, Ltd.	Nikko Investor Relations Co., Ltd.
	November	Commendation for Zero Accidents in first half of fiscal 2012	Mitsubishi Heavy Industries, Ltd.	Fukushima Diaichi Nuclear Power Station, Tokyo Electric Power Co., Ltd.
	December	Certificate of Appreciation (for donating the proceeds of a charity concert)	Takasago Machinery Works, Mitsubishi Heavy Industries, Ltd.	Takasago City
	December	Commendation of Service to Promoting Blood Donations	Mitsubishi Heavy Industries, Ltd.	Kanagawa Chapter, Japanese Red Cross Society
	December	Certificate of Appreciation (for replacing 200,000 m3 holder piston at Keihin works without accident and with shortened schedule)	Mitsubishi Heavy Industries Bridge & Steel Structures Engineering Co., Ltd.	East Japan Works (Keihin), JFE Steel Corporation
	December	Excellent Website, Content Planning and Web Architecture Category, 6th Corporate Web Grandprix	"MHI SHOWCASE," Mitsubishi Heavy Industries, Ltd.'s website	Japan Web Grandprix
	December	Special RIA (Rich Internet Applications) Consortium Award, 6th Corporate Web Grandprix	"MHI SHOWCASE," Mitsubishi Heavy Industries, Ltd.'s website	Japan Web Grandprix
2013	January	Certificate of Appreciation (for contributing to local safety)	Nagoya Aerospace Systems Work, Mitsubishi Heavy Industries, Ltd.	Aichi Prefecture Minato Police Station
	January	Certificate of Appreciation (for contributing to local safety)	Asuka Plant, Nagoya Aerospace Systems Work, Mitsubishi Heavy Industries, Ltd.	Aichi Prefecture Kanie Police Station
	January	Certificate of Appreciation (for contributing to local safety)	Komaki Minami Plant, Nagoya Aerospace Systems Work, Mitsubishi Heavy Industries, Ltd.	Aichi Prefecture Nishibiwajima Police Station
	January	Certificate of Appreciation (for prevention of accidents and crime through traffic safety and crime prevention education)	Nagoya Guidance & Propulsion Systems Works, Mitsubishi Heavy Industries, Ltd.	Aichi Prefecture Komaki Police Station
	January	Chairman's Award for Promotion of the Machine Industry (MHI vero4DRT)	Mitsubishi Heavy Industries, Ltd.	Japan Society for the Promotion of Machine Industry
	January	Chairman's Award, 2012 Energy Conservation Awards	Takasago Machinery Works, Mitsubishi Heavy Industries, Ltd.	Energy Conservation Center, Japan
	January	10th (2012) Promotion of Machine Industry Awards (abdomen radiation therapy device with target tracking capability, developed with Kyoto University, the Foundation for Biomedical Research and Innovations, and others)	Mitsubishi Heavy Industries, Ltd.	Japan Society for the Promotion of Machine Industry

Year Awarded	Month Awarded	Award Name	Organization / Item	Awarded by
2013	January	Certificate of Appreciation (for contributing to exhibition at the Monodzukuri Museum)	Kobe Shipyard & Machinery Works, Mitsubishi Heavy Industries, Ltd.	Hyogo Prefectural Monodzukuri Institute
	February	Certificate of Appreciation (for supporting the "Project to Host Children from Rikuzentakata City in Nagoya")	Nagoya Aerospace Systems Work, Mitsubishi Heavy Industries, Ltd.	Nagoya City
	February	2012 Environmental Business Award (CO <sub>2</sub> Recovery Plant)	Mitsubishi Heavy Industries, Ltd.	eco japan cup Organizing Committee
	February	Japan Machinery Federation Chairman's Award, 2012 Excellence Energy-Saving Machine Commendations (cascading heat exchange-type CO <sub>2</sub> recovery plant)	Mitsubishi Heavy Industries, Ltd.	Japan Machinery Federation
	February	Certificate of Appreciation (for large contribution to production of the OH-1 observation helicopter for the Ministry of Defense)	Aerospace Systems, Mitsubishi Heavy Industries, Ltd.	Kawasaki Heavy Industries, Ltd.
	February	Excellence Award (LNG carrier Sayaendo) 2012 Nikkei Excellent Products and Services Awards	Mitsubishi Heavy Industries, Ltd.	Nikkei Inc.
	February	Certificate of Appreciation (for replacing 100,000 m³ COG holder at Yawata Steel Works)	Mitsubishi Heavy Industries Bridge & Steel Structures Engineering Co., Ltd.	Kawasaki Thermal Power Station, Tokyo Electric Power Co., Ltd.
	March	Certificate of Appreciation (for replacing 100,000 m³ COG holder at Yawata Steel Works)	Mitsubishi Heavy Industries Bridge & Steel Structures Engineering Co., Ltd.	Yawata Steel Works, Nippon Steel & Sumitomo Metal Corporation,
	March	Certificate of Appreciation (for enhancing reliability of watertight doors of reactor building)	Mitsubishi Heavy Industries Bridge & Steel Structures Engineering Co., Ltd.	Hamaoka Nuclear Power Station, Chubu Electric Power Co., Ltd.
	March	Certificate of Appreciation (for GH replacement at Kashima Works (disaster reconstruction work))	Mitsubishi Heavy Industries Bridge & Steel Structures Engineering Co., Ltd.	Kashima Works, Nippon Steel & Sumitomo Metal Corporation,
	March	Certificate of Appreciation (for contributing to the quick recovery of the Haramachi Thermal Power Station, which sustained damage in the Great East Japan Earthquake)	Mitsubishi Heavy Industries Mechatronics Systems, Ltd.; Mitsubishi Heavy Industries, Ltd.	Tohoku Electric Power Co., Inc.
	March	Certificate of Appreciation (for showing deep understanding of Nagoya's project to host junior high school students from Rikuzentakata City, and helping give the students experience in a real work environment)	Nagoya Aerospace Systems Work, Mitsubishi Heavy Industries, Ltd.	Rikuzentakata City Yonesaki Junior High School
	March	Certificate of Appreciation (for donating half of the company's 2012 environmental activities points (internal eco-point program) to the Tohoku Rainbow House)	Yokohama Division, MHI Plant Engineering Co., Ltd.	Ashinaga

## Progress toward a Sustainable Society

	MHI's Activities	Year	N	Major Events in Japan and Abro	oad(	:Society/:Environment)
(	Society/:Environment)			Japan		World
					1948	Universal Declaration of Human Rights.
			1967	Institution of Basic Law for Environmental Pollution Control.		
1970	Completion of Japan's first PWR power plant.	1970				
			1971	Establishment of Environment Agency.		
					1972	United Nations Conference on the Human Environment convenes in Stockholm.  Adoption of Statement for Human Environmental Quality.  Establishment of United Nations Environment Programme (UNEP).
1973	Inauguration of Environment Management Department.					
					1976	<ul><li>OECD Guidelines for Multinational Enterprises issued.</li></ul>
1977	Development of "Basic Guidelines for Safety & Health Management."					
1978	Creation of Environmental Manager Conferences.					
1980	Establishment of Committee on Promotion of Training in the Dowa Issue.	1980				
					1981	Convention on the Elimination of All Forms of Discrimination against Women went into effect.  International Year of Disabled Persons.
			1985	Enactment of Equal Employment Opportunity Law.		
1987	Establishment of Export- related Regulations Monitoring Committee.				1987	Enactment of Ozone Layer Protection Law.
			1988	Launch of In-house Conference on CO <sub>2</sub> Measures and In-house Conference on CFC Measures.		
1989	Launch of In-house Conference on CO <sub>2</sub> Measures and In-house Conference on CFC Measures.					

MHI's Activities (●:Society/■:Environment)		Year				d Abroad( :Society/ :Environment)		
(	( - 1000101), - 111110111101111			Japan	1990	World  Institution of Americans with Disabilities Act.		
			1991	Establishment of Keidanren Global Environmental Charter. Establishment of Keidanren Charter of Corporate Behavior. Enactment of Child Care Leave Law.				
1992	Committee on Promotion of Training in the Dowa Issue renamed Committee for Raising Awareness of Human Rights.  Establishment of Committee for the Promotion of Employment of the Handicapped.		1992	Ministry of International Trade and Industry requests Voluntary Plan on the Environment.	1992	United Nations Conference on Environment and Development (Earth Summit) convenes in Rio de Janeiro; adoption of Rio Declaration on Environment and Development and Agenda 21.		
1993	Formulation of voluntary plan entitled, "Our Approach to Environmental Problems."		1993	Enactment of Basic Environmental Law.				
					1994	Caux Round Table draws up Principles for Business.		
			1995	Child Care Leave Law revamped into Child Care and Family Care Leave Law.	1995	1st Conference of the Parties to the United Nations Convention on Climate Change (COP1) convened in Berlin.		
1996	Formulation of Environmental Policies and establishment of Environment Committee.		1996	Revision of Keidanren Charter of Corporate Behavior.	1996	ISO 14001 is instituted.  2nd Conference of the Parties to the United Nations Framework Convention on Climate Change (COP2) convened in Geneva.		
1997	Acquisition of ISO 14001 certification by Yokohama Machinery Works, a first for Japan's heavy industry manufacturers. Launch of R410A-compatible air-conditioners. (R410A: new type of environment-friendly refrigerant)		1997	Formulation of Keidanren Voluntary Action Plan on the Environment.	1997	3rd Conference of the Parties to the United Nations Framework Convention on Climate Change (COP3) convened in Kyoto.		
1998	Development of system that thermally decomposes PCBs contained in industrial effluents.		1998	Enactment of Law Concerning the Promotion of Measures to Cope with Global Warming. Enactment of Law to Promote Specified Nonprofit Activities.	1998	4th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP4) convened in Buenos Aires.		
1999	Delivery of combined-cycle power plant incorporating the M701G gas turbine, featuring the world's highest efficiency rating.		1999	Enactment of Pollutant Release and Transfer Register (PRTR) Law.	1999	5th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP5) convened in Bonn.		

MHI's Activities (●:Society/■		Year	Major Events in Japan and Abroad(●:Society/■:Environment)					
	:Environment)			Japan	World			
2000	ISO 14001 certification acquired by all production bases (13 works).	2000	2000	2000 Enactment of The Basic Law for Establishing a Recycling-based Society.  Revision of Law for the Promotion of Recycled Resources Utilization.  Enactment of Construction Material Recycling Law, Food Recycling Law and Law on Promoting Green Purchasing.	2000	■6th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP6) convened in The Hague. ■ United Nations Global Compact is instituted. ■ Issuance of GRI Sustainability Reporting Guidelines Version 1.		
2001	Acquisition of ISO 14001 certification by Engineering Department. Establishment of Compliance Committee.		2001	Establishment of Ministry of the Environment.  Enactment of Law Concerning Special Measures against PCB Waste.  Enactment of Fluorocarbons Recovery and Destruction Law.	2001	■ 7th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP7) convened in Marrakech. ■ ISO Council launches feasibility study on establishing international CSR standards.		
2002	Establishment of medium- to long-term environmental activity goals.		2002	Ratification of Kyoto Protocol.  Enactment of Soil Contamination Countermeasures Law.  Nippon Keidanren revamps Keidanren Charter of Corporate Behavior into Corporate Behavior Charter.  First meeting of CSR Standardization Committee held by Ministry of Economy, Trade and Industry.	2002	World Summit for Sustainable Development convened in Johannesburg.  8th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP8) convened in New Delhi.  GRI Sustainability Reporting Guidelines Version 2 released.		
2003	Establishment of Construction Business Act Compliance Committee.		2003	2003 Trial project for trading of greenhouse gas emissions implemented by Ministry of the Environment.  Emissions standards for diesel vehicles tightened.  Revision of Waste Management and Public Cleansing Law.  Japan Association of Corporate Executives for Economic Development releases 15th Corporate White Paper, entitled, "Evolution of Market and Social Responsibility-Minded Business Management."	2003	First study meeting held to discuss treaty on safety of radioactive waste management.  9th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP9) convened in Milan.		
2004	Joined United Nations Global Compact initiative. Establishment of Managing Board for Innovation in the Nuclear Business.				2004	Tenth item (on corruption prevention) added to United Nations Global Compact. 10th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP10) convened in Buenos Aires.		
2005	Introduction of Executive Officer system. Establishment of Internal Audit Department. Establishment of CSR Center. Establishment of Order Compliance Committee.		2005	Enactment of Act on the Protection of Personal Information.	2005	Kyoto Protocol goes into force.  11th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP11) and the 1st Meeting of the Parties to the Kyoto Protocol (COP/MOP1) convened in Montreal.		
2006	Acquisition of ISO 14001 certification by Head Office (including branch offices). Establishment of CSR Committee. Establishment of CSR Department.		2006	■ Enactment of New Company Law. ■ New National Energy Strategy formulated.	2006	■ GRI Sustainability Reporting Guidelines Version 3 released. ■ 12th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP12) convened in Nairobi. ■ EU announced target of reducing CO <sub>2</sub> emissions by 20% compared to 1990 levels by 2020.		

	MHI's Activities	Year	Year Major Events in Japan and Abroad(●:Society/■:Environment)				
(	( :Society/ :Environment)		Japan		World		
2007	Establishment of CSR Action Guidelines.		2007	21st Century Environmental Nation Strategy formulated. Enactment of the revised Consumer Products Safety Law.	2007	Fourth Assessment Report released by the United Nations Intergovernmental Panel on Climate Change (IPCC).	
2008	Development of CSR Action Plan.		2008	Application of internal control report system based on the Financial Instruments and Exchange Act (J-SOX) started. Holding of the G8 Hokkaido Toyako Summit. Revision of Act Concerning the Rational Use of Energy.			
			2009	Revision of Soil Contamination Countermeasures Law.	2009	The Green New Deal advocated by the U.S. is embraced by countries across the globe.	
2010	Achievement of zero emission at all locations Establishment of the Accident Exhibit and Materials Room Establishment of the CSR Promotion Section of the Presidential Administration Office	2010	2010	Cabinet determines Basic Law for Prevention of Global Warming Cabinet determines 2010 National Strategy for the Conservation and Sustainable Use of Biological Diversity Revision of the Waste Disposal Act Revision of the Air Pollution Control Law Revision of the Water Pollution Prevention Act	2010	■15th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 15) convened in Copenhagen. ■COP10 10th Conference of the Parties to the Convention on Biological Diversity held in Nagoya Adoption of the Nagoya Protocol and Aichi Target ■CSR Standards (ISO 26000) issued	
2011	■Implementing Energy-saving Measures at All Works		2011	Decision to introduce an environmental tax for measures against global warming Feed-in Tariffs for renewable energy Establishment of Principles for Financial Action towards a Sustainable Society	2011	International energy management standard (ISO 5001) issued UN International Year of Forests Corporate Value Chain (Scope 3) Accounting and Reporting Standard 17th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP17) convened in Durban GRI Sustainability Reporting Guidelines version 3.1 released	
2012	■ Establishment of the CSR Group in the Corporate Communication Department of the Presidential Administration Office □ Creation of MHI Environmental Vision 2030 □ Funds for Community Engagement established		2012	Publication of General Guidelines on Supply Chain GHG Emission Accounting Ver. 1.0  Amended Water Pollution Control Law enters into force Feed-in tariff system for renewable energy launched Cabinet approves National Biodiversity Strategy of Japan 2012-2020 Environmental tax for measures against global warming goes into effect	2012	■ UN Conference on Sustainable Development (Rio+20) held in Rio de Janeiro, Brazil ■ Eleventh Meeting of the Conference of the Parties (COP11) to the Convention on Biological Diversity held in Hyderabad, India ■ Eighteenth Meeting of the Conference of the Parties (COP18) to the UN Framework Convention on Climate Change held in Doha, Qatar ■ ■ 2012 International Year of Sustainable Energy for All ■ ■ U.S. Securities and Exchange Commission adopts rule mandating companies to disclose use of conflict minerals	

# Main Third-party Opinions on Past CSR Reports and Our Responses

#### Main opinions on the 2012 report and our responses

 We felt it could be made a little bit more interesting and exciting. We hoped that it would break new ground in being a report that would be enjoyable for third parties reading it for the first time.

#### In the 2013 Report

As a company supporting social and industrial infrastructure through manufacturing, we think of the root of manufacturing as the joy and pleasure children experience when they make their own creations, as when they innocently and creatively assemble toys, and we tried to express that feeling of fun and excitement using a cover design that would bring it out. Furthermore, in the "Towards an Assured Future for Mankind and Earth" feature, we aimed for a CSR report that would be enjoyable for first-time readers, by expressing through illustrations how our company's operations, products and technologies would support the resolving of social issues and the expectations of mankind.

We hope that originality will be developed beyond the traditional CSR report concept through innovative ideas, allowing us be a leader for Japanese CSR reports and creating the opportunity for Japanese CSR reports to lead the world.

#### In the 2013 Report

We strove to create a CSR report that, more than ever, presented information visually, by further clarifying the functions of the brochure and the website, and carefully selecting the information that would be included in the CSR Report digest version (brochure). We tried as much as possible, making effective use of photographs, charts and graphs to succinctly bring across information of the most concern to society. In addition, through Stakeholder Dialogue, we have been reporting on our efforts towards understanding and identifying human rights issues, which include our "Human rights due diligence workshops," which are attracting stronger focus worldwide (which we participated in alongside other companies, NGO/NPOs, academic specialists and experts).

 Now more than ever, making global society sustainable will mean disseminating and utilizing our creed throughout our business, based on Mitsubishi's Three Corporate Principles. I want to clearly visualize how Mitsubishi Heavy Industries is truly contributing to the world.

#### In the 2013 Report

Our President and CEO, Shunichi Miyanaga, has expressed Commitment by Management, leveraging our comprehensive strengths in manufacturing to help realize a sustainable society; as well as that we have set out a corporate vision regarding the Energy & Environment field, which includes thermal power, nuclear power generation, and so on.

We also explained The three Corporate Principles, our creed, our CSR Action Guidelines, and promoting more business-integrated CSR, in "CSR of the MHI Group." At the same time, alongside an introduction to our CSR activities in our highlights article, we set out the results of promotion of our CSR Medium-Term Action Plan in an easily comprehensible table.

## Main opinions on the 2010 report and our responses

1. In order to improve your report, please include opinions and comments from society and bring in stakeholders to participate.

The 2011 report has contributions from various stakeholders, including customers and school teachers both in Japan and overseas. These can be found in the Feature Article, the social responsibility reports Commitment to our Customers, Commitment to our Shareholders & Investors and Contributions to Society. In A bridge to the next Generation, we feature dialogues with NPOs and elementary school head teachers as well as other material created with the cooperation of stakeholders.

2. I would like to see the same report issued and appreciated worldwide. The 2011 report contains details on CSR activities at overseas locations in the Feature Article entitled Close ties with Society such as MHI's involvement with the community in Thailand, the volunteer work done by its locally hired employees there and donations for the construction of a new elementary school.

3. I would like your report to show us what kind of attitude your employees have toward their own job at MHI and whether they feel any social significance in what they do.

The Feature Article and Employees Introduce Our CSR Activities in the 2011 report include stories about the achievements of employees who take every opportunity to engage in CSR activities to lift morale at work and details about those CSR activities themselves.

#### Main opinions on the 2009 report and our responses

- 1. Please make it easier to understand for lay people, more interesting and improve readability. The 2010 report includes a section entitled Dialogue by renowned journalist Akira Ikegami, who is committed to describing difficult subjects simply, written in a way so that management's concepts and stance towards CSR are conveyed clearly. We also made efforts to improve general readability such as increasing the size of the print and photos.
- You should have more reactions from people where CSR activities were conducted.
   The 2010 report includes a new page entitled, "Employees Introduce Our CSR Activities" featuring contributions from employees involved in CSR activities on-site.
- I would like the report to include independent mid- to long-term CO<sub>2</sub> reduction targets as well
  as the formulation and announcement of a road map for the attainment of targets based on
  MHI technology.

In the 2010 report, the section entitled Dialogue describes in detail our CO<sub>2</sub> reduction targets and the annual amount of CO<sub>2</sub> eliminated through the use of our products.

#### Main opinions on the 2008 report and our responses

- I would like to see your report include MHI's vision for a long-term energy mix.
   In the 2009 report's feature article entitled Close ties with the Earth lays out MHI's vision regarding a long-term energy mix through the realization of the 3E's, namely energy security, environmental protection and economic sustainable growth.
- 2. The report should include MHI's efforts to support labor, human rights and coexistence with the community on-site.
  - The 2009 report's feature article, Close ties with Society, describes on-site occupational accident prevention measures and safety training as well as efforts to maintain good relations with locally hired staff.
- Please include information on the defense industry.
   The 2009 report's article Commitment to our Customers provides insight on MHI's concept and stance regarding the defense industry as well as some of the equipment we provide the military.

# GRI Guideline Comparison List

	nparison Chart of "GRI Sustainability Reporting Guidelines (G3.1)" and "United Nations al Compact Principles"	Corresponding Global Compact Principle	Relevant page(s) in the Detailed version (PDF) of the CSR Report 2013
1.Str	ategy and Analysis		
1.1	Statement from the most senior decision maker of the organization (e.g., CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and its strategy.	-	3-11 (Dialogue)
1.2	Description of key impacts, risks, and opportunities.	-	3-11 (Dialogue) 12-14 (CSR of the MHI Group) 37-42 (CSR Action Plans) 91-97 (Targets and Progress)
2.Or	ganizational Profile		
2.1	Name of the organization.	-	43-52 (Company Profile)
2.2	Primary brands, products, and/or services.	-	43-52 (Company Profile)
2.3	Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint ventures.	-	-
2.4	Location of organization's headquarters.	-	43-52 (Company Profile)
2.5	Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report.	-	43-52 (Company Profile)
2.6	Nature of ownership and legal form.	-	43-52 (Company Profile)
2.7	Markets served (including geographic breakdown, sectors served, and types of customers/beneficiaries).	-	43-52 (Company Profile)
2.8	Scale of the reporting organization.	-	43-52 (Company Profile)
2.9	Significant changes during the reporting period regarding size, structure, or ownership.	-	-
2.10	Awards received in the reporting period.	-	168-173 (Recognition from Society)
3. Re	eport Parameters		
Repo	ort Profile		
3.1	Reporting period (e.g., fiscal/calendar year) for information provided.	-	1 (Editorial Policy)
3.2	Date of most recent previous report (if any).	-	1 (Editorial Policy)
3.3	Reporting cycle (annual, biennial, etc.)	-	1 (Editorial Policy)
3.4	Contact point for questions regarding the report or its contents.	-	(Back Cover)
Repo	ort Scope and Boundary		
3.5	Process for defining report content	-	1 (Editorial Policy)
3.6	Boundary of the report (e.g., countries, divisions, subsidiaries, leased facilities, joint ventures, suppliers). See GRI Boundary Protocol for further guidance.	-	1 (Editorial Policy)
3.7	State any specific limitations on the scope or boundary of the report.	-	1 (Editorial Policy)
3.8	Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations, and other entities that can significantly affect comparability from period to period and/or between organizations.	-	-
3.9	Data measurement techniques and the bases of calculations, including assumptions and techniques underlying estimations applied to the compilation of the Indicators and other information in the report.	-	1 (Editorial Policy) 99 (Environmental Accounting) 110 (CO <sub>2</sub> Reductions with MHI Product Usage (FY2012))
3.10	Explanation of the effect of any re-statements of information provided in earlier reports, and the reasons for such re-statement (e.g., mergers/acquisitions, change of base years/periods, nature of business, measurement methods).	-	-
3.11	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report.	-	-
GRI	Content Index		
3.12	Table identifying the location of the Standard Disclosures in the report.	-	(GRI Guideline Comparison List)
Assu	irance		
3.13	Policy and current practice with regard to seeking external assurance for the report. If not included in the assurance report accompanying the sustainability report, explain the scope and basis of any external assurance provided. Also explain the relationship between the reporting organization and the assurance provider(s).	-	53 (Third-Party Opinions, Acting on Third-Party Opinions)

	parison Chart of "GRI Sustainability Reporting Guidelines (G3.1)" and "United ons Global Compact Principles"	Corresponding Global Compact Principle	Relevant page(s) in the Detailed version (PDF) of the CSR Report 2013
4. Go	overnance, Commitments, and Engagement		
Gove	emance		
4.1	Governance structure of the organization, including committees under the highest governance body responsible for specific tasks, such as setting strategy or organizational oversight.	-	55-58 (Current Status of Corporate Governance and Internal Controls) 60-62 (Promoting Comprehensive and Strategic CSR Activities) 63-67 (Activities of Major Related Committees in Fiscal 2012)
4.2	Indicate whether the Chair of the highest governance body is also an executive officer (and, if so, their function within the organization's management and the reasons for this arrangement).	-	55-58 (Current Status of Corporate Governance and Internal Controls)
4.3	For organizations that have a unitary board structure, state the number of members of the highest governance body that are independent and/or non-executive members.	-	55-58 (Current Status of Corporate Governance and Internal Controls)
4.4	Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body.	-	55-58 (Current Status of Corporate Governance and Internal Controls) 148-153 (Building a Better Working Environment)
4.5	Linkage between compensation for members of the highest governance body, senior managers, and executives (including departure arrangements), and the organization's performance (including social and environmental performance).	-	(MHI Website : Securities report , Quarterly report)
4.6	Processes in place for the highest governance body to ensure conflicts of interest are avoided.	-	-
4.7	Process for determining the qualifications and expertise of the members of the highest governance body for guiding the organization's strategy on economic, environmental, and social topics.	-	-
4.8	Internally developed statements of mission or values, codes of conduct, and principles relevant to economic, environmental, and social performance and the status of their implementation.	-	1 (Creed) 12-14 (CSR of the MHI Group) 37-42 (CSR Action Plans) 71-73 (Improving Compliance Principles/Guidelines) 78-80 (Environmental Management Promotion System) 91-97 (Targets and Progress) 138 (Fair Dealing) 139-141 (Promoting CSR Procurement) 155 (Fulfilling our Policy on Social Contribution Activities)
4.9	Procedures of the highest governance body for overseeing the organization's identification and management of economic, environmental, and social performance, including relevant risks and opportunities, and adherence or compliance with internationally agreed standards, codes of conduct, and principles. Include frequency with which the highest governance body assesses sustainability performance.	-	3-11 (Dialogue) 12-14 (CSR of the MHI Group) 55-58 (Current Status of Corporate Governance and Internal Controls) 60-62 (Promoting Comprehensive and Strategic CSR Activities) 63-67 (Activities of Major Related Committees in Fiscal 2012) 68-70 (Organizing a Structure to Promote Compliance that Encompasses the Entire Group) 78-80 (Environmental Management Promotion System)
4.10	Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental, and social performance.	-	-

	parison Chart of "GRI Sustainability Reporting Guidelines (G3.1)" and ad Nations Global Compact Principles"	Corresponding Global Compact Principle	Relevant page(s) in the Detailed version (PDF) of the CSR Report 2013
Com	mitments to External Initiatives		
	Explanation of whether and how the precautionary approach or principle is addressed by the organization.	-	3-11 (Dialogue) 59 (Risk Management) 60-62 (Promoting Comprehensive and Strategic CSR Activities) 63-67 (Activities of Major Related Committees in Fiscal 2012) 68-70 (Organizing a Structure to Promote Compliance that Encompasses the Entire Group) 71-73 (Improving Compliance Principles/Guidelines) 87 (Controlling and Improving Response to Potential Environmental Impact Risks) 127-130 (Enhancing Product Safety) 138 (Fair Dealing) 139-141 (Promoting CSR Procurement)
4.12	Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses.	-	1 (Editorial Policy) 3-11 (Dialogue) 12-14 (CSR of the MHI Group)
	Memberships in associations (such as industry associations) and/or national/international advocacy organizations.	-	-
Stake	eholder Engagement		
4.14	List of stakeholder groups engaged by the organization.	-	12-14 (CSR of the MHI Group)
4.15	Basis for identification and selection of stakeholders with whom to engage.	-	12-14 (CSR of the MHI Group)
	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group.	-	3-11 (Dialogue) 33-34 (Dialogues with Stakeholders) 60-62 (Promoting Comprehensive and Strategic CSR Activities) 127-130 (Enhancing Product Safety) 131-133 (Enhancing Customer Satisfaction (CS)) 135-136 (Disdosure Principles and IR Activities) 139-141 (Promoting CSR Procurement) 148-153 (Building a Better Working Environment) 154 (Forum 35) 156-162 (Achievements Made through Social Contribution Activities (FY2012))
4.17	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting.	-	12-14 (CSR of the MHI Group) 37-42 (CSR Action Plans)
	nagement Approach and Performance Indicators		
Econ -			
	omic Performance		40.44/00D (II . I II II C
EC1	Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments.	-	12-14 (CSR of the MHI Group) 156-162 (Achievements Made through Social Contribution Activities (FY2012)) 189-192 (CSR-Related Data)
EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change.	-	3-11 (Dialogue) 12-14 (CSR of the MHI Group) 15-24 (Special Feature) 25-32 (Employees Introduce Our CSR Activities) 37-42 (CSR Action Plans) 91-97 (Targets and Progress) 99 (Environmental Accounting) 110 (CO <sub>2</sub> Reductions with MHI Product Usage (FY2012)) 122-125 (Main Products and Technologies in 2012)
EC3	Coverage of the organization's defined benefit plan obligations.	-	-
EC4	Significant financial assistance received from government.	-	-

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"United	arison Chart of "GRI Sustainability Reporting Guidelines (G3.1)" and d Nations Global Compact Principles"  It Presence	Corresponding Global Compact Principle	Relevant page(s) in the Detailed version (PDF) of the CSR Report 2013
EC5	Range of ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation.	-	-
EC6	Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation.	-	-
EC7	Procedures for local hiring and proportion of senior management hired from the local community at locations of significant operation.	-	-
Indirec	t Economic Impacts		
EC8	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in kind, or probono engagement.	-	3-11 (Dialogue) 15-24 (Special Feature) 25-32 (Employees Introduce Our CSR Activities) 110 (CO <sub>2</sub> Reductions with MHI Product Usage (FY2012)) 122-125 (Main Products and Technologies in 2012) 156-162 (Achievements Made through Social Contribution Activities (FY2012))
EC9	Understanding and describing significant indirect economic impacts, including the extent of impacts.	-	139-141 (Promoting CSR Procurement) 148-153 (Building a Better Working Environment)
Enviro	nmental		
Materia	als		
EN1	Materials used by weight or volume.	Principle 8	-
EN2	Percentage of materials used that are recycled input materials.	Principle 8, Principle 9	-
Energy	/		
EN3	Direct energy consumption by primary energy source.	Principle 8	98 (Material Balance)
EN4	Indirect energy consumption by primary source.	Principle 8	98 (Material Balance) 101-106 (Promotion of Energy-saving and CO <sub>2</sub> Emission Control Measures)
EN5	Energy saved due to conservation and efficiency improvements.	Principle 8, Principle 9	101-106 (Promotion of Energy-saving and CO <sub>2</sub> Emission Control Measures) 107-108 (Measures to Curb CO <sub>2</sub> Emissions in Transport)
EN6	Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives.	Principle 8, Principle 9	3-11 (Dialogue) 15-24 (Special Feature) 91-97 (Targets and Progress) 110 (CO <sub>2</sub> Reductions with MHI Product Usage (FY2012)) 122-125 (Main Products and Technologies in 2012)
EN7	Initiatives to reduce indirect energy consumption and reductions achieved.	Principle 8, Principle 9	-
Water			
EN8	Total water withdrawal by source.	Principle 8	98 (Material Balance) 116-117 (Protecting Water Resources)
EN9	Water sources significantly affected by withdrawal of water.	Principle 8	-
EN10	Percentage and total volume of water recycled and reused.	Principle 8, Principle 9	116-117 (Protecting Water Resources)
Biodive	ersity		
EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.	Principle 8	-
EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.	Principle 8	-
EN13	Habitats protected or restored.	Principle 8	82-86 (Initiatives to Preserve Biodiversity)
EN14	Strategies, current actions, and future plans for managing impacts on biodiversity.	Principle 8	82-86 (Initiatives to Preserve Biodiversity) 91-97 (Targets and Progress)
EN15	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.	Principle 8	-

	arison Chart of "GRI Sustainability Reporting Guidelines (G3.1)" and		
	d Nations Global Compact Principles"	Compact Principle	(PDF) of the CSR Report 2013
	ions, Effluents, and Waste Total direct and indirect greenhouse gas emissions by weight.	Principle 8	91-97 (Targets and Progress) 98 (Material Balance) 101-106 (Promotion of Energy-saving and CO <sub>2</sub> Emission Control Measures) 107-108 (Measures to Curb CO <sub>2</sub> Emissions in Transport)
EN17	Other relevant indirect greenhouse gas emissions by weight.	Principle 8	98 (Material Balance) 101-106 (Promotion of Energy-saving and CO <sub>2</sub> Emission Control Measures)
EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved.	Principle 7, Principle 8, Principle 9	91-97 (Targets and Progress) 101-106 (Promotion of Energy-saving and CO <sub>2</sub> Emission Control Measures) 107-108 (Measures to Curb CO <sub>2</sub> Emissions in Transport)
EN19	Emissions of ozone-depleting substances by weight.	Principle 8	91-97 (Targets and Progress) 98 (Material Balance) 101-106 (Promotion of Energy-saving and CO <sub>2</sub> Emission Control Measures)
EN20	NO, SO, and other significant air emissions by type and weight.	Principle 8	98 (Material Balance) 118-121 (Curbing the Use and Emissions of Chemical Substances through Proper Management and Use of Alternatives)
EN21	Total water discharge by quality and destination.	Principle 8	98 (Waterial Balance) 116-117 (Protecting Water Resources)
EN22	Total weight of waste by type and disposal method.	Principle 8	98 (Material Balance) 112-114 (Curbing Waste Generation, Release and Disposal) 115 (Using Electronic Manifests (e-manifests))
EN23	Total number and volume of significant spills.	Principle 8	-
EN24	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally.	Principle 8	-
EN25	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff.	Principle 8	-
Produ	cts and Services		
EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.	Principle 7, Principle 8, Principle 9	3-11 (Dialogue) 12-14 (CSR of the MHI Group) 15-24 (Special Feature) 25-32 (Employees Introduce Our CSR Activities) 91-97 (Targets and Progress) 110 (CO <sub>2</sub> Reductions with MHI Product Usage (FY2012)) 122-125 (Main Products and Technologies in 2012)
	Percentage of products sold and their packaging materials that are redained by category.	Principle 8, Principle 9	-
Comp		D	
EN28	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.	Principle 8	-
Transp	port		
EN29	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.	Principle 8	91-97 (Targets and Progress) 107-108 (Measures to Curb CO <sub>2</sub> Emissions in Transport)
Overal			
EN30	Total environmental protection expenditures and investments by type.	Principle 7, Principle 8, Principle 9	99 (Environmental Accounting)
Social			
Labor	Practices and Decent Work		

	parison Chart of "GRI Sustainability Reporting Guidelines (G3.1)" and add Nations Global Compact Principles"	Corresponding Global Compact Principle	Relevant page(s) in the Detailed version (PDF) of the CSR Report 2013	
Emplo	pyment			
LA1	Total workforce by employment type, employment contract, and region, broken down by gender.	-	43-52 (Company Profile) 143-147 (Utilizing and Cultivating Diverse Human Resources) 189-192 (CSR-Related Data)	
LA2	Total number and rate of new employee hires and employee turnover by age group, gender, and region.	Principle 6	189-192 (CSR-Related Data)	
LA3	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations.	-	-	
LA15	Return to work and retention rates after parental leave, by gender.	-	-	
Labor	7Management Relations			
LA4	Percentage of employees covered by collective bargaining agreements.	Principle 1, Principle 3	148-153 (Building a Better Working Environment) 189-192 (CSR-Related Data)	
LA5	Minimum notice period(s) regarding operational changes, including whether it is specified in collective agreements.	Principle 3	-	
Occup	pational Health and Safety			
LA6	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs.	Principle 1	189-192 (CSR-Related Data)	
LA7	Rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities by region.	Principle 1	148-153 (Building a Better Working Environment) 189-192 (CSR-Related Data)	
LA8	Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases.	Principle 1	148-153 (Building a Better Working Environment)	
LA9	Health and safety topics covered in formal agreements with trade unions.	Principle 1	-	
Trainir	ng and Education			
LA10	Average hours of training per year per employee by employee category.	-	-	
LA11	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.	-	143-147 (Utilizing and Cultivatin Diverse Human Resources)	
LA12	Percentage of employees receiving regular performance and career development reviews.	-	143-147 (Utilizing and Cultivating Diverse Human Resources)	
Divers	sity and Equal Opportunity			
LA13	Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other indicators of diversity.		143-147 (Utilizing and Cultivating Diverse Human Resources) 189-192 (CSR-Related Data)	
LA14	Ratio of basic salary of men to women by employee category.	Principle 1, Principle 6	189-192 (CSR-Related Data)	
Huma	an Rights			
Invest	ment and Procurement Practices			
HR1	Percentage and total number of significant investment agreements and contracts that include dauses incorporating human rights concerns, or that have undergone human rights screening.	Principle 1, Principle 2, Principle 3, Principle 4, Principle 5, Principle 6	-	
HR2	Percentage of significant suppliers and contractors that have undergone screening on human rights and actions taken.	Principle 1, Principle 2, Principle 3, Principle 4, Principle 5, Principle 6	139-141 (Promoting CSR Procurement)	
HR3	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.	Principle 1, Principle 2, Principle 3, Principle 4, Principle 5, Principle 6	148-153 (Building a Better Working Environment)	
Non-c	iscrimination			
HR4	Total number of incidents of discrimination and actions taken.	Principle 1, Principle 2, Principle	-	

Comp and "L	arison Chart of "GRI Sustainability Reporting Guidelines (G3.1)" Inited Nations Global Compact Principles"	Corresponding Global Compact Principle	Relevant page(s) in the Detailed version (PDF) of the CSR Report 2013
Freedo	om of Association and Collective Bargaining		
HR5	Operations identified in which the right to exercise freedom of association and collective bargaining may be at significant risk, and actions taken to support these rights.	Principle 1, Principle 2, Principle 3	-
Child L	abor		
HR6	Operations and significant suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor.	Principle 1, Principle 2, Principle 5	63-67 (Activities of Major Related Committees in Fiscal 2012) 68-70 (Organizing a Structure to Promote Compliance that Encompasses the Entire Group) 139-141 (Promoting CSR Procurement)
Force	d and Compulsory Labor		
HR7	Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor.	Principle 1, Principle 2, Principle 4	63-67 (Activities of Major Related Committees in Fiscal 2012) 68-70 (Organizing a Structure to Promote Compliance that Encompasses the Entire Group) 139-141 (Promoting CSR Procurement)
Securi	ly Practices		
HR8	Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations.	Principle 1, Principle 2	-
Indiger	nous Rights		
HR9	$\label{thm:continuity} Total number of incidents of violations involving rights of indigenous people and actions taken.$	Principle 1, Principle 2	-
Asses	sment		
HR10	Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments.	Principle 1, Principle 2, Principle 4, Principle 5, Principle 6	-
Reme	diation		
HR11	Number of grievances related to human rights filed, addressed and resolved through formal grievance mechanisms.	Principle 1, Principle 2, Principle 4, Principle 5, Principle 6	-
Society	/		
Comn	nunity		
SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs.	-	-
SO9	Operations with significant potential or actual negative impacts on local communities.	-	-
SO10	Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities.	-	-
Corrup	tion		
SO2	Percentage and total number of business units analyzed for risks related to corruption.	Principle 10	59 (Risk Management) 63-67 (Activities of Major Related Committees in Fiscal 2012) 68-70 (Organizing a Structure to Promote Compliance that Encompasses the Entire Group) 74 (Compliance Training and Increasing Awareness)
S03	Percentage of employees trained in organization's anti-corruption policies and procedures.	Principle 10	59 (Risk Management) 63-67 (Activities of Major Related Committees in Fiscal 2012) 68-70 (Organizing a Structure to Promote Compliance that Encompasses the Entire Group) 71-73 (Improving Compliance Principles/Guidelines) 74 (Compliance Training and Increasing Awareness)
SO4	Actions taken in response to incidents of corruption.	Principle 10	-

	parison Chart of "GRI Sustainability Reporting Guidelines )" and "United Nations Global Compact Principles"	Corresponding Global Compact Principle	Relevant page(s) in the Detailed version (PDF) of the CSR Report 2013
Publi	Policy		
SO5	Public policy positions and participation in public policy development and lobbying.	Principle 1, Principle 2, Principle 3, Principle 4, Principle 5, Principle 6, Principle 7, Principle 8, Principle 9, Principle 10	-
SO6	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country.	Principle 10	-
Anti-C	Competitive Behavior		
S07	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes.	-	68-70 (Organizing a Structure to Promote Compliance that Encompasses the Entire Group)
Com	oliance		
SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.	-	68-70 (Organizing a Structure to Promote Compliance that Encompasses the Entire Group)
Produ	uct Responsibility		
Custo	omer Health and Safety		
PR1	Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures.	Principle 1	127-130 (Enhancing Product Safety)
PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes.	Principle 1	68-70 (Organizing a Structure to Promote Compliance that Encompasses the Entire Group) 127-130 (Enhancing Product Safety)
Prod	uct and Service Labeling		
PR3	Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements.	Principle 8	-
PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes.	Principle 8	131-133 (Enhancing Customer Satisfaction (CS))
PR5	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.	-	131-133 (Enhancing Customer Satisfaction (CS))
Mark	eting Communications		
PR6	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship.	-	131-133 (Enhancing Customer Satisfaction (CS))
PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship by type of outcomes.	-	-
Custo	omer Privacy		
PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.	Principle 1	-
Com	oliance		
PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services.	-	-

### **CSR-Related Data**

#### **Group Data Summary**

	(Unit)	2008	2009	2010	2011	2012	
Capital (non-consolidated)	Billion yen	265.6	265.6	265.6	265.6	265.6	
Orders received (consolidated)	Billion yen	3,268.7	2,476.2	2,995.4	3,188.8	3,032.2	
Net sales (consolidated)	Billion yen	3,375.6	2,940.8	2,903.7	2,820.9	2,817.8	
Breakdown by industry segment:							(Note 1)
Shipbuilding & ocean development	Billion yen	_	230.6	302.4	311.6	225.8	
Europe	Billion yen	_	1,066.1	996.9	955.3	988.7	
Machinery & steel structures	Billion yen	_	625.7	557.5	428.8	482.5	
Aerospace systems	Billion yen	_	500.2	472.2	495.9	485.8	
General machinery & special vehicles	Billion yen	_	286.8	343.0	381.7	389.1	
Others	Billion yen	_	231.1	231.5	247.3	245.7	
Breakdown by region:							(Note 2)
Japan	Billion yen	_	_	1,480.5	1,639.9	1,555.9	
Asia	Billion yen	_	_	373.7	381.8	457.6	
North America	Billion yen	_	_	347.4	296.0	379.0	
Europe	Billion yen	_	_	217.0	225.7	217.5	
Central & South America	Billion yen	_	_	200.8	142.1	105.1	
Africa	Billion yen	_	_	169.2	51.6	23.4	
The Middle East	Billion yen	_	_	102.6	68.7	47.5	
Oceania	Billion yen	_	_	12.1	14.8	31.5	
Operating income (consolidated)	Billion yen	105.8	65.6	101.2	111.9	163.5	
Net income (consolidated)	Billion yen	24.2	14.1	30.1	24.5	97.3	
Research and development expenditures (consolidated)	Billion yen	101.3	129.2	123.2	121.4	120.0	

(Note 1) Segments changed from fiscal 2009. Segment breakdown data for fiscal years 2007 and 2008 not indicated.
(Note 2) Geographical breakdown changed from fiscal 2010. Geographical breakdown data for fiscal years 2008 and 2009 not indicated.

#### **Management-Related Data**

	(Unit)	2008	2009	2010	2011	2012
No. of participants in CSR Sessions (Including some Group companies)		1,037	751	614	786	657
No. of recipients of CSR sessions for new employees (Including some Group companies)		1,463	1,726	1,490	940	655
No. of participants in compliance promotion training/participation rate (non-consolidated)		65,542 / 96.8%	66,618 / 96.4%	64,422 / 96.5%	72,375 / 96.8%	34,972 / 95.1%

(Note) Includes dispatched employees, re-hired employees, etc. from the second half of 2011.

#### **Environmental Report-Related Data**

		(Unit)	2008	2009	2010	2011	2012	
En	vironmental Management Systems Adopted (non-consolidated)		100%	100%	100%	100%	100	
Re	gistered ISO 14001 Internal Auditors (non-consolidated)		687	815	847	980	995	
Gr	een purchasing rate for office goods (non-consolidated)		94.0%	92.6%	92.8%	95.5%	97.2%	(Note 1)
Eı	vironmental Accounting (non-consolidated)							
	Items:							
	Investment in environmental preservation	Million yen	6,242	6,643	6,987	6,164	10,452	
	Environmental preservation costs	Million yen	15,350	15,589	18,100	14,451	12,879	
	Economic benefits associated with environmental preservation activities	Million yen	4,005	1,566	2,474	1,694	1,744	
	ergy consumption at production plants (non- nsolidated; only production sites)	MJ	11,145,018,541	10,065,623,261	10,022,441,101	9,950,202,198	9,745,342,381	
	Breakdown by category:							
	Purchased electricity	MWh	857,030	757,335	766,802	731,045	712,456	
	Heavy fuel oil A	kL	20,680	15,271	13,508	16,098	12,727	
	City gas	km³	24,409	21,964	29,094	32,541	36,653	
	Light oil	kL	4,723	3,799	4,270	6,478	6,807	
	Heavy fuel oil C	kL	3,671	5,173	2,601	2,677	2,342	
	Kerosene	kL	5,968	6,232	6,008	4,529	4,213	
	Steam	MJ	294,622,069	226,721,295			_	
	LPG	t	5,101	4,488	4,060	4,157	3,403	
	LNG	t	231	218	196	193	182	
	Jet fuel	kL	1,790	1,392	1,055	909	879	
	Gasoline	kL	620	477	443	559	360	

	(Unit)	2008	2009	2010	2011	2012	
Total volume of transportation (non-consolidated)	Thousand tk	159,810	119,064	109,327	120,899	144,781	
Energy consumption in transport (non-consolidated)	GJ	283,303	207,823	193,641	211,102	256,277	
Water usage in production plants (non- consolidated; only production sites)	10,000 tons	1,120.9	1,075.9	1,007.1	926.6	978.3	
Breakdown by category:							
Water supply	10,000 tons	289.8	276.2	265.6	249.5	224.1	
Industrial water	10,000 tons	359.0	387.1	305.8	273.2	277.4	
Groundwater	10,000 tons	213.3	185.8	194.7	199.6	200.5	
Others	10,000 tons	258.8	226.8	241.0	204.3	276.3	
Volume of chemical substances (PRTR) handled (non-consolidated; only production sites)	Tons	3,666	3,327	2,715	2,873	2,737	
Paper consumption (non-consolidated)	Tons	3,536	2,950	2,718	2,719	2,563	
CO <sub>2</sub> emissions resulting from energy use at production plants (non-consolidated; only production sites)	10,000 tons	51.3	44.9	43.5	43.7	42.5	
Greenhouse gas emissions at production plants excluding CO <sub>2</sub> emissions from energy use (non-consolidated; only production sites)	Tons	13,122	8,062	2,339	3,181	1,422	-
Breakdown by category:							-
Hydrofluorocarbons (HFC)	Tons	3,318	726	950	913	491	
Dinitrogen monoxide (N2O)	Tons	1,341	1,006	870	525	406	
Sulfur hexafluoride (SF <sub>6</sub> )	Tons	1,346	549	320	1,544	364	
Methane (CH4)	Tons	1,876	1,132	138	136	100	
CO <sub>2</sub> emissions not resulting from energy use	Tons	5,241	4,649	61	63	61	_
CO <sub>2</sub> emissions in transport (non-consolidated)	t-CO <sub>2</sub>	19,460	14,268	12,845	14,562	17,510	_
Waste water volumes at production plants (non- consolidated; only production sites)	10,000 tons	940.4	912.7	891.1	866.1	873.3	
Breakdown by category:							
Discharged into public waters	10,000 tons	886.0	855.4	829.1	813.3	826.1	
Discharged into sewer system	10,000 tons	54.4	57.3	62.0	52.7	47.2	
Water pollutant discharge volumes at production plants (non-consolidated; only production sites)	Tons	81	69	71	66	59	(Note 2)
Breakdown by category:							
COD	Tons	32	28	35	33	32	
Nitrogen	Tons	47	40	34	31	25	_
Phosphate	Tons	2	1	2	2	2	_
Volume of waste generated at production plants (non-consolidated; only production sites)	Thousand tons	151	131	133	129	132	
Breakdown by category:							_
Scrap metal	Thousand tons	84.7	81.7	85.5	81.1	78.8	-
Slag	Thousand tons	14.3	8.4	8.5	7.5	8.0	
Waste plastic	Thousand tons	9.0	7.4	6.1	6.1	7.1	
Waste wood	Thousand tons	10.1	7.2	7.1	7.5	9.2	
Waste paper	Thousand tons	7.3	7.2	6.0	5.8	5.8	
Waste Oil	Thousand tons	9.3	6.9	6.7	6.7	6.1	
Sludge	Thousand tons	9.1	6.1	5.4	4.2	5.7	
Acid and alkali wastes	Thousand tons	4.8	3.9	5.7	7.6	9.6	
Other	Thousand tons	2.7	2.9	2.2	2.2	1.7	
Waste recycling rates at production plants (non- consolidated; only production sites)		83%	89%	90%	90%	88%	
Final disposal waste volumes at production plants (non-consolidated; only production sites)	Tons	9,457	2,386	1,030	714	602	

	(Unit)	2008	2009	2010	2011	2012
Air pollutants emissions volumes at production plants (non-consolidated; only production sites)	Tons	289	251	190	257	279
Breakdown by category:						
NOx	Tons	185	169	139	196	209
S0x	Tons	93	70	43	42	47
Soot	Tons	11	12	8	19	23
Volume of chemical substances handled (PRTR) (non-consolidated; only production sites)	Tons	2,361	2,040	1,948	1,987	1,816
Atmospheric emissions of organochlorides (non-consolidated; only production sites)	Tons	35.8	27.3	18.7	11.4	8.8
Breakdown by category:						
Dichloromethane	Tons	23.7	18.6	8.9	0.6	0.4
Trichloroethylene	Tons	0.6	2.1	0.7	0.9	0.0
Tetrachloroethylene	Tons	11.5	6.6	9.1	9.9	8.4
Atmospheric VOC emissions (xylene, toluene, ethylbenzene, dichloromethane, trichloroethylene and tetrachloroethylene) (non-consolidated; only production sites)	Tons	2,289	1,985	1,899	1,939	1,782
CO <sub>2</sub> Reductions with MHI Product Usage (non- consolidated)	Thousand tons	106,500	101,300	149,105	66,574	29,192

(Note 1) Monetary terms
(Note 2) Total for items subject to quantity restrictions
(Note 3) Estimated based on actual deliveries for fiscal year and actual power output generated. Comparisons to fiscal 1990. For details of bases for calculation, please refer to "CO<sub>2</sub> Reductions with MHI Product Usage (FY2012)"

## **Social Contributions Report-Related Data**

	(Unit/ Comments)	2008	2009	2010	2011	2012	
Dividend distribution (non-consolidated)	Yen	6	4	4	6	8	
Number of employees (consolidated)		67,416	67,669	68,816	68,887	68,213	
Breakdown by region:							
Japan		56,785	56,696	56,815	55,851	54,084	
Asia		4,999	5,228	5,747	6,466	6,982	
North America		2,641	2,497	2,853	3,072	3,668	1
Central & South America		824	900	895	848	888	]
Europe		2,134	2,286	2,353	2,474	2,428	]
The Middle East		2	24	57	71	53	
Africa		_	1	50	57	60	
Oceania and others		31	37	46	48	50	
lumber of employees (non-consolidated)		33,614	34,139	33,031	32,494	31,111	
Breakdown of employees by age/gender							
Under 30 Male/Female		_	8,141 / 737	8,226 / 781	8,101 / 773	7,657 / 753	
30-39 Male/Female		_	9,592 / 972	9,469 / 927	9,475 / 863	9,071 / 808	
40-49 Male/Female		_	5,605 / 661	5,827 / 687	6,305 / 759	6,397 / 805	
50-59 Male/Female		_	7,478 / 439	6,182 / 416	5,328 / 444	4,643 / 450	
60 and over Male/Female		_	497 / 17	502 / 14	429 / 17	508 / 19	
lumber of new graduates hired (non- consolidated)		_	1,805	1,472	986	634	(N
Breakdown by gender							
Male		_	1,659	1,336	906	574	
Female		_	146	136	80	60	
Breakdown by educational qualification							
University		_	820	672	480	348	
Vocational school, High school and junior college, other		_	985	800	506	286	
Number of mid-career professionals (non- consolidated)		905	452	135	114	77	
Breakdown by gender							
Male		820	429	127	99	68	
Female		85	23	8	15	9	
lumber of re-employed workers (non- consolidated)		934	1,365	1,720	2,172	2,259	(N
Number of female managers (non-consolidated)		182	219	248	266	288	(N

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	(Unit/ Comments)	2008	2009	2010	2011	2012	
Average age (non-consolidated)			39.4	37.8	38.5	38.4	
Average number of years worked (non- consolidated)		_	17.4	15.7	16.2	16.0	
Average annual salary (non-consolidated)	Yen	7,568,830	7,267,210	7,201,076	7,365,904	7,549,123	
Number of employees who resigned of own volition (non-consolidated)		_	289	355	309	280	
Use of annual paid holidays (non-consolidated)		71.8%	71.8%	72.3%	72.8%	70.5	
Number of employees who took maternity leave (non-consolidated)		_	1,049	1,130	1,200	1,243	
Number of employees who took childcare leave for the first time (non-consolidated)		123	165	170	181	273	
Breakdown by gender							1
Male		4	8	14	12	16	1
Female		119	157	156	169	257	
Percentage of employees who returned to work after childcare leave (non-consolidated)		_	99%	99%	98%	100%	
Breakdown by gender							
Male		_	100%	100%	100%	100%	
Female		_	99%	99%	98%	100%	
Number of employees who took family-care leave for the first time (non-consolidated)		14	13	13	15	9	
Breakdown by gender							1
Male		5	5	10	11	8	
Female		9	8	3	4	1	1
Disabled people employment rate (non- consolidated)		1.94%	1.96%	2.01%	1.97%	2.08%	(Note
Average employee overtime (non-consolidated)	Hours	_	_	_	27.4	29.4	
ndustrial accident frequency rate (non- consolidated)		0.31	0.23	0.29	0.27	0.11	
Unionization (non-consolidated; Japan only)		_	_	100%	100%	100%	1
Social contribution expenses (MHI and group companies under consolidated accounting)	Million yen	1,600	1,655	1,610	2,096	1,480	(Note
Breakdown by area:							1
Academic research	Million yen	128	339	247	164	177	1
Education	Million yen	766	537	633	596	503	1
Community activities	Million yen	131	158	141	180	153	1
Sports	Million yen	112	114	149	133	173	1
Other	Million yen	463	507	440	1,023	474	1
Percentage of ordinary profit		2.12%	6.89%	2.36%	2.39%	1.00%	1

(Note 1) 2013 figures indicated in "Utilizing and Cultivating Diverse Human Resources" (Note 2) Figures include cash donations, payments in kind, activities by employees, free use of company facilities, etc., converted into monetary equivalents; activities privately performed by employees are not included. (Note 3) The social contribution outlay for fiscal 2010 does not include contributions (including charitable contributions) relating to the Great East Japan Earthquake (March 11-31, 2011), which have been allocated to the fiscal 2011 figures.







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