The Mabuchi Group Social & Environmental Report 2012





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### **Corporate Outline**

■ Trade name : Mabuchi Motor Co., Ltd.

■ Established : January 18, 1954

■ Field of Operations : Manufacture and sales of

small electric motors

■ Capital : 20,704,810,000 yen

■ President : Shinji Kamei

■ Employees : Head Office: 750

■ Head Office

Mabuchi Group: 33,918

(as of December 31, 2011)

: 430 Matsuhidai, Matsudo-shi,

Chiba-ken, 270-2280 Japan

Tel.: +81-47-710-1111

■ Technology Center : 280 Ryufukuji, Inzai-shi,

Chiba-ken, 270-2393 Japan

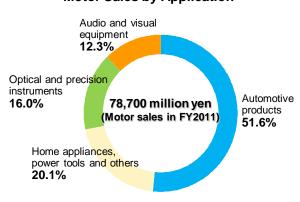
Tel.: +81-47-710-1222

#### ■ Business Report < Fiscal 2011>

# Changes in consolidated net sales, consolidated operating income, and operating income ratio



#### **Motor Sales by Application**



#### World Wide Network



#### CONTENTS

<ul> <li>Corporate Outline</li> <li>Editorial Policy</li> <li>CONTENTS</li> <li>Message from the President</li> </ul>	1 2 2 3	
Social Report		
<ul> <li>Corporate Governance</li> <li>Compliance</li> <li>Risk Management</li> <li>Creating Lively Workplaces</li> <li>Support for Manufacturing/Education</li> <li>Supporting Local Communities</li> </ul>	5 6 7 10 13	
Environmental Report		
<ul> <li>Environmental Management</li> <li>Green Procurement</li> <li>Manufacturing Eco-Friendly Products</li> <li>Environmental Communication</li> </ul>	17 18 19 20	

#### **Editorial Policy**

Mabuchi began to publish its environmental report in fiscal 2001. In 2008, we changed the report title from the Environmental Report to the Social & Environmental Report, and enriched the documentation of our social contribution activities in addition to the environmental activities we conduct to preserve the global environment.

As a corporate citizen, we will continue to be fully accountable for our CSR approach and the results of our activities through the publication of the report. Also, we will continue to improve our performance by further promoting communication with all stakeholders of the Mabuchi Group.

In consideration of the environment, this report is published on our website in PDF format and not available in printed format.

: Fiscal 2011 (January 1, 2011 - December 31, 2011)

**Activities covered** : Environmental and social contribution activities related to the design, manufacture, and sales of motors and

22

23

24

provision of services

: The Mabuchi Group Scope

■ Efforts to Reduce CO₂ Emissions

Report of Environmental Data

**Environmental Risk Management** 

[Corporate Headquarters]

Japan • Mabuchi Motor Co., Ltd. (Head Office)

[Production Bases]

China • Mabuchi Industry Co., Ltd. (Hong Kong Mabuchi)

- Mabuchi Motor Dalian Co., Ltd. (Dalian Mabuchi)
- Mabuchi Motor Wafangdian Co., Ltd. (Wafangdian Mabuchi)
- Mabuchi Motor (Jiangsu) Co., Ltd. (Jiangsu Mabuchi)
- Mabuchi Precision (Dongguan) Co., Ltd. (Ludong Mabuchi)
- Mabuchi Motor (Yingtan) Co., Ltd. (Yingtan Mabuchi)
- Mabuchi Motor (Dongguan) Co., Ltd. (Dongguan Mabuchi)

Taiwan • Mabuchi Taiwan Co., Ltd. (Taiwan Mabuchi)

• Mabuchi Motor Taiwan Ltd. (Kaohsiung Mabuchi) Mabuchi Motor Vietnam Ltd. (Vietnam Mabuchi)

Vietnam

• Mabuchi Motor Danang Ltd. (Danang Mabuchi)

[Sales Offices]

- Mabuchi Motor (Shanghai) Co., Ltd. (Shanghai Mabuchi)
- Mabuchi Motor (Shanghai) Co., Ltd. (Chongqing Mabuchi)
- Mabuchi Motor Trading (Shenzhen) Co., Ltd. (Shenzhen Mabuchi)
- Mabuchi Taiwan Co., Ltd. (Taiwan Mabuchi)
- Mabuchi Motor America Corp. (America Mabuchi)
- Mabuchi Motor (Singapore) Pte. Ltd. (Singapore Mabuchi)
- Mabuchi Motor (Europe) GmbH (Europe Mabuchi)
- Mabuchi Motor Korea Co., Ltd. (Korea Mabuchi)

Publication date: June 2012 (next publication: June 2013)

### Message from the President

# Corporate value expands continuously when we conduct sincere corporate activities



A large number of people are still leading a hard life although one year and several months have passed since the Great East Japan Earthquake that occurred on March 11, 2011. We would like to extend our deepest sympathy to the affected people and hope that the affected area will be restored as early as possible. Our respect and appreciation also go to the people who have been making great efforts to resolve a variety of problems at the sites of the tsunami disaster and the nuclear plant accident.

The damage caused by the disaster was enormous — Japan had never experienced the like of it since the end of the war. It had a grave impact not only on the everyday life of many people but also on the entire Japanese economy for a long time.

It appears to me that this suffering is urging Japan to make a major transformation beyond the framework of just recovering to the original state. Faced with a national crisis, we remembered that companies have obligations to act as a public organ of society before chasing profits. It also taught us how important it is to help each other by cooperating with other countries and regions in this age where there is a dynamic global economy that spans national borders.

#### **■CSR Activities**

Mabuchi is continuing its corporate activities aimed at realizing its management principle: "Contributing to international society and continuously increasing our contribution." To this end, we are consistently improving the quality of our products and services — the source of our competitiveness for delivering greater customer satisfaction. In addition, we are conducting our business activities based on our profound creed that values corporate social responsibilities (CSR), environmental protection, and transparent business transactions. We are doing this by being fully aware that "Corporate value expands continuously when we conduct sincere corporate activities."

In the 1960s when our company established its management principle, Japan's industrial community was in the midst of rapid economic growth. Following the trend of the times, not a few companies sought profits as their most important goal. Despite this background, Mabuchi decided to pursue only fair and adequate profits sufficient for expanding our contribution to international society, by proclaiming that we would work to contribute to the development of the global economy and the realization of an affluent life for people. Since that day, we have always been striving to confirm whether the important management decisions we make are the right ones in terms of the abovementioned principle.

We believe that a company exists to ensure the happiness of the people working there and all other stakeholders outside the company. Real CSR is, therefore, to create an environment where that principle can be keenly felt and protect people's employment by maintaining that principle for a long time. This will ultimately contribute to society.

#### **■** Improving the Global Environment

The need to consider the environment is increasingly reaching a global scale. Mabuchi is determined to consider and take measures to address environmental problems such as the depletion of natural resources, preservation of the natural environment, and other human-related problems including the assurance of safety/security and the maintenance of a sound body and mind.

There is a possibility that a restriction on electricity consumption may be imposed on the entire Japanese society this summer again depending on the weather conditions. It is due to the decreased power generation capacity which is lingering as an aftereffect of the earthquake. Mabuchi's employees will make every effort to reduce their use of electricity, however tiny each action is.

At the production bases, we will further refine our production processes from the very basics to improve the productivity and yield rate by reviewing them from a different viewpoint. Also, we will further reduce the consumption of energy and generation of environmental impact in our production processes utilizing our new ideas and rich experience in this field.

We at Mabuchi are determined to be a company that stakeholders can always trust and value. We will do this by continuing to conduct sincere corporate activities and fulfilling CSR responsibilities, while strengthening our sound corporate culture to care for society and the environment. All our employees will continue to act with an awareness that a company exists to contribute to society, and that making such a contribution can be done by making people happy.

The Mabuchi Group's "Social & Environmental Report 2012," providing an overview of our social and environmental activities in 2011, has now been completed. We hope that you will take a moment to read through the report and send us your frank opinions on it.

Your understanding and continuous support would be greatly appreciated.

June 2012 **Mabuchi Motor Co., Ltd.**President and Representative Director **Shinji Kamei** 



#### **Management Principle**

"Contributing to international society and continuously increasing our contribution."

#### **Management Guidelines**

- By bringing better and more reasonably priced goods to the market, we contribute to the creation of a more affluent society and more comfortable lives for everyone.
- Contribute to the leveling of international economic disparities and to economic development in other countries through the creation of employment opportunities and technology transfers.
- People are the most important managerial resource. Realize human potential through work and teach people to become productive members of society.
- 4. Conduct corporate activity which preserves the earth's environment and protects human health.

#### **Management Policies**

- 1. Develop products that have flexibility in their application and consolidate the most appropriate production conditions.
- Strive to improve product development based on value analysis and seek to originate interchangeable parts and materials.
- Realize cost reduction by using advanced processing technologies and by minimizing waste.
- 4. Uncover new markets and secure fair market share.
- Maximize each employee's potential and conduct employee education through appropriate job placement.
- Promote business activities that have minimal negative impact on the environment and that strictly abide by safety standards.
- To promote management policies and strategies that promise long and stable growth.

### **Corporate Governance**

#### Basic Approach to Corporate Governance

The Mabuchi Group recognizes that the fulfillment of the mission stated in our Management Principle: "Contributing to international society and continuously increasing our contribution" through our small DC motor business forms the very basis of our existence.

- To clearly separate management decision-making and efficient business execution, and to clarify the scope of accountability.
- (2) To build and operate a sound internal control system, namely, to effectively work the internal control system and the management supervision system,
- (3) To appoint a suitable number of independent corporate officers whose interests do not conflict with those of general shareholders to ensure the objectivity and neutrality of management supervision functions.
- (4) To foster a corporate culture in which all Group employees recognize and share the understanding that the practices of corporate ethics and compliance support the organization's social impartiality and are fundamental to living up to the trust and expectations of all stakeholders, and
- (5) To disclose corporate information to stakeholders such as shareholders in an appropriate, fair, timely and clear manner and to ensure accountability through the Board of Directors, the Board of Auditors and other bodies.

We will enrich various functions to ensure that these elements are duly implemented.

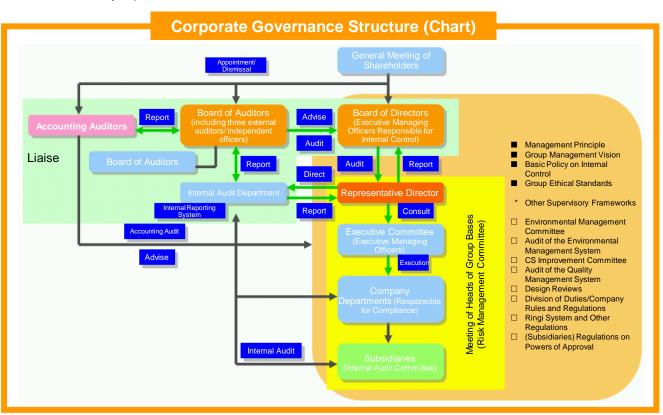
#### Establishment of a Structure and a System

The Mabuchi Group employs a system of corporate auditors in which corporate bodies (including independent corporate officers), accounting auditors, and other organizations stipulated by the Companies Act fulfill their respective legal functions. In addition to these organizations, Mabuchi has independently established the Executive Committee, Internal Audit Department (internal audit division) and other organizations related to business execution and internal control. With the participation of these organizations, we have established and are operating a Group-wide governance structure and system.

At each of our overseas bases, we also conduct internal control through corporate bodies whose existence is required by the laws of the respective countries and through our internal organizations.

Through the Mabuchi Group Management Vision, we also share our corporate culture and values across the Corporate Governance Structure / (Internal Control) System Corporate Governance world, and are striving to improve our internal control functions throughout the Group by holding meetings for the management of overseas bases, holding Group-wide meetings, and having the Internal Audit Department conduct operational audits on overseas bases.

Having established the Basic Policy on Internal Control, we are working to strengthen and enhance our risk management system and compliance system.



### Compliance

#### Mabuchi Motor Ethical Standard

To achieve our Management Principle, "Contributing to international society and continuously increasing our contribution," we consider it essential to observe laws, ordinances, and regulations in each country and region and to conduct business activities in accordance with corporate ethics required by society.

For that purpose, we have published a pamphlet called "Mabuchi Motor Ethical Standard" detailing the criteria for our conduct and judgments and distributed it to all directors and employees of the entire Mabuchi group. We update the ethical standard pamphlet occasionally to adapt to the business environment that changes with the times.

We have developed rules and procedures for the particularly important items in the ethical standard, and have been providing education and training to employees at various stages to familiarize them with those items.

From 2010, we have been holding a seminar for persons in relevant positions at all production and sales bases in China and Asia to enhance employees' awareness about compliance. Particular focus is placed on Mabuchi's management policy of valuing compliance and the renewed "Mabuchi Motor Ethical Standard." Individual topics such as "security and confidentiality" and "commercial and other bribes" are also covered. To further strengthen and improve the compliance system, the position of the director responsible for compliance was established at all Mabuchi Group bases in May 2011 with the approval of the board of directors of the Head Office. The director responsible for compliance at each base supervises compliance activities of that base under the overall control of the director responsible for internal control at the Head Office. They take a leading role in strengthening internal control and promoting continuous and autonomous compliance activities at each base.

Also, to continuously rectify and improve inadequate points related to compliance activities, the internal audit department of the Head Office conducts periodical and non-periodical audits on all Mabuchi Group bases, including overseas bases.

Representative Director
Board of Directors
(Appoint)
Executive Managing Officer Responsible for Internal Control
= Responsible for Compliance, Risk Management

Department Responsible for
Compliance Activities

General Manager of Each Overseas Base
[Responsible Person for Internal Control
and Risk Management]

With approval

Director Responsible for Compliance of
Each Overseas Base

These audits concern observance of compliance rules and procedures, unethical conduct, and other matters, and the internal audit department reports the audit results to top management.

#### Ethical Standard Hotline

We have set up the Ethical Standard Hotline in the company to allow all employees to directly inform or consult with the internal audit department about compliance-related information under strict anonymity without using ordinary communication routes (senior managers or existing contact points of each division). We have also delivered a top management message to all directors and employees promising that the company will never allow those who have consulted with us to be treated disadvantageously because of their consultation. This holds true regardless of whether or not they used the hotline, and is in accordance with the Whistleblower Protection Act.

Our company is always striving to conduct honest and fair business with our suppliers and to build a relationship of trust with them. To address the current social situation in which social misconduct still occurs frequently, we extended the operational range of the Ethical Standard Hotline to some of our suppliers in addition to Mabuchi employees beginning in 2008 with a view to preventing problems in advance and strengthening the misconduct prevention system.



#### [Basic Policy of Ethical Standard (Outline)]

- All the directors and employees of the Mabuchi Group will put more priority on observing laws, ordinances and rules in the countries and regions where our companies are located as well as international rules than on the profits and work of our companies.
- We will strictly refrain from conducts against social ethics by fully recognizing our responsibilities to various stakeholders, including shareholders, investors, and local communities.
- We will clearly describe particularly important items among laws, regulations and social ethics in such documents as in-house regulations and publicize them widely. All the directors and employees will observe those items sincerely.

### **Risk Management**

#### Risk Management System

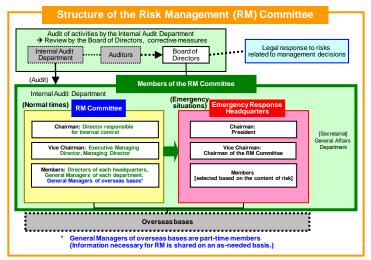
To realize our management principle and secure a steady growth path as a socially important company, we need to adequately manage various risks associated with our business activities.

For that purpose, we established the Risk Management Committee to prevent risks from occurring and minimize damage in the event that a risk has occurred. It is a system that enables us to take the most appropriate response as the entire Mabuchi Group. We have also prepared a response system, a response policy, and various manuals for times of emergency on the basis of the risk management system.

The Risk Management Committee identifies serious risks that need an organization-wide response and groups them into four categories:

- 1) saving lives (safety), 2) information security,
- 3) disruption of production and supply, and
- 4) compliance. A responsible department is assigned to each category. Those departments carry out risk management activities of the entire Mabuchi Group continuously in cooperation with top management and related senior employees.

Risks specific to the work of each department are managed by the Mabuchi Group's objectives management system and responses to those risks are taken in each department under rigorous control and with approval of top management.



Major risks and responses identified by committees such as the Quality Management Committee and the Environmental Management Committee are reported to the RM Committee periodically.

#### <Column>

# Improvement of the Risk Management System after the Disaster

<Extracted from a newsletter>

It was good that our employees were able to return home early and safely on the day of the Great East Japan Earthquake in 2011. There was only slight damage to our buildings because our new building is a seismically isolated one and heavy furniture in the former building such as cabinets had been fixed firmly. We were able to avoid the worst-case scenario as we had taken such preventive measures in advance by projecting conceivable risks from normal times.

Most of all, we felt relieved as a company that we had not caused any inconvenience to our customers. One of the reasons is our production bases are located overseas. In addition to that, the Operations Control Headquarters assessed the potential risks swiftly and procured production materials without delay, with a great deal of help from our customers and business partners, thus keeping any effects on production to a minimum.



The Sales and Marketing Headquarters also worked hard to deliver products to customers by somehow gathering information on their conditions when such information was very difficult to collect. We were able to take these measures rather smoothly owing to the concerted efforts of all departments.

We reaffirmed that this kind of instantaneous cooperation at the time of an emergency is one of the strengths of our company.

After the disaster, we revised the "Initial Disaster Response Manual" by taking into account the points we had found to be in need of refining during the response to the disaster. As a brief version, we have prepared the "Initial Response and Instruction Manual for Managers" and distributed it to managerial level personnel.

We also checked the conditions of stockpiled items for emergency use such as hard hats, blankets, and equipment for receiving external information (TVs, radios) and increased their numbers. We did this by referring to the stock lists of other companies and advisory information from the media.

We will continue to provide information on risk management and related manuals so that our company is even more prepared for a disaster. We will also enhance the safety awareness of employees and encourage them to have an interest in risk management all the time.

Hiroo Okoshi,
Director, General Manger of the
Administration Headquarters
(Chairman of the Risk Management Committee)

#### Disaster Response Manuals and Disaster Supplies

We prepared and distributed the "Emergency Response Manual for Employees in Case of a Disaster" (upper right) and "Emergency Response Cards for Large-scale Disasters" (lower right), in addition to the "Initial Response and Instructions Manual for Managers." We also introduced the "SECOM Centralized Safety Confirmation System (for all employees)." Furthermore, a response manual was prepared for each department that plays an important role in the event of a disaster, such as the Human Resources Department, General Affairs Department (including the entrusted provider of building maintenance service), and Information Systems Department, in addition to the response manual for the directors (establishment and operation of the Emergency Response Headquarters).

We also educate our personnel about disaster prevention and carry out various disaster drills (drills for evacuation, reporting, fire extinguishing, disaster relief, safety confirmation, and safe return to home) at least once a year so that employees can calmly take the appropriate action in the event of a disaster.

In addition, we keep in stock disaster supplies such as protective items, equipment, food and drinks, and daily necessities to ensure safety, and accept employees in the company who are unable to return home. The Head Office can secure a large amount of drinking water even when the water supply is disrupted because we use groundwater as our regular drinking water. We are now preparing to conclude a water supply agreement with the Matsudo municipal government so that we can provide drinking water to the affected people in the community in the event of a disaster.





#### Response Plan for Earthquake Risks (for Directors and Senior Employees) [extract]

#### <Basic Policy of Earthquake Risk Management>

- O Place the highest priority on the safety of people.
- O Protect company assets and prevent the expansion of damage.
- O Provide relief and support to local communities.
- O Ensure an uninterrupted supply of products by continuing business and production activities at overseas bases. Recover the supply within one week if it is disrupted.

#### <Stockpile of Disaster Supplies and Management>

- O Stockpile food and drinks and water for toilets sufficient for three days in case employees are unable to return home.
- O Keep an emergency power generator and fuel (sufficient for 24 hours) necessary for the operation of the Emergency Response Headquarters and the protection of the computer system as a way to be prepared for a power outage.
- O Set up two priority telephone lines in the Head Office building.
- O Take measures to prevent the falling of equipment, apparatus, and furniture in cooperation with the Safety and Hygiene Committee.
- O Keep in stock equipment and tools that can be used to recover and urgently repair facilities, apparatus, and furniture and to support the affected employees and local communities.
- Confirm the location of a nearby designated evacuation area just in case it becomes impossible to stay in the company building due to unexpected damage or other reasons.







Evacuation, fire fighting, and rescue drills with instructions from fire station officials (September 2011)

#### Information Security Policy

We at Mabuchi are striving to create a corporate structure with greater trust in every phase of our activities by closely examining what effect our activities have on the stakeholders.

We consider that one of our corporate social responsibilities is to manage our information assets and information security adequately and to prevent the leak, falsification, loss, and theft of information. Based on this concept, we have established an information security policy with a view to ensuring the safety of information and deepening the understanding of all employees, including directors, about the need for information security and related responsibilities.

#### (System)

 We will set up the Risk Management Committee and institute a system or mechanism that enables continuous management, evaluation, and improvement of information security through the activities of the committee.

(Maintenance and management of information assets)

We will categorize and organize information assets appropriately and take information security measures in accordance with their importance levels. We will manage information assets strictly by taking particular care when handling information.

#### (Compliance)

 Mabuchi's directors, employees, and other workers (hereinafter referred to as "Mabuchi's personnel") will observe laws, regulations, company rules, and contractual obligations with customers concerning information security.

#### (Education)

 The necessary education and training will be provided to Mabuchi's personnel continuously to ensure that they understand the importance of information security and behave accordingly.

(Review of this policy and the like)

This policy and other related company rules will be reviewed occasionally in response to changes to laws, systems and social conditions, and the results of internal and external audits.

#### <Column>

# In-house education on information security

In November 2011, we provided in-house education (e-learning via the Intranet (Q&A type)) to employees aimed at enhancing their awareness of company rules related to information security, business documents and information management, and ensuring they fully observe those rules. After the test, the results (correct answers and explanations) including the test score and answering time were automatically calculated and displayed on the screen, helping to deepen employees' awareness.

Eligible participants : 738 (participation rate 100%) Average score : Overall average 92.02/100

#### Basic Policy on Ethical Standard

We will strive to realize our management principle "Contributing to international society and continuously increasing our contribution" based on the basic premise that we conduct our business activities in accordance with social ethics by observing laws, ordinances, and rules in the concerned countries and regions. (See "Compliance" on page 6.)

#### Privacy Policy

Recognizing that it is our important obligation to handle and protect information containing individuals' identity (hereinafter referred to as "personal information") adequately, Mabuchi Motor Co., Ltd. (hereinafter referred to as "Mabuchi") will strive to protect personal information based on the following policies.

- Internal system for protection of personal information Mabuchi will establish an internal system to realize adequate handling of personal information that is used for our business.
- Adequate acquisition and use of personal information Mabuchi will acquire personal information in a legitimate and fair manner by specifying the purpose of use as clearly as possible. We will use the obtained personal information within the range of specified use.
- Non-disclosure of personal information to third parties Mabuchi will not disclose the obtained personal information to any third party except for in the following cases.
  - When the information-provider gives prior consent to disclosure.
  - (2) When we provide or disclose personal information to our subsidiaries, agents, and companies that have a confidentiality agreement with us within the range necessary for achieving the purpose of use which was notified or disclosed to the information-provider when we acquired personal information.
  - (3) When disclosure is allowed by law or regulation.
  - (4) When Mabuchi judges disclosure to be necessary in terms of laws and regulations.
- Inquiries about personal information Mabuchi will accept inquiries about personal information at the designated contact point.
- Safe management of personal information Mabuchi will take the necessary measures to prevent the loss, falsification, and leak of the personal information we possess.
- Education for directors and employees
   Mabuchi will provide education and enlightenment
   activities to directors, employees and workers (including
   contracted employees, part-time workers, temporary
   workers, and dispatched employees) so that they
   understand the importance of personal information and
   handle it with care.
- Observance of laws and regulations on personal information Mabuchi will observe laws, regulations, and rules concerning the protection of personal information when we handle such information.
- Continuous improvement of activities for protection of personal information Mabuchi will continue to improve its activities for the protection of personal information.

# **Creating Lively Workplaces**

One of Mabuchi's management guidelines is "People are the most important managerial resource. Realize human potential through work and teach people to become productive members of society." We have been implementing it conscientiously through our corporate management. We are also endeavoring to create a congenial work environment at every workplace, including overseas bases, by respecting the basic rights of employees and ensuring they are treated fairly.

#### Personnel Performance Evaluation System

Mabuchi's personnel performance evaluation system is a management tool aimed at mobilizing employees' abilities toward the overall business performance of the company, but we are also actively using it as the tool for developing human resources. Our personnel performance evaluation system is designed to ensure the mutual growth of the company and employees by correctly identifying the contributions made by each employee, as they play a wide variety of roles toward maximizing the company's overall performance.

Believing that communication between superiors and subordinates is very important to correctly reflect the contributions of employees in their performance evaluation, we have introduced a system of mid-term and term-end inperson evaluation meetings to ensure close communication, in addition to routine communication through work.

#### Self-assessment System

Considering that (1) the right person in the right place and (2) the creation of a positive working atmosphere are very important in bringing out the best in each of our employees and making the best use of them, we have employees periodically carry out self-assessment to grasp their awareness of work and use the results to achieve these two elements.

#### Qualification Incentive System

We are promoting employees' self-development by establishing the Qualification Incentive System with a view to creating a self-learning atmosphere in the company and encouraging employees to acquire a wide range of knowledge useful for business operations.

#### Column> Experience through the Personal Exchange System



Mr. Peter Racine (Vice President of America Mabuchi)

I found that the employees at the Head Office are a group of people who do every task assigned to them carefully, strive to improve quality, and have a high work ethic all the time. I believe Mabuchi's long history and manufacturing spirit are some of its assets that will ensure the company continues to develop.

Through the exchange program, I got acquainted with many people in various departments. It will be a great help in my work from now on.

#### Short-term Personnel Exchange System

We established the Short-term Personnel Exchange System in 2009 to strengthen the solidarity and overall ability of the entire Mabuchi Group. We will do this by promoting exchange between the Head Office and overseas bases.

Specifically, staff members of overseas bases are provided with more opportunities to go on business trips to the Head Office. This working-level exchange encourages the Group employees to share their thoughts on and raises their awareness about cooperative work. We will continue to enhance this system while implementing it on an ongoing basis.

# Educational Support System for English Proficiency

We are working to create an English-learning culture throughout the company by providing a variety of learning opportunities to employees so that they can increase their contribution to international society. One such opportunity is the Test of English for International Communication (TOEIC). Employees can take this test once a year by setting their own targets. In addition, we have two programs for employees who have acquired a certain level of English proficiency. One is the "Study Abroad Program" to send employees to overseas English language schools to learn business English.

The other is the "Trainee Program" to send employees to our U.S. and European sales bases to improve their business English through actual business.



#### <Column>

#### Building on Study Experience!

I am grateful for being given an opportunity to study at an English language school in Cambridge, U.K. for two months.

It was a very exiting experience for me to speak only English in my daily life through conversations

with my host family and other students. Also, I was able to get acquainted with many people whose occupations and nationalities were quite different from mine.

What I learned at the school helps me a lot in my work as I was transferred to Europe Mabuchi after completing the course. My present objective is to build a strong and trusting relationships with European customers and local staff through active communication.

Atsushi Takashima (Europe Mabuchi)

#### Training System for Ability Development

Mabuchi has established an education (training) system to provide employees with an opportunity to notice that self-learning is important, and not like the traditional learning style at school. It aims to encourage them to continue learning with a self-regulating mindset. We provide the following training and lecture programs according to the level of employees (qualification, rank, etc.).

- Training for new employees: Learning the basics, including being dispatched to overseas production bases.
- Training for young mid-level employees: Reviewing your knowledge after employment and preparing to work as a mid-level employee who can represent a department or the company and become a role model for junior employees.
- Training for mid-level employees: Preparing to take a leadership role in raising the awareness of all employees using your own business ability.
- Training for supervisory employee: Preparing to become an employee who can manage an organization with a deep understanding of the management policy.
- Strategic Management Program: Improve ability to manage the company.
- O Catalyst Program: Lecture by outside speakers We also provide education on the specialized work of each department and support distance-learning programs to help employees improve their skills.

#### Keeping a Healthy Body and Mind

We believe that employees' healthy bodies and minds are the base of their good social life and the source of Mabuchi's vitality. Therefore, we started a mental health program more than 20 years ago that includes mental health checks, care given by in-house counselors, and mental health seminars.

Also, the company pays two-thirds of the expenses when employees who are 35 years or older undergo a complete medical check. It also provides health counseling by industrial doctors and the Health Class for Employees to help them avoid lifestyle-related diseases.



#### Work-life Balance

We have instituted the following systems so that our employees can maintain a good work-life balance. Adopting the Family-friendly Measures promoted by the Ministry of Health, Labour and Welfare, we have put in place the following measures to enable employees to balance their work with other aspects of their lives, such as child-raising or nursing care.

Also, in support of the activity Declaration: We are Exciting Companies with Positive Employees! that was started by the Chiba Prefectural Government based on a concept similar to the Family-friendly Measures, we were registered as a declared company in 2008.

- Parental leave (three years)
- Support for self-improvement during parental leave
- Leave for childbirth by spouse: Acquisition rate 100%
- Low-interest loans for fertility treatment
- Discount coupons for babysitting services
- Nursing leave (one year)
- Support for self-improvement during nursing leave
- Short working hours and exemption from overtime work for parental and nursing leave

#### Events Involving Families: Garden Party

Employees and their families are invited to the garden party held in the Head Office grounds every fall. The aim is to strengthen the bonds and solidarity among all Mabuchi people, from top management and employees to their families.

Children enjoying stalls, games, and lotteries operated by managers and employees





#### Sports Events

We regularly hold sports events for employees to improve their health and increase communication among them.



# **Creating Lively Workplaces (Overseas Bases)**

#### Good Labor-Management Relations

Dalian Mabuchi set up a union, the first company to do so among the foreign capital companies located in the Dalian Development Area. The union has since guaranteed the employees of this base ongoing employment, salaries, and other rights (welfare benefits). In 2011, Dalian Mabuchi was commended as an excellent company in the collective negotiation on employees' salaries by the Jinzhou District Federation of Trade Unions.



Certificate of commendation as an excellent company in the collective negotiation on employees' salaries

#### Establishing a Library for Employees

Dalian Mabuchi set up a library in the employees' dormitory to enrich their spare time and improve their knowledge and minds through reading. The library has more than 11,800 books and more than 20 kinds of newspapers and magazines, in addition to over 100 computers that can be used free of charge.

In 2011, this library was recognized as the Model Library for Employees by the All-China Federation of Trade Unions.



Dalian Mabuchi employees reading books at the library

#### Language Class for Employees

Danang Mabuchi holds a Japanese Language Class to encourage employees to learn Japanese.

Japanese Language Class (Danang Mabuchi)



#### Company Trips and Sports Events

Overseas bases including Taiwan Mabuchi and Dongguan Mabuchi hold sports events and company trips regularly to foster loyalty to the company and a feeling of unity among employees.



Company trip (Taiwan Mabuchi)



Badminton tournament (Dongguan Mabuchi's branch)

#### Various Events for Employees

Jiangsu Mabuchi holds a New Year's party every year to which all employees are invited.



New Year's party (Jiangsu Mabuchi)

Vietnam Mabuchi holds a variety of events, such as an Ao Dai festival, a cooking contest, and a soccer game, in addition to company trips to enhance communication among employees.





Cooking contest (left) and Ao Dai festival (right) (Vietnam Mabuchi)

# **Support for Manufacturing/Education**

We at Mabuchi aim to contribute to the development of society by expanding our management principle "Contributing to international society and continuously increasing our contribution" through our support activities to local communities and international society. As one such activity, we provide educational support to the youth who will lead the next generation to help them grow up surrounded by the joy of science and manufacturing.

#### Co-sponsoring Robot Contests

Mabuchi co-sponsors the College Robot Contest, the National Technical College Robot Contest, and the ABU Robot Contest every year by providing motors and funds for them. We support these events in the hope that we can help to foster future engineers and develop science and technology.



The Mabuchi Award went to the Hong Kong University of Science and Technology (ABU Robot Contest)

#### Support for National Technical College Robot Contest − approx. 1,200 motors







JC/LC-578VA



College Robot Contest 2011



National Technical College Robot Contest 2011

#### Dispatch of Science Instructors

We dispatch our employees to elementary schools in the Head Office area as science instructors by setting up a promotion team as part of our social contribution activities. This is in line with the "Education Support Project Utilizing Outside Instructors" (a project launched by the Ministry of Economy, Trade and Industry in 2008).

In 2011, Jiangsu Mabuchi employees were dispatched to a Japanese elemental school in Suzhou, China as science instructors.



(Head Office)



(Jiangsu Mabuchi)

#### Summer Vacation Handicraft Class

We hold a "summer vacation handicraft class for parents and children" every year for children (fourth through sixth graders) living in the area around the Head Office. Children make movable handicrafts using a motor and other familiar materials together with their parents, with assistance from instructors who are our employees. All parent-child pairs produce nice work every year and they have big smiles when their artworks start moving.





#### Workplace Experience for Pupils

The Head Office regularly accepts pupils from elementary schools in the community as part of its efforts to cooperate in their career education at school.

The pupils looked around the anechoic room and thermostatic chambers and performed motor life measurements.



#### Internship Program

Mabuchi holds an internship program for college students to provide them with an opportunity to deepen their understanding of Mabuchi's policy through actual work.

We accepted one internship student from a U.S. university in 2011.



#### Exhibition and Support for Events at the Science Museum

Mabuchi has been presenting a permanent exhibition at the Science Museum (Chiyoda-ku, Tokyo) since 1983 to support scientific education for the youth. Displays include an explanation on the mechanism of motors, various motors used in our daily lives, and handicrafts powered by a motor. We also cooperate in events held at the museum by providing motors and other materials.



The Motors World corner at the Science Museum



Providing motors for an event

# Scholarships and Support for School Construction

Dalian Mabuchi has been providing educational support to local communities since 1996. This support includes giving scholarships to students from elementary school to university, and paying costs for constructing school buildings.



Donation of books to the Dalian Mabuchi Hope Primary School



Scholarship recipients planting commemorative trees



Completion of the Dalian Mabuchi Hope Junior High School

### **Supporting Local Communities**

The Mabuchi Group has been actively conducting various support activities in each community, including an activity to protect the environment, an activity to support recovery from natural disasters, and social and welfare activities.

# Support for Recovery from the Great East Japan Earthquake

Mabuchi sent 50 million yen to the areas affected by the Great East Japan Earthquake that occurred on March 11, 2011 as relief money, hoping that it will be used to help the people there and recover the areas. The relief money collected by our employees at the Head Office and overseas bases was also sent to the affected areas.



General Manager Katayama, Deputy General Manger Liu, and others handing over the collected relief money to the Red Cross (Guangdong Mabuchi, presently Dongguan Mabuchi)



A Dalian Mabuchi employee handing over the collected relief money to the Red Cross



A relief money collection box at the Head Office

#### Tree-planting and Cleanup Activities

Employees of the Mabuchi Group actively conduct greening and cleanup activities around the factory and in other areas in the community.



(Guangdong Mabuchi, presently Dongguan Mabuchi)



(Kaohsiung Mabuchi)



(Taiwan Mabuchi)

#### Support for Deprived Areas

Employees of the Mabuchi Group regularly collect charity money and clothing, and send them to deprived areas.







(Guangdong Mabuchi, presently Dongguan Mabuchi)

#### Blood Donation

Employees of Mabuchi actively cooperate in the donation of blood.







# Helping to Restore the Sea Polluted by Oil Spill

Crude oil pollution spread over 100 km² in the sea area near Dalian City due to an oil spill that occurred following the explosion of oil pipelines near Xingang Port on July 16, 2011. To remove this pollution, the Dalian municipal government and other organizations started an urgent oil decontamination activity.

Environmental volunteers from Dalian Mabuchi also took part.



#### Support for Social Welfare

Employees of the Mabuchi Group regularly visit children's homes and institutions for the elderly to extend a helping hand.



Visiting Children's home (Vietnam Mabuchi)



Donating collected money to the Village of Hope Disadvantaged Children's Center (Danang Mabuchi)

#### Support for International and Community Cultural Exchanges

The Mabuchi Group cosponsors and participates in various events held for international exchanges and communication with communities.



Co-sponsored the "Japan Week," an event marking the 150th year of Japan-Germany Cultural Exchange (Europe Mabuchi)



Visiting a hospital for leprosy patients (Guangdong Mabuchi, presently Dongguan Mabuchi)



Visiting an institution for the elderly (Dalian Mabuchi)



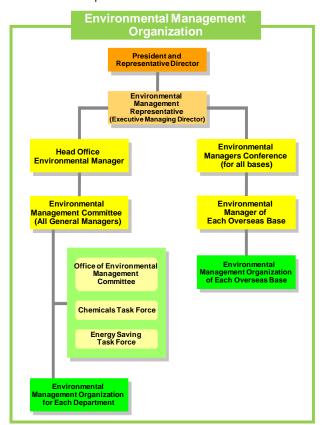
Participating in a civic activity organized by the Dongguan municipal government (Guangdong Mabuchi, presently Dongguan Mabuchi)

### **Environmental Management**

The Mabuchi Group began to introduce the "Environmental Management System ISO 14001" in 1999 and all our bases including the Head Office have already acquired this certification. In addition, we are actively carrying out environmental management by setting an individual environmental target for the entire Mabuchi Group, the Head Office, each overseas base, and each department, and managing them rigorously through the plan—do—check—act (PDCA) cycle. We will continue to improve the environmental management system and conduct advanced environmental conservation activities.

#### Environmental Management System

The environmental management system of Mabuchi is supervised by the executive managing director who holds the position of Environmental Management Representative. The Environment Management Committee is established at the Head Office. This committee is comprised of the chairman, who is the Environmental Management Representative, the Head Office's Environmental Manager, and general managers from respective departments. They discuss and determine the Mabuchi Group's environmental policy, objectives, and measures to be taken. Also, we have set up the Chemicals Task Force and the Energy Saving Task Force under the Environmental Management Committee. Those task forces propose measures in each specialized area and promote environmental preservation activities.



#### Environmental Audits

Conformance of our environmental management system to the ISO requirements and the current effective management status of the system are audited by an external certification body (third party) and the internal Audit Department every year.

Through these audits, we maintain and improve the level of our environmental management continuously.

#### **Basic Environmental Policy**

- We shall establish an environmental management system for taking business activities in consideration of the environment of the earth, and continuously try to improve the system.
- We will strictly observe legal regulations relating to the environment and other requirements, and positively determine and control self-imposed regulations.
- To make the best use of limited resources, we will positively make efforts in energy restriction, recycling and reduction in the amount of waste.
- 4. We will replace substances that cause a burden on the environment with substitutes.
- We will positively conduct training and publicity activities to enhance the consciousness of the employees of environmental protection.
- The Environment Policy will be penetrated to all employees and, if necessary, disclosed to the external parties concerned.

#### Environmental Education

Mabuchi's environmental education and training system is organized to suit the various purposes of employees at various levels. We provide education and training to improve the environmental awareness and capacity of all Mabuchi Group employees.



Environmental education (Dalian Mabuchi)



#### **Green Procurement**

By setting our own special evaluation criteria in addition to laws, regulations, and customer requests, Mabuchi strictly controls environmentally prohibited substances designated in those standards so that they will not be included in the parts and materials we procure for products.

#### Promotion of Green Procurement

We make it a rule that suppliers must follow the green procurement procedure shown in the flowchart below and submit documents certifying that environmentally prohibited substances are not contained in their parts and materials, in addition to an environmental activity survey sheet. When selecting suppliers, we evaluate each supplier's various environmental conservation activities in addition to the conventional evaluation factors of quality, cost, and delivery.

We also promote communication with our suppliers and actively conduct audits on their use and storage of environmental burden causing substances.

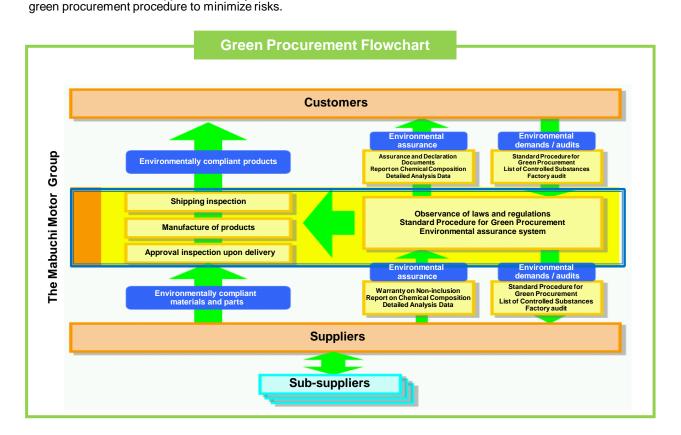
Thanks to these activities, we have received no environmental complaints from our customers since the enforcement of the EU's RoHS Directive in fiscal 2006. In June 2011, we held the Second Explanatory Meeting on Mabuchi's Green Procurement mainly for new suppliers in Dongguan City in Guangdong Province and Wujiang City in Jiangsu Province, China. We showed our management requirements on environmentally prohibited substances and asked suppliers to strictly observe our

This explanatory meeting further improved our green procurement system.

We in the Mabuchi Group will continue to promote green procurement.



The second explanatory meeting on Mabuchi's Green Procurement (Jiangsu Mabuchi)



### **Manufacturing Eco-Friendly Products**

As a manufacturer specialized in small DC motors, Mabuchi has developed and supplied innovative motors to the market in response to various needs and in pursuit of the new possibilities of motors. Improving the quality and performance of motors is, needless to say, an integral research theme. In addition, we are striving to contribute to the conservation of the global environment by producing motors that do not contain harmful substances and focusing on the entire life cycle of motors, in areas such as energy conservation, resource saving, and long service life.

#### Development of Rare-Earth-free Motor

In recent years, we have seen a supply shortage of rare earth elements which are indispensable for improving the performance of electronic products, and it has become a serious problem.

Mass production and sales of Mabuchi's new motor for power tools, RZ-735VA, started in 2011. This motor meets needs for smaller, lighter, and higher output with increased workability in the recent power tool market. Without using any rare earth element such as neodymium, which has an unstable price, we succeeded in developing this product that has three-fourths the volume and weight of our conventional product (RS-775VC/WC) and yet has an equivalent level of performance.

In addition, this product conforms to the electrical noise standard that is to be applied to power tools for Europe from 2012.

We will continue to make efforts to reduce both the use of rare earth elements and the size and weight of motors.



Size comparison with conventional motor RS-775VC/WC (left)

#### Column> Comments of Engineers Pursuing high value-added, eco-friendly motors!

It was a difficult challenge to achieve both a smaller and lighter motor design and not use rare earth elements while maintaining the same level of performance as a conventional motor.

Thanks to cooperation from all the related divisions, we were able to achieve an optimal design for the magnetic circuit, drastically reduce the number of production processes and bring the motor to the stage of mass production.

We will continue to develop goodquality and original motors of various sizes for various applications so that more motors that are friendly to people, companies, and the environment will be produced.





#### Improved Automotive Environmental Performance with Smaller and Lighter Motors

Automakers are endeavoring to reduce the weight of automobile bodies to achieve higher fuel efficiency and lower  $CO_2$  emissions.

Mabuchi started selling GA-558RN/LN, a motor for power windows in 2011.

Pursuing both a smaller and lighter motor design and lower motor price, which are Mabuchi's traditional advantages, this product can meet needs for electrical noise suppression, which is indispensable for normal operations of in-car electronic devices, and an anti-pinch function with passengers' safety in mind.

Mabuchi plays a part in producing eco-friendly automobiles by developing smaller and lighter motors that can contribute to higher fuel efficiency and lower  $\mathrm{CO}_2$  emissions.

#### GA-558RN/LN





Plastic output shaft type (for cable-type regulator)

Metallic output shaft type (for arm-type regulator)

# Column> Comments of Engineers Smaller and lighter design plus lower cost achieved!

We attempted to further reduce the size, weight, and price of a motor and increase its performance by introducing VA and a motor design fit for commercial connectors to increase the motor's marketability while retaining the features (lightweight, little noise, and low price) of our conventional motors which have been sold on the market. We are glad to be able to contribute to the production of eco-friendly automobiles with a reduced automobile body weight that enables higher fuel efficiency and lower  $\mathrm{CO}_2$  emissions.



### **Environmental Communication**

Mabuchi provides wide-ranging information on its environmental policy and environmental management activities to both inside and outside the company through a variety of media. We hope our customers and stakeholders as well as our employees will gain a deeper understanding of our approach to environmental conservation and various activities taken for that through our environmental communication.

#### Publication of Social & Environmental Report and Environmental Information on Our Website

We at the Mabuchi Group have been reporting the results of our social contribution and environmental conservation activities to society by publishing an environmental report and putting it on our website since 2001 (the report title was changed to the Social & Environmental Report in 2008). We also provide information on such matters as the most recent environmental activities and the start of sales of ecofriendly motors on our website.

Some of our overseas bases also publish their own environmental reports. The Sustainable Development Report published by Dalian Mabuchi was commended as the year's best environmental report by the Environmental Protection Bureau of the Dalian municipal government in both 2010 and 2011.

#### Environmental Communication to Communities

We actively extend our environmental communication to a variety of stakeholders in the community around our companies, including customers, residents, other companies, and administrative offices.



information to citizens (Guangdong Mabuchi, presently Dongguan Mabuchi)



Giving a lecture on the environmental protection activities to other foreign-capital companies located in the Development Zone (Dalian Mabuchi)

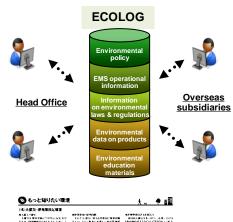


Information on social contribution and environmental activities on our website (left) and Dalian Mabuchi's environmental report (right)

# Sharing of Environmental Information among Employees

We have created a database called ECOLOG on our Intranet and put it into operation to allow personnel to share environmental information throughout the entire Mabuchi Group. All Mabuchi employees around the world, including those at the Head Office, share a variety of environmental information through this database.

We also periodically publish feature articles on environmental information in our newsletter to introduce the present status of Mabuchi's environmental responses and the latest environmental information, with a view to increasing the environmental awareness of employees.



American Annual Control of the Contr

# Slogan and Poster Contest for Environmental Consideration

To enhance the environmental awareness of employees, the Slogan and Poster Contest Promoting Environmental Consideration has been held annually since 2006 as a Groupwide event.

#### Winning works in 2011 ♦ Slogan Category



#### 多關一盞燈,少印一張紙,節約無小事,行動靠大家!

"Turn off even one light, reduce even one sheet of copy paper. Save from tiny things and act on you own initiative." (Guangdong Mabuchi, presently Dongguan Mabuchi)

#### 用热情关注环境, 用勇气改变习惯, 用智慧实现节能。

"Look at the environment with passion, change customary practices with courage, and achieve energy saving with wisdom" (Guangdong Mabuchi, presently Dongguan Mabuchi)

# Thiên nhiên vẫn sống khi không có con người nhưng con người không thể sống khi không có thiên nhiên

"Nature does not need us, but we cannot live without Nature"

(Vietnam Mabuchi)

#### **♦**Poster Category



"Handle parts and products with care!" (Vietnam Mabuchi)



"The more we care about energy saving, the better life will be!" (Guangdong Mabuchi, presently Dongguan Mabuchi)



"Environmental protection and energy conservation"
(Guangdong Mabuchi, presently Dongguan Mabuchi)

# Efforts to Reduce CO<sub>2</sub> Emissions

We have been taking a range of measures to prevent global warming as a concerted effort of the entire Mabuchi Group, including overseas production bases. As Mabuchi's CO<sub>2</sub> emissions mainly come from the use of electricity, we put particular focus on reducing electricity consumption.

40.000

20,000

0

2007

#### Reduction Effort at the Head Office

Though the Head Office had already been working hard to save electricity for many years, it further pushed forward with an electricity saving effort in 2011 as a measure against electricity shortages caused by the Great East Japan Earthquake that occurred on March 11, 2011. As a result, the Head Office reduced its electricity consumption by 11.0% and CO<sub>2</sub> emissions by 11.2% compared with the previous year. We will continue to implement some of the measures for reducing CO<sub>2</sub> emissions even after the current electricity shortages due to the earthquake are resolved.

#### CO<sub>2</sub> emissions (t-CO<sub>2</sub>): CO<sub>2</sub> emissions (t-CO<sub>2</sub>)/million motors: left axis right axis 200,000 90.0 76.5 180 000 73.5 80.0 160.000 70.0 140.000 60.0 120.000 50.0 100.000 40.0 80.000 134,778 30.0 60.000 120 394 118,777 117,487 97.137

CO<sub>2</sub> Emissions of the Mabuchi Group

\* This graph shows the results calculated from the data of Mabuchi Motor's Head Office and major overseas production bases.

2009





2008



2010

20.0

10.0

2011

#### Reduction Effort at Overseas **Production Bases**

Overseas production bases also strive to reduce CO<sub>2</sub> emissions by implementing measures, such as improving their production processes and equipment and adopting energy-saving utility equipment for factories.

In 2011, Jiangsu Mabuchi received the Green Production Factory Award from Wujiang City of Jiangsu Province for its continuous promotion of various energy-saving measures.



Received the Green oduction Factory Award (Jiangsu Mabuchi)



Aesthetics was improved and the use of electricity for air conditioning significantly reduced by adopting rooftop greening. (Guangdong Mabuchi, presently Dongguan Mabuchi)



Owing to the thermal shield constructed on the roof, the room temperature in the summer was down 36% compared with previous years, and this meant we needed considerably less electricity for air conditioning. (Jiangsu Mabuchi)



We used less gas to heat water because we now have a solar water heater installed on the roof. (Vietnam Mabuchi)

### **Environmental Risk Management**

Mabuchi rigorously manages chemical substances by such means as monitoring their use and conducts emergency response drills in order to prevent environmental contamination. We also conduct surveys and analyses to find soil and water contamination and take immediate action if we detect residual hazardous chemical substances that were used in the past.

#### Emergency Response Drills

The Head Office and overseas production bases conduct emergency response and reporting drills at least once a year by projecting various scenarios suitable for each location so that the occurrence and spread of environmental pollution can be prevented even in a disaster.



Fire extinguishing drill at the gas storage facility (Dalian Mabuchi)



A drill to prevent oil leakage in an emergency (Head Office, Technology Center)

#### Effort for Soil Decontamination

In the independent soil contamination research conducted in 2002, contaminated soil was found in a part of the Head Office site. We reported this situation to the relevant authority (Matsudo municipal government) and started decontamination work. In 2004, we investigated whether there was any soil contamination at the site of our subsidiary upon the closure of the factory and detected soil contamination. We immediately reported this situation to the Gunma prefectural government and started decontamination work.

Decontamination of areas having a high level of contamination at the above two locations has already been completed, but decontamination of areas with a low level of contamination is still continuing. In 2011, we conducted decontamination work while taking energy-saving measures against electricity shortages which were caused by the nuclear power plant accident. As all measured values showed an improvement over the values of the previous year, we judged that the current decontamination method is effective and decided to use it continuously. The decontamination results and future policy are reported to the Matsudo municipal and Gunma prefectural governments every year and we initiate the next year's decontamination work after obtaining their approval.

We will continue our decontamination work steadily.



Soil decontamination equipment installed in the premises of the Head Office

# **Report of Environmental Data**

#### Purchased electricity and usage Coal usage (10,000 kWh) (10,000 kWh/million units) (t/million units) 25,000 14 20,000 12 12 10 20,000 15,000 10 8 15,000 8 10,000 6 6 10,000 4 4 5,000 5,000 2 2 0 0 0 0 2007 2008 2009 2010 2011 2007 2008 2009 2010 2011 Total amount Total volume Use per million motors Use per million motors purchased

#### Waste generated Water usage Incinerated and landfilled waste excluding recycled waste (1,000 m<sup>3</sup>) (t) (t/million units) (1,000 m<sup>3</sup>/million units) 1,350 3 3 2,000 1,300 1,500 2 1,250 2 1,200 1,000 1,150 1 1 500 1,100 1,050 0 0 2007 2008 2009 2010 2011 2007 2008 2009 2010 2011 Total volume used Total volume Use per million motors Volume per million motors generated

	Unit	2007	2008	2009	2010	2011
Total amount of electricity purchased	10,000 kWh	18,826	19,464	15,568	18,049	16,454
Use per million motors	10,000 kWh	10.36	11.50	13.18	11.18	10.71
Coal usage	t	9.841	10,135	9,836	12,685	14,986
Use per million motors	t	5.41	5.99	8.33	7.85	9.76
Total volume of waste generated	t	1,740	1,899	1,436	1,377	1,069
Volume per million motors	t	0.96	1.12	1.22	0.85	0.70
Total volume of water used	1,000 m <sup>3</sup>	1,248	1,323	1,144	1,262	1,176
Use per million motors	1,000 m <sup>3</sup>	0.69	0.78	0.97	0.78	0.77



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