



# CSR Report

Corporate Social Responsibility Report

# 2012

MHI Social and Environmental Report

Digest

# 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 2012, MHI made great efforts towards activities and reports with a greater awareness of dialogues with stakeholders. Both the website and the brochure included one-on-one interviews between managers and outside experts, dialogues with outside experts to formulate the “MHI Environmental Vision 2030,” and initiatives related to continuing support for reconstruction after the Great East Japan Earthquake.

In addition, MHI also reports on its representative efforts with the aim of resolving issues on a global scale that are in line with the three themes of the CSR Action Guidelines.

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.

## Scope of this Report

### Target organization:

The information contained in this report pertains to Mitsubishi Heavy Industries, Ltd. and its Group companies (117 in Japan and 119 overseas). Some articles, however, only include descriptions of MHI’s activities.

### Target period:

From April 1, 2011 to March 31, 2012  
(includes information on some activities after March 31, 2012)

## Guidelines and Other Reference Material

- Global Reporting Initiative (GRI)  
“Sustainability Reporting Guidelines (G3.1 version)”
- Japanese Ministry of the Environment “Environmental Reporting Guidelines (2007 edition)”
- ISO 26000

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

## Date of Issuance

June 2012 (previous issue: June 2011)  
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.

## Structure of CSR information disclosure



**C O N T E N T S**

**Dialogue** ..... 3

**MHI's CSR as a manufacturer with operations of global scale**

Economist Yoko Takeda and President and CEO Hideaki Omiya

**MHI Environmental Vision 2030** ..... 7

**Dialogues with Stakeholders** ..... 9

Approach to Environmental and Energy Technologies In Line with MHI's "Environment Vision 2030"

**CSR of the MHI Group** ..... 11

**Special Feature** ..... 13

**Close ties with the Earth** ..... 13

**Providing energy and environmental solutions responding to regional issues worldwide**

**Close ties with Society** ..... 17

**Helping resolve the world's food problems through construction of fertilizer plants**

**A bridge to the next Generation** ..... 21

**Creating model "smart communities" for the future of people everywhere**

**Continuing Support of Disaster Recovery Efforts** ..... 25

We continue to support the restoration of social infrastructure and revitalization of the disaster region.

**Responsibilities and Actions of MHI** ..... 27

A report on MHI's efforts and the responsibilities we must fulfill, divided into three components

**Management**

Corporate Governance ..... 29

Compliance ..... 31

**Environmental Report**

Environmental Management ..... 33

Results of Promotional Efforts of Medium- to Long-Term Environmental Targets (FY2011 Results) ..... 35

Countermeasures against Global Warming ..... 36

Resource Conservation, Waste Management and Water Resources ..... 38

Management of Chemical Substances ..... 38

**Social Contributions Report**

Commitment to Our Customers ..... 39

Commitment to Our Shareholders and Investors ..... 41

Commitment to Our Business Partners (Suppliers) ..... 42

Commitment to Our Employees ..... 43

Social Contribution Activities ..... 45

**CSR Medium-Term Action Plan and Results of Promotion for FY2011 to FY2013** ..... 47

**Company Profile** ..... 49

**Third-Party Opinions** ..... 50

**Acting on Valuable Opinions** ..... 50



**Dialogue:** In this section, economist Yoko Takeda and MHI President and CEO Hideaki Omiya discuss global CSR



**Dialogues with Stakeholders:** This section contains summaries of dialogues with three outside experts on the theme of the MHI Environmental Vision 2030



**Special Feature Close ties with the Earth:** This feature introduces our coal-fired thermal power plant projects in India and China, which help to resolve environmental and energy-related issues.



**Special Feature Close ties with Society:** This section introduces efforts in Indonesia related to the fertilizer plant business that contributes to the resolution of the world's food problems.



**Special Feature A bridge to the next Generation:** Here, we introduce demonstration testing in Japan and Spain as efforts to realize "smart communities."



**Corporate Design (Cover)**

With the goal of building a unified brand image for the group, MHI has determined a new corporate design. The design features the Global Arch that evokes an image of "Our Technologies, Your Tomorrow," and MHI Blue has been newly adopted as the corporate color.



## Toward resolution of energy and environmental issues

### Contributing to realization of a sustainable society through wide-ranging products and technologies

**Takeda:** How to achieve economic growth and simultaneously protect the environment, in order to realize a sustainable society, is becoming an issue all over the world. To begin, I would like to ask you what MHI is doing toward resolving the world's energy and environmental problems.

**Omiya:** Among the myriad issues facing the world today, we believe energy and environmental issues are particularly important. In our business plan released this April, for example, we made expansion of our energy and environmental business operations a core strategy. MHI possesses the complete spectrum of products and technologies



J-Series gas turbine

relating to energy and the environment: from making the power needed, effectively storing it, competently circulating it, efficiently using it, and aggressively exploring for new

# MHI's CSR as a manufacturer with operations of global scale

How should MHI contribute to the realization of a sustainable society through its global manufacturing operations? To answer this question, MHI President and CEO Hideaki Omiya discussed matters with Yoko Takeda, Chief Economist at Mitsubishi Research Institute, and a proactive voice representing the private sector in initiating governmental proposals.

## Hideaki Omiya

President and CEO,  
Mitsubishi Heavy Industries, Ltd.

After joining MHI in 1969, Hideaki Omiya was long involved in aircraft development, and in 1999 he became Deputy General Manager of the Nagoya Aerospace Systems Works. He subsequently served as Director, Executive Vice President and General Manager of the Air-Conditioning & Refrigeration Systems Headquarters, and in April 2007 he was appointed Director and Senior Executive Vice President in charge of Production System Innovation Planning. He became President and CEO in April 2008, making this his fifth year in the position.



resources conducted in harmony with the well-being of our planet and of mankind.

In the area of power generation, which is most basic to the energy issue, today MHI is providing the world with a variety of power plants capable of making efficient use of our finite energy resources while also meeting environmental demands. Our GTCC power plants — GTCC standing for “gas turbine combined cycle” — incorporate the company’s “J-Series” gas turbines, which have achieved the world’s highest level of power generation efficiency. Our IGCC plants — IGCC being “integrated gasification combined cycle” — deliver 20% higher generation efficiency than conventional coal-fired thermal power plants.

**Takeda:** From a long-term perspective, concerns are rife about the eventual depletion of our main energy resources today: fossil fuels.

**Omiya:** At MHI we also offer a range of power generation systems that make no use of fossil fuels but instead use renewable energies: nuclear power plants, for example, and plants that run on wind, geothermal or hydro power. This breadth of available options is another defining trait of our energy and environmental business operations.

**Takeda:** Among the options you just mentioned, geothermal power is attracting particular attention today. With geothermal generation, CO<sub>2</sub> emissions are extremely low and power supply can remain stable, since operations aren’t affected by weather conditions. Moves to deregulate this sector are underway here in Japan, and interest is increasing all around the world.

**Omiya:** MHI has been involved in geothermal generation for more than 40 years, and to date we have constructed a total of 100 power generating facilities of this kind in 13 countries. Together they account for roughly 25% —

the top share — of all power produced by geothermal energy worldwide.

In geothermal plants, the enormous heat energy from magma deep below the surface of the Earth is used to drive a turbine — and turbines are an area where we have outstanding technological strength built up over many years. Geothermal power generation also requires proper removal or treatment of the impurities and noxious gases contained in the hot water found underground — and through the years we have made steady progress in technological developments of that sort, in addition to improving the performance, economy and reliability of geothermal systems.

In the years ahead, we hope to provide geothermal power generation facilities to regions where such resources are abundant — North America, Europe, Southeast Asia — as well as in places where geothermal development has so far lagged, such as Africa and South America.



Hellisheidi geothermal power plant (Iceland)

## Yoko Takeda

Chief Economist, Research Center  
For Policy And Economy  
Mitsubishi Research Institute, Inc.

Yoko Takeda completed a Masters Degree in Public Policy at Georgetown University’s Graduate School of Arts and Sciences. In 1994 she joined the Bank of Japan, where she was involved in work relating to overseas economic research, exchange equalization operations, analysis of domestic and overseas financial markets, etc. She joined the Mitsubishi Research Institute, Inc. in 2009 and then became a Chief Economist in 2012.







### Also focusing on energy savings in our products and production processes

**Takeda:** Another important factor in resolving energy and environmental issues is curbing energy consumption. What initiatives is MHI taking in this regard?

**Omiya:** One initiative is making the products we provide more energy-efficient. We are making every effort we can to pursue optimal energy efficiency in all our product categories, in order to ease their burden on the environment. In the area of motor vehicles, for example, which are so indispensable to our lives, the company's turbochargers and lighter-weight hollow-head valves are contributing to improved engine efficiency. Many other products — OLED (Organic Light-Emitting Diode) lighting and room air conditioners, for instance — are also contributing to energy savings in everyday life.

Another area into which we are directing great effort is reducing CO<sub>2</sub> emissions from our production processes. In keeping with the Kyoto Protocol, we set a target to reduce our CO<sub>2</sub> emissions by an average 6% from the level of 1990 in the five years from 2008 to 2012. That translates to an average yearly emission limit of 443,000 tons — and in 2011 we reduced our emissions down to 437,000 tons. Today we continue to carry out a planned program toward achieving our target, for example by upgrading the production facilities and air-conditioning systems at all our bases of operation.

**Takeda:** As I understand, MHI is in the process of formulating an “Environmental Vision.”

**Omiya:** We are calling it the “MHI Environmental Vision 2030,” but it sets out not just our philosophy concerning the environment but also our commitment to contribute to sustainable social development through our products, technologies and total solutions, including other aspects of social infrastructure.

### Contributing to improvement of social infrastructures worldwide

#### Helping to resolve problems of global scale: in transportation, traffic, and food and water

**Takeda:** As you have indicated, MHI has an extremely wide variety of products and technologies in areas other than energy and the environment: aircraft, ships, Automated

People Mover/Light Rail Transit and so on. I believe you have also been involved in production of parts for the Boeing 787, which was frequently in the news last year.

**Omiya:** Yes, we were in charge of producing the main wings for the Boeing 787, the world's first large passenger plane to adopt wings made from composite materials.

Our CI statement at MHI is “Our Technologies, Your Tomorrow.” From the perspective of the society's future, energy and environmental issues are important, of course; but there are also many other issues that have to be addressed in order to realize a sustainable society.

**Takeda:** Food and water shortages on global scale are another issue of great concern as populations continue to increase and the emerging nations experience economic growth. What business developments is MHI pursuing in these areas?

**Omiya:** We offer large-scale desalination plants that can convert seawater to potable water, and we also possess comprehensive water treatment technologies — for example for treating waste water, recycling water and so on. We are also contributing to resolving global food problems through the construction of highly efficient large-scale fertilizer plants.

**Takeda:** That's a considerable portfolio. I imagine only a few companies anywhere are involved in such a broad range of social infrastructure businesses.

### Developing “smart communities” integrating technologies accumulated through many years

**Omiya:** Recently, we took important steps to provide new solutions capable of contributing to issues of global scale through total integration of our abundant portfolio of products and technologies. In January of this year we set up a new Engineering Headquarters integrating our in-house systems handling EPC: engineering, procurement and construction. Our intent is to bring together all our technological and project management strengths developed through our experience in large-scale infrastructure works — plant construction projects, high-speed railway systems and such — to enable us to take up challenges involving even larger-scale projects.

**Takeda:** Specifically, what areas are you intending to focus on?

**Omiya:** “Smart communities,” for one. As cities in the emerging nations undergo sharp population increases as well as ever greater concentration of their populations, problems relating to shortages of energy and water resources, traffic congestion, increased waste and so forth are becoming increasingly serious. In order to resolve such compound problems, it is necessary to consider what form tomorrow's cities should take from various angles, and then develop the appropriate infrastructure paying heed to people's lifestyles as a whole.



Smart community demonstration testing, Keihanna

**Takeda:** In carrying out smart community projects, another necessity is to coordinate companies that have special know-how across a diverse spectrum. In other words you need to have the ability to manage such projects integrally, don't you?

**Omiya:** Yes, and at MHI we have already served in that kind of coordinating role in smart community demonstration projects at various locations around the world: in Japan, the project in the Keihanna region; and other projects in Spain and the United Arab Emirates. Going forward we hope to apply what we have learned through these projects to build the smart cities of tomorrow all over the world.

**Takeda:** Today the future of the global economy is very opaque. I hold high hopes for MHI's current initiatives, but in terms of profitability, wouldn't you agree that the picture is severe in some respects?

**Omiya:** As far as profitability is concerned, smart communities, as a business, still have a long way to go. Nevertheless, achieving a sustainable society is a task that must be addressed squarely by all mankind, and we believe that by steadily developing the products and technologies that will contribute to that end, we will enhance our corporate value in the medium- and long-term contexts.

## MHI's social responsibility as a manufacturer

### The greatest mission: to ensure safety and quality

**Takeda:** As an ordinary citizen, other major concerns are product safety and quality.

**Omiya:** It goes without saying, as a manufacturer our most important social responsibility is to ensure the safety of our products. Especially in the wake of the Great East Japan Earthquake last year we have become all the more aware of the public's demand for safe, secure, quality products.

The earthquake caused infrastructural damage to thermal power generating facilities we had delivered, and we have done everything within our capability to restore them. After the disaster we also proposed and carried out a variety of measures to be taken at the PWR (pressurized water reactor) nuclear power plants we had delivered to utility customers: not just emergency safety countermeasures but also stress tests and measures to ensure safety in the medium-to-long term. Also, at TEPCO's Fukushima Daiichi Nuclear Power Station, although the reactor there is of a different type from ours, we have contributed to prompt stabilization through the provision of our technologies common to all nuclear plant facilities.

Despite our ongoing efforts of these kinds, last summer we discovered that inappropriate work had been performed in manufacturing some of our aircraft parts. I would like to express our deepest apology, again, for the enormous



Accident Exhibit and Materials Room (right: exhibit of actual broken turbine rotor)



trouble this caused to our customers and to many others, and I assure you measures to prevent any such recurrence will continue to be taken.

We believe that nothing is more important to ensuring safety and quality than the awareness of our employees: how much each and every employee takes pains to ensure safety and quality. In April of this year we increased the video presentations and exhibited items in our Accident Exhibit and Materials Room within the Technical Training Center in Nagoya, upgrading this facility so that it can more vividly convey the tragedy that accidents cause and the tension experienced at accident sites. Going forward we will continue to strengthen and fully implement education relating to safety and quality, in order to raise awareness in all our employees even further.

### Pursuing CSR globally, always respecting regional differences

**Takeda:** When you undertake business globally as MHI does, I imagine there must be slight differences in how CSR should be applied in each different region.

**Omiya:** In expanding our business operations overseas, in many cases we have entered partnerships with local companies. When doing so, we naturally respect local business practices and social norms, and we also have to pay heed to the surrounding natural environment as well as to each region's specific customs and culture.

At the same time, however, there are also some things we invariably must maintain in every region, in light of global standards. Since 2004 MHI has been a participant in the United Nations Global Compact, and as such we work to adhere to the 10 principles set forth in the Compact's four categories regarding human rights, labor, the environment and anti-corruption.

**Takeda:** From your comments today I have gained a good understanding of MHI's initiatives in CSR through manufacturing. I have high hopes that you will continue to contribute to resolution of issues of global scale in the future.

**Omiya:** Thank you. In the years ahead, MHI will accelerate globalization of its business even further. In returning benefits to all our stakeholders — our customers, shareholders, investors, business partners, local communities and employees — and fulfilling our social responsibilities, we will do all we can to be a company that is representative of our CI statement, "Our Technologies, Your Tomorrow" and provide an assured future for this planet.

# MHI Formulates “Environmental Vision 2030”

## Objectives behind Formulation of Environmental Vision

The MHI Group believes that simultaneous achievement of the 3E's — energy security, environmental protection and economic growth — is invaluable in order to realize a sustainable future for the earth and all mankind.

In June 2012 we formulated the “MHI Environmental Vision 2030” in order to contribute to the realization of the 3E's — and open the way to a sustainable future — through total solutions incorporating our wide-ranging products and technologies applied on land, at sea, in the air and in space.

### MHI Environmental Vision 2030

#### Our Technologies, Your Tomorrow

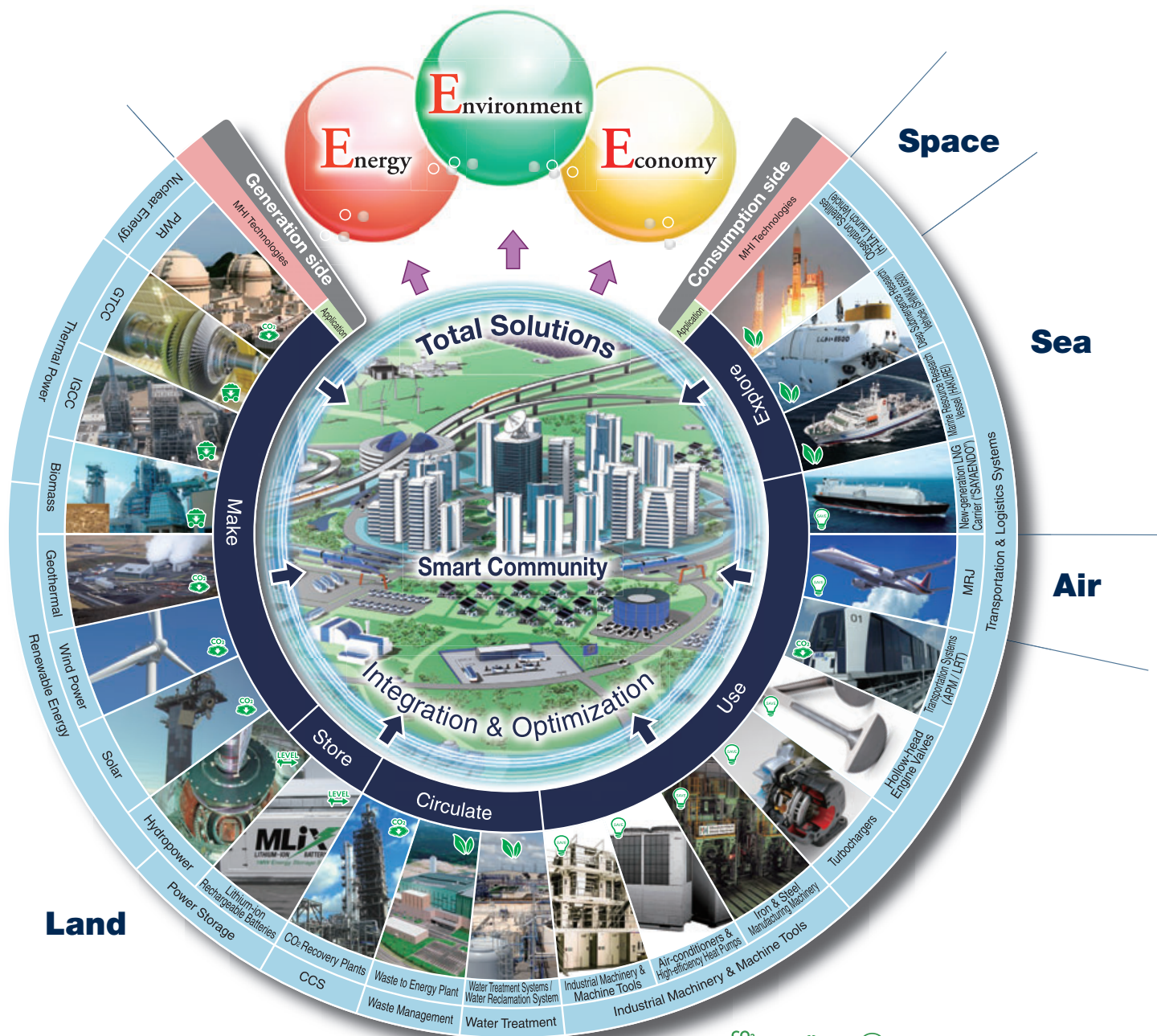
The future of our planet rests  
in the sustained evolution of humankind while caring,  
with love and responsibility, for all life forms that inhabit it.  
MHI will continue to be a company indispensable to  
ensuring that future.



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.



# Achievement of the 3E's Through Total Solutions Incorporating Company Products and Technologies



## Promises to Nurture a Secure Future

		CO <sub>2</sub> reduction	Resource conservation	Energy savings	Energy security	Easing of environmental load
<b>Efficient power generation</b>	We will extract power from diverse energy sources with optimal efficiency.	●	●	●	●	●
<b>Steady power storage</b>	We will provide ways to store energy to achieve stable power supplies.	●	●	●	●	●
<b>Continuous circulation</b>	Through technology, we will promote waste-free use of resources and energy.	●	●	●	●	●
<b>Wise utilization</b>	Through energy-saving technology, we will reduce power and fuel usage requirements.	●	●	●	●	●
<b>Exploration for tomorrow</b>	Using diverse measurement and research devices, we will probe ways for mankind and the earth to coexist in harmony.	●	●	●	●	●

## Promotion of environmentally conscious activities

Throughout its Group wide production activities, MHI will pursue reductions in greenhouse gas emissions, waste generation, and emissions of chemical substances. Also, every effort will be made to use water resources efficiently.

PWR : Pressurized Water Reactor    GTCC : Gas Turbine Combined Cycle    IGCC : Integrated coal Gasification Combined Cycle  
 CCS : Carbon Capture and Storage    APM : Automated People Mover    LRT : Light Rail Transit    MRJ : Mitsubishi Regional Jet

Specific product and technology targets are described on the company's website: <http://www.mhi.co.jp/en/csr/vision2030/>

## Dialogues with Stakeholders



Dialogue with Norio Fukao  
(February 27, 2012)



Dialogue with Setsu Mori  
(March 21, 2012)



Dialogue with Mariko Kawaguchi  
(March 8, 2012)

# Approach to Environmental and Energy Technologies In Line with MHI's "Environment Vision 2030"

In February and March 2012 MHI invited three outside experts to its Head Office to partake in dialogues with members of the Corporate Social Responsibility Dept. and the Sustainability Energy & Environment Strategic Planning Dept. Here we introduce a summary of the valuable opinions expressed by these experts towards our "Environment Vision 2030," along with MHI's views on the points they brought up.

MHI participants: Masaya Nakagawa, Chief Engineer, Sustainability Energy & Environment Strategic Planning Dept., Engineering Headquarters; Makoto Sanada, (then) General Manager of Corporate Social Responsibility Dept., Presidential Administration Office; Shogo Ishii, Deputy General Manager of Corporate Social Responsibility Dept., Presidential Administration Office; Ryoichi Asano, (then) Manager, Corporate Social Responsibility Dept., Presidential Administration Office and Manager, Environmental Management Section, General Affairs Dept.

### The Stakeholder's View ①

**I would like to see MHI make contributions possible in its position as a company that supports global infrastructures.**

What I would like to see is for MHI, a company that provides infrastructures worldwide, to turn its attention also to environmental restoration business. I believe that if, along with providing products, the company were able to advance the restoration of the natural environment damaged by development, it could serve as a proposal for a new way of conducting infrastructure business without destroying the environment.

I also hope MHI will instill a greater awareness of environmental issues in the developing nations. Instead of seeing the countries where it operates merely as markets for its products, MHI should provide education in environmental matters to those countries, to simultaneously cultivate human resources who will protect the environment. This I believe is a contribution that can be made precisely because MHI is a company that exports infrastructures globally. If today's children take the lead in the future, as adults, in using products with outstanding environmental performance, this should also contribute to the company's development. Also, in pursuing global business expansion, by defining and implementing how to contribute to the



### Norio Fukao

Professor and Director of  
Publicity Strategy Headquarters,  
Nagasaki University

Profile: Joined Nikkei Business Publications, Inc. in April 1983, where he served as a reporter for "Nikkei Business," Assistant Editor of "Nikkei Wellness," Editor-in-Chief of "Nikkei PC21" and Editor-in-Chief of "Nikkei Ecology" before taking his current position at Nagasaki University.

countries where it operates, rather than simply chasing profits in the immediate term, trust in MHI should grow worldwide.

My impression of MHI is that of a company that seeks to develop technologies at the very forefront. Going forward, instead of only adding continual improvements to the technologies it now possesses, I would like to see MHI continuously pursuing breakthroughs leveraging various means: for example, integration of the technologies of its various business segments as indicated in its "Environment Vision 2030."

### MHI's View ①

**We will target breakthroughs toward resolving global environmental issues.**

"Environmental restoration" is extremely difficult, we think, from both the technological and business standpoints, but there is indeed an aspect of creating new infrastructure to it, so for MHI, a company that provides infrastructures globally, this is perhaps an area we should focus on in the future.

We also believe that in carrying globalization forward,

setting down roots in the countries we deal with is an extremely important issue, from both the environmental and social aspects. We take a positive view toward the great expectations held of us, and we will move ahead with a wide array of initiatives targeting epoch-making breakthroughs aimed at resolving global environmental issues.



### The Stakeholder's View ②

## I would like to see MHI pursue manufacturing in harmony with natural cycles, true to the traditional Japanese way.

Nowadays whenever mention is made of environmental issues, we tend to think of energy, but inherently I think problems relating to the environment come from human interference of the earth's natural cycles. Humans developed their civilizations in order to protect themselves from natural threats and live enriched lives. Energy is an indispensable factor in this, and finding solutions to that end is very important. In MHI's "Environment Vision 2030," priority I believe is accorded to the creation and effective use of energy; but I would suggest that inherently what should come first is how to recycle materials. What I would like to see MHI do is to pursue manufacturing that is true to the traditional Japanese way — manufacturing in harmonious coexistence with the natural environment, based on this nation's long tradition of a sustainable, cycle-conscious lifestyle and the wisdom of our forefathers, tailored as necessary by enhancements to today's already good technologies.

As for the "Environment Vision 2030," from the perspective of making ongoing improvements in response to future trends in global issues and changes in people's awareness, I would like to see subsequent ver2 and ver3 of the vision, making



### Mariko Kawaguchi

(then) Head of ESG Research Department, Daiwa Institute of Research

Profile: Joined Daiwa Securities in 1986. Subsequently belonged to Corporate Research Dept. at Daiwa Institute of Research, then became General Manager in charge of CSR at Daiwa Securities Group Inc. In April 2012, became Junior Manager of Research Headquarters at Daiwa Institute of Research.

continuous changes as deemed appropriate.

Also, going forward what will become even more important than energy is the issue of water. Japan is blessed with abundant water resources; but on global scale water shortages resulting from such factors as population growth, economic development and global warming are becoming increasingly serious. A major topic to address in the future will be the establishment of cycle-based technologies and know-how for treating water safely, using it effectively and ensuring freedom from worries about water shortages, in order to maintain the richness in our lives.

### MHI's View ②

## We will strive to develop water-related and other technologies to enable coexistence between man and nature.

To respond to diverse needs concerning energy and the environment — such as creating a society that coexists with natural cycles, the issue of water shortages, etc. — MHI will burnish its individual products and technologies and also combine them into total solutions to be provided in response to social needs. Particularly with reference to problems surrounding water, in January 2012 a Water Solution Project

Management Department was launched within the Engineering Headquarters to enable us to provide comprehensive water treatment technologies possessed by MHI Group companies: for example, technologies in desalination, waste water and sludge treatment, recycled water, etc. What we hope to do is commence various new initiatives now that our "Environment Vision 2030" has been set in place.

### The Stakeholder's View ③

## I would like to see MHI state targets based on backcasting and its peak oil assessment.

Ours is a time of great uncertainty, with an unknown future awaiting us in terms of both the environment and energy. In that respect I think society holds high expectations toward MHI's products and technologies introduced in its "Environment Vision 2030." Against that backdrop I think the company's vision would be conveyed even more clearly if there were specific numerical targets extracted through a "backcasting" approach, with MHI defining what kind of future it foresees in the areas of the global environment and energy and then forging a plan of action for arriving at that future.

It's extremely important, in terms of both communication and risk management, for MHI to make it widely known, both internally and externally, how the company is taking initiatives in all energy areas, from renewable energies to nuclear power.

Furthermore, I think that if, as a manufacturer involved in various power generation methods, the company indicated clearly how each of the different methods is superior or inferior, it would garner positive reviews internally and externally with respect to information disclosure.



### Setsu Mori

Editor-in-Chief of "alterna," a business information magazine about the environment and CSR

Profile: Starting in 1998, served as head of Nihon Keizai Shimbun's Los Angeles bureau. In 2002 left that position and launched the NPO United Feature Press (ufp).

Also, what is MHI's understanding regarding peak oil, the time when global oil production volume will peak out and begin to decline? It's only 200 years since the Industrial Revolution got under way, yet already oil is on the verge of depletion. That's why I think it's important not just to have a medium-term perspective but also a long-range view — 30, 50 or even 100 years forward. Only then will we be able to address the question of what legacy we can leave to our children and grandchildren who will inhabit the Earth at that time.

### MHI's View ③

## Our role is to make contributions leveraging our total solutions technologies.

The world is moving in very complex ways, making it extremely difficult to envision with any degree of specificity what the future holds, especially in terms of infrastructure and energy.

It's said that if energy consumption continues at the current pace, during the 21st century 5 to 8 times the amount of energy will be consumed compared with what was consumed during the first

200 years after the Industrial Revolution. Fossil fuels also serve as raw materials for chemical products, and to ensure their sustained production in the future it will become increasingly important to make appropriate use of non-fossil fuels for power generation. At MHI we hope to contribute through the provision of a broad range of products, technologies and solutions, including renewable energies.

## 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 partner to society

In accordance with the spirit of our creed, the MHI Group—as a manufacturing corporation that contributes to societal progress through the business of the company—provides equipment related to energy conservation and environmental preservation as well as social infrastructure products and technologies to the world. In this way MHI contributes to resolving issues on a global scale.

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 the profit we have obtained to all stakeholders in an optimum fashion while at the same time providing excellent technologies and products to realize a certain future for people and the planet.

#### The CSR Committee was set up to strengthen CSR-oriented management

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. Furthermore, during the organizational reforms made in

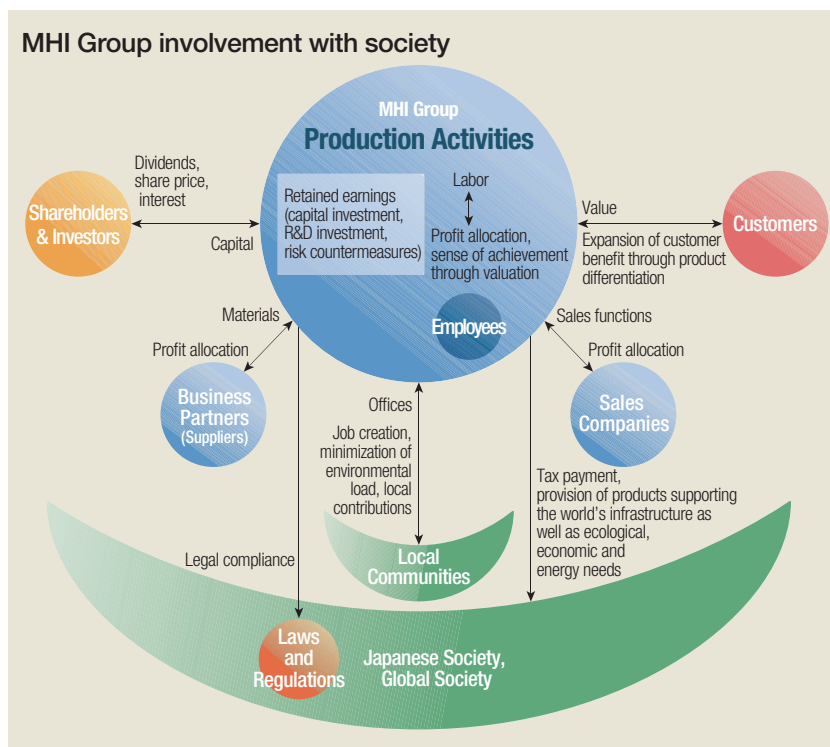
April 2011, the CSR Department became the Presidential Administration Office/CSR Department, which is responsible for CSR activities with a focus on company-wide management.

The CSR Committee, which holds sessions twice yearly, not only sets and follows up on the CSR Action Plan, but also sets and focuses on six themes regarding important activity initiatives in areas such as the globalization of CSR activities and the fund for social contributions.

Before and after committee meetings, the CSR Liaison Conferences, which are comprised of various committees and groups of managing members, are held. At CSR Liaison Conferences, the progress of various activities and the details of deliberations by the CSR Committee are shared by those engaged in the work, and future policies and new issues are discussed.

#### 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 management in the company.



The 11th Session of the CSR Committee, December 2011



In fiscal 2011, we formulated a new CSR Action Plan (for fiscal 2011 to 2013) and supported the activities of relevant committees and groups of managing members in the six areas of CSR promotion, compliance, the environment, human rights/labor, product responsibility, and risk management. Additionally, we verify and evaluate results. In this way we steadily promote PDCA cycles.

### CSR Sessions

CSR sessions aimed at deepening employees' awareness of CSR was held at 12 sites in fiscal 2011 and 786 people participated.

CSR sessions have been taking place over a five period from fiscal 2007 and a total of 3,800 people (approximately 11.5% of all employees) have now received the sessions. The sessions in fiscal 2011 explained the basic nature of CSR and about the CSR activities undertaken by our company. Moreover, group discussions were held on the topic of

concrete actions to meet society's expectations for MHI.

To make clear the issues of CSR activities, a survey based on the CSR Action Guidelines of employees who have received CSR sessions in the five years since it was commenced was conducted. Each year, the evaluation is improving as a result of improvements in areas of poor performance.

CSR sessions for new employees were held at all works, including the Head Office, and 940 people participated in fiscal 2011.



CSR sessions at Takasago Machinery Works

### 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

→ Strengthening corporate governance (pp. 29-30)

### 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

→ Promoting increased awareness of human rights (p. 43)  
Promoting CSR procurement (p. 42)

### 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

→ Various employee-related initiatives (pp. 43-44)

### 4. The environment

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

→ MHI Environmental Vision 2030 (pp. 7-8)  
Provision of energy and environmental solutions (pp. 13-15)  
Environmental management, medium- to long-term targets, measures to address global warming (pp. 33-37)  
Conserving resources/waste matter/water resources, management of chemical substances (p. 38)

### 5. Fair operating practices

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

→ Thorough compliance (pp. 31-32)  
Consistently fair transactions (p. 42)

### 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

→ Commitment to our customers (pp. 39-40)

### 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

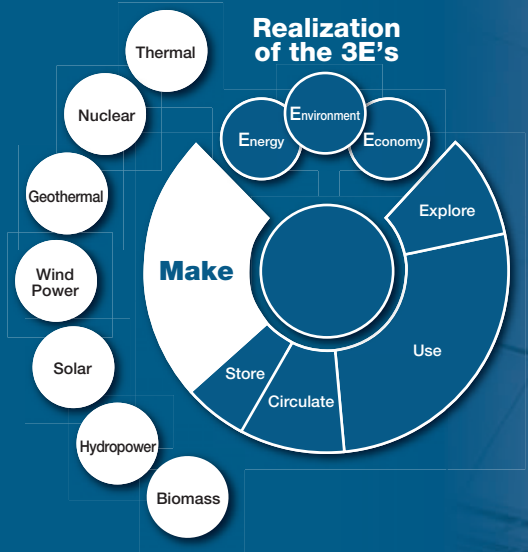
→ Activities by employees to contribute to local communities and society (pp. 16, 20, 24)  
Efforts to realize the Smart Community (pp. 21-23)  
Continual support for the areas affected by the Great East Japan Earthquake (pp. 25-26)  
Promoting social contribution activities in a wide range of fields (pp. 45-46)

# Providing energy and environmental solutions responding to regional issues worldwide

## MHI responding to global energy and environmental issues through a broad spectrum of products and technologies

Today, amid growing concerns about depletion of oil and other fossil fuels, coupled with issues raised by the disastrous events at TEPCO's Fukushima No.1 nuclear power plant in March 2011, energy problems are again in the spotlight all around the world. In particular, swift measures are being called for to cope with dramatically expanding energy demand in China, India and other emerging economies that are now marking robust economic growth, and with accompanying increases in CO<sub>2</sub> emissions.

In response to these issues, today MHI is providing a wide array of energy products and technologies: for example, for generating power not only from traditional fossil and nuclear fuels, but also from renewable energy sources such as geothermal and wind power and biomass, and lithium-ion rechargeable batteries for storing generated electricity. Through provision of products and technologies matching the needs of each nation or region, each of which has its own energy policies and resource procurement situations, we are contributing to the resolution of energy and environmental issues worldwide.



# Close ties with the Earth

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

### China

#### Contributing to China's pursuit of energy shift

Provision of high-efficiency gas turbines and technologies

In recent years China, a country marking economic growth at an astonishing pace, has been aggressively promoting the introduction of natural gas energy to respond to its rapidly expanding energy demand and to the accompanying problems involving global warming. At the same time China is also proactively pursuing technology transfers from beyond its borders in a quest to achieve domestic production of power generation equipment and plants fired by natural gas.



Mitsubishi Heavy Industries Dongfang Gas Turbine (Guangzhou) Co., Ltd.

To respond to these energy issues and policy initiatives in China, in 2003 MHI concluded a Technology License Agreement on the transfer of the MHI's large-scale gas turbine manufacturing technology with Dongfang Electric Corporation (DEC) and Dongfang Turbine Co., Ltd. (DTC), which is under DEC's corporate umbrella, group of China's "big three" heavy electrical machinery manufacturers. In 2004 MHI and DTC jointly established Mitsubishi Heavy Industries Dongfang Gas Turbine (Guangzhou) Co., Ltd. (MHI-DGT) and launched local production and after-sale servicing of combustors and other core components of gas turbines. As of April 2012, MHI and DEC/DTC have taken

orders for total 28 gas turbines for natural-gas-fired gas turbine combined cycle (GTCC) power plants. Deliveries are in progress.

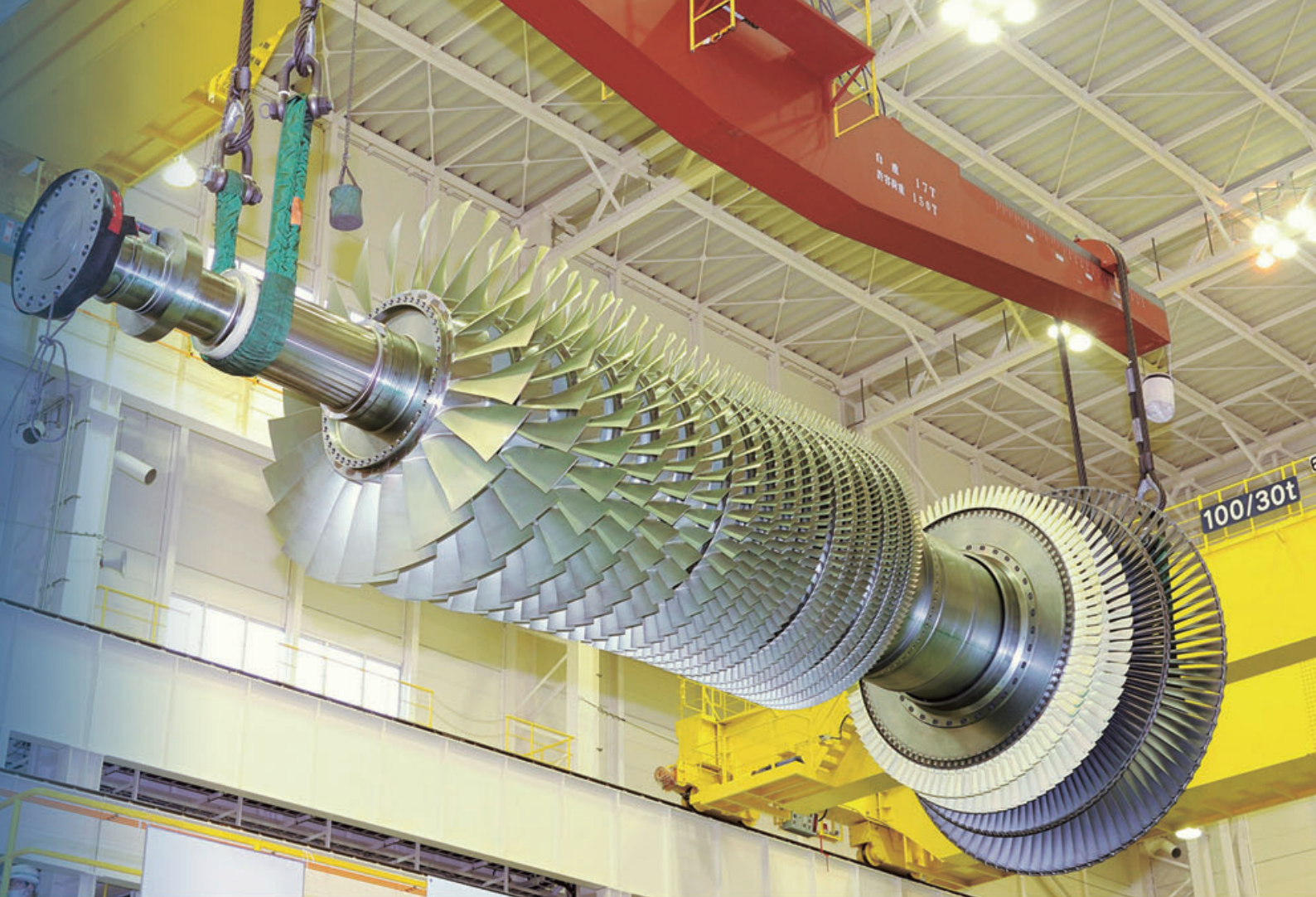
#### Proposal of a power generation system meeting the Beijing area's energy situation

In April 2010 DEC and DTC received an order from Huaneng Beijing Co-generation Power Co., Ltd., a group company of Huaneng Power International, Inc. (HPI), China's largest power provider, for a GTCC plant to be constructed near Beijing. The order resulted from a new system proposal put forward by MHI for coping with Beijing's energy picture.

In winter months in Beijing, when temperatures can drop below -10°C, a district heating system is adopted. The system's central heat supply network, the world's largest, covers an area of 80 million square meters in which it supplies a heat source to homes and businesses. Extraction steam from a steam turbine is utilized for this heat supply, but because the existing system has not provided steam heat in sufficient volumes, boilers have been installed throughout the city to reheat the steam before supplying it to users. However, since these boilers are fired primarily using coal, environmental issues arising from CO<sub>2</sub> emissions and general air







pollution have become increasingly serious.

To alleviate this situation, MHI proposed the city adopt a combined-cycle power generation system adaptable to the seasons. In winter, steam generated from the high-temperature waste heat from gas turbines can serve as the primary heating source, and in other seasons the same steam can be utilized to generate electricity. This dual system has enabled a suitable supply of heat and electricity according to demand.

In addition, the adoption of the very latest gas turbine, MHI's M701F4, raises generation efficiency by approximately 2% relative to the previous system. Moreover, as the amount of required fuel is reduced, the new system can be expected to reduce CO<sub>2</sub> emissions by 35,000 tons, against an annual emissions volume of roughly 1.6 million tons. This figure corresponds to a yearly CO<sub>2</sub> absorption volume equivalent to some 7,600 hectares of natural forest (mostly beech trees).

Through the provision of products and technologies enabling stable and efficient energy supplies, reductions in fuel costs, and trimming of CO<sub>2</sub> emissions, MHI is making tangible contributions to the realization in China of the 3E's — energy security, environmental protection and economic growth — matching the country's energy situation.

Approx. 2% higher power generation efficiency with adoption of the newest gas turbine



Reduction in CO<sub>2</sub> emissions by **35,000 t/yr**



### Expectations of MHI

We hope to forge a win-win relationship with MHI, for greater rewards in the future.

**Zhang Fang**

Project Manager  
Plan & Project Management Department  
Dongfang Turbine Co., Ltd.



On the Huaneng Beijing Project, I was in charge of planning, technology, quality, liaison with workers, and equipment deliveries. I consistently strove to make everything go smoothly in our dealings with MHI, end users and the engineering consulting in China.

We experienced some difficulties in building the control system logic and adjusting all the equipment, but MHI is giving us complete backup support. Going forward, through technology transfers we hope to forge a win-win relationship between our company and MHI, to enable us to someday realize in-house capabilities in machinery production, installation and overall coordination.





# Providing energy and environmental solutions responding to regional issues worldwide

 **India**

## Contribution to India's power supply Response to the nation's growth-stifling energy problem

In India today, power supply capability is unable to keep pace with expansion in the nation's power demand, thus posing an obstacle to further economic growth. In 2009 the country labored under an average 10% shortfall in power, and near 13% insufficiency during peak usage.

India is a nation blessed with abundant natural resources. It ranks fifth globally in terms of known coal reserves, and roughly 70% of the country's power generation relies on coal. Coal-fired power also forms the center of India's power plant plans through 2030, and for this reason securing required power while simultaneously curbing CO<sub>2</sub> emissions is a pressing issue.

Until now the bulk of India's power generation facilities have been provided by a state-owned heavy electrical machinery manufacturer and the nation's expanding power demand will exceed the production capacity of the firm alone. Today, therefore, from the perspective of building up its domestic industry, India has mapped out plans to increase the number of Indian companies capable of producing power generation facilities.



## Expanding power supplies through local production at high-performance plants

In response to this issue and India's needs, MHI entered a partnership with the country's largest construction firm, Larsen & Toubro Limited (L&T), with the aim of providing supercritical pressure coal-fired thermal power plants. By using steam of higher temperature and pressure levels, supercritical pressure plants deliver enhanced power generation efficiency and emit less CO<sub>2</sub> than the subcritical pressure coal-fired plants that now form the mainstream in India.

Supercritical pressure coal-fired power plants can generate 4-5% more power than subcritical pressure plants from the identical amount of fuel. In India, this enables a

reduction in CO<sub>2</sub> emissions by approximately 180,000 tons per year per plant with the typical output of 660 MW.

To support India's quest for local engineering and production of power generation equipment, MHI has formed two joint ventures with L&T: L&T-MHI Turbine Generators Private Limited to produce supercritical pressure steam turbines and generators, and L&T-MHI Boilers Private Limited to produce supercritical pressure boilers. Starting from the factory construction stage, MHI has provided the two JVs with technical guidance in engineering design and manufacture, and guidance in quality control and safety management.

Both factories commenced operations in June 2010, and they have been acknowledged for their environmental compatibility by the Indian Green Building Council and certified for quality by "ISO 9001" designation and for labor safety management by "OHSAS 18001" designation. The two factories are also now awaiting "ISO 14001" certification for their environmental management systems. As these designations attest, today the two plants are undertaking manufacturing of high quality, with full attention paid to environmental and labor safety needs.

The two factories have also created a total of more than 2,500 local jobs, thus contributing to development of the regional economy.



## Broad range of products and technologies responding to energy and environmental needs

Through a wide array of products, technologies and total solutions, MHI contributes to the realization of a sustainable future for the Earth and all its inhabitants.

**Make**

\* Power generation by thermal, nuclear and renewable energies



Wind turbine

**Store**

\* Power storage by lithium-ion rechargeable batteries, etc.



Lithium-ion rechargeable battery

**Circulate**

\* Plants and equipment for CO<sub>2</sub> recovery, waste to energy, water treatment, etc.



CO<sub>2</sub> recovery plant

**Use**

\* Eco-ships, energy-saving aircraft, transport systems, industrial tools, machine tools



MRJ (Mitsubishi Regional Jet)

**Explore**

\* H-IIA launch vehicles, marine resource research vessels, deep submergence research vehicle



"Shinkai 6500" deep submergence research vehicle





## Employees Introduce **Our CSR Activities**



**It makes me proud, as an engineer, to be supporting the energy infrastructure of a nation.**

### **Shojiro Saito**

Deputy Chief Engineer,  
Power Systems Project Management Division,  
Engineering Headquarters

Geothermal power is a renewable energy that has a modest impact on the environment and enables a stable power supply because it is unaffected by weather conditions. MHI is developing, in-house, the proprietary machinery necessary for geothermal power generation and we also provide the gamut of related services, from design and purchasing to construction.

My very first involvement in geothermal power generation was in 1987, when I designed a geothermal turbine installed on the island of Milos in Greece. In 1993 I became manager on a domestic project, and ever since then I have been involved in all of MHI's geothermal power plant projects both in Japan and overseas.

In Kenya for example, where 17% of the nation's power demand is met using geothermal energy, 75% of that total is furnished by an MHI geothermal power plant. When undertaking a project in a developing country, one encounters issues that are unpredictable, but such problems have always been resolved working in tandem with local partners. One very happy memory for me is the message of appreciation I received from the president of KenGen (Kenya Electricity Generating Company Ltd.). He said this was the first time a project had been completed on schedule in a place like Kenya. It makes me proud, as an engineer, to think how a geothermal power plant we delivered is supporting Kenya's energy infrastructure using the country's own resources — and with a small environmental burden.

In the future, my hope is to continue contributing to the resolution of energy issues everywhere through the provision of highly reliable products.



Top: Olkaria II geothermal power plant, Kenya  
Bottom: Hellisheidi geothermal power plant, Iceland

**Mangrove planting has strengthened bonds among employees and families.**

### **Pantipa Thanee**

Senior Officer (also, a member of ISO 14001 team)  
General Affairs & Human Resources Unit (GA & HR Unit)  
Mitsubishi Heavy Industries (Thailand) Ltd.



In August 2011, employees of Mitsubishi Heavy Industries (Thailand) and their family members participated in mangrove planting at the Khlong Khon Mangrove Preservation Center, Samut Songkhram Province.

Since obtaining ISO 14001 certification in 2007, we have promoted a variety of activities within the company to reduce the environmental impact. In the future, we intend to expand such voluntary activities to areas outside the company. Mangrove planting is part of that approach.

Our employees and their family members, 45 in total, participated in the event and planted about 150 mangrove trees. Although they had to struggle in mud, participants seemed to have felt a sense of social and environmental accomplishment. In addition, this event was a good opportunity to strengthen the bonds between families as well as among employees. Many said that they would participate in activities like this again in the future.

We are now planning environmental preservation activities for FY 2012, such as afforestation and fish weir construction.



Top: Planting in mud  
Bottom: Group photo taken after completion of the activity

# Helping resolve the world's food problems through construction of fertilizer plants

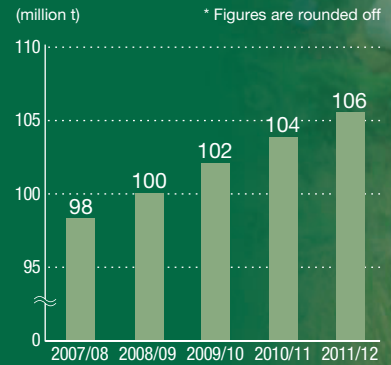
## Sharp population growth driving increased demand for fertilizers worldwide

Today the global population continues to grow at an alarming pace. From roughly 6 billion in 2000, the total topped 7 billion in 2011 — and is projected to exceed 9 billion by 2050.

One of the most critical problems brought about by this dramatic population surge is food shortage. To cope with future increases in population, production of grains and vegetables must be expanded. Moreover, as diets in the emerging and other countries improve, demand will increase for meat, resulting in the need to boost production of feed crops, which are already in rapidly growing demand. In today's world, however, given calls for responsiveness to the natural environment, there is a limit to the amount to which farmlands can be expanded.

This situation is engendering increased importance of fertilizers. When properly used, fertilizers can enable increased production from available farmlands. In the past several decades, for example, production of wheat and rice has been expanded in Japan, the U.S. and Europe without increasing the area of cultivated land — a feat made possible not only through plant breeding and mechanization, but also by use of fertilizers that are enhancing productivity significantly. In recent years agrarian reform of this kind has been making progress in the emerging economies as well, causing expansion in fertilizer demand on global scale. Demand is thus rising all around the world for plants capable of producing fertilizers of good quality at low cost, in order to avert serious food shortages in the future.

### Global consumption of nitrogen fertilizers



Source: "Current world fertilizer trends and outlook to 2011/12," Food and Agriculture Organization of the United Nations, 2008

# Close ties with Society

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

## Indonesia

### MHI has built more than 40 plants in natural-gas-producing regions worldwide.

For more than 40 years MHI, as part of its chemical plant business, has engaged in the construction of fertilizer plants worldwide, thereby contributing to increased food production on global scale. The plants the company handles are nitrogen-based, nitrogen being one of the three major constituent nutrients (along with phosphate and potash) of fertilizers.

Generally, production of nitrogen fertilizers is performed by a process called ammonia synthesis. In this process nitrogen gas, which comprises 80% of our air, is first made to react with hydrogen; this yields ammonia, to which

carbon dioxide is added to form ingredients of nitrogen-based fertilizers, e.g. urea. Various methods exist for acquiring the hydrogen needed in ammonia synthesis, and among these production employing natural gas is both the most efficient and inexpensive.

MHI, harnessing the world's foremost chemical process technologies, to date has constructed and delivered 41 nitrogen fertilizer plants to natural-gas-producing regions worldwide, including Asia, Russia and the Middle East.

### Contributing to food self-sufficiency in Indonesia through construction of a large-scale fertilizer plant

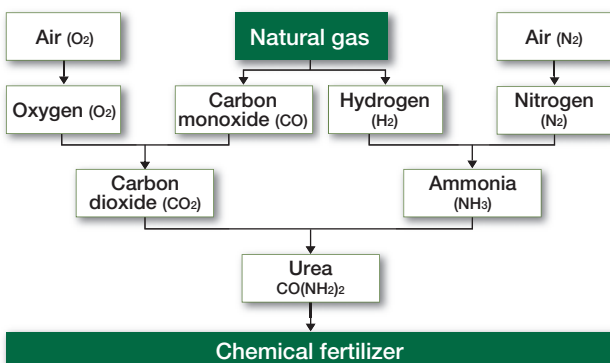
One example of the company's initiatives in fertilizer plants is a project undertaken in Indonesia.

Indonesia, a country with roughly five times the land area of Japan, is home to the world's fourth-largest population, 238 million people. In recent years the country has been achieving remarkable economic development, its GDP growing by a rate of 6%. But even as industrialization and urbanization are proceeding at a swift pace, agriculture remains a major industry.

Indonesia's principal crops are palm oil, natural rubber and coffee beans — all of which contribute to the



### Nitrogen fertilizer production process







nation's acquisition of foreign currency — and the country's staple food, rice.

In the 1970s the Indonesian government led an initiative to increase the nation's rice output, and by the 1980s 100% self-sufficiency was achieved. In subsequent years the population has continued to expand by more than 1% each year, but self-sufficiency in rice has largely been maintained.

Contributing to this development of Indonesia's farm industry is Kaltim-4, a large-scale fertilizer plant in which MHI played a key role. The plant was delivered approximately 10 years ago to PT Pupuk Kalimantan Timur (Pupuk



Kaltim), a public corporation, established in 1977, that today ranks as Indonesia's largest manufacturer of fertilizers. Pupuk Kaltim is based in Bontang on Borneo Island ("Kalimantan" in the Indonesian language), location of one of the world's foremost production areas of natural gas. The bulk of the fertilizer produced at the Kaltim-4 plant is supplied to two-thirds of the country in terms of land area, including the rice-producing island of Java, where it contributes to the improvement of the productivity of local farmers.

Besides nitrogen fertilizers, Kaltim-4 also manufactures compound fertilizers with phosphate and potash ingredients, and organic fertilizers based on palm or coconut oil. To preserve the richness of local soil, various fertilizers are supplied in good balance, thereby contributing to sustainable agricultural development throughout the country.





## Helping resolve the world's food problems through construction of fertilizer plants

### Paying full heed to local environmental and economic needs in collaboration with a local partner

As its name indicates, Kaltim-4 is Pupuk Kaltim's fourth fertilizer plant. MHI received the order for this project in 1999 after a competitive bidding process. The deciding factors for the client were MHI's outstanding track record in projects of this kind worldwide and its superlative technological capabilities in freely coordinating state-of-the-art chemical processes. Moreover, MHI had already successfully completed two other projects in the Bontang region.

The Kaltim-4 project was carried out in the form of a consortium with a local company. MHI was in charge of the work from overall planning and supervision to basic design, supply of the plant's high-efficiency compressors and other core equipment supply, commissioning, and operational training. Detailed engineering work, equipment procurement and construction were performed by PT Rekayasa Industri (REKIND), an engineering and construction firm based in Jakarta.

Before commencing construction work, Pupuk Kaltim first undertook an environmental impact assessment in compliance with governmental environmental guidelines. Next, based on that assessment MHI proceeded with meticulous planning of highly efficient manufacturing processes that would result in minimal waste of natural gas, the main resource, electric power, etc. In addition, to cope with the plant's water and gas discharges, MHI prepared a design that cleared all regulatory environmental guidelines and minimized impact on the plant's surrounding natural environment.

During construction work, every effort was made to ensure safety by maintaining close liaison with both Pupuk Kaltim and REKIND. Attention was also paid to supporting the local economy by proactively relying on local labor power.

Once all facilities were in place, MHI proceeded to fully confirm design performance through operational test runs. The company undertook training not only of engineers who would be controlling the plant as a whole, but also of all



personnel who would be in charge of the various processes, including equipment operators and maintenance staff.

As the culmination of these diligent procedures, Kaltim-4 went into operation in

2002, and since then it has performed stably and to the client's high acclaim. Today the plant continues to make a vital contribution to the development of agriculture in Indonesia.



### Pursuing construction projects worldwide to respond to expanding demand for fertilizers

Since completing the Kaltim-4 project, MHI has continued to engineer and construct large-scale fertilizer plants all around the world, including sites in Asia, the Middle East, Russia and Africa.

In November 2010 MHI received an order from Joint Stock Company Ammoni of the Republic of Tatarstan, Russian Federation, for the construction of a plant — one of the largest of its kind in the world — to produce ammonia, urea and methanol. The order for the plant, which is to concurrently produce methanol and nitrogen fertilizers from natural gas, was taken in partnership with a Japanese general trading firm and a Chinese construction company. Construction is presently under way, with a target startup date of 2015.

Other related developments in fiscal 2011 include the receipt of an order in October from a state-owned oil corporation in Malaysia for a large-scale fertilizer plant. Also, in November the company, together with three other Japanese firms, concluded a front-end engineering design (FEED) agreement for a fertilizer plant to be built in the Republic of Angola. The agreement covers basic design, preparation of engineering documents and contracts, site surveys, etc.

As the global population continues to grow, demand for fertilizers is expected to expand further in the years ahead. MHI will continue to diligently push forward with fertilizer plant projects worldwide, as its way of contributing to solving the world's food problems.



#### Expectations of MHI

**I hope MHI continues to make superior proposals that contribute to the development of our country.**

I am very satisfied with the work MHI has done in regards to the Kaltim-4 project. Specifically, communication was great and the project was able to progress very smoothly from the design stage. Schedule management was quite solid, allowing the project to be finished five months ahead of schedule, which is faster than any project we had done.

In addition, we place emphasis on the environmental preservation of the region, such as the forests and coastal mangroves around the plant. MHI thoroughly understood our management policy and reflected it in the plant's design. Aside from that, MHI imparted much advice cultivated from their experience and

know-how from across the globe, such as giving Rekayasa Industri pointers on safety management during the construction stage, and thoroughly educating our employees when we took over.

As Indonesia's population continues to increase, domestic farmers will continue pursuing improved productivity. Going forward, I hope MHI continues to make superior proposals that contribute to the development of our country.



**Nugraha Budi Eka Irianto**

Production Director  
Pupuk Kalimantan Timur

# Close ties with Society

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



## Employees Introduce **Our CSR Activities**



**We made an ad introducing our products and environmental technologies to the local community.**

### Natsumi Yamashita

Forklift Production Control Section, Forklift Business Department, Forklift Division, General Machinery & Special Vehicles

At the Sagami-hara Machinery Works where I work, we produced an advertisement, planned by our young employees, to introduce our forklift products and environmental technologies

to the local community. I participated in the workshop held to discuss the ad's production and I was personally in charge of collecting product information, coming up with the ad image, responding to interview requests and so on.

The ad introduced the company's engine/battery hybrid forklift truck, the first of its kind developed anywhere in the world. With utilization of a lithium-ion rechargeable battery, the forklift can reduce fuel consumption by some 40% compared to forklifts driven by an engine alone.

The ad was carried in local newspapers and inside local trains. My hope is that seeing the ad will make more people in the local community aware of our products and our environmental initiatives, and make them feel a warmer affinity toward the company.

At the Sagami-hara Machinery Works we undertake a variety of activities involving the local community. For example, we have held tag rugby classes for elementary school students in Sagami-hara and "monozukuri" (manufacturing) classes for students at local vocational schools. Going forward we will continue to focus on forging ties and engaging in dialogue with the local community.



Top: Ad production workshop  
Bottom: Ad placed inside local trains

**We are promoting activities to cultivate young talent through visits by the youngest and the first African-American pilot ever to make a solo round-the-world flight.**



Top: Barrington Antonio Irving, Jr.  
Bottom: Mr. Irving and students, in front of MU-2 aircraft

### Ralph M. Sorrells

Deputy General Manager  
Aircraft Product Support Division  
Mitsubishi Heavy Industries America, Inc.



"In the United States, children often drop out of school before acquiring necessary knowledge, without recognizing the importance of having a professional career and without being aware of the many opportunities that are available to them. The sound development of young people is one of the most significant issues in American society today.

Against this backdrop, Mitsubishi Heavy Industries America holds educational events designed to increase the motivation of children to learn and to pique their interest in the aviation industry. For one such event we invited Barrington Antonio Irving, Jr., who is the youngest and the first African-American pilot to make a solo round-the-world flight and who is now involved in educational enlightenment activities by way of his "Dream & Soar" program. Through stories of his experience, we are encouraging children to understand the importance of their studies in math and science to help them achieve their dreams and give them hope where, in many cases, they had little. In FY 2011, we held sessions at five locations, with more than 650 junior and senior high school students participating at each location.

As the manager of this event, I feel very satisfied about what we have done when I hear that young people have rediscovered a passion for their studies after listening to Mr. Irving. This event, which has been very positive for all MHI group companies, has gained much attention in American society. The Federal Aviation Administration (FAA) declared the "Mitsubishi Barrington Irving Dream & Soar" program a resounding success, according to the U.S. government agencies involved. Participating government agencies congratulating MHIA and its Aircraft Product Support Division included the Department of Transportation, the FAA, the District of Columbia Public Schools Department and the Federally Employed Women organization, among others. Members of the U.S. Congress and the Obama Administration were also aware of the event.

We will keep providing this opportunity for children.



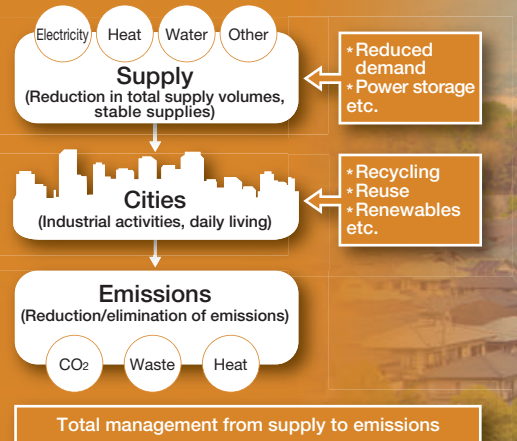
# Creating model “smart communities” for the future of people everywhere

## Initiatives targeting realization of smart cities attuned to energy and environmental demands

As the global population continues to swell and becomes increasingly concentrated in cities, problems of depletion of energy and water resources, traffic congestion and waste treatment are becoming ever more serious. To resolve these pressing issues, hopes are being focused on the realization of optimized “smart communities” in which everything is managed comprehensively — from efficient utilization of electricity, gas, water, transportation systems and other factors necessary for everyday living and industrial activities, to management of wastes and emissions, including CO<sub>2</sub>.

MHI’s Sustainability Energy & Environment Strategic Planning Department and other business headquarters, working in tandem with governmental agencies and business partners both at home and abroad, today is participating in numerous demonstration tests and business feasibility studies not only in Japan (Keihanna Science City) but also overseas in locations in Spain (Malaga), the UAE (Masdar City), India (Gujarat) and China (Tianjin). Leveraging the company’s comprehensive capabilities — with a proven track record in all areas from energy and resource utilization to emissions management — as well as its strengths in problem-solving and total supervision, MHI is also serving in a management role in various large-scale demonstration projects encompassing multiple corporate participants.

### MHI’s vision of a smart community



# 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.

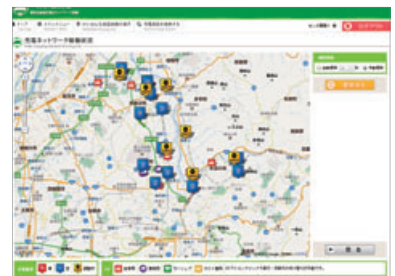
## Japan

### Demonstration testing launched at science research city in Japan, targeting system implementation

In 2010 a large-scale demonstration project focused on next-generation energy and social systems got under way at Keihanna Science City, one of Japan’s leading urban centers dedicated to cultural and academic research. The city straddles the borders of Kyoto, Osaka and Nara prefectures.

The aim of the project is to demonstrate, by March 2015, a comprehensive regional energy management agenda for multiple aspects of everyday life: not only electricity and gas usage but also transportation by electric vehicles (EV) and other advanced modes, water and waste treatment, etc. Plans

call for the creation of a framework for pursuing proper — i.e. “smart” — consumption of energy and resources and the curbing of CO<sub>2</sub> emissions in the city as a whole, to enable contributions of social benefit to the

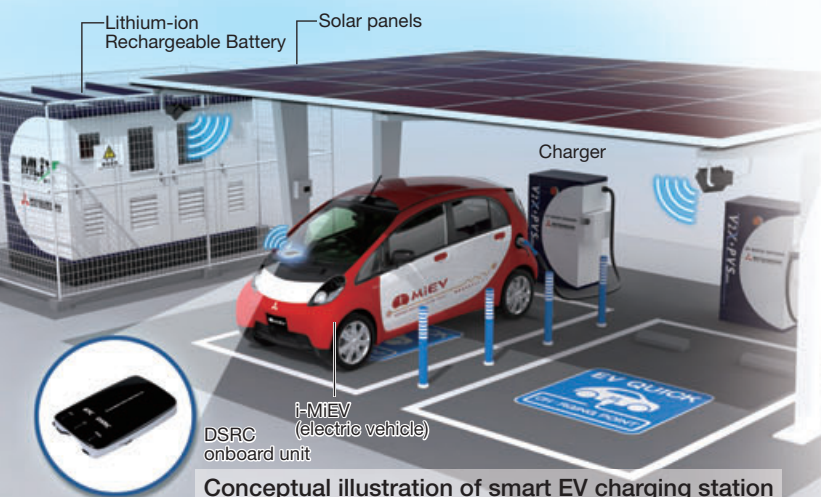


Charging network operating status management display

region as a whole. Also planned are the configuration of a business model based on verification of the project’s benefits and the development of related business opportunities both to impel recovery of the nation’s disaster-affected regions and to drive business expansion overseas.

MHI has a robust track record, backed by superior technologies, in creating numerous social infrastructures worldwide. To make use of the company’s proven capabilities in problem solving and its management know-how resulting from this vast experience, MHI has been selected to serve as leader of the various companies participating in the Keihanna project. It is also playing a central role as leader of the individual working groups studying EV battery charge management, transportation systems and modal shifts, the economic aspects of water, sewage and waste treatment facilities and other infrastructure supporting daily life, and optimization of CO<sub>2</sub> emission and recycling rates.

Relevant to EV battery charge management, a dedicated center has been set up and data is now being collected on EV charging infrastructure. A demonstration system has been created incorporating 60 EVs (eventually to be increased to 100) and 20 battery chargers. Data is being acquired on the charging and driving trends of various users, and empirical analyses are



Conceptual illustration of smart EV charging station





being conducted in order to project power demand in the coming EV era and establish energy management methods. (Fig. 1)

A study is also in progress on transportation usage volumes by the 20,000 households living in the Keihanna area. Proposals are being made to encourage a shift to transportation modes that save energy and generate minimal amounts of carbon. (Fig. 2)

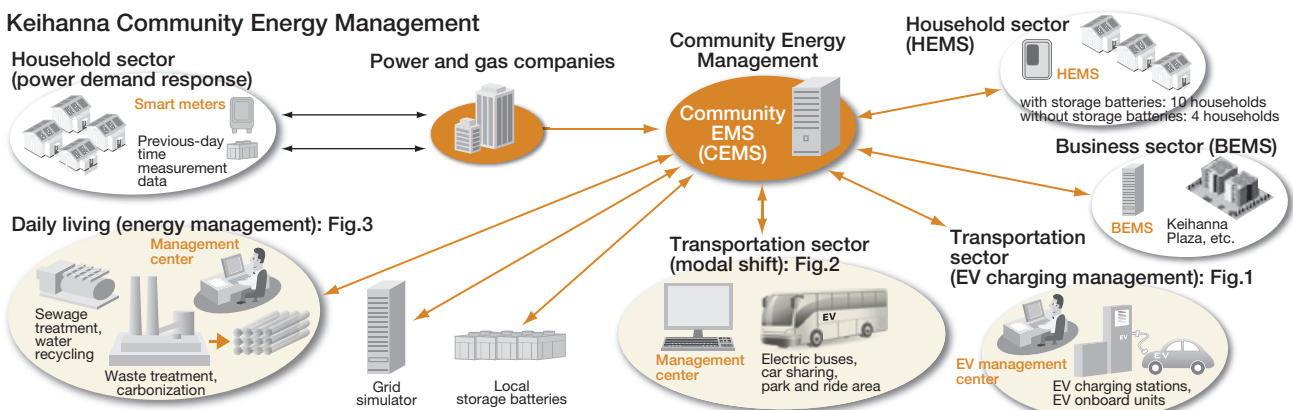
An innovative research study has also been implemented concerning aspects of daily living. First, survey results were utilized to create a database on city type and the lifestyle patterns of residents, and an urban simulator was completed for proposing appropriate infrastructure matching the city's growth. The feasibility was studied of introducing recycled water into the Keihanna region and of linking Keihanna's sewage and waste treatment plants with regional energy management. (Fig. 3)

An online survey was also conducted pertaining to electricity usage by 60,000 households in the Kansai region, enabling an understanding of power consumption patterns according

to household makeup and lifestyle, level of energy conservation awareness, level of preference for a variable electricity fee menu, etc. Based on a market survey covering adoption of home storage batteries, estimated impact from users' energy-saving initiatives, and demand response, plans call for the launch, at some time after the summer of 2012, of the nation's first demonstration testing with general households. On the basis of the results of these field studies, MHI will propose the most appropriate infrastructure for promoting energy savings and supporting the lifestyles of the region's residents.

In order to resolve the various issues faced by cities around the world, hopes are pinned on making effective use of limited resources and achieving tangible results. Going forward, MHI, forging links with governmental and regional bodies and partner enterprises, will continue to carry out demonstration tests of this kind, accumulate knowhow and clarify where business risks exist, in order to create ever more appropriate models of "smart communities" to enable business opportunities to flourish in other regions of Japan and abroad.

### Keihanna Community Energy Management





# Creating model “smart communities” for the future of people everywhere

## Spain

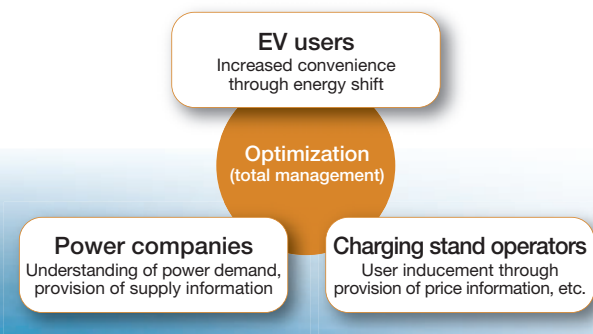
### Conducting demonstration testing toward introducing EVs in Spain

Today MHI, representing Japan, is participating in a joint demonstration project with Spain under the “Japan Spain Innovation Program” (JSIP). The program is the outgrowth of an agreement on collaboration in technological development concluded in December 2008 between Japan’s New Energy and Industrial Technology Development Organization (NEDO), an independent administrative agency, and Spain’s Centre for Industrial Technological Development (CDTI), a public business entity.

The project has two aims: to create a next-generation transportation infrastructure in Spain, a nation that has made significant strides in deregulation of its electric power market and in introducing renewable energies, using technologies of Japanese corporations; and to demonstrate the positive merits of this infrastructure. Despite the advances Spain is making in introducing renewable energies, the country’s transportation sector, which accounts for approximately 40% of all energy consumption, remains nearly 100% dependent on oil as its energy source. For this reason, Spain is eager to shift its social focus to electric power through initiatives like the introduction of EVs, and great benefits stand to be reaped. Demonstration testing is to be conducted in four general areas: EV infrastructure, power management, information platforms, and total services.



#### Overview of EV infrastructure creation (Fig.4)



MHI is involved in technological integration relating to the EV infrastructure, serving as leader of the three participating Japanese companies.

The Spanish government has announced a goal of putting 250,000 EVs on the country’s roads by 2014, and to achieve that goal it is undertaking various programs relating to the promotion of EV usage, development of EVs, and the establishment of an EV charging infrastructure. However, if EVs and their charging infrastructure are adopted too precipitously, the nation’s power companies could potentially become unable to maintain stable power supplies to their respective market regions. It is therefore highly important to accurately measure and forecast EV charging demand and to design and build systems to enable dispersion of power demand. (Fig.4)

Going forward, MHI will apply the fruits of this demonstration testing to the creation and packaging of a sustainable business model as a new infrastructure supporting local communities. Besides creating a new EV infrastructure business model applying Japan’s outstanding technologies in energy conservation and low carbon emissions, the company will promote global standardization of a business model not only for EVs but for smart cities. And in collaboration with local businesses and other partners, the company will accelerate global expansion in smart city business.



#### Expectations of MHI

Placing our hopes on MHI for the realization of clean communities

#### Mr. Jaime Briales Guerrero

Director of the Municipal Energy Agency, Málaga City Council, Spain



I represent the city of Málaga in the role of coordinator supporting a demonstration project for next-generation transport infrastructures.

As a leading Japanese industrial company, MHI is deeply involved in promotion activities for this project. One of the primary targets of this project is to reduce CO<sub>2</sub> emissions in Málaga by 20% by 2020. To achieve this, while building an energy-effective system that utilizes electric vehicles, MHI has proposed a comprehensive solution for clean transportation in the city. This project is a key way for our city to foster an eco-friendly society, and we hope MHI will direct the project and continue to provide support even after the project completion in 2015.

MHI plans to extend the sophisticated system employed in this project throughout the world to contribute to the realization of clean local communities not only in Spain but also in many other countries. In the future, we hope that MHI will continue to cooperate with us as well as to play an active part as the leader in this new field to make expansive social contributions.







## Employees Introduce **Our CSR Activities**



**“By teaching science classes, I hope to convey how interesting science can be and how fun it is to make things.”**

### Keigo Kawai

Production Technology Team, Wind Turbine Section  
Yokohama Power Systems Manufacturing Department  
Power Systems

In September 2011 and February 2012 I taught science classes at the Honmokinami and Namikichuo elementary schools in Yokohama, for third and six graders, respectively. I had the students make pinwheels and taught them about wind and how it can be used to generate electricity; and through experiments using a motor, I taught them how electricity is made.

In preparing for my classes I tried to make learning a fun experience for the students. In collaboration with an NPO — Kodomo Uchu Mirai Association (KU-MA) — I prepared teaching materials and a program incorporating basic knowledge about science. The regular teachers were very flattering in their comments about my classes, saying that their content was perfectly suited to what should be taught in the third and sixth grades.

What made me even happier than the teachers' words of praise, however, was seeing the look of joy on the children's faces when the pinwheels they made began to spin. In my everyday work activities I rarely have the opportunity to come in direct contact with people from the local community, so being able to make a social contribution through my science classes gave me a sense of great satisfaction. Teaching science classes not only conveys how interesting science can be to children, but also provides those of us who teach with opportunities to deepen our ties with our communities.



Top: Teaching how electricity is generated

Bottom: Pinwheels spinning in the breeze from an air conditioner



Top: Visiting the dockyard at the Honmoku Plant

Bottom: The children eagerly taking notes during their visit

**“We took children on a tour of an MHI plant, to get them to feel its overwhelming power.”**

### Fumie Shakado

Mitsubishi Minatomirai Industrial Museum



In March 2012 we invited 20 children of museum members and took them on a tour of the Yokohama Dockyard & Machinery Works. They were taken to see the ship repair yard, wind generation demonstration equipment and the diesel engine factory. Seeing the giant docks where ships are repaired and the demonstration wind turbine with rotor blades 100 meters in diameter — one of the largest in Japan — the children got extremely excited, letting out squeals of delight and amazement at how huge they are.

As coordinator I filled a variety of roles: in addition to taking the children around during the tour itself, I was also in charge of calling for participants, preparing a pamphlet, and so on. What I focused on most, though, was the day's program. Before their visit I invited questions from the children about things they are interested in, and then we prepared to have staff members involved in development or manufacturing answer those questions during the tour. Seeing things with their own eyes and having staff reply to what they wanted to know was the best part of the tour, I think. It would make me happy if this experience induces the children to become active in the realms of technology or manufacturing in the future.



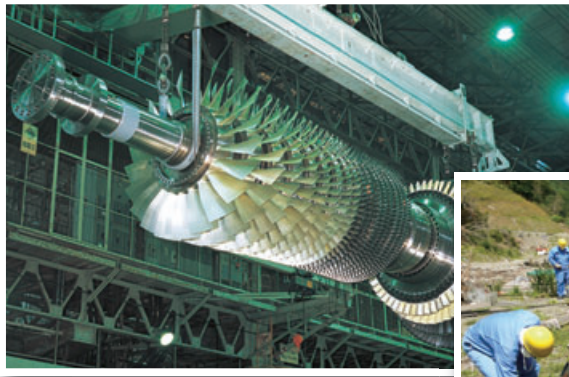
**Mitsubishi Minatomirai Industrial Museum**  
<http://www.mhi.co.jp/en/museum/>

**Open hours** 10:00a.m.-5:00p.m. (Admission until 4:30p.m.)

**Closed days** Every Monday (following day if Monday is a national holiday), at the year-end and New Year, and on specified closed days.

**TEL** 81-45-200-7351

## Continuing Support of Disaster Recovery Efforts



Gas turbine required in power generating facilities



Transport of medical supplies by MHI's company aircraft



Rubble clearing at a fishing port by Kobe Shipyard & Machinery Works

# We continue to support the restoration of social infrastructure and revitalization of the disaster region.

Since immediately after the Great East Japan Earthquake of March 11, 2011, the MHI Group has undertaken a broad range of recovery support activities. These include supporting the restoration of plants, machine tools, bridges and other products we had delivered to disaster-affected areas, implementing various emergency measures, providing donations and relief materials, and performance of volunteer tasks by our employees. We believe the mission of the MHI Group is to contribute to the recovery of the Tohoku region as swiftly as possible through rebuilding and improving its social and industrial infrastructure. We will continue to provide our unwavering support until the residents of the disaster region can rebuild their peaceful lives and learn to smile again.

### Continuing Support of Infrastructure Restoration

#### Initiatives toward Achieving Stable Power Supplies

As a leading company in energy and environmental business operations, MHI continues to undertake an array of initiatives to fulfill its corporate mission to contribute to the nation's energy security.

In the area of thermal energy, from immediately after the earthquake and its related disasters the company dispatched employees to help towards early restoration of thermal power plants operated by TEPCO and Tohoku Electric Power Co., Inc. The company also used its own helicopter and airplane to provide support in the transport of emergency supplies. At the disaster-impacted power plants, equipment that had been delivered by MHI was at a standstill following the earthquake, and through the concerted efforts of all parties concerned, inspections were carried out, damages were swiftly assessed, and measures were implemented to contribute to the power plants' early restoration. As of March 23, 2012, some 15.74 MW of power generation capability — 98% of the pre-disaster level — has been restored at the generating equipment delivered by MHI, and support initiatives continue today toward complete recovery. In addition, response at production bases was also strengthened in a quest to achieve early delivery of gas turbines, industrial generating equipment, etc.

In the area of nuclear energy, in the immediate aftermath of the accident at TEPCO's Fukushima Daiichi Nuclear Power Station, the company responded by undertaking emergency safety countermeasures for pressurized water reactors (PWR) it had delivered to other power companies (see page 39). In August 2011 it established a new Advanced Plant Safety Department, and today, in pursuit of restarting existing plants, every effort is being made to provide support to the stress test being carried out by the power companies and to implement safety improvement measures.



Employees inspecting for damages



Shin-Sendai Thermal Power Station

#### Support to TEPCO's Fukushima Daiichi Nuclear Power Station

TEPCO's Fukushima Daiichi Nuclear Power Station is equipped with boiling water reactors (BWR), a reactor type different from the PWRs handled by MHI, but in order to bring a conclusion to the accident that occurred there the MHI Group is implementing measures utilizing its comprehensive technological capabilities on land, sea and air.



"Mega-Float"

In April-May 2011 the company converted the "Mega-Float," a large floating marine structure originally manufactured by MHI, that Shizuoka City provided to TEPCO to serve as a temporary storage facility for the large volume of accumulated water within the Fukushima plant that had become moderately radiated. The company also delivered specially customized forklift trucks equipped with cabins shielded against radiation, to perform rubble handling around the site, as well as facilities for temporarily storing radioactive waste (sludge) generated during the treatment of radioactively contaminated water.

In addition, MHI was selected, along with Toshiba Corporation and Hitachi-GE Nuclear Energy, Ltd., to participate in a national R&D project aimed at bringing TEPCO's Fukushima Daiichi accident under control over the medium to long term. Going forward, the project will target the development of technology for removing fuel debris<sup>(note)</sup> from the reactors.

Note: What is again solidified after the nuclear fuel melted with a part of the structure in the reactor

#### Other Support

The company also took steps to achieve early restoration of social infrastructure and plant facilities, including bridges, printing machinery, food factories, waste treatment facilities, etc.

Additionally, measures were taken to save energy at all company workplaces during the summer months. Particularly at workplaces within TEPCO's power grid, the company cooperated in reducing peak power usage through expanded operation of in-house generators, etc. (see page 37).



## Ongoing Support of Disaster Recovery Efforts

### Regional Support through Donations and Relief Materials

Immediately after the earthquake disaster, on March 14, 2011, the MHI Group announced a donation equivalent to 500 million yen, consisting of a monetary sum as well as the provision of various emergency relief materials. Employees throughout the Group undertook fund-raising campaigns and donated a total of 100 million yen to the stricken area together with matching donations provided by the company.

Starting at the Shinagawa Head Office Building in June, several company works held "Tohoku Product Fairs" at summer festivals and other events. Through the sale of Tohoku products, we supported Tohoku's economy.

Furthermore, MHI donated 20 MHI forklift trucks to fishery cooperatives in the affected region and 13 air-conditioning units to evacuation centers.



Tohoku Product Fair  
(Ritto Machinery Works)



In-company fund-raising campaign  
(Shinagawa Head Office)

### Support Initiatives by Employee Volunteers

Since April 2011 more than 300 employees have undertaken a broad range of volunteer activities in response to the disaster. These include delivery and sorting of relief materials in the affected region, rubble removal and cleanup, conducting science classes, holding rugby clinics, and performance of a charity musical.

Commencing in August 2011 employees of the Power Systems business headquarters organized the "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.

In addition, MHI's works and group companies provided support independently in various ways. For example, at the Nagoya Aerospace Systems Works a work experience program was initiated, and at the Nagasaki Shipyard & Machinery Works a program of mosaic art production and donation was introduced.

Going forward, we will continue activities centered on supporting the next generation through science and sports classes, etc.



Charity musical



Cleaning of photographs

### Major Future Social Contribution Activities

(study assistance [psychological support], industry/community support)

- 1. Science class programs**  
Planning and implementation of science class programs using MHI products, in collaboration with NPOs, etc.
- 2. MHI sports classes**  
Holding classes in sports such as rugby and baseball.
- 3. Charity musicals**  
Performing musicals at elementary schools, in joint sponsorship with theater companies.
- 4. Self-help recovery support**  
Financial support of young entrepreneurs, etc. seeking to achieve self-sustaining recovery, as a way of driving regional recovery.
- 5. Support in creating community centers**  
Financial support to local NPOs, etc. seeking to create places where residents of temporary housing can gather and communicate.

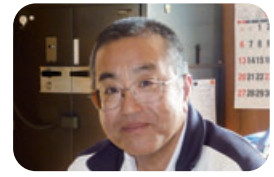


## Voices of External Stakeholders

### Smiles returned to the children's faces.

On November 4, 2011 we were treated to a performance of "The Wizard of Oz" by the Poplar Theater Company. Seeing a real musical play was a thrilling and fun experience both for the students and for me.

The children also enjoyed the science classes involving "wakamaru" and airplanes — something they don't experience in their regular classes. I greatly hope that support activities of interest to children in the disaster region will be continued in the future.



**Fumitaka Hyodo**  
Principal, Minami-Sanriku  
Isatomae Elementary School

### These are precious activities that foster hope and dreams.

All the children eagerly looked forward to the musical's performance. They enjoyed it immensely, some saying how much fun it was, others expressing hope that the theater company would visit us again. For the children who had lost so much dear to them in the earthquake disaster, the occasion provided them with time to forget everything and be happy.

It is through a wealth of personal experiences that children are able to expand their horizons and grow. Now we are looking forward to MHI's science classes coordinated to our school curriculum.



**Yoko Shibayama**  
Principal, Minami-Sanriku  
Natari Elementary School

### We want to do all we can to support the adults of tomorrow.

Starting immediately after the disaster, many different groups, artists and so on visited the affected region. The organization we are a member of gave donations, and individual performers were sent to perform.

As it was around that time that we were contacted by MHI, we felt like we had all the luck in the world on our side. So as not to place a burden on the locality where we would perform, which was suffering from power shortages, we made meticulous arrangements with the conviction that we would do what we could for the children who would open the way to the next generation. After our performance, we came away with lots of courage and memories of the bright smiles of the children.



**Satoru Ueki**  
Production Manager,  
Poplar Theater Company



## Voices of our Employees

### Ever since the disaster, we have been undertaking restoration work devotedly, to bring peace of mind and smiles to people everywhere.

I was working overseas when I heard the news about the disaster, and my boss called and told me that as soon as I returned to Japan I would be assigned to TEPCO's Kashima Power Plant. Kashima is one of TEPCO's most important power plants, and MHI supplied the major equipment in five of the plant's six generating facilities. As the disaster had resulted in the stoppage of facilities producing a total of 3.4 megawatts, restoration was needed as quickly as possible.

On March 13 I started overseeing operations at the site, and within about one month power generation was resumed. Putting highest priority on responding to the disaster required the understanding of many customers both in Japan and abroad. We were encouraged hearing how our blue work clothes made people feel reassured. Later I was assigned to the Hirono Power Plant, and currently I am working to restore operations at Tohoku Electric's Haramachi Power Plant.

Electricity is indispensable to our lives. Our mission is to make electricity and to maintain the generating systems dependably. My greatest hope is to make every effort every day to bring peace of mind and smiles to 7 billion people around the world, to be a company that will continue to be trusted worldwide.







**Kiyoshi Miyazaki**  
Engineering Manager, Plant  
Construction Planning Department,  
Plant Construction Division,  
Engineering Headquarters



Response of MHI and its Group Companies to the  
Great East Japan Earthquake  
[http://www.mhi.co.jp/en/notice/notice\\_east\\_japan.html](http://www.mhi.co.jp/en/notice/notice_east_japan.html)

# Responsibilities and Actions of MHI

The objective of MHI is to be a company trusted to meet the expectations of society with CSR as the cornerstone of its management practices. Endeavoring to fulfill this goal, MHI focuses its energies on three components: fair and sound management, the environment, and sociability. The following is a report of MHI's concepts and efforts in line with these three components.

Part	 Items included in the brochure	
 <h2>Management</h2> <p>We strive to conduct management practices while observing all applicable laws, regulations, rules and social conventions.</p> <p><b>Page 29 –</b></p>	<h3>Corporate Governance</h3> <p>Current Status of Corporate Governance and Internal Controls</p> <p>New Organizations and Measures Concerning Business and Management</p>	<h3>Compliance</h3> <p>Creating a Structure to Promote Compliance that Encompasses the Entire Group</p> <p>Improving Compliance Principles/Guidelines</p> <p>Secure Safeguarding of Proprietary Information</p>
 <h2>Environmental Report</h2> <p>We contribute to the preservation of the environment of society as a whole by understanding the impact of our business activities on the environment and working to alleviate environmental loads.</p> <p><b>Page 33 –</b></p>	<h3>Environmental Management</h3> <p>Environmental Management Promotion System</p> <p>Establishing and Operating an Environmental Management System</p> <p>Preserving Biodiversity</p> <p>Material Balance</p> <h3>Results of Promotional Efforts of Medium- to Long-Term Environmental Targets (FY2011 Results)</h3> <h3>Countermeasures against Global Warming</h3> <p>Promotion of Energy-saving and CO<sub>2</sub> Emission Control Measures</p> <p>Measures to Curb CO<sub>2</sub> Emissions in Transport</p> <p>Topics: Implementing Energy-saving Measures at All Works</p>	<h3>Resource Conservation, Waste Management and Water Resources</h3> <p>Curbing Waste Generation, Release and Disposal</p> <p>Protecting Water Resources</p> <h3>Management of Chemical Substances</h3> <p>Curbing the Use and Emissions of Chemical Substances through Proper Management and Use of Alternatives</p>
 <h2>Social Contributions Report</h2> <p>Our business activities are implemented with thoughtful consideration for our diverse stakeholders as a provider of products and technology that support society's infrastructure.</p> <p><b>Page 39 –</b></p>	<h3>Commitment to Our Customers</h3> <p>Enhancing Product Safety</p> <h3>Commitment to Our Shareholders and Investors</h3> <p>Disclosure Principles and IR Activities</p> <h3>Commitment to Our Business Partners (Suppliers)</h3> <p>Fair Dealing</p> <p>Promoting CSR Procurement</p>	<h3>Commitment to Our Employees</h3> <p>Utilizing and Cultivating Diverse Human Resources</p> <p>Building a Better Working Environment</p> <h3>Social Contribution Activities</h3> <p>Fulfilling our Policy on Social Contribution Activities</p> <p>Achievements Made through Social Contribution Activities (FY2011)</p>



\*All of the items included in the brochure are also available on our website.



## Items that are only available on the website

### Corporate Governance

Risk Management

#### Promotion of CSR

Promoting Comprehensive and Strategic CSR Activities

- Town Hall Meeting

Activities of Major Related Committees in Fiscal 2011  
 CSR Committee, Compliance Committee, Environment Committee, Committee for Raising Awareness of Human Rights, Committee for Promoting the Employment of the Handicapped, International Trade Control Committee, Construction Business Act Compliance Committee, Order Compliance Committee, Managing Board for Innovation in the Nuclear Business

#### Compliance

Creating a Structure to Promote Compliance that Encompasses the Entire Group

- Setting clear regulations on the rights afforded to in-house informants
- Establishing an external report hotline
- Continually constructing a system that ensures transparency and legality in order-receiving activities

Improving Compliance Principles/Guidelines

- MHI Compliance Principles
- Establishing regulations and standards for the more thorough prevention of bribery
- Firm responses to antisocial forces
- Adding clauses to contracts with clients and business partners that exclude organized crime groups
- Eliminating Camouflage Contracts Based on the Policies of the Ministry of Health, Labour and Welfare

Compliance Training and Increasing Awareness

- Implementing discussion-based training adapted to daily duties
- Yearly compliance awareness survey

Secure Safeguarding of Proprietary Information

- The Information Technology Department and General Affairs Department take the lead in protecting confidential information
- Using the manual and database to thoroughly protect personal information
- Constantly reinforcing measures to protect confidential information
- Implementing employee training to enhance awareness of confidential information management
- Continuously assessing the status of security measures through internal audits
- Operating PDCA cycles for information security management throughout the Group



The 11th Session of the CSR Committee, December 2011

### Environmental Management

Environmental Management Promotion System

- Initiating Environmental Meetings with Group Companies

Establishing and Operating an Environmental Management System

- Fostering environmental awareness for each every employee through stratified environmental training

Preserving Biodiversity

- Breeding program for Japanese honeybees in danger of extinction
- Local government forest conservation programs

Controlling and Improving Response to Potential Environmental Impact Risks

- Clarifying the risks at each works and addressing them through daily management
- Achieving green purchasing targets

Status of Incidents and Legal Violations Relating to the Environment

- Promoting activities to strengthen measures designed to eliminate environmental incidents

Environmental Management Systems Adopted at MHI and Its Subsidiaries

#### Environmental Accounting

### Countermeasures against Global Warming

Energy-saving Activities in Offices

- Promoting "Cool Biz" and "Warm Biz"

CO<sub>2</sub> Reductions with MHI Product Usage (FY2011)

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

Using Electronic Manifests (e-manifests)

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

#### Management of Chemical Substances

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

- Promotion of organochlorides reduction and replacement activities
- Voluntary targets for the reduction of VOCs atmospheric emissions
- Promotion of outsourced disposal of equipment using PCBs

#### Products and Technologies that Reduce Environmental Impact

Main Products and Technologies in 2011

- Eight examples



Extracting honey from a hive



Photovoltaic generation panels installed on the wall of the Ryokoh Building's South Wing

### Commitment to Our Customers

Enhancing Product Safety

- Key Product Quality and Safety Programs  
 Shipbuilding, Aircraft, Transportation systems, Air-conditioners

Enhancing Customer Satisfaction (CS)

- Pursuing products and services that can be trusted from the prioritized customer point of view
- Promoting advertising activities that comply with relevant laws and regulations
- Implementing technical support as an aspect of preventative maintenance
- Promoting nuclear power PA activities

### Commitment to Our Shareholders and Investors

Disclosure Principles and IR Activities

- Promoting IR activities to facilitate a detailed understanding of our business
- Providing accurate information online that is easy to understand

Share and Dividend Report

- Fiscal 2011 dividend distributions

### Commitment to Our Business Partners (Suppliers)

Fair Dealing

- MHI Procurement Policy
- Thoroughly preventing illegal and unfair dealings

Promoting CSR Procurement

- MHI Group Supply Chain CSR Promotion Guidelines

Procurement Education and Training

- Training for employees engaged in procurement activities

### Commitment to Our Employees

Utilizing and Cultivating Diverse Human Resources

- Rehiring all who wish to continue to work and promoting senior employee skill utilization
- Strengthening the development of junior technicians on the forefront of manufacturing
- Bolstering training activities for Group company employees
- Encouraging mutual understanding through dialogue and the enhancement of personal capabilities
- 360° research: a program for middle managers

Building a Better Working Environment

- Programs that focus on work-life balance
- Nursery operated on the grounds of our Nagasaki Shipyard & Machinery Works
- Efforts for raising awareness of human rights in individual workplaces
- Risk management and training to prevent work-related accidents and injuries
- Health promotion and mental health measures
- Promoting communication between management and employees

Forum 35

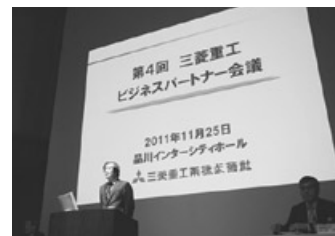
- Forum 35 inspires people to work through employee exchange

#### Social Contribution Activities

MHI Policy for Social Contribution

Achievements Made through Social Contribution Activities (FY2011)

- Selection Criteria for Donation Recipients
- Examples of Regional Social Contribution Activities (FY2011)
- Seven examples of activities by MHI
- Five examples of activities by Group companies



Business Partners Conference



Nursery school children digging up sweet potatoes

### Other

- Company Profile
- Recognition from Society
- Progress toward a Sustainable Society
- Main Third-party Opinions on Past CSR Reports and Our Responses



# 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

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

#### 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

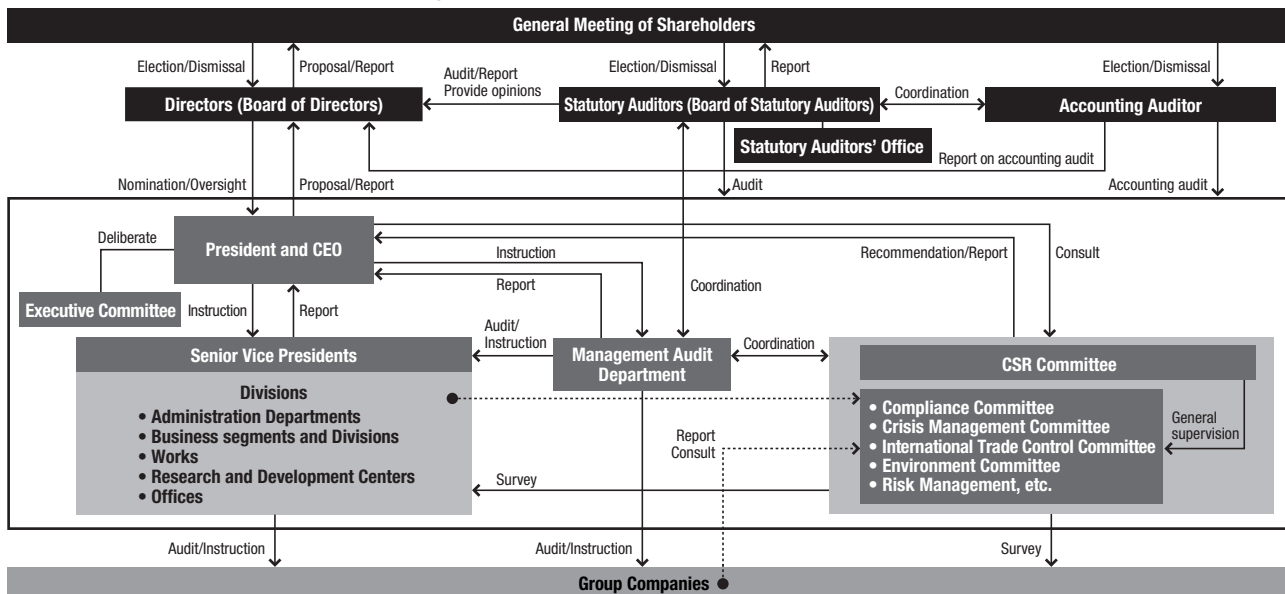
an unbiased position which is independent from the company's management team. The company has also streamlined the Board of Directors, shortened the term of office, and introduced an Executive Officer System. MHI has sought through these measures to reinforce the oversight functions of the Board of Directors 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 the 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 as 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

Corporate Governance Structure (including internal control systems) (as of April 1, 2012)





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.

### 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 2012, 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.

### New Organizations and Measures Concerning Business and Management

#### MHI establishes Engineering Headquarters to integrate company-wide EPC operations

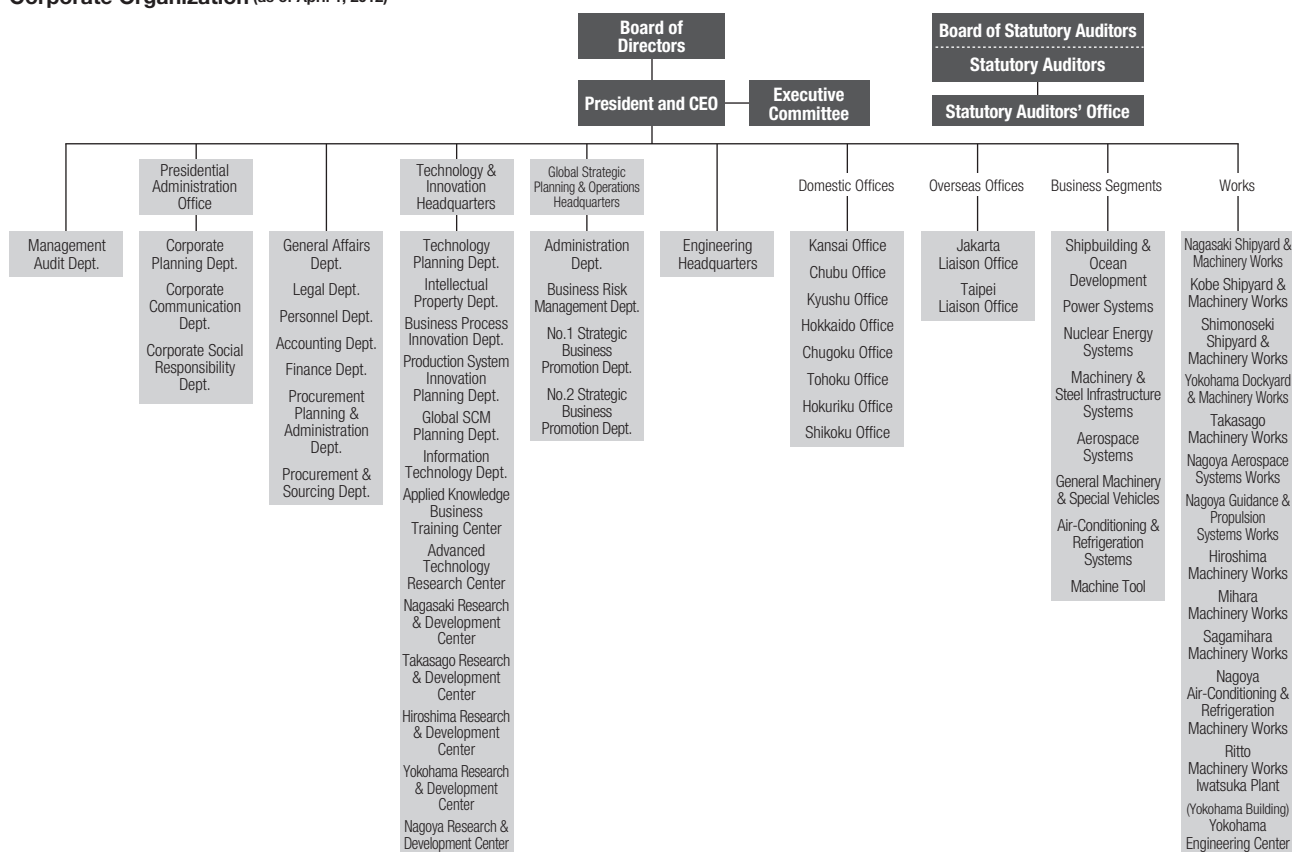
Against a background of rapid population growth and global environmental problems, and as numerous large-scale infrastructure projects are planned in developing nations, MHI has strengthened its Engineering, Pro-

urement and Construction (EPC) operations in order to be able to provide support for such projects.

As one part of this initiative, in January 2012, MHI integrated all EPC-related operations to form a new organization, Engineering Headquarters. This organization, which commenced operations with approximately 5,000 staff members (consolidated), integrated the business headquarters of the Sustainability Energy & Environment Strategic Planning Department, Power Systems Plant Engineering & Construction Department, Machinery & Steel Infrastructure Systems and the Environment & Chemical Plant Division. Moreover, a new department will be established to handle EPC-related activities for overseas nuclear power plant projects in the Nuclear Energy Systems business and large-scale infrastructure projects in the Machinery & Steel Infrastructure Systems business.

The establishment of this Headquarters at MHI is an opportunity to consolidate and strengthen our accumulated EPC technology and know-how, expand our EPC operations and core products, and respond swiftly to project opportunities requiring high-level solutions such as smart community-related projects.

Corporate Organization (as of April 1, 2012)



# Compliance

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.

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

### Establishing the Compliance Section to strengthen our ability to respond to crises

At MHI, enhanced systems and increased numbers of personnel are required so that we can further focus our attention on activities to prevent compliance violations, and also to respond promptly to letters we receive. In addition, reliable responses to the risks that surround MHI—such as the growing risk of cyber attacks through unauthorized network access—are becoming an increasingly important management issue. To that end, the Compliance Section was established inside the General Affairs Department on April 1, 2012.

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

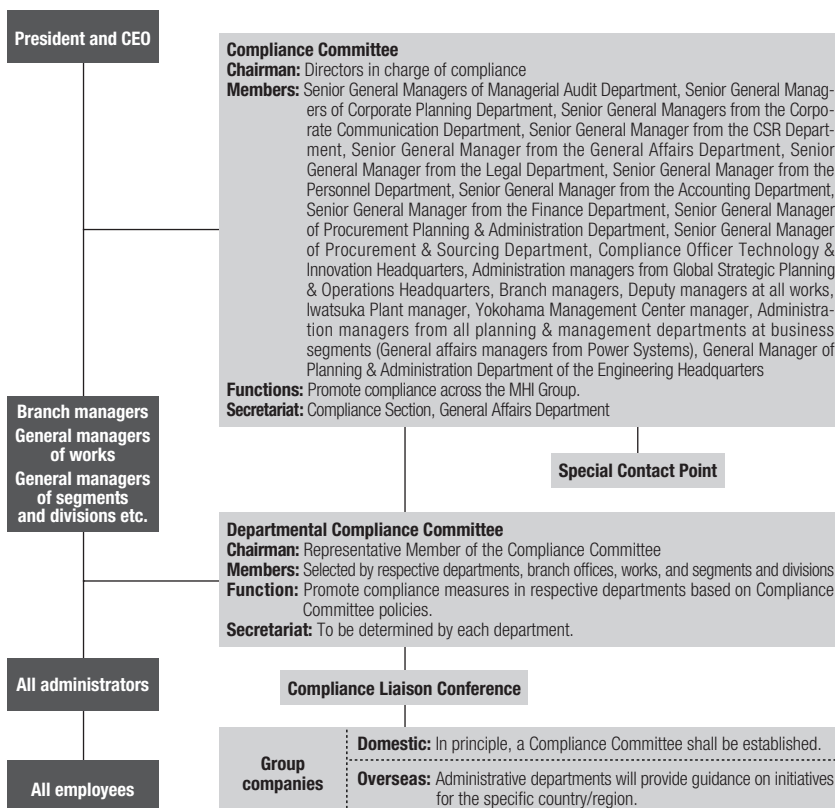
MHI's Compliance Committee was established in May 2001 to strictly observe applicable laws and social norms, and to promote fair and honest business practices. This committee is chaired by the director in charge of compliance, and its members consist of senior general managers from relevant departments at the Head Office, senior general managers, deputy heads of all works, and general managers from all Planning & Administration Departments at 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 mea-

asures for each respective department. These committees are chaired by the department's respective member of the Compliance Committee. 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.

Based on the results of compliance awareness surveys and the participation rate for compliance promotion training sessions, in fiscal 2011 it was confirmed that compliance activities have become widespread and employee awareness of compliance has risen. It was also confirmed that appropriate measures are being taken, such as the inclusion of relevant themes in training sessions for issues that need improvement.

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



A Word from an Employee



**Leading staff members with the aim of further improving compliance awareness**



**Kunihito Michizaki**  
Group Manager  
Maintenance Group  
MHI Oceanics Co., Ltd.

As a manager in the Maintenance Group, whose primary task is the maintenance of defense machinery, I serve as an instructor for compliance training given to about 30 staff members. During the training, I introduce specific examples of and focus on themes with strong connections to each staff member—such as manufacturing defects, unfair transactions and management, labor time management, and power harassment—based on the content of MHI's work, the relationship between the company and society, and the relationships between the company and its employees. Compliance is the basis of all corporate activities. In addition to personally taking actions while strictly observing compliance, I also intend to make efforts to raise staff awareness of compliance.



## Implementing a point of contact/hotline 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 that wish to report or discuss potentially unlawful or dishonest acts they have come upon. Contact can be made through email, phone, or fax. The Compliance Committee will promptly investigate the reported information and communicate with the director in charge. Information on what should be reported is contained in the Compliance Guidelines distributed to all employees and in bulletins published in-house monthly.

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

## 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.

## Violations of regulations for the manufacture of aircraft parts

A whistle-blowing incident occurred in the manufacturing process of titanium parts for various types of aircraft manufactured at the Oe Plant of Nagoya Aerospace Systems Works in June 2011. The results of an in-house investigation confirmed that a portion of pre-processing work for penetrant inspections (see note) was not performed correctly on some of the titanium parts manufactured from April 2006 to March 2010, although the processing process was implemented correctly.

After examining similar cases in a strict and wide-ranging way, other cases came to light in which in-house regulations seemed to have been violated. The results of technical evaluations, including simulation tests, confirmed that flight safety was not affected. However, MHI regarded this as a grave problem that harms the credibility of its products. In addition to making prompt reports to customers, MHI also continued making successive reports regarding the developments of later investigations. Responsible persons in related departments were subject to serious disciplinary action.

Afterwards, MHI was ordered to make reports and given stern warnings by the Ministry of Economy, Trade and Industry; Ministry of Land, Infrastructure, Transport and Tourism; and Ministry of Defense. MHI sends reports regularly to each ministry about the implementation of measures to prevent the recurrence of this problem.

The main causes of this violation of regulations were inadequate facilities and structures to respond to increased production, an environment in which workers were not sufficiently supervised and educated, and a lack of awareness by relevant individuals regarding the importance of the strict observance of rules.

Counter-measures to be implemented include the following reforms: facility investments required to improve the work environment and increase productivity, the appropriate allocation of personnel according to the quality and volume of work, improvements to the production management and quality assurance system, ample education, and the clarification of work instruction documents.

Furthermore, in order to make these reforms both permanent and reliable, improvement activities are being implemented from November 1, 2011. These activities are centered on the

Production Reform Committee in Aerospace Systems, with overall management by the Steering Committee led by the president. Respected individuals from outside the company also participate in the Advisory Committee that monitors these activities.

(Note) Penetrant inspection: A type of non-destructive inspection to detect part surface defects.

## Secure Safeguarding of Proprietary Information

### Preventing infection by computer viruses

In mid-August 2011, a computer virus infection was confirmed at several of MHI's works. The results of a survey indicated that this virus could leak files to websites outside of the company. Immediate steps, including removing the virus, were taken to prevent the damage from spreading, and further measures were taken to strengthen systems for both observation and defense.

Taking the scale and malignance of this virus into account, MHI submitted a damage report to the police regarding the infection. A detailed survey was conducted jointly with external experts, which confirmed the following things.

- ① It was confirmed that portion of data regarding products and technologies had been moved, in a way not intended by MHI, on the in-house servers. A further survey was conducted for this reason, which confirmed the possibility that a portion of some type of data on the servers had been leaked outside of the company.
- ② No external leakage of defense- or nuclear power-related information that must be safeguarded was identified.

MHI has always taken various measures to maintain a high level of information security. Based on 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 (such as targeted attack email exercises, see below).



# 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

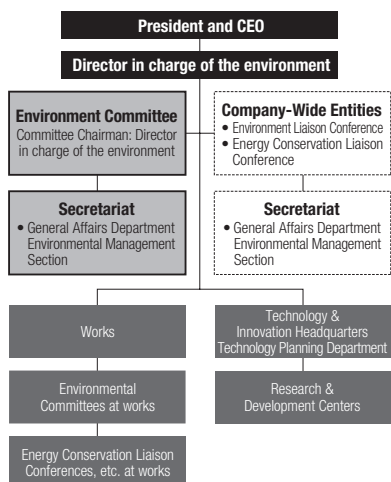
MHI has in place an environmental management system that covers the entire Group and promotes Groupwide, consolidated environmental management efforts.

### Environmental Management Promotion System

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

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 promote policies and conduct environmental management corresponding to the specific features of each works. In addition, Environmental Liaison Conferences for individuals in charge of the environment at the Head Office and each works and 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, are convened.

#### Environmental Management Structure (as of April 1, 2012)



### 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 2011 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 has been conducting on-site environmental audits across all 13 works in Japan since fiscal 2007. The purpose of the audits is to ensure compliance with environmental laws

#### 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.
2. 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.



and regulations and to conduct physical, on-site verification of operational conditions. Audit teams consisting of auditors from works other than those being audited perform their audit and then report results and improvements to the Environmental Committee, which are then shared across the company.

Five works were audited in fiscal 2011: Shimonoseki Shipyard & Machinery Works, Mihara Machinery Works, Hiroshima Machinery Works, Yokohama Dockyard & Machinery Works and Sagami-hara Machinery Works. They affirmed that items indicated during the previous audits were corrected appropriately and that steps were taken to improve the level of management.

## 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 2011, ISO 14001 certification was attained by one domestic company, Mitsubishi Aircraft Corporation, and two overseas companies, MHI Industrial Engineering & Services Private Ltd. and Mitsubishi Heavy Industries India Precision Tools, Ltd. This brings the number of ISO-certified companies to 83 of 116 domestic companies and 28 of 119 overseas companies.

## Preserving 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 and the MHI Group CSR Action Guidelines 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.

## Ongoing biodiversity programs around the country

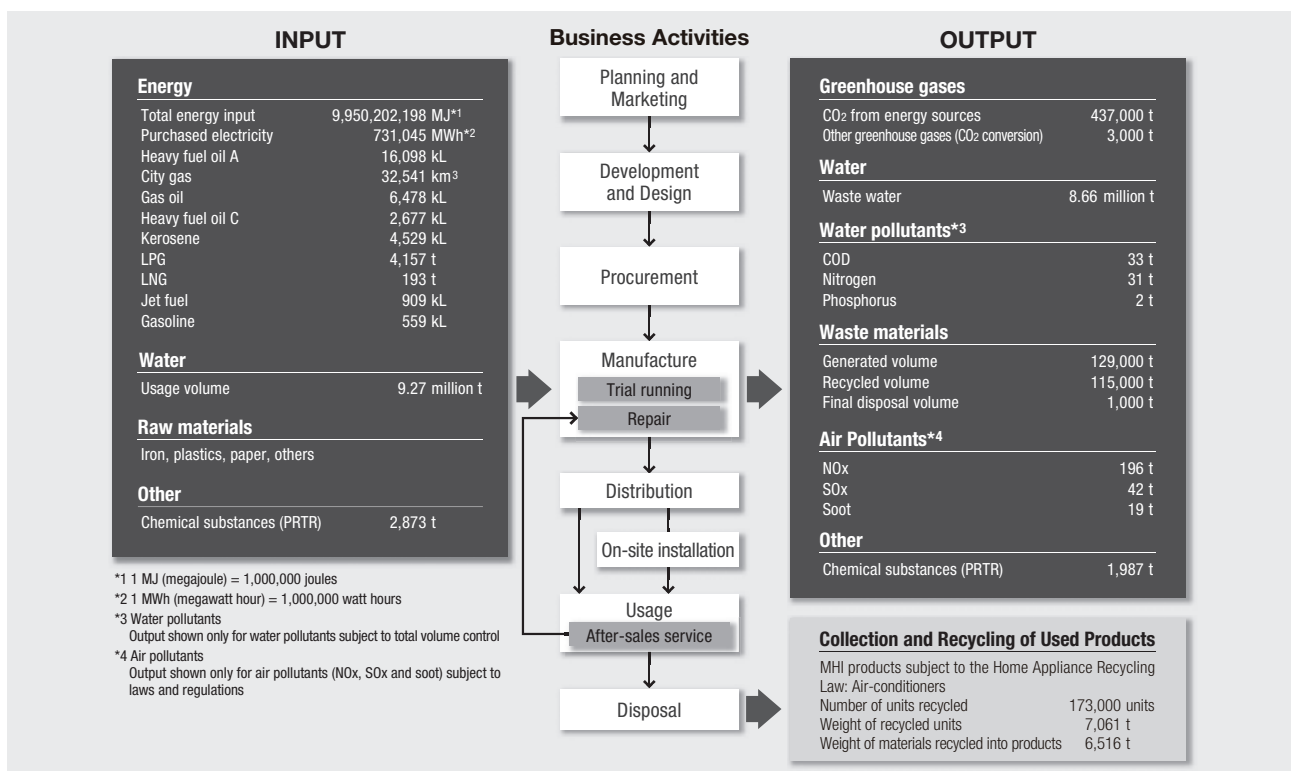
An endangered Japanese honeybee breeding program was launched in fiscal 2010 at the Nagoya Aerospace Systems Works. Inspired by the honeycomb structure of airplanes, the breeding program provides beehives for honeybees at the Works. Honey taken from the beehives was presented to the Nagoya Port Wildflower Garden Bluebonnet (on the bank opposite the Works in Nagoya City) in November 2011.

Meanwhile, Head Office and four works are also 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 habitats for many different creatures.



Head Office employees and their families at Umi-no-Mori (Sea Forest) in Tokyo

## Material Balance Input/Output Status (FY2011)



# Results of Promotional Efforts of Medium- to Long-Term Environmental Targets (FY2011 Results)

In fiscal 2010, MHI took the decision to extend the Medium- to Long-Term Environmental Targets, originally set down in fiscal 2002, through to fiscal 2012. Targets that had been achieved in fiscal 2010 would be revised upwards, while targets that had not been achieved by fiscal 2010 would be retained. The company as a whole is committed to working towards the new environmental targets for fiscal 2012. Outcomes in fiscal 2011 are listed below.

## Environmental targets and progress in fiscal 2011

○ = target achieved △ = requires further efforts

Item		Goals	Progress (as of the end of FY2011)	Evaluation
Realization of a low-carbon society  Energy savings (global warming measures)	Reduced CO <sub>2</sub> emissions from business activities	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: 437,000 tons 7.4% reduction from FY1990 level	△
	Reduced energy usage and CO <sub>2</sub> emissions from product transportation	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 from head office (Shinagawa and Yokohama combined) in FY2011 were 23.7% * down on FY2005 levels. * According to data reported to the Tokyo Metropolitan Government and the Bureau of Economy, Trade and Industry	○
		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)	FY2011 unit energy consumption of transport energy is 46.4	△
Form a recycling-based society  (waste and water resource countermeasures)	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: 129,000 tons 40.4% reduction from FY1992 level	○
	Reducing reliance on landfill	By FY2012, cut landfill waste disposal volume by 98% relative to FY2000.	landfill waste disposal volume cut by 97%	△
		The landfill waste disposal ratio in FY2012 will be below 1%.	landfill waste disposal ratio 0.6%	○
	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 7.22 million tons 24.3% reduction	○
Management of chemical substances  (control of chemical substances)	Elimination of equipment using PCBs and detoxification treatment	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 1,939 tons 14.5% reduction from FY2000 level	△
Group environmental management	Consolidated environmental management system	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 = 11.4 tons	△
		Ongoing ISO 14001 renewal by domestic works, Head Office, branch offices and research & development centers	ISO 14001 certification renewed at head office and domestic branches, Works and all research & development centers.	○
	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	Collecting environmental information (environmental data and environmental accounting) through the database system and disclosing information through this CSR Report.	○
	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)	92.3% by quantity 95.5% by value	○
Form a society that coexists with nature (Preserving biodiversity)	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.	○
		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. The need for impact assessment studies will be discussed.	○



# Countermeasures against Global Warming

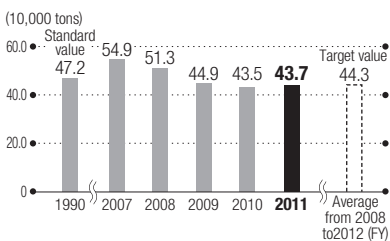
The MHI Group is working to reduce CO<sub>2</sub> emissions based on medium-term environmental targets set for the entire company. We are aiming for further emission cuts through the introduction of energy-saving devices and use of renewable energy.

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

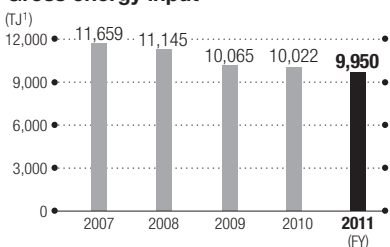
### Promoting CO<sub>2</sub> Emissions Reduction at Production Plants

In fiscal 2011, MHI's CO<sub>2</sub> emissions resulting from energy use were 437,000 tons—nearly the same amount as the previous year. 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, this represents a 7.4 percent reduction, thus achieving our single-year target decrease of six percent for the second year in a row.

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

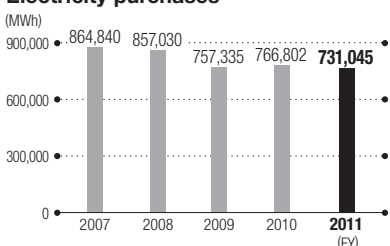


#### Gross energy input



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

#### Electricity purchases



In fiscal 2012, to attain our company-wide target reduction of a six percent average against the benchmark year of 1990 over the five-year period from fiscal 2008 to 2012, the entire company will work to achieve its targets through the expanded introduction of energy monitoring systems. Additionally, the company will steadily make further reductions through such efforts as upgrading to energy-saving lighting and air-conditioning as outlined in the CO<sub>2</sub> emissions reduction acceleration and enforcement action plan formulated in March 2009, as well as the plan for updating in-house air-conditioners formulated in November 2010. Furthermore, MHI will work for reductions by responding to energy-conservation requests from the government.

### Acquisition of approx. 120,000 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 2011 MHI acquired approximately 120,000 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, they will be transferred to a government retirement account with no penalty provided that the credits are used to achieve targets. Once transferred, the 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.

### Greenhouse gas emissions excluding CO<sub>2</sub> 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 2011 was 3,000 tons.

A Word from an Employee



#### Proactively adopting energy-conservation machinery at a new plant in India

**Akihiro Nishimura**

Deputy Manager  
Safety, Environment,  
and Facilities Team  
General Affairs Section  
General Affairs  
Department  
Ritto Machinery Works



The Machine Tool Headquarters is currently aiming for the world's top market share for gear cutting machines. To begin local production in India, which is experiencing remarkable economic development, we are building a plant in Bengaluru. I am involved with this initiative as a person in charge of infrastructure equipment. I am making use of the experience of domestic departments related to energy and environment preservation when considering the introduction of infrastructure equipment. We are also proactively attempting to adopt machinery that conserves energy, such as the introduction of inverter-type compressors. We are aiming to create a plant that is environmentally-friendly and is in strict observance of compliance while confirming with legal requirements in the region and in India regarding the environment.

## 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 2011, 500,000 kWh were used at the Mitsubishi Heavy Industries Head Office Building, and 504,000 kWh were used at the Mitsubishi Minatomirai Industrial Museum.



The Certificate of Green Power

## Examples of energy conservation and CO<sub>2</sub> emissions reduction at works and Group companies

### Switching to Alternative Types of Fuel

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 Hiroshima Machinery Works' Foundry & Forging Shop, fuel switching was implemented for tempering and heating furnaces in fiscal 2011 in order to reduce CO<sub>2</sub> emissions.

### Introduction of Solar Cell Panels at Nagoya Ryoju Estate

Nagoya Ryoju Estate Co., Ltd. set a goal of reducing CO<sub>2</sub> emissions by three percent on average against the benchmark year of 2007 over the five-year period from fiscal 2008 to 2012. As one facet of activities to reduce the amount of energy to achieve this goal, Nagoya Ryoju Estate has installed a total of 288 photovoltaic generation panels with a power output of 130 W per panel on the roof of the Ryoju Estate Head Office Building and at other locations. These solar panels have been in operation

since April 2011. In addition, the panels installed on the wall of the Ryokoh Building's South Wing have been placed at an angle in order to create shadows on the windows, functioning like eaves to prevent room temperatures from rising.

The installed photovoltaic panels have a total capacity of 37 kW, and the amount of energy generated in one year (over fiscal 2011) was 37,500 kWh. This was approximately 13 percent of the annual energy usage of the Ryoju Estate Head Office in fiscal 2011, and contributed greatly to reducing the amount of energy used.



Photovoltaic generation panels installed on the wall of the Ryokoh Building's South Wing

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

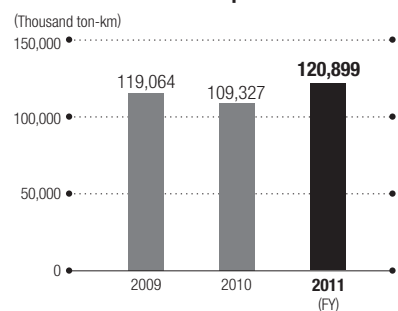
### Promotion of energy-conservation in transport through modal shift and load ratio improvement

MHI, which handles cargo transport 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

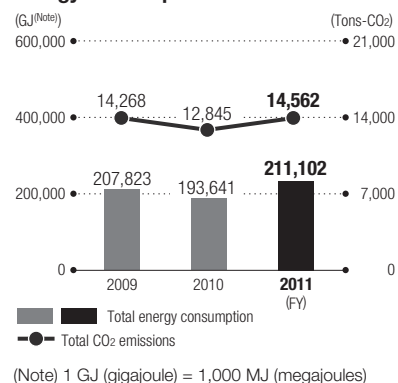
energy conservation during transport, such as by promoting modal shifts at works and improving load ratios. MHI is also working to streamline this plan, energy consumption, and consumption measured in basic units for energy.

Energy consumption (measured in basic units for energy) in fiscal 2011 was 46.4 units, a 3.5 percent decrease from the amount of 48.1 units in the benchmark year of fiscal 2007.

### Total Volume of Transportation



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



## Topics

### Implementing Energy-saving Measures at All Works

MHI worked to conserve energy at its works throughout Japan in order to respond to the power shortages caused by the effects of the Great East Japan Earthquake, as well as requests from the government for the area covered by Tokyo Electric Power Company (TEPCO). In particular, as an energy-saving measure during the summer in TEPCO's jurisdiction, at the Head Office Buildings (the Shinagawa Head Office Building and Yokohama Building) the dates of public holidays from autumn were switched to create consecutive summer holidays over the 10-day period from July 16 to 25, and over the 12-day period from August 11 to 22. In addition, private power generators (3,000 kW) made by MHI were operated at the Yokohama Dockyard & Machinery Works, while additional generators (2,200 kW) were operated at the Sagami-hara Machinery Works. As a result, peak en-

ergy usage was reduced by 31 percent in July, 29.1 percent in August, and 33.1 percent in September compared to the previous fiscal year.

Conversely, energy-saving measures were taken during the winter as well in the jurisdictions of the Kansai Electric Power Company and Kyushu Electric Power Company, where there is a tight supply-demand relationship for energy. Various measures were implemented just like during the summer in order to respond to reduction requests. In particular, at the Nagasaki Shipyard & Machinery Works, MHI utilized its originally developed lithium-ion secondary battery system to store energy in order to cooperate with energy reductions at times of peak usage.

In fiscal 2012 as well, the entire company will work towards energy-saving activities in order to meet requests from the government and society.



# Resource Conservation, Waste Management and Water Resources

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

### 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. For that reason we have set two new targets: reducing the landfill disposal volume in fiscal 2012 by 98 percent compared to fiscal 2000, and achieving

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

Works	Landfill disposal ratio (percent)
Nagasaki Shipyard & Machinery Works	0.9
Kobe Shipyard & Machinery Works	0.6
Shimonoseki Shipyard & Machinery Works	0.1
Yokohama Dockyard & Machinery Works	0.1
Takasago Machinery Works	0.1
Nagoya Aerospace Systems Works	0.5
Nagoya Guidance & Propulsion Systems Works	0.5
Hiroshima Machinery Works	0.1
Mihara Machinery Works	1.2
Sagamihara Machinery Works	0.2
Nagoya Air-Conditioning & Refrigeration Machinery Works	0.1
Ritto Machinery Works	0.6
Iwatsuka Plant	0.1

the landfill disposal ratio of one percent or less in fiscal 2012. MHI is taking actions to achieve these targets.

The landfill disposal volume was reduced by 97 percent in fiscal 2011 compared to fiscal 2000. In contrast, the average landfill disposal ratio for the entire company was 0.6 percent. MHI achieved the value of one percent or less, but some works did not meet this target. In fiscal 2012, efforts will be made so that all works can meet this target.

## 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 two percent reduction compared to the average annual usage (9.54 million tons) from fiscal 2005 to 2007. After making reduction efforts at each works, the target was met in fiscal 2011 when the usage amount was cut by 24.3 percent to 7.22 million tons.

As an example of measures to reduce water usage, underground industrial water pipes were brought above ground at Nagoya Aerospace Systems Works. This improvement stopped leakage caused by pipe deterioration,

and also made it possible to constantly confirm the status of the pipes.

A Word from an Employee



**Introducing the Electronic Manifest System throughout the entire company**

**Shinya Suzuki**

Environmental Management Section  
General Affairs Department  
Head Office



In order to digitize waste disposal manifests and introduce JWNET—which involves interacting with waste transport and disposal merchants on the Internet—it was necessary to link JWNET via a network with the in-house system used to manage paper manifest issuance that had already been introduced and was being operated throughout the entire company. If the data entered in the existing system is incorrect, transmission errors occur and manifests cannot be registered or issued. For that reason, I visited all works at the time of introduction. Together with works staff members, I confirmed each method for entering and operating the required items to digitize information, such as that related to waste contractors. In this way the introduction of JWNET was completed smoothly and according to plan throughout the whole company.

# Management of Chemical Substances

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

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

In fiscal 2011, MHI released a total of 1,987 tons of substances subject to

the Pollutant Release and Transfer Register (PRTR) system (Note).

Roughly 97 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) 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.



# 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

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

#### Establishing the Quality Management & Product Safety Planning Center to strengthen 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 involves 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 Quality Management & Product Safety Planning Center was established in April 2011 as part of the Production System Innovation Planning Department at the Technology & Innovation Headquarters. The new Center is dedicated to consolidating the progress achieved to date and enhancing management systems in the areas of safety and quality.

#### Continuously strengthening QMS created for products

MHI has created a quality management system (QMS) to offer products that are safe and of assured high quality. As of March 2012, all produc-

tion 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.

Recognizing the reality that there will be complaints from customers about products, MHI gathers technology and expertise from all Group companies to review and improve upon QMS process issues and reinforcement measures for each product.

#### Nuclear power generation: ongoing safety program administered by the Managing Board for Innovation in the Nuclear Business

The Managing Board for Innovation in the Nuclear Business was set up in December 2004 in response to an incident involving secondary piping in Unit 3 of the Mihama Power Station (supplied by MHI and operated by Kansai Electric) in August 2004. The Committee was given a brief to pursue internal reforms designed to prevent incidents and ensure safety in the nuclear industry.

In fiscal 2011, the Managing Board for Innovation in the Nuclear Business examined safety improvement measures for the PWR nuclear power plant in the wake of the accident at TEPCO's Fukushima Daiichi Nuclear Power Station. The Board also reported on initiatives for creating a culture of safety through lectures on safety by executives and dialog with business partners. The Board will continue to implement further improvements to raise the safety of nuclear power plants.

#### Measures to enhance PWR power plant safety

Nuclear Energy Systems set up an emergency task force immediately after the earthquake and deployed countermeasures, such as to respond to the loss of all AC power sources at the TEPCO's Fukushima Daiichi Nuclear Power Station to the PWR nuclear power plant. The Advanced Plant Safety Department, a dedicated body set up in August 2011, is working hard, with a workforce numbering around 600, to promote emergency safety countermeasures.

In April 2012, the government issued three safety criteria for restarting nuclear power plants. The first criterion on emergency safety procedures has already been attained at all 24 PWR plants. The second criterion on the stress test is being addressed in conjunction with the power companies. The third criterion, which sets out an implementation plan for further safety and reliability improvement measures, has been presented to PWR utilities in the form of a program of medium- to long-term safety measures. MHI remains committed to addressing these areas promptly in order to contribute to ongoing improvements in the safety and reliability of nuclear power generation plants and ensure consistency of power supplies.

MHI uses its website to report on safety initiatives for shipbuilding, aircraft, transportation systems, and air-conditioning.



#### Enhancing Product Safety

<http://www.mhi.co.jp/en/csr/csreport/people/customers02.html>



**Establishing an Accident Exhibit and Materials Room to educate people on the prevention of product accidents**

The Accident Exhibit and Materials Room, opened in April 2010 at the Applied Knowledge Business Training Center, displays information on incidents and accidents involving MHI products.

The MHI Group is a manufacturing-oriented group of enterprises. Ensuring the safety and quality of our products is our ultimate priority and we must boost awareness of this importance among all employees concerned with the development, manufacturing and after-service operations of MHI products. Already around 11,000 visitors have passed through the doors of the facility.

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 terrible nature of the accidents and the tension experienced at the accident site. The exhibition includes a life-size replica of a nine-ton fragment of turbine rotor that broke off in an explosion.

Some 2,800 employees (comprising new recruits, young engineers and administrative staff and newly appointed deputy managers) have attended training sessions describing past safety incidents.

In fiscal 2012, a training program was introduced specifically for newly appointed managers and new recruits in engineering sections. MHI is also considering introducing training courses for chief managers and assistant managers and middle-ranking engineering staff. In this way, MHI is striving to boost awareness of the importance of safety and quality throughout the company.



The refurbished Accident Exhibit and Materials Room

A Word from a Stakeholder



**MHI P&PM's Technical Expertise and Rapid Response Key in Working Toward an Early Recovery from a Devastating Flood**

**Karan Tejasen**

Director and General Manager  
Thai Containers Group Co., Ltd.



we will have achieved an early recovery and be back on our feet in no time.

Our Navanakorn Plant, which was damaged by flooding, relies on the outstanding quality of the latest corrugating and box-making machines by Mitsubishi Heavy Industries Printing & Packaging Machinery Ltd. After our temporary relocation to Pattaya, when we were conducting inspections and considering what recovery would entail, Mitsubishi began wholeheartedly supporting our efforts, going as far as hand-delivering parts. They came through when we really needed them and helped us restart our box-making machinery two weeks earlier than we had planned. We are extremely grateful for Mitsubishi's technical expertise and speedy response. They continue to spare no effort in helping us get our corrugating machine back on line, and we are confident that

A Word from an Employee



**Building on the successful development of the marine resource research vessel *Hakurei* to explore the future of the planet**

**Toru Togita**

Senior Project Manager  
Shimonoseki Ship & Ocean Engineering Department  
Ship & Ocean Engineering Division  
Shipbuilding and Ocean Development Business Segment



levels to a minimum while providing a platform for high-precision hydro-acoustic survey equipment. The successful completion of this world-leading advanced vessel was heralded by the client as "ushering in a new age in marine exploration and research for Japan."

Marine research is increasingly important in the exploitation of resources such as sea-floor hydrothermal deposits and methane hydrates as well as research into earthquakes. Through the design and construction of survey vessels, MHI is making an important contribution to surveying and exploitation of marine resources and in turn to the reliable supply of energy and mineral resources as well as to the advancement of oceanographic research.

I have been involved in ship design since starting at MHI about 30 years ago. As part of the Marine Energy and Mineral Resources Development Project launched by the Ministry of Economy, Trade and Industry in March 2009, MHI was selected via a public tender process to build the marine resource research vessel *Hakurei* on behalf of the Japan Oil, Gas and Metals National Corporation (JOGMEC). With only 2 years from contract signing until delivery in January 2012, the timeframe for this project was unusually tight for the manufacture of a special purpose vessel. The project was completed on time thanks to close liaison with the client throughout. The unique design features powerful actuators and an opening so called "moon pool" in the middle of the hull, yet keeps noise

**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 (billion yen)
2009	11.8	348.3
2010	12.4	361.0
<b>2011</b>	<b>12.8</b>	<b>359.7</b>

# Commitment to Our Shareholders and Investors

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

### 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 2010 Financial Results Briefing and Status of 2010 Medium-Term Business Plan Briefing was held in April 2011, with 219 attendees. This was followed by a business briefing on the Energy & Environment Business and eight business segments. Total attendance was 371.

MHI maintained its commitment to good communication with individual investors. Briefings were held in 14 cities across Japan (mostly in locations close to MHI facilities) and drew a combined attendance of around 1,600. The briefings at Mitsubishi Minatomirai Industrial Museum, History Museum (Nagasaki Shipyard & Machinery Works) and M's Square (in Shinagawa, Tokyo) also included tours of the adjacent facilities.

### Topics

#### External award for information disclosure on the website

MHI provides a range of useful information on the website as part of the company's commitment to investor relations.

In December 2011 MHI took first prize for the first time in the 2011 Best Internet IR Company awards run by Daiwa Investor Relations Co.Ltd. MHI was also declared best website in the Corporate websites ranking in all listed companies in Japan conducted by Nikko Investor Relations Co., Ltd. in November 2011, as well as first in the ranking by sector (machinery).

## 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 2011 were held at Nagasaki Shipyard & Machinery Works (in September 2011) and Ritto Machinery Works (in March 2012). Visitors commented on the wonderful sense of pride and workmanship in evidence, and were thrilled with the rare opportunity to witness first-hand how massive machines such as turbines are made in the factory.

MHI will continue striving to incorporate feedback and suggestions on IR programs.



An introduction to the process for manufacturing machine tools

## Plant Tours (FY2011)

Nagasaki Shipyard & Machinery Works (September 2011)

- Dock area
- Manufacturing processes for turbines and LPG carriers
- History Museum at Nagasaki Shipyard & Machinery Works

Ritto Machinery Works (March 2012)

- Production of machine tools
- Training Center
- Manufacturing Technology Center

A Word from a Stakeholder



## Continuous on-site disclosure

**Yoshinao Ibara**  
Managing Director  
Equity Research, Japan  
Research Division  
Morgan Stanley MUFG  
Securities Co., Ltd.



An important feature of IR activities at MHI is the commitment to ongoing on-site disclosure by all business operations. Most ordinary enterprises hold regular financial performance briefings, but MHI has so many different operations that briefings focused purely on financial updates are insufficient for providing important information on medium- to long-term investment decisions, such as demand projections and industry competition. At MHI, representatives of every business segments hold an annual presentation. In addition, MHI provides plant tours of key facilities—such as the Takasago Machinery Works in Japan—and holds meetings at Mitsubishi Power Systems Americas (MPSA)—one of its overseas subsidiaries—in order to reveal the true face of MHI to the stock market. In light of the accelerating globalization of business domains at MHI, the meetings at MPSA represent an advanced initiative. The Group's commitment to ongoing information disclosure provides the stock market with valuable information about company operations.



Investor Relations website



**Investor Relations**

<http://www.mhi.co.jp/en/finance/>



# Commitment to Our Business Partners (Suppliers)

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 effect improvements throughout the entire value chain.

## 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.

## 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 partner companies took part in a self-assessment survey of CSR programs conducted in fiscal 2011. MHI has incorporated the CSR efforts of partner companies as one item for evaluation and is preparing a system which appropriately evaluates these efforts.

MHI is a participant in the supply chain sectional meeting of the Global Compact Japan Network of domestic signatories to the United Nations Global Compact, which meets to discuss ideals and methodologies of procurement predicated on CSR principles.

### Mitsubishi Heavy Industries (Shanghai) Co., Ltd. (MHISH) Procurement Center consolidates and expands domestic procurement in China

To date, individual works have been responsible for their own procurement from China. With the opening of the MHISH Procurement Center at Shanghai in April 2012, these disparate procurement arrangements have been replaced with a consolidated and centralized approach that makes it easier to cultivate relationships with new suppliers.

MHI will boost procurement of functional materials, electrical components, castings and pipe materials from China in line with the company's globalization strategy.

### 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 2011, MHI continued to solicit VE proposals\* from business

partners via the company website. 3,800 proposals have been adopted.

The fourth Business Partners Conference in November attracted 294 participants. The meeting included presentations on the implications of globalization and MHI's response focusing on the company's core strengths; company-wide procurement strategies; and the importance of maintaining a shared collaborative vision with business partners. Certificates of gratitude were presented to 12 business partners in recognition of significant contributions in the form of VE proposals.

In addition, individual works and business segments have been holding similar business partner conferences designed to foster stronger ties with business partners.

(Note) VE: A method for both improving product value and reducing costs

A Word from a Stakeholder



### Providing steel plates for rebuilding power stations

**Jun Kadota**  
Executive Assistant &  
General Manager,  
Sales Coordination & Operation  
Planning Dept. (then)  
General Manager, Plate Sales  
Dept. (in the aftermath of the  
Great East Japan Earthquake)  
JFE Steel Corporation



JFE supplied steel plates for construction of power plants to provide emergency power in the aftermath of the Great East Japan Earthquake. The high-performance steel plate material was required to withstand extreme environmental conditions, and the job involved extensive discussions of materials specifications and careful quality control monitoring during the manufacturing process. JFE maintained constant contact with MHI through daily technical briefings and factory inspections. Though the request was received immediately after the earthquake, JFE was able to deliver the materials with a very short turnaround. JFE is keen to cultivate a reputation in the industry as a reliable business partners operating in a broad range of fields.

# Commitment to Our Employees

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

### Active recruitment and utilization of mid-career, overseas and female workers

MHI's basic policy for recruiting and developing human resources had been to hire new graduates and provide ample in-house training. However, MHI also hires mid-career professionals when necessary according to in-house needs because a diverse range of human resources is required to be victorious in a fiercely competitive industry (in fiscal 2011, approximately 630 new graduates [who started in April 2012] and approximately 110 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. Equal treatment is also given to both types of employees. Mid-career workers play an active role in their respective fields, where they make full use of the skills they have cultivated.

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 2011, in addition to the same hiring activities in the U.S., the U.K., and Singapore we carried out during the previous year, MHI also implemented recruitment PR activities for the first time

in Australia and Korea. This resulted in the hiring of about 40 new graduates. (Mid-career employment included one overseas university student and six people with non-Japanese citizenship.)

MHI is also promoting the employment and utilization of female workers, and the number of female managers has been increasing each year. In fiscal 2011, approximately 26 percent of new graduate and clerical recruits were women.

### Expansion of hiring to actualize 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. 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. In this way, an environment has been created where as many differently-abled people as possible can work with peace of mind.

In fiscal 2011, MHI's efforts to promote the expansion of hiring for differently-abled people included strengthening its hiring activities by raising in-house target values for the employment of differently-abled people, utilizing an employment website for differently-abled people, collaborating with regional "HelloWork" (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 2.08 percent as of April 1, 2012, exceeding the statutory minimum of 1.8 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 communication skills, career design, and management.

With the aim of strengthening our ability to respond to globalization, in fiscal 2011 we newly established systems including MHI Global Training (MGT), in which young employees are dispatched overseas.

## 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

## Basic Data

Breakdown of employees by age (FY2011)

	Under 30	30-39	40-49	50-59	60 and over
Male	8,101	9,475	6,305	5,328	429
Female	773	863	759	444	17
<b>Total</b>	<b>8,874</b>	<b>10,338</b>	<b>7,064</b>	<b>5,772</b>	<b>446</b>

Number of new graduates hired

	University	Vocational school and junior college, high school, other	Total (females in brackets)
Joined the company in April 2011	480	506	<b>986 (80)</b>
Joined the company in April 2012	348	286	<b>634 (60)</b>

Number of female managers (section manager and above; excluding medical staff)

April 2008	April 2009	April 2010	April 2011	April 2012
182	219	248	266	<b>288</b>

Number of rehired employees (excluding those from Group companies)

April 2010	October 2010	April 2011	October 2011	April 2012
1,720	1,893	2,172	2,229	<b>2,259</b>



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.

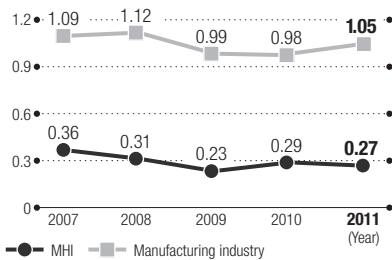
Other initiatives not related to the operation of systems include holding discussion panels between individuals on childcare leave and those who have taken such leave in the past in hopes of enabling a smooth transition back to work. In the future as well, we will go beyond merely operating these systems. We will work to promote employee awareness and understanding, as well as to create comfortable workplaces with consideration given to work-life balance.

### 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



\* 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 × 1,000,000.

### 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.

A Word from an Employee



### Communication in workplaces is important for carrying out both work and childcare



Mina Tsuchiya (left)

Manager  
Intellectual Property Strategy Group  
Intellectual Property Department  
Technology & Innovation Headquarters

When I gave birth to my first and second daughters, I took approximately one year off through a combination of maternity and childcare leave for each child. After I returned to work, I ended up doing different types of work than before my leave, and my range of duties was expanded. This was possible exactly because MHI is a company that deals with a diverse range of products and businesses, and also helped me continually improve my career. Therefore, I am very grateful to the company and my working environment. When raising children, one has to take many days off due to sudden illness or other reasons, so it is impossible to be employed without the understanding of people in one's workplace. I think it is important to make efforts to communicate with one's superiors, colleagues, and subordinates, such as by making reports on work-related and other circumstances in order to gain understanding. In the future I intend to place importance on such communication while making efforts to carry out both daily work and childcare.

A Word from an Employee



### Our mission is ensuring that no accidents occur at any construction site



Yoshio Ito  
Engineering Manager  
Health & Safety  
Management Department  
Engineering Headquarters



Giving safety-related guidance at an overseas site (Mr. Ito is to the right)

I am in charge of overall safety management for construction that is carried out overseas by the Engineering Headquarters. Our mission is to ensure that no accidents occur at any of our construction sites. Our efforts to that end include the creation of a safety management system that can be used in response to various customers, the establishment of analysis methods and structures based on numeric indices, and the provision of support for estimation projects during the planning and proposal stages. In fiscal 2011, I spent several months visiting overseas sites where accidents had occurred that resulted in employee leave. There, we achieved a total of one million work hours without a Lost Time Accident (three million hours as of May 28, 2012). We also received words of praise from customers. In the future as well, I will work to increase awareness of safety among construction managers and advisors in order to achieve no accidents for all projects.

# Social Contribution Activities

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

### 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.

## Achievements Made through Social Contribution Activities (FY2011)

### Expenditure of Approx. 1.61B 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 2010, MHI spent approximately 1.61 billion yen on social contribution activities, equivalent to 2.36 percent of ordinary profit.

### 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.

Following the Great East Japan Earthquake on March 11, 2011, MHI donated materials and supplies as well as funds for reconstruction in order to help with the rebuilding effort. MHI employees have contributed their time to volunteer activities in disaster regions such as food preparation and distribution, cleaning work and debris removal, as well as providing science classes and charity musicals at elementary schools to support the children.

### New In-house System to Promote Social Contribution Activities

MHI introduced a new in-house system 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 a corresponding budget allocation, which is then used to support NPOs and other local groups working to address social issues and social business, in the form of funding or employee volunteer dispatch.

In fiscal 2011, ahead of the 2012 launch of the system, MHI consulted with various bodies including municipal offices responsible for local development and social welfare committees, received introductions to NPOs active in the local community and was able to meet with them. Fifteen organizations were chosen through this process. From fiscal 2012, MHI has been working with these organizations to develop and implement social contribution activities designed to encourage employees from all works and facilities to get involved in volunteer programs.



Meeting with the local chamber of commerce and industry and forestry cooperatives (Ritto Machinery Works)

### Change in expenditures on social contribution activities

(Millions of yen)

	FY2008	FY2009	FY2010
Academic research	128	339	247
Education	766	537	633
Community activities	131	158	141
Sports	112	114	149
Other	463	507	440
<b>Total</b>	<b>1,600</b>	<b>1,655</b>	<b>1,610</b>
Percentage of ordinary profit	2.12%	6.89%	2.36%

(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) Figures for FY2011 are now being prepared.

### Major support activities in recent years

(Millions of yen)

Year	Disaster	Scale of support	Type of support
2011	Thailand floods	45	Cash donation and supplies
	Great East Japan Earthquake	680	Solar power systems, forklift trucks and cash donation
2010	China Qinghai Earthquake	10	Cash donation
	Chile Earthquake	5	Cash donation
	Haiti Earthquake	10	Cash donation and donation of lighting towers with generators
2009	Indian Ocean Earthquake and Tsunami	3	Cash donation
	Damage from Typhoon Morakot	2.54	Cash donation
	L'Aquila Earthquake in Italy	2.54	Cash donation
2008	China Sichuan Earthquake	210	Cash donation
	Cyclone in Southern Burma	3	Cash donation
	Extraordinarily heavy snow in Southern China	1.5	Cash donation
	Iwate-Miyagi Nairiku Earthquake	2	Cash donation



### Examples of Social Contribution Activities (FY2011)

More information about the exemplary activities listed below can be found on the website.

#### MHI activities

- Donation of tableware to nursing care services under the Matching Gift program (head office)
- Digging for potatoes with kindergarten children (Shimonoseki Shipyard & Machinery Works) ①
- Diamond Cup baseball tournament for children from a children's home (Nagasaki Shipyard & Machinery Works)
- Internships for high school students (Takasago Machinery Works) ②
- Introduction to Manufacturing workshop for elementary school students (Ritto Machinery Works)
- Clean-up campaign in conjunction with the Mt. Fuji Club (Nagoya Guidance and Propulsion System Works) ③
- Promotion of Fair Trade products (Nagoya Aerospace Systems Works)

#### Group Company Activities

- Environmental slogan competition (Mitsubishi Heavy Industries Parking Co., Ltd.)
- Summer CAD workshop for kids (Takasago office, MHI Plant Engineering Co., Ltd. (formerly Koryo Engineering Co., Ltd.))
- Work experience for junior high school students (Ryoin Co., Ltd.) ④
- Proud Sponsors of the Aberdeen festival (Mitsubishi Power Systems Europe, Ltd.) ⑤
- Plant tours and lecture programs (CBC Industrias Pesadas SA) ⑥



A Word from a Stakeholder



**We count on MHI's initiatives for local community development and improvement of social welfare**



**Junko Kanamori**  
Secretary General  
Tokyo Council of  
Social Welfare

MHI has been supporting our work since 2004 in many ways, such as by donating food receptacles (featuring MHI shape-memory technology) and providing invitations to stage musicals.

In fiscal 2011, MHI donated 1,000 items of "shape-memory" tableware to 51 facilities for differently-abled adults and children. The tableware can be molded using hot water into a shape which is convenient for the individual user. The tableware makes mealtimes much easier for people with disabilities and has proven very popular. Recently, MHI has kindly agreed to provide additional donations of tableware designed for children in response to our requests.

The future of social welfare in Japan is a pressing issue given the declining birthrate and aging population. At a time when the bonds between people and between individuals and their communities are becoming increasingly fragile, we are especially grateful to MHI for their promotion of social contribution activities and their ongoing commitment to the Tokyo Council of Social Welfare, based on CSR principles of management, despite the difficulties posed by the 2011 earthquake and the ongoing economic recession. I look forward to the continued support of MHI for local community development and improvement of social welfare in the future.

### Support for Culture Facilities Associated with the Mitsubishi Group

As a member of The Mitsubishi Group, MHI provides economic assistance to foundations involved in the operation of cultural and other facilities.

For example, MHI funds Toyo Bunko (The Oriental Library), the oldest and largest research library on Oriental studies in Japan (founded in 1924 by Hisaya Iwasaki, the third president of Mitsubishi). Toyo Bunko houses around one million publications including five designated national treasures and seven important cultural properties, along with valuable documents in Asian languages. Toyo Bunko is one of the five great Oriental research libraries in the world.

The Seikado Bunko Library, founded by Yanosuke Iwasaki, the second president of Mitsubishi, and his son, Koyata Iwasaki, the fourth president of Mitsubishi.

The seikado Bunko Library and the Seikado Bunko Art Museum are both administered by the Seikado Foundation. The Seikado Bunko is home to some 6,500 Oriental antique pieces including seven national treasures and 83 important cultural assets, along with some 200,000 Japanese and Chinese classics.

As a member of the Mitsubishi Group, MHI has sponsored the Mitsubishi Foundation. It was founded in 1969, disburses research funding totaling 14.7 billion yen to around 3,000 selected projects, including two previous Nobel prize recipients. The Foundation has supported the work of many recipients of the Order of Cultural Merit and other culture awards. In this way, MHI contributes to improvement of Japanese scholarship, culture and social welfare.



The Morrison Collection in The Toyo Bunko



Seikado Bunko Art Museum (left) and Library (right)

# CSR Medium-Term Action Plan and Results of Promotion for FY2011 to FY2013

CSR targets for the period between FY2011 to FY2013 were established as follows based on the results of activities effected between FY2008 and FY2010

Area	Priority item (responsibility)	Medium-term targets (FY2011–2013)
CSR Promotion	Broadened CSR awareness (CSR Committee / CSR Department)	<ol style="list-style-type: none"> <li>1. Penetration of global awareness towards CSR including overseas locations and Group companies</li> <li>2. Global information dissemination of status of CSR activities</li> </ol>
	Socially beneficial activities (CSR Department)	<ol style="list-style-type: none"> <li>1. Proactive development of social contribution activities with the cooperation of various stakeholders</li> <li>2. Examining possibilities for the globalization of social contribution activities and development of social business</li> </ol>
	Strengthening information dissemination (Corporate Communication Department) 1. Enhancement of brand value concerning the environment 2. Promotion of IR activities 3. Improvement of the Mitsubishi Minatomirai Industrial Museum	<ol style="list-style-type: none"> <li>1. Acquiring broad recognition as a global company and increasing the number of MHI fans</li> <li>2. 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</li> <li>3. Establish its role as a facility that provides opportunities for children to develop an interest in science by showing them the pleasure of manufacturing</li> </ol>
	CSR procurement (Procurement Planning & Administration Department, Procurement & Sourcing Department)	<ol style="list-style-type: none"> <li>1. Sharing values regarding the promotion of CSR activities with business partners and avoiding procurement risks with key partners</li> <li>2. Effect extensive compliance and adherence to laws and regulations with regard to procurement tasks</li> <li>3. Continuous compliance to environmental regulations</li> </ol>
Compliance	Thorough compliance (Compliance Committee)	<ol style="list-style-type: none"> <li>1. Decrease matters in need of improvement even at Group companies</li> <li>2. Early comprehension and improvement of matters in need of improvement</li> </ol>
	Order compliance (Order Compliance Committee)	<ol style="list-style-type: none"> <li>1. Continuation of zero policy for violations to the Antimonopoly Act</li> <li>2. Penetration of order compliance activities</li> <li>3. Establishment of order compliance consciousness through awareness and educational activities</li> </ol>
	Compliance with the Construction Business Act (Construction Business Act Compliance Committee)	<ol style="list-style-type: none"> <li>1. Establishment of a self-compliance system (compliance activities incorporated in daily tasks)</li> <li>2. Enhancing compliance at Group companies</li> <li>3. Enhancing contract compliance with business partners</li> </ol>
	Compliance with export-related laws and regulations (International Trade Control Committee)	<ol style="list-style-type: none"> <li>1. Strengthening the export control management systems and fostering experts in export control management</li> <li>2. Further continuous supports for Group companies to strengthen their export control management systems</li> </ol>
Environment	Reduced CO <sub>2</sub> emissions (Environment Committee)	<ol style="list-style-type: none"> <li>1. Average CO<sub>2</sub> emission between FY2008 and FY2012 to be reduced by 6% compared to 1990 level</li> <li>2. Establish CO<sub>2</sub> emission reduction target until FY2020 (including Group companies) and promote reduction activities</li> </ol>
	Group environmental management (Environment Committee)	<ol style="list-style-type: none"> <li>1. Increase the Group's environmental performance data collection rate both in Japan and overseas</li> <li>2. Encourage the acquisition of certifications of environmental ISO standards and others to Group companies in Japan and overseas that are consolidated</li> </ol>
Human rights and labor	Raising awareness of human rights (Committee for Raising Awareness of Human Rights)	<ol style="list-style-type: none"> <li>1. Embedding understanding and consciousness about human rights issues company-wide</li> <li>2. Development of sexual harassment and "power harassment" (workplace bullying &amp; harassment) prevention efforts</li> <li>3. Establish a workplace and corporate culture where human rights issues do not arise</li> </ol>
	Promote employment of the differently-abled people (Committee for the Promotion of Employment of the Handicapped)	<ol style="list-style-type: none"> <li>1. Attainment of company-wide hiring rate of 2.2% by end of FY2013</li> <li>2. Company-wide penetration of understanding and consciousness regarding the expansion of employment of the differently-abled people</li> <li>3. Systematic employment in each in-house department</li> </ol>
	Creating a better workplace (Personnel Department) 1. Enriched education 2. Strengthening mental health 3. Utilization of retired employees 4. Nurturing the next generation	<ol style="list-style-type: none"> <li>1. Strengthening global human resource development based on the road map for cultivation of global human resources (G-MAP)</li> <li>2. Conduct effective measures to combat mental health problems from prevention to return to work</li> <li>3. Providing a place for seamless rehiring in accordance with the raising of the minimum age to receive public pension fund payments</li> <li>4. Continue to maintain the next-generation accreditation mark</li> </ol>
Product responsibility	Ensuring quality and safety of nuclear business (Managing Board for Innovation in the Nuclear Business)	<ol style="list-style-type: none"> <li>1. Sophistication and continuous improvement of QMS (Quality Management System) with an eye on global business development</li> <li>2. Exhibit our comprehensive technological strengths and enhance customer satisfaction</li> <li>3. Increase the importance of compliance and create a culture of safety</li> </ol>
	Product safety (Production System Innovation Planning Department)	<ol style="list-style-type: none"> <li>1. Developing product safety activities within quality management</li> <li>2. Steady development of product safety activities</li> <li>3. Maintaining the infrastructure for product safety activities</li> </ol>
Risk management	Risk management (Management Audit Department)	<ol style="list-style-type: none"> <li>1. Communicating a consciousness for important risks among all departments and sections and establishing a risk management PDCA cycle through efficient and effective audits</li> </ol>



Results from CSR activities in FY2011	CSR Action Plans for FY2012
<ol style="list-style-type: none"> <li>(1) Group-wide survey to understand awareness and current status of CSR in overseas Group companies</li> <li>(2) Briefings on group CSR policy for companies at locations in the Americas and China</li> <li>(1) Distribution of CSR reports in Japanese and English to domestic and overseas Group employees (83,000 copies)</li> <li>(2) Creation of a CSR website in Chinese considered</li> </ol>	<ol style="list-style-type: none"> <li>(1) Continue to hold briefings for overseas Group companies</li> <li>(2) Consider and implement global measures for penetration of corporate culture reforms and CSR</li> <li>(1) Publish CSR report in Japanese and English</li> <li>(2) Consider creating a CSR website in Chinese, and updating it alongside publication of the CSR report</li> </ol>
<ol style="list-style-type: none"> <li>(1) Establishment of a "the fund for social contributions" system</li> <li>(2) Holding of practical discussions with local administration and social welfare councils, NPOs, etc. in each business location area to determine how we could increase collaboration from FY2012 using the same system</li> <li>Consideration of applicable countries/areas and activities, and NGO/NPOs we collaborate with, to implement socially beneficial activities globally using the same system.</li> </ol>	<ol style="list-style-type: none"> <li>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</li> <li>Improve/expand the system for the following year, based on the performance of the fund</li> </ol>
<ol style="list-style-type: none"> <li>(1) Formulation of a new corporate design and Group logo</li> <li>(2) Establishment of the content of the "Discover MHI" website. Content tied to MHI Graph, etc.</li> <li>(3) Advertising in a mixture of media (TV, newspapers, magazines, online)</li> <li>(1) Implementation of IR by managers at major foreign investors</li> <li>(2) Holding of 14 briefings for individual investors</li> <li>(3) Opening of website for individual investors, "MHI, from the viewpoints of Energy and the Environment" (Japanese only)</li> <li>(1) Revamped the "Daily Life Discovery Zone" and "Transportation Zone" into consolidated concept</li> <li>(2) Establishment of "MHI Square"</li> <li>(3) Increased varieties of craft workshops</li> </ol>	<ol style="list-style-type: none"> <li>Promoting a global advertisement strategy by building an integrated corporate image</li> <li>Hold more investor events at sites both in Japan and overseas</li> <li>Responding systematically to both the intangible (staff training) and tangible (exhibit refurbishment) aspects</li> </ol>
<ol style="list-style-type: none"> <li>Implementation of successive surveys to gauge business partner involvement with CSR</li> <li>Results and examples of improvement from procurement-related monitoring at each office to be applied to similar processes</li> <li>Reduction of transportation energy (FY2007 basic units: 96 attained out of 100)</li> </ol>	<ol style="list-style-type: none"> <li>Reexamine scope and implementation method of surveys conducted at business partners</li> <li>Monitoring of procurement-related laws and regulations and effecting improvement follow-ups</li> <li>Reducing transportation energy</li> </ol>
<ol style="list-style-type: none"> <li>Establishment of an "MHI external contact point"</li> <li>Formulation of company policies and measures against power harassment (workplace bullying &amp; harassment)</li> <li>Strengthening of Group company efforts</li> </ol>	<ol style="list-style-type: none"> <li>Strengthen support for overseas Group companies</li> <li>Strengthen collaboration for crisis and risk management</li> </ol>
<ol style="list-style-type: none"> <li>Confirmation of status of implementation of rules of conduct and compliance checks, and use of special monitoring to ensure that problematic cases do not occur</li> <li>Promotion of compliance awareness and information-sharing among related parties by establishing the Order Compliance Committee and implementing special monitoring</li> </ol>	<ol style="list-style-type: none"> <li>Confirm the implementation status of rules of conduct and compliance checks</li> <li>Implement efficient and effective special monitoring</li> <li>Promote instructional/educational activities for order compliance</li> </ol>
<ol style="list-style-type: none"> <li>Verifying thoroughly the Installation Organizational Chart Register at the works prior to construction</li> <li>Creation of a Group company compliance system, implementation of monitoring visits for basic compliance aims</li> <li>Implementing continuous monitoring to ensure contracts with business partners are concluded in a timely manner</li> </ol>	<ol style="list-style-type: none"> <li>Implement drafting of measures for detecting problems in maintenance of Installation Organizational Chart Registers</li> <li>Monitor current status of Group company compliance</li> <li>Formulating measures to deal with compliance problems in contracts with business partners</li> </ol>
<ol style="list-style-type: none"> <li>(1) Implementing common e-Learning programs in the whole company</li> <li>(2) Attending external training sessions</li> <li>(3) Promoting acquisition of export control expert qualifications</li> <li>(1) Implementing auditing for Group companies</li> <li>(2) Confirming management status. Implementing regular training for Group companies</li> </ol>	<ol style="list-style-type: none"> <li>Continuously implement internal training at all levels</li> <li>Promote further acquisition of export control expert qualifications</li> <li>Continuously audit Group companies, implement regular training</li> </ol>
<ol style="list-style-type: none"> <li>7.4% reduction of CO<sub>2</sub> emission (FY 2011) compared with FY1990 level</li> <li>Upgrading of more than 823 air conditioning units based on the In-house Air-Conditioner Upgrade Plan. Verification of the effectiveness of the monitoring system introduced in FY2010 was done, and ensured adequate results.</li> </ol>	<ol style="list-style-type: none"> <li>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</li> <li>Expand the monitoring system to the whole company</li> <li>Implement regular follow-ups for reduction plans of individual works and their actual reduction performances</li> </ol>
<ol style="list-style-type: none"> <li>Consideration of an introduction of tool for collecting domestic and overseas Group company environmental performance data</li> <li>Introduction of ISO environmental standards by a total of 83 domestic and 28 overseas Group companies; holding of the Environmental Meetings and the Environment Liaison Conferences for Group companies (16 participating companies)</li> </ol>	<ol style="list-style-type: none"> <li>Promote acquisition of environmental ISO standards, etc. for domestic and overseas Group companies</li> <li>Promote the setting of environmental targets for overseas Group companies</li> <li>Hold the domestic Group company environmental meetings, and hold the Environment Liaison Conferences at each overseas regional supervising office.</li> </ol>
<ol style="list-style-type: none"> <li>Incorporation of human rights education into training at all levels, and implementation without omission</li> <li>Implementing a variety of initiatives to prevent "power harassment" (workplace bullying &amp; harassment), including e-learning, distribution of brochures, lectures for senior executives, and provision of an external advice center</li> </ol>	<ol style="list-style-type: none"> <li>Hold meetings of the Committee for Raising Awareness of Human Rights</li> <li>Introducing human rights issues in each training program and continuing implementation</li> <li>Strengthening awareness of sexual harassment and "power harassment" (workplace bullying &amp; harassment) prevention</li> </ol>
<ol style="list-style-type: none"> <li>Implementing positive employment activities such as adoption of the job-hunting website use and participation in job fairs, and achieving a hiring rate of 2.0%</li> <li>Company-wide meetings of staff in charge of recruiting differently-abled persons held</li> <li>Implementing follow-up for individual departments</li> </ol>	<p>Continuously implementing positive employment actions so as to achieve the target of a hiring rate of 2.1% for differently-abled people</p> <p>(Unify the "Committee for the Promotion of Employment of the Handicapped" and the "Committee for Raising Awareness of Human Rights" from FY2012)</p>
<ol style="list-style-type: none"> <li>Implementing trials for new training, and sending 51 young employees on assignment overseas in accordance with G-MAP</li> <li>(1) e-Learning program for managers formulated reflecting results of mental health case analyses</li> <li>(2) Establishing an industrial medicine conference, and creating a common checklist, etc. for the company</li> <li>Considering possibilities for employment of retired employees, as part of system reform</li> <li>(1) Formulating a 3rd action plan based on the Law to Promote Measures to Support Fostering Next-Generation Youths</li> <li>(2) Expanding systems such as establishing leave for fertility treatments</li> <li>(3) Implementing meetings for those taking childcare leave as a resumption of work measure</li> </ol>	<ol style="list-style-type: none"> <li>Fully implement global education in accordance with G-MAP</li> <li>Strengthening mental health promotion systems and initiatives in the whole company to reduce absence due to mental health disorders <ol style="list-style-type: none"> <li>Promoting increased awareness of mental health initiatives among employees, and promoting effective mental health care</li> <li>Providing a mental health advice system that is easy for employees to use</li> </ol> </li> <li>Continually examining possibilities for employment of retired employees, as part of system reform</li> <li>Accelerate penetration of knowledge and understanding among employees about next-generation development and work-life balance support</li> </ol>
<ol style="list-style-type: none"> <li>Decreasing US-APWR design audit suggestions through design process improvement actions, improving customer understanding etc.</li> <li>Demonstrating our comprehensive technology for works in conformity with guidelines applying to preventative maintenance works (Alloy 600 PWSCC mitigation, etc.), recheck (back-check) of the seismic design, etc., and becoming highly-rated by our customers</li> <li>Increasing awareness of nuclear safety and ensuring there is no unethical behavior through town hall meetings or on-site lectures on safety by senior managers, etc.</li> </ol>	<ol style="list-style-type: none"> <li>Continue with the "Managing Board for Innovation in the Nuclear Business", strive for better safety and quality assurance</li> <li>Reflect on countermeasures against the cause of and restoration from the accident at TEPCO's Fukushima Daiichi Nuclear Power Station, and strive safety improvement in nuclear power plant</li> <li>Continually strive to increase the importance of compliance and create a culture of safety</li> </ol>
<ol style="list-style-type: none"> <li>Implementing model product development for product safety activities (improvement of risk assessments and manuals)</li> <li>Developing basic product safety activities (developing human resources, maintenance of standards)</li> </ol>	<ol style="list-style-type: none"> <li>Integrate product safety activities and development work into quality management</li> <li>Continually develop foundation for product safety activities (developing human resources, maintenance of standards)</li> </ol>
<ol style="list-style-type: none"> <li>Creating a shared awareness of risks and issues through discussion between General Managers/Corporate Managers and General Managers of the Management Audit Department</li> <li>Implementing auditing for standardized processes, creating a process for controls on problems recognized by several departments</li> </ol>	<ol style="list-style-type: none"> <li>Proactive response through auditing for "Processes to strengthen business"</li> <li>Implement auditing including at corporate regulatory departments for "Compliance consolidation"</li> </ol>

## Company Profile

<b>Trade Name:</b>	Mitsubishi Heavy Industries, Ltd.
<b>Head Office:</b>	2-16-5 Konan, Minato-ku, Tokyo
<b>President and CEO:</b>	Hideaki Omiya
<b>Foundation:</b>	July 7, 1884
<b>Establishment:</b>	January 11, 1950
<b>Capital:</b>	265.6 billion yen (as of March 31, 2012)
<b>Employees:</b>	68,887 consolidated, 32,494 non-consolidated (as of March 31, 2012)

## CI Statement

### Our Technologies, Your Tomorrow

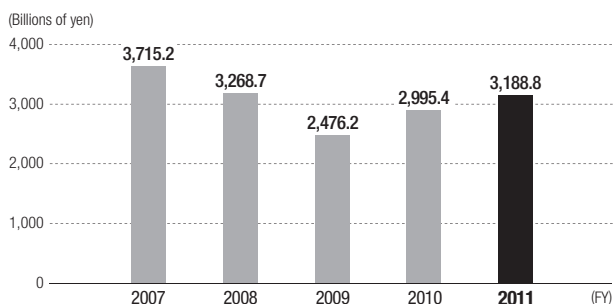
This CI statement represents our intention to “continuously provide an assured future where people can live safe, secure and enriched lives through technologies that can excite people and passion as a manufacturer for the sustainability of the earth and humankind.”

CI<sup>(Note1)</sup> statement logo

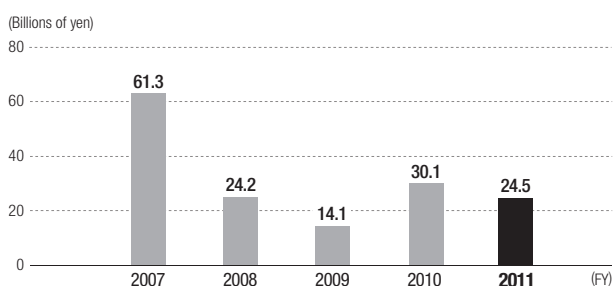


(Note1) CI: Corporate Identity

## Orders Received (Consolidated)



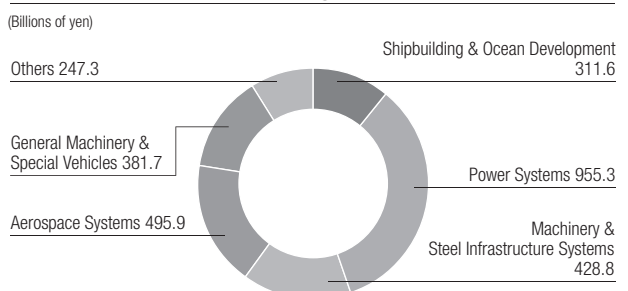
## Net Income (Consolidated)



## Businesses and Products

<b>Shipbuilding &amp; Ocean Development</b>	<p><b>Shipbuilding</b></p> <ul style="list-style-type: none"> <li>• Cruise ships • Ferries • LNG carriers • LPG carriers • Tankers</li> <li>• Container carriers • RO/RO ships • Car carriers • Destroyer</li> <li>• Patrol vessels</li> </ul> <p><b>Marine development</b></p> <ul style="list-style-type: none"> <li>• Deep submergence research vehicle • Oceanographic research ships</li> </ul> <p><b>Engineering business</b></p> <ul style="list-style-type: none"> <li>• Ballast water treatment systems</li> </ul>
<b>Power Systems</b>	<p><b>Thermal power generation plants and other facilities</b></p> <ul style="list-style-type: none"> <li>• Combined cycle power plants • Steam turbines • Gas turbines</li> <li>• Boilers • Diesel engines</li> </ul> <p><b>Renewable energy generation, etc.</b></p> <ul style="list-style-type: none"> <li>• Wind turbine plants • Geothermal power plants</li> <li>• Water turbine plants • Solar thermal generation systems</li> <li>• Lithium-ion secondary batteries</li> </ul> <p><b>Nuclear power plants and other facilities</b></p> <ul style="list-style-type: none"> <li>• PWR nuclear power plants • Advanced reactor plants</li> <li>• Nuclear fuel cycle plants</li> </ul>
<b>Machinery &amp; Steel Structures</b>	<p><b>Environmental and chemical plants</b></p> <ul style="list-style-type: none"> <li>• Flue gas desulfurization systems • Flue gas CO<sub>2</sub> recovery plants</li> <li>• Fertilizer plants • Methanol plants • Petrochemical plants</li> <li>• Oil &amp; gas production plants</li> </ul> <p><b>Environment preservation</b></p> <ul style="list-style-type: none"> <li>• Wastes treatment plants • Electrostatic precipitators</li> <li>• Biomass utilization systems</li> </ul> <p><b>Transportation systems and ITS</b></p> <ul style="list-style-type: none"> <li>• Automated people mover • Rail transit • Air brake equipment</li> <li>• Toll collection systems (ETC, etc.) • Intelligent transport systems (ITS)</li> </ul> <p><b>State-of-the-art machines</b></p> <ul style="list-style-type: none"> <li>• Medical systems / Radiotherapy systems • Power train equipment</li> <li>• Mechatronics system equipment • Particle accelerator • Robots</li> </ul> <p><b>Machineries</b></p> <ul style="list-style-type: none"> <li>• Iron &amp; steel manufacturing machinery • Compressors &amp; mechanical turbines</li> <li>• Rubber &amp; tire machinery • Crane &amp; material handling equipment</li> <li>• Manufacturing equipment for semiconductor &amp; flat panel displays</li> <li>• Organic EL panels for lighting</li> </ul> <p><b>Basic facilities &amp; steel structures for infrastructure</b></p> <ul style="list-style-type: none"> <li>• Steel bridges &amp; chimneys • Hydraulic gate • Mechanical parking systems</li> <li>• Tunnel boring machine • Earthquake isolation / Vibration control systems</li> </ul> <p><b>Industrial equipment</b></p> <ul style="list-style-type: none"> <li>• Printing machinery • Paper converting machinery</li> <li>• Plastic injection molding machine • Food and packaging machinery</li> </ul>
<b>Aerospace Systems</b>	<p><b>Aircraft</b></p> <ul style="list-style-type: none"> <li>• Commercial airplane • Aeroengines • Jet Fighters • Helicopters</li> </ul> <p><b>Space equipment</b></p> <ul style="list-style-type: none"> <li>• H-IIA launch vehicle • H-IIB launch vehicle • Space transporter</li> <li>• Rocket engines</li> </ul>
<b>General Machinery &amp; Special Vehicles</b>	<p><b>Engine generation equipment</b></p> <ul style="list-style-type: none"> <li>• Gas engine generator sets • Diesel engine generator sets</li> <li>• Co-generation systems</li> <li>• Portable gas engine generator/Portable gasoline engine generator</li> </ul> <p><b>Engines &amp; equipment</b></p> <ul style="list-style-type: none"> <li>• For agricultural use (Agricultural machinery and Small-sized industrial machinery): Air-cooled gasoline engines/Water-cooled diesel engines</li> <li>• For industrial use (Construction machinery, Generators and power units): Water cooled diesel engines/water cooled gas engines</li> <li>• For marine use (Main propulsion and, Auxiliary generating set): Water cooled diesel engines</li> </ul> <p><b>Physical distribution equipment</b></p> <ul style="list-style-type: none"> <li>• Forklift trucks • Heavy cargo carriers</li> </ul> <p><b>Construction machinery</b></p> <ul style="list-style-type: none"> <li>• Earthmoving and grading machinery</li> </ul> <p><b>Turbochargers</b></p> <ul style="list-style-type: none"> <li>• Turbochargers</li> </ul> <p><b>Defense</b></p> <ul style="list-style-type: none"> <li>• Special vehicles</li> </ul>
<b>Others</b>	<p><b>Air-conditioners</b></p> <ul style="list-style-type: none"> <li>• Air-conditioners for commercial usage • Air-conditioners for residential usage</li> <li>• Air-conditioners for automobiles • Refrigeration applied products</li> <li>• Transport refrigeration units • Centrifugal chillers • Centrifugal heat pumps</li> </ul> <p><b>Industrial machinery</b></p> <ul style="list-style-type: none"> <li>• Machine tools</li> </ul>

## Net sales by Industry Segment (Consolidated)



### Masayasu Kitagawa

Professor, Graduate School of  
Public Management,  
Waseda University



Matsuo Basho, the famed master of haiku poetry, is said to have described the foremost principle of his art as seeking fluid transitions within the context of underlying immutability.

MHI has a praiseworthy business creed conceived on the basis of the three principles of its founders (= the immutable aspect) defining what the company's fundamental stance should be, the disposition its employees should adopt, and the direction the company should aspire to in the future. In this CSR Report, I sense a true reflection of the management positions taken by the company (= fluid transitions), including its mistakes, taken over time in order to maintain and cultivate this creed. I also recognize MHI's sincere desire to have the report's content evaluated not only internally within the organization but also externally by society as a whole. All conditions of a CSR report conceivable today have been met, and the report is of a very high level.

Like MHI's corporate culture, the company's CSR Report is scientific, technical and solid. Although I was able to read it without any gnawing doubts or questions, I felt that its overall tone was restrained and perhaps could benefit from a bit more content of great interest or excitement. I would suggest including more about progress being made in amazing technologies, the breadth of the company's areas of activity, its severe stance toward itself and its social contributions, writing more aggressively and in an easy-to-understand format so that third parties who read the report for the first time might find it enjoyable and a breakthrough in the CSR report genre.

Today science and technology are marking phenomenal progress, and massive changes are frequently occurring on global scale that demand reworking from the very core how governments, economies and societies operate. Japan too today faces strong calls for radical structural changes on all fronts. MHI is being called on, more than ever before, to take the global lead in technological innovations – both software and hardware; and along with those demands, expectations vis-à-vis social responsibility exceed the parameters of any one company. I hope that MHI will forge a new axis transcending the traditional concepts of CSR reports based on all-new ideas, and that it will create a CSR report to show the way how such reports should be done in Japan, and thus open the way for Japanese CSR reports in turn to lead the world.

### Kumi Fujisawa

Vice President,  
Think Tank SophiaBank



Today, a year after Japan's earthquake disaster, recovery is still under way in the affected region. High hopes are held toward MHI and the contributions the company can make as an exporter of infrastructures, a segment that forms one of Japan's core strategies for achieving national growth. The company's preparation of its "Environment Vision 2030" at this critical juncture is thus perfectly timed. The emerging economies to which Japan exports infrastructures in particular are not interested in creating cities identical to the existing cities in the developed countries. What many rising nations today seek are smart communities: environment-conscious cities with an eye on the future. MHI's "Environment Vision 2030" enables visualization of all elements vital to the creation of such cities, and also allows us to imagine the achievement of smart communities of a kind without precedence.

Visually identifiable technologies aren't the only thing demanded of Japanese companies, however. They are also called on to export the social norms and lifestyles nurtured over time by Japan: the world's cleanest, safest, most convenient and attractive cities, where all citizens can receive a high level of education and have the opportunity to perform high-level jobs. How to bring added values to the creation of infrastructures and cities – "invisible" values as to how people live and work in ways supportive of society, for example through educational systems, mutual aid systems, systems implemented at the workplace and so on – is an area in which Japanese firms can predominate over other global companies.

The way every MHI employee carries out his job with the company's export partner nations is itself a significant export product and contribution. In that respect I think the essence of how they do so has been amply incorporated into this year's CSR Report. The report included many remarks by MHI employees working around the world and by its business partners, giving voice to "the meaning" behind why they work.

Today, in our globalized world, the time has come when, through its business operations, MHI can convey and implement its business creed – based on Mitsubishi's "Three Corporate Principles" – to achieve a sustainable society not only in Japan but worldwide. This more than anything else will serve as MHI's contribution to the world in the truest sense. I greatly hope MHI will make those results visible in next year's report.

## Acting on Valuable Opinions



### Shunichi Miyanaga

Senior Executive  
Vice President  
Executive Officer  
in Charge of CSR

In keeping with the spirit expressed in its corporate creed, MHI believes that providing products and technologies indispensable to social infrastructure, industry and everyday lives, and contributing to a secure future for mankind and the Earth, are the fundamental principles of the company's CSR.

In this report serving as a communication tool to convey to all our stakeholders our pride and responsibility in manufacturing, we report on activities that are of great interest to society and are also highly important to the company. We have incorporated, more than ever before, examples of our overseas activities and specific anecdotes by external stakeholders and employees.

This year Mr. Kitagawa and Ms. Fujisawa gave high marks to our disclosure of the information society is seeking and the numerous messages incorporated

by external stakeholders and employees. They also suggested the need for more straightforward reporting and expressed their hopes that through our core business operations we will continue to convey the spirit of our business creed to society at large, and that we will aspire to be a global leader. On the back of such encouragement all employees will strive to cultivate the spirit of the company's creed in order to maintain MHI's superlative technological capabilities and perform global business activities in these times of rapid change.

In a quest to respond to the expectations of society and become a global company that is trusted even more by all its stakeholders, we will continue to place CSR at the heart of our business operations and make ongoing contributions toward the sustainable development of the global community.



Locations (as of April 1, 2012)

**Head Office****Mitsubishi Heavy Industries Head Office Building**

2-16-5 Konan, Minato-ku, Tokyo 108-8215, Japan  
 Phone: 81-3-6716-3111 (main number)  
 Fax: 81-3-6716-5800

**Yokohama Building**

3-3-1 Minatomirai, Nishi-ku, Yokohama-shi, Kanagawa 220-8401, Japan

**Business Segments****SHIPBUILDING & OCEAN DEVELOPMENT**

Phone: 81-3-6716-3111

(Mitsubishi Heavy Industries Head Office Building, Nagasaki Shipyard & Machinery Works, Kobe Shipyard & Machinery Works, Shimonoseki Shipyard & Machinery Works, Yokohama Dockyard & Machinery Works)

**POWER SYSTEMS**

Phone: 81-3-6716-3111

(Mitsubishi Heavy Industries Head Office Building, Yokohama Building, Nagasaki Shipyard & Machinery Works, Kobe Shipyard & Machinery Works, Shimonoseki Shipyard & Machinery Works, Yokohama Dockyard & Machinery Works, Takasago Machinery Works)

**NUCLEAR ENERGY SYSTEMS**

Phone: 81-3-6716-3111

(Mitsubishi Heavy Industries Head Office Building, Kobe Shipyard & Machinery Works)

**MACHINERY & STEEL INFRASTRUCTURE SYSTEMS**

Phone: 81-3-6716-3111

(Mitsubishi Heavy Industries Head Office Building, Kobe Shipyard & Machinery Works, Hiroshima Machinery Works, Mihara Machinery Works, Iwatsuka Plant)

**AEROSPACE SYSTEMS**

Phone: 81-3-6716-3111

(Mitsubishi Heavy Industries Head Office Building, Nagasaki Shipyard & Machinery Works, Kobe Shipyard & Machinery Works, Shimonoseki Shipyard & Machinery Works, Nagoya Aerospace Systems Works, Nagoya Guidance & Propulsion Systems Works, Hiroshima Machinery Works)

**GENERAL MACHINERY & SPECIAL VEHICLES**

Phone: 81-42-761-1101

(Sagamihara Machinery Works, Iwatsuka Plant)

**AIR-CONDITIONING & REFRIGERATION SYSTEMS**

Phone: 81-52-503-9200

(Takasago Machinery Works, Nagoya Air-Conditioning & Refrigeration Machinery Works)

**MACHINE TOOL**

Phone: 81-77-553-3300

(Ritto Machinery Works, Iwatsuka Plant)

**Mitsubishi Minatomirai Industrial Museum**

Phone: 81-45-200-7351

Fax: 81-45-200-9902

Mitsubishijuko Yokohama Building, 3-3-1, Minatomirai, Nishi-ku, Yokohama-shi, Kanagawa 220-8401, Japan

URL: <http://www.mhi.co.jp/en/museum/>



Address all inquiries about this report to:

**Presidential Administration Office  
 Corporate Social Responsibility Department**

2-16-5 Konan, Minato-ku, Tokyo, Japan

Postal Code: 108-8215

Phone: 81-3-6716-3884 Fax: 81-3-6716-5860

URL: <http://www.mhi.co.jp/en/>



This report has been printed on environmentally considerate FSC certified paper, using VOC (volatile organic compound) free ink. A waterless printing process was employed, which eliminates the use of alkaline developing solutions and elements such as isopropyl alcohol in the damping water.