

YANMAR[®]

Environmental & Social Report 2008



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Corporate Profile

Trade name	Yanmar Co., Ltd.
Head office	1-32 Chayamachi, Kita-ku, Osaka
Tokyo office	2-1-1 Yaesu, Chuo-ku, Tokyo
Founded	March 1912
Capital	¥6.3 billion
Chairman & Executive Director	Tadao Yamaoka
President	Takehito Yamaoka
Turnover(FY2007)	¥579.4 billion (consolidated base) ¥214.9 billion (company base)
Employees (as of March 20, 2008)	15,116 (consolidated base) 2,716 (company base)

Editorial Notes

We issue this Report to briefly and openly inform Yanmar Group stakeholders of the philosophies, policies, and actions the Group has taken with respect to the environment and society.

This issue includes a report on our social responsibilities, in a section to inform readers about the actions we are taking in the areas of "customers," "suppliers," "employees," and "society". The environmental report section explains the results from our activities that are based on the secondary medium-term plan, with 2006 as the initial year. The "highlight" pages feature detail information about various Group activities, some of which are quite impressive.

It is our hope that this Report will help the reader to better understand the Yanmar Group, and help strengthen the relationships and trust we have with our customers. We very much welcome the frank opinions and comments of our readers, as they help us enrich the content of our activities and this Report.

Reference Guidelines

The Environmental Report Guideline (2007 version), the Ministry of the Environment, and the Sustainability Reporting Guideline 3rd Version, GRI

Report Period

The activities and data disclosed in this Report are for the period of fiscal year 2007 (March 21, 2007, to March 20, 2008). However, the report also includes some items occurring after fiscal 2007.

Reporting Organization

In general, the information in this Report applies to the Yanmar Group as a whole. Information specific to Yanmar Co., Ltd. or any particular area or related company is indicated as such in the text.

The term "Shiga Zone" used in this report refers to our plants located in Shiga Prefecture, which include the Biwa, Yamamoto, and Kinomoto Plants that produce small engines, the Nagahama Site that conducts development and experiments, and the Omori and Nagahara plants that produce precision machinery.

The "Amagasaki Zone" refers to the Amagasaki Plant located in Amagasaki City, Hyogo Prefecture that produces large engines, and the Tsukaguchi Plant that produces boat engines.

Report Publication Period

Published in September 2008 (the next issue is scheduled for August 2009).

Founder's Spirit

Grateful to serve for a better world

Mission

We, the YANMAR group, will strive to create new and meaningful value together in partnership with our worldwide customers.

We will be innovators and leaders in harnessing energy, while contributing to an environmentally sustainable society, through the delivery of unrivaled products and services.



We are striving to establish a corporate culture that is trusted and understood by our customers and by society.

"Grateful to serve for a better world." — This is the management principle set forth in 1912 by Magokichi Yamaoka, the founder of our company.

This principle accurately summarizes the attitude we must take on a daily basis as a company. For Yanmar, as a company that provides products related to nature in such fields as agriculture and the fishing industry, this principle is closely linked to our corporate spirit. Through the years, Yanmar has expanded its business to areas such as construction machinery and power generation, but in all areas of business, we aim to achieve a harmonious coexistence with the natural environment, with the corporate spirit that was defined at the time of Yanmar's founding remaining a deeply penetrating and unchanging part of the company, a spirit that continues to this day.

In recent years, interest has been growing about the formation of sustainable societies, so questions have been raised as to what types of actions industries must take in order to respond to the needs of a sustainable society. Our company has also grown to the point at which the stakeholders involved in our business activities have become quite diversified, and now include our customers, business partners, shareholders, those living in the areas where we do business, and of course, our employees.

Under these conditions, it is important that we not only adhere to compliance regulations and make contributions to local societies, all businesses must now forge a business attitude that actively undertakes the various themes encompassed by society and the environment.

Yanmar is renewing its awareness of the spirit of its founding, and is giving very serious consideration to such questions as, "In what ways can we contribute to the formation of a sustainable society?" and "What must we do now in order to realize a resource-cycling society?"

The business fields of Yanmar are "urban," "the land," and "the sea," and the areas in which we do business are "housing," "food," and "leisure." We consider one of our primary missions to be the construction of resource

cycling systems for each type of business area in their respective fields.

We also have a very important commitment to realize accomplishments that can be linked to energy savings, labor savings, increased efficiency, and greater added value for our customers in each of our business areas.

Furthermore, we are a customer-oriented business, which allows us to move forward in order to achieve our social responsibilities from a standpoint that is closer to that of our customers.

Through this, we aim to precisely understand the opinions of our customers and can easily accept questions and requests from our customers, providing prompt resolution and reflecting such resolution in specific product development and services. With this business model, we strive to strengthen our points of contact with our customers.

Furthermore, by expanding these efforts to a global scale, we can avoid being affected by fluctuations in market environments, and we believe that this will lead us on a direction of growth as a corporation that is trusted and understood by our customers and by society.

Yanmar, which started in business nearly 100 years ago with the idea of "Grateful to serve for a better world," has positioned this principle as the basis for all of its business activities, faithfully executing this principle in all fields of its business activities, both in Japan and abroad. Such activities are truly the corporate social responsibility activities of Yanmar. Through the changes in the times, through great changes in the environment encompassing our corporation, this fundamental stance of Yanmar shall continue to remain unchanged. Yanmar shall continue its unceasing efforts to improve the quality of its business operations which are linked directly to the environment. I sincerely hope that our customers will continue to share their frank and open opinions with us as we work to achieve our goals.

Takehito Yamaoka
President



Overview of the Yanmar Group

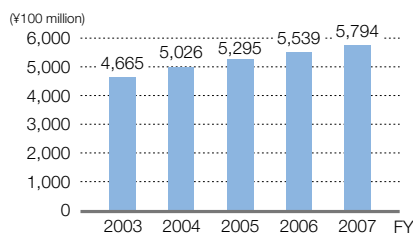
Yanmar Business

With energy conversion technologies at our core, we research, develop, manufacture, sell and maintain products for use on land and sea, and in other types of living spaces.

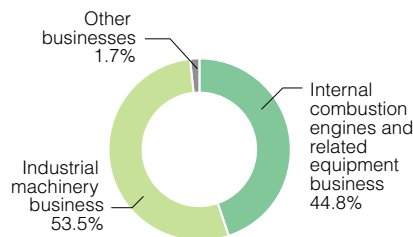
Industry and Construction		<ul style="list-style-type: none"> ● Industrial Engines ● Construction Machinery ● Industrial Equipment (Projectors, Portable Power Generators)
Energy		<ul style="list-style-type: none"> ● Power Generation Equipment ● Air Conditioners (GHP) ● Micro-gas Cogeneration
Agriculture		<ul style="list-style-type: none"> ● Farm Machinery ● John Deere Tractors ● Unmanned Helicopters ● Hobby Farming Machinery ● Farm Facilities
Marine		<ul style="list-style-type: none"> ● Pleasure Boats, Fishing Boats ● Marine System Equipment, Fish Feed ● Marine Main & Aux. Engines
Environmental Protection		<ul style="list-style-type: none"> ● Environmental Equipment ● Environmental Facilities ● Cool Containers ● Household Equipment

Major Indicators

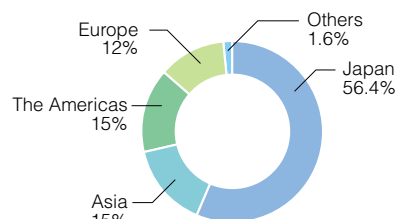
Consolidated Sales



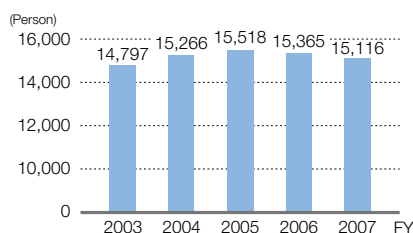
Ratio of Consolidated Sales by Segment in 2007



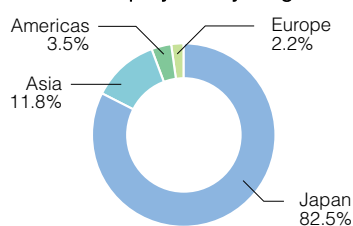
Ratio of Consolidated Sales by Region in 2007



Employees (Consolidated)



Ratio of Employees by Region as of March 20, 2007



Facilities and Group Companies

Yanmar Co.,Ltd

Manufacturing

Power System Operations Division

Manufacturing Management Dept.

Biwa Plant
Yamamoto Plant
Kinomoto Plant

Nagahama Site

Precision Equipment Division

Omori Plant
Nagahara Plant

Large Power Products Operations Division

Amagasaki Plant

Marine Operations Dept.

Tsukaguchi Plant

Domestic Group Companies

Yanmar Agricultural Equipment Co.,Ltd.

Yanmar Agricultural Machinery Manufacturing Co.,Ltd.

Seirei Industry Co.,Ltd.

Kanzaki Kokyukoki Mfg. Co.,Ltd.

Yanmar Energy System Co.,Ltd.

Yanmar Energy System Mfg. Co.,Ltd.

Yanmar Construction Equipment Co.,Ltd.

Yanmar Construction Equipment Sales Co.,Ltd.

Yanmar Marine System Co.,Ltd.

Yanmar Shipbuilding & Engineering Co.,Ltd.

Yanmar Casting Technology Co.,Ltd.

New Delta Industrial Co.,Ltd.

Kyoritsu Metal Industrial Co.,Ltd.

Yanmar Logistics Service Co.,Ltd.

Overseas Group Companies

Asia

Sales / Services

YANMAR ASIA (SINGAPORE) CORPORATION PTE.LTD.

YANMAR ENGINE (SHANGHAI) CO.,LTD.

YANMAR AGRICULTURAL MACHINERY (THAILAND) CO.,LTD.

YANMAR AGRICULTURAL MACHINERY KOREA CO.,LTD.

YANMAR INDIA REPRESENTATIVE OFFICE

Research & Development

YANMAR KOTA KINABALU R&D CENTER

Manufacturing / Sales

P.T. YANMAR DIESEL INDONESIA

P.T. YANMAR AGRICULTURAL MACHINERY MANUFACTURING INDONESIA

P.T.YKT GEAR INDONESIA

YANMAR S.P. CO.,LTD.

YANMAR AGRICULTURAL EQUIPMENT (CHINA) CO.,LTD.

YANMAR ENGINE (SHANDONG) CO.,LTD.

North & South America

Sales / Services

YANMAR AMERICA CORP.
C.U.T. SUPPLY COMPANY LLC.

YANMAR SOUTH AMERICA INDUSTRIA DE MAQUINAS LTDA.

Manufacturing / Sales

YANMAR MARINE U.S.A. CORP.

YANMAR AGRICULTURAL MACHINERY OF AMERICA CORP.

TUFF TORQ CORPORATION
TRANSAXLE MANUFACTURING OF AMERICA CORP.

Europe

Sales / Services

YANMAR EUROPE B.V.

YANMAR MARINE INTERNATIONAL B.V.

Manufacturing / Sales

YANMAR ITALY S.p.A.

AMMANN-YANMAR S.A.S.

MOSCOW REPRESENTATIVE OFFICE OF YANMAR.,LTD.

Major changes in FY2007

Representative office opened in Russia in April 2007
Yanmar Agricultural Equipment Co., Ltd. set up office in France in June 2007
Fifth plant expansion project completed at PT. Yanmar Diesel Indonesia (YADIN) in November 2007
First R&D base in overseas Yanmar Kota Kinabalu R&D Center opened in January 2008
Tractor manufacturing factory in North America, YAMA, started full production in January 2008

Corporate Governance and Internal Control

In order to provide its stakeholders with the stable value over the long term, Yanmar has established a corporate governance system that realizes prompt decision-making and a clarification of responsibilities. Yanmar has also established an internal control system that ensures the appropriate execution of duties.

Corporate Governance System

Yanmar has put in place a corporate governance system that realizes quick decision-making and clearly defined responsibilities, with the aim of improving the stable corporate value for the long term.

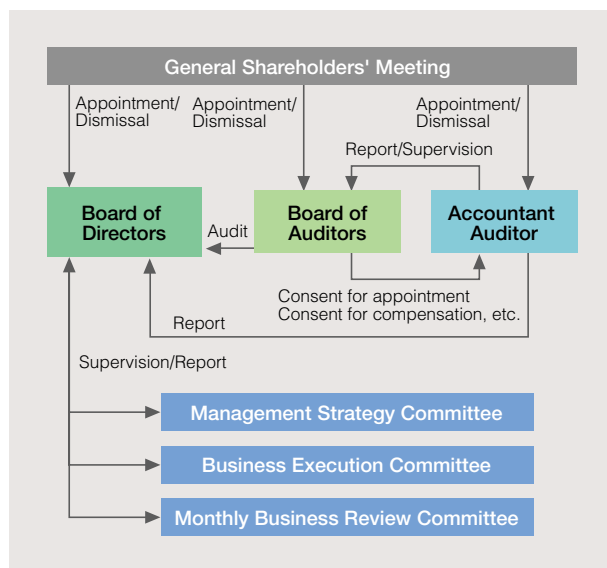
Our administrative organization has statutory engines, including general shareholders' meetings, a board of directors, and a board of auditors. In 2000, we introduced an operating officer system to promote separation between administrative supervision and the execution of duties.

Yanmar has 12 directors as of March 20, 2008, and the Article of Incorporation stipulates that there should be no more than 15 directors. The term of office for a director is two years, and Board of Directors' meetings are held at least once every three months, as well as whenever judged necessary.

Under the Board of Directors are three confederal committees: the Management Strategy Committee (in charge of decision-making for the entire Yanmar Group), the Business Execution Committee (in charge of PDCA management for business execution), and the Monthly Business Review Committee (in charge of the monthly progress management of business execution), which serve to enhance the executive power of administration.

Yanmar also utilizes an external auditor system as a mechanism for monitoring managerial operations. To enhance the transparency of our corporate conduct, two of the four Yanmar auditors are external auditors, and each auditor conducts auditing in line with the policies and audit programs determined by the Board of Auditors.

● Corporate Governance Organization Chart



Internal Control

Yanmar resolves the fundamental policy on the establishment of a system at the Board of Directors and is establishing an appropriate internal control system in order to ensure the appropriate execution of businesses in compliance with the Corporate Act. To be specific, Yanmar has determined basic policies concerning the formation of an internal control system at the Board of Directors as follows:

Basic Policies for Formation of the Internal Control System

1) A system to ensure that the execution of businesses by Directors and employees complies with applicable laws and the Article of Incorporation

It includes the establishment and implementation of the internal control system based on Yanmar standards.

2) A system on the retention and control of information related to the execution of the duties of Directors

It includes appropriate retention and control of information according to applicable laws and the Yanmar standards.

3) A system involving standards on the management of risks of loss and others

It includes the establishment of a system that extensively and comprehensively manages risks for the entire group (the Group Risk Management Committee was set up in April 2007).

4) A system to ensure that the execution of duties by Directors is efficiently conducted

It includes the establishment and improvement of a management system necessary to achieve the management policies and objectives.

5) A system to ensure the adequacy and appropriateness of the duties of Yanmar and all its group members

It specifically includes the establishment and improvement of a management system that ensures the appropriate execution of duties by the entire group.

6) Matters related to employees who are assigned to support Corporate Auditors when the auditors request employees assigned to support their duties and matters related to the independency of those supporting employees from Directors

It specifically includes a guarantee that such supporting employees will not be subject to any inappropriate restrictions when executing their support duties.

7) A system that ensures the reporting of Directors and employees to Corporate Auditors, a system concerning reporting to other Corporate Auditors, and a system that ensures auditing of Corporate Auditors be effectively conducted

When a critical decision is to be made, a serious management condition occurs, or material damage or loss of trust is likely, Directors or employees should immediately notify the auditors if they find any violation of law or material act of tort. Corporate Auditors may request that a report be made at any time.

(Established May 2006)

Compliance and Risk Management

True to the Yanmar Group Code of Conduct, we have in place a system that allows us to accurately cope with the varying risks posed to our business with the Group Risk Management Committee set up to take the initiative while thoroughly complying with general corporate ethics and applicable laws and regulations.

Compliance

Group Compliance Committee

The Yanmar Group has a set of compliance policies for the entire group, based on the Yanmar Code of Conduct established in January 2003, and promotes integrated compliance programs to ensure thorough compliance. In March 2003, we also set up the Group Compliance Committee headed by the Executive Vice President to practice fair and honest business across the Group. The Committee invites experts (lawyers) from outside to serve as Committee members to ensure the fair activities of the Committee. The Committee aims to have the top management as well as all Group employees fully understand the corporate ethics and the importance of legal compliance and to establish and maintain a system that prevents any conduct in violation of those standards, regulations and laws.

Our compliance promotion activities for employee education include the distribution of the Compliance Guidebook to all employees, an employee survey to be conducted once a year, workshops in facilities using CD texts, new employee and management training to be held once a year, publication of the Rinri ("ethics") News on the intranet, and the promotion of compliance. In addition, a compliance audit based on compliance programs of and reports from group companies to ensure appropriate business activities are conducted within those companies. Overseas, compliance programs have already been introduced in North America, Europe and Singapore, while the introduction is also underway in China, South Korea and Thailand as of March 2008.

Internal Reporting System "Complaint Box for Ethics"

Yanmar launched the internal report system "Complaint Box for Ethics" that allows employees to notify or consult when they have learned or have doubt about any inappropriate, unlawful, illegal or unethical conduct at workplaces or during business activities. The system is made known to all employees by disclosing it via the intranet.

Risk Management

Risk Management Committee

The Yanmar Group set up a section dedicated to risk management in August 2006 and started the Group Risk Management Committee headed by the Executive Vice President in April 2007. The Committee, intended to ensure accurate management and practice against varying risks affecting our business, is assigned to set a course for the entire risk management process.

Activities in 2007

Implementation of risk mitigation programs

We clarified the expected risks for each functional division of the Yanmar head office and each business company and operation division of the Yanmar Group, conducted matrixing of those risks by the category of influence and frequency, and checked and improved the current actions for each category.

Occurred risk information management (mechanism for the sharing of information)

In June 2007, we started the operation of the Risk Event Report Database, which conducts the integrated management of the latest information on risks having occurred in the Yanmar Group and how they were handled. The PDCA cycle for risk reduction is conducted by sharing information on risks having arisen among the top management and risk management officers in order to promote a review of countermeasures and proactive measures.

Risk assessment for the Yanmar Group's major plants

In November 2007, the capability of the group's major plants to resist accidents and disasters was examined by external experts, and a field survey to reexamine existing risk countermeasures was conducted.

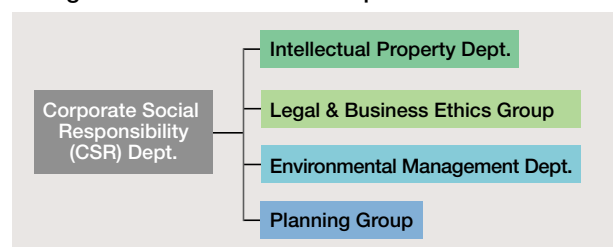
Emergency measures

We introduced a safety confirmation system in January 2006 and conduct a general drill for the entire group in January every year. In 2007, we distributed the portable Emergency Card and introduced an emergency earthquake flash news receiver system under the jurisdiction of the head office.

Establishment of a Special Department for CSR

The CSR Department was established in March 2008 as an organization dedicated to the further promotion of CSR activities. Composed of the Intellectual Property Dept., Legal & Business Ethics Group, Environmental Management Dept., and Planning Group, the CSR Dept. is actively implementing cross-sectoral measures in order to incorporate the varying requests of the stakeholders into business operations.

● Organizational chart for CSR promotion



Yanmar environmental technologies work to protect the blue sky and blue sea.

There is much expectation for the application of biomass (a resource derived from living organisms) as a contributor to the prevention of global warming.

Yanmar has long been working in the research and development of leading environmental technologies in order to fulfill its mission of being innovators and leaders in harnessing energy while contributing to an environmentally sustainable society.

In January 2008, Yanmar opened a research facility in Malaysia that is capable of conducting research and development for biodiesel fuels. Yanmar is also conducting biodiesel fuel validation tests in Great Britain and India.

In Japan, Yanmar began the full-scale marketing of a biogas micro cogeneration system in December 2007, and will also soon be ready to market its wood biomass power generation plant. This will contribute to the global, multifaceted operation of the company.

Striving for "Blue Sky & Blue Ocean" in our mission to contribute to the realization of an environmentally sustainable society.

As we continue to deplete petroleum resources and the problem of global warming grows more severe, movements are expanding around the world to use biodiesel fuel and decrease the amount of petroleum fuel use in order to prevent further increases in the emission of CO₂ (carbon dioxide), a contributor to global warming. Biodiesel fuel is a fuel oil for use with diesel engines, and is made from biomass, a resource derived from living organisms such as plants and animals. Normally, the fuel used with diesel engines is a diesel oil or heavy oil made from petroleum (fossil fuel), an underground resource. Biodiesel fuel, however, is receiving much attention as a carbon neutral ¹ substitute for conventional diesel engine fuels.

Yanmar has been a leader in the effective utilization of energy, and early on adopted "the pursuit of unrivaled products and services which can contribute to the realization of an environmentally sustainable society" as its mission. Yanmar began its research of biodiesel fuel in the latter half of the 1970s, during the second oil crisis, and long before the idea of environmental problems became a

universal issue.

More recently, Yanmar established a new energy business development department in 2005, and has been working to develop businesses related to the utilization and application of biodiesel fuels. In April 2006, we inaugurated our current Environmental Business Development Department. In order to achieve Yanmar's mission of contributing to the realization of an environmentally sustainable society, Yanmar is working in the research and development of advanced environmental technologies, and then utilizing these technologies as the core of its global business development activities.

According to Makoto Yuri, Senior Manager of the Environmental Business Development Department since June 2007, the vision of the Environmental Business Development Department is "Blue Sky & Blue Ocean — that we can all share the world's beautiful blue skies and blue oceans. At Yanmar, we are not only working to use biodiesel fuel in order to reduce CO₂ emission and promote a cleaner atmosphere, we have also been working for 20 years in research and development to help us protect our oceans." In March 2007, Yanmar erected a stone monument inscribed with the words "Blue Sky & Blue Ocean" to commemorate the 20th anniversary of the Marine Farm.



Opening of Yanmar's First Overseas Research and Development Base in Malaysia

In January 2008, Yanmar opened the Yanmar Kota Kinabalu R&D Center (YKRC) research and development base in Malaysia. This is Yanmar's first overseas research and development base, and the base has been established as part of the company's efforts to strengthen its environmental technologies. The initial roles of YKRC are twofold: (1) To develop technologies for engines capable of "B100" operation (operation using 100% biodiesel fuel) and endurance testing of these engines, and (2) To analyze and evaluate fuels and lubricating oils for biodiesel engines. Biodiesel fuel is made from raw materials, plant matter, which can rot over time. Therefore, important research themes in this area include the analysis of fuel processing quality and storage conditions, and the effects of fuel changes on the engine.

YKRC is located in the Kota Kinabalu Industrial Park in Sabah, on the Malaysian island of Borneo. Makoto explains why this location was selected. "A large amount of fuel is required for the endurance testing of engines that use biodiesel fuel. Many types of fuels can be used, including waste cooking oil, rape seed oil, palm oil, and even Jatropha oil, which has recently been receiving attention as a non-consumable type of oil. When we initially began planning this research center, we decided to build it in Kota Kinabalu, where it would be possible to obtain a stable supply of large quantities of biodiesel fuels." At YKRC, it is actually possible to perform research with various types of biodiesel fuels, including palm oil, waste cooking oil, and Jatropha oil.

YKRC currently has a staff of 11. Only two of these staff members have been dispatched from Japan — a Japanese engineer, and a Malaysian engineer specializing in engines who was hired in Japan. The rest of the staff consists of engineers and analysts who were hired locally. Talking about the future of YKRC, Makoto continues, "We have an outstanding staff. Because this is an Islamic region, there are cultural aspects and customs that differ from what we have in Japan, for example, the women wear scarves while they work, but the facility functions well as an organization with a real "at-home" feeling. With further economic growth, we also



Makoto Yuri

Makoto Yuri is the Senior Manager of the Yanmar Environmental Business Development Department. Makoto joined Yanmar in 1984. He worked in engine research at the Research & Development Center until 1998, after which he began working in the planning and research of new energy conversion technologies such as fuel cells and micro gas turbines, and in alternative fuels such as DME and biodiesel fuel. Makoto chose this type of work because of his strong interest in growing environmental needs and in new technologies. Makoto took his current position in June 2007.

see increasing needs for technologies to protect the environment. This applies to Asia as well. In the future, YKRC will not only help us expand the development of biotechnologies involving biogas ² and wooden gas ³ to facilities overseas, we also plan to begin working in the development of technologies for protecting marine environments, such as land-based circulating aquaculture, and to have YKRC become a technology hub for the Asian region."

1 Carbon neutral

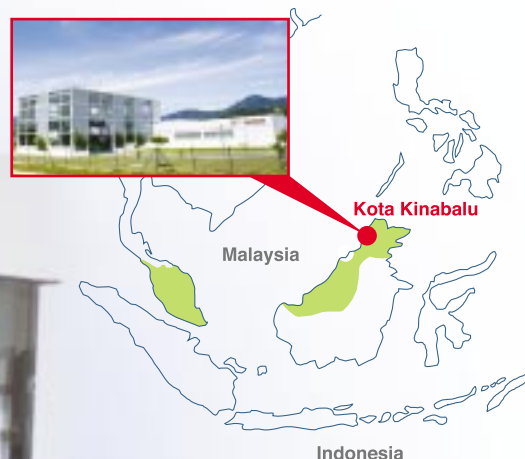
A concept by which the amount of CO₂ emitted is equivalent to the amount of CO₂ absorbed. With the Kyoto Protocol, which was formulated for the prevention of global warming, the amount of CO₂ emission resulting from fuels derived from living organisms is not included in the calculation of total CO₂ emission. When fossil fuels such as diesel oil are burned, the carbon contained in the fuel is released into the atmosphere as newly generated CO₂. With biodiesel fuels, however, the living organisms that became the source material for the fuels conducted photosynthesis as they grew, absorbing CO₂ from the atmosphere. As such, even when fuels resulting from living organisms are burned, it does not result in an increase in the total CO₂ in the atmosphere beyond what was already in the air.

2 Biogas

Biogas is a gas for which the main component is methane generated by bacteria action in biomass consisting of organic material such as livestock excreta, raw garbage, and sewage sludge.

3 Wooden gas

Wooden gas is gas generated by roasting wood materials such as lumber, tree bark, and sawdust. Wooden biomass electricity generation is the process of generating electricity using this gas. Yanmar is conducting in-house development and validation testing of a system that can use sawdust as well as tree clippings, tree bark, and bamboo as raw materials.





Newcastle in the UK is aiming to be a zero CO₂ emission city.

Validation testing for biodiesel fuels that is underway in Great Britain and India

YKRC is monitoring and managing the biodiesel fuel validation tests that are currently being conducted in Great Britain and India. In collaboration with the NaREC (New and Renewable Energy Centre), Yanmar initiated Great Britain's first cogeneration system operating on 100% biodiesel fuel in October 2007. Germany is known to be one of the most advanced countries in Europe with respect to environmental issues, but the city of Newcastle in Great Britain, where validation tests are being performed, is also known as the world's first "environment city" striving to achieve zero CO₂ emission, with the help of the city's residents. It is difficult to use solar electricity generation in climates where the skies are often cloudy, so the city has been searching for environmentally friendly technologies such as biodiesel fuel and biogas. This coincides well with the



objectives of Yanmar, a company from another country that was seeking to perform validation tests. At present, Yanmar has one supervisor on-site, where a total of three 10 kW cogeneration systems are in operation, running on biodiesel fuel and natural gas. This coming winter, the facility plans to conduct biogas electricity generation tests based on livestock excreta.

Yanmar is also working in collaboration with the Indian Institute of Technology in Delhi to conduct validation testing for biodiesel fuels. Research being conducted there uses Jatropa oil. "The type of fuel receiving the most attention right now is Jatropa oil. Jatropa oil is extracted from the seeds of the Jatropa curcas tree. This oil is not used in foods, so its use in biodiesel fuel will not compete with food supplies." The Jatropa curcas tree can be easily cultivated, even on barren land where there is little rainfall, so research targeting the practical application of this oil is being conducted in India and Africa.

Report

Combining the free and open way of thinking of Great Britain with the outstanding technologies of Japan, Yanmar is working toward the realization of a low-carbon society.



Makoto Yasuda
Planning & Administration Department,
Environmental Business Development Department
Yanmar

As a countermeasure to climate change, Great Britain has established a goal of reducing CO₂ emissions to 40% of the 1990 level by year 2050. To help achieve this, the country is promoting the introduction of renewable energy. As part of this effort, the Yanmar Environmental Business Development Department is working with NaREC (New and Renewable Energy Centre), a British research organization, and Newcastle University in the validation testing of a cogeneration system that uses biodiesel fuel. My job is to plan business models for environmental projects in Europe by providing support for this type of research activity and by conducting various types of marketing activities.

In Great Britain, there is brisk activity in projects concerning the environment, such as emissions trading and efforts to save energy, and there are many things that Japan can learn from these activities. I believe that by combining the free and open way of thinking of Great Britain with the outstanding technologies of Japan, Yanmar can contribute to the realization of a low-carbon society.



The NaREC research organization in the UK

Advancing from the "3E Trilemma" to "3E Harmonization"

We have the term "3E Trilemma." This refers to the relationship of trade-offs between Economy, Energy, and the Environment, indicating the difficulty in simultaneously realizing all three objectives. According to Makoto, "While the simultaneous realization of 3E is difficult, we have taken "3E Harmonization" as the operation division theme of the Environmental Business Development Department. As a manufacturer, we want to put effort into the development of highly efficient, low cost equipment and systems, working to resolve energy and environmental problems while also pursuing economical efficiency. The provision of these types of solutions to our customers is a major mission for us." Makoto passionately describes how they hope to work in the development of the next generation of biomass technologies in addition to the three types of biomass (biodiesel, biogas, wooden gas) currently being tested. Yanmar is aiming to not only provide its customers with engines, but also to establish a business format that includes the production of fuels as well.

"In the movie 'Back to the Future', there is a scene in which an inventor, Doc, throws some garbage from a garbage can right into the time machine, and then the

machine takes off using the energy that is generated from the garbage. This is exactly the kind of thing we are hoping to achieve. We want to see a world in which nothing is thrown away, and everything is changed into energy." This may still seem like a fantasy for most of us, but it has already become a target of achievement for leading researchers. Still, the goal for Yanmar is to take technologies that have thus far served as a contributory base and turn these into a base for business, and to do so in a short period of time.

Around the world, 8 million kL of biodiesel fuel is being produced, but this accounts for a mere 0.5% of the world's diesel oil production. The amount of waste cooking oil in Japan is 400,000 kL, but this also is no more than 1% of the amount of diesel oil consumed in Japan. "It will not be possible to replace all fuels with biodiesel fuels. Our mission is to promote the increased use of biofuels as a circulating source of energy that does not increase the total CO₂ in the atmosphere. The concept behind our technology base in Malaysia is 'Global & Carbon Neutral'." The Yanmar Environmental Business Development Department continues its challenge of expanding this field to a global scale as we work towards the Yanmar mission of the realization of an environmentally sustainable society.

Full-Scale Sales Activities for the Biogas Micro Cogeneration System

Yanmar is working to promote the spread of biogas micro cogeneration in order to help reduce greenhouse gases.

Keisuke Kawakita

Micro Cogeneration Group, Research & Development Department
Yanmar Energy System Co., Ltd.



Biomass micro cogeneration is a system by which previously unused sources such as sewage water and waste material from food and animal industry residue produces methane gas, which is converted to electricity or heat as an energy source. The system has been developed and commercialized based on the types of systems used for municipal gas, which have a history of high-efficiency, low maintenance cost, and low space requirements. The introduction of one of these systems has the effect of reducing CO₂ by approximately 70 tons per year, compared with the emission level prior to system introduction (purchasing electric power + using fossil fuels). This equates to the amount of carbon dioxide that can be absorbed by approximately 5,000 Japanese cedar trees. Furthermore, the advantages offered by multi-system control can be utilized to continuously and

efficiently generate an optimal amount of energy, without waste, in response to the size of the customer's facilities or the amount of gas generated. In the sewage system business, we have had many inquiries from government organizations and businesses in Japan, and from countries like Korea overseas. In the area of animal industry systems, we are seeing a growing number of inquiries from North America and Europe. We hope to continue making improvements to these systems in order to promote their further use, both in Japan and abroad.

Calculated based on an operating time of 6,000 hours per year.



CP25VB2 Biogas Micro Cogeneration System

Supporting "environmental conservation agriculture" with efficient agricultural machinery

The human population is increasing on a global scale, and food shortages have become a serious issue. One thing that is vital to increasing food production is agricultural machinery.

As such, agriculture is seeing an expansion of such concepts as "environmental conservation agriculture" and "precision farming."

Since its founding, Yanmar has operated under the theme of "coexistence with the environment," and our agricultural machinery boasts exceptional environmental performance. In fact, many of the devices we have developed, such as the "Eco Diesel Eco Tractor" and the "HMT Tractor" were the first of their types in the industry.

As we strive to achieve both high speed and light weight machinery, we are also focusing on Yanmar's efforts to develop fuel-efficient, environmentally friendly agricultural machinery.





Takeshi Kita

Takeshi is a Corporate Adviser for Yanmar Agricultural Equipment. Takeshi joined Yanmar in 1968, worked in combine design for 23 years in the R&D Department, and then became the Chief Manager of the R&D Planning Department. Later, Takeshi served as the General Manager of Quality Assurance and Service, the General Manager of Production, the General Manager of Tractor Business, and a CS General Affairs Supervising Officer. After serving as a Managing Director, Takeshi undertook his current position in June 2008. Through his interaction with the Ministry of Agriculture, Forestry and Fisheries and his role as the Vice-chairman of the Japan Society of Agricultural Machinery, Takeshi has come to have a detailed understanding of the current direction of Japanese agriculture.

Agricultural methods and agricultural machinery that will help save the world from food shortages

Major natural disasters, including flooding and droughts, have been occurring more frequently throughout the world, and one cause of this is thought to be global warming. Such disasters and climatic aberrations bring about poor crop harvests, on top of which the global population is increasing, so in many countries, the problems of water and food shortages are becoming grave issues. Also, while advancements are being made in the conversion of grains into fuel as a countermeasure for energy problems, this further contributes to food shortages and helps drive up the price of food supplies.

Takeshi Kita, Corporate Adviser for Yanmar Agricultural Equipment, tells us, "Agriculture is closely related to economic, population, and food problems. Economy and culture cannot be developed on an empty stomach, and it is when our appetite has been satisfied that we feel the ability and desire to produce good quality. Man has worked throughout history to think of ways to increase food production." Takeshi has been involved in Japan's agricultural industry for the past 40 years.

Japan underwent a considerable population increase after World War II. Factors that contributed to an increase in food production were (1) agricultural chemicals, (2) fertilizers, (3) selective plant breeding, (4) the expansion of agricultural lands, and (5) agricultural machinery. The last, agricultural machinery, has become indispensable as the economic development of the country leads to a decrease in the number of agricultural workers. Takeshi states, "Agricultural machinery supports the human population by increasing food production. One might even say that agricultural machinery contributes to humankind." Today, the global population is increasing, but with each passing year, the number of people working in agriculture is decreasing in countries worldwide, and the population of agricultural workers is growing older. As such, agricultural machinery becomes indispensable in that it allows a small number of people to produce a large amount of food. As we head into an age of global food shortages, keen attention is turning to the field of agricultural machinery.

The advantages offered by Yanmar products become even more important as "environmental conservation agriculture" continues to grow.

Talking about the future direction of agriculture in Japan, Takeshi states, "Two points that are indispensable to the future of agriculture are safety and environment consciousness. Environmental conservation agriculture, which uses fewer agricultural chemicals and less fertilizer, may well become the

central type of agriculture. Consumer demand for organic food products has been growing, and while agriculture must first function as a means of supplying food, it also involves the preserving national lands and the environment. In order to preserve these functions, the Ministry of Agriculture, Forestry and Fisheries of Japan is promoting efforts related to environmental conservation agriculture, and efforts have already gotten underway to produce healthy soil using compost and other materials, and to produce crops using less chemical fertilizer and agricultural chemicals.

Yanmar has long been building engines based on the theme of "coexistence with the environment," and the agricultural machinery of Yanmar offers exceptional environmental performance. Takeshi explains the reason for this. "For agricultural machinery, the key point is to make the engine as environmentally friendly as possible. A key product for Yanmar is the diesel engine. A diesel engine is roughly 20% more fuel-efficient than a gasoline engine, emitting approximately 20% less CO₂. Also, because machinery requires more horsepower as it gets bigger, and therefore requires more fuel, Yanmar is putting effort into reducing machinery weight."

Yanmar successfully developed the "Eco-Diesel Engine" more than 20 years ago. The engine is equipped with an electronic governor and can efficiently power machinery. Today, the electronic governor is a common piece of technology used for compliance with environmental regulations, but 20 years ago, the Yanmar electronic governor was the first technology of its type in the industry. This technology dramatically improved the performance of tractors for use in the farming. This control technology was also the motivating force in the later development of the "Eco-Tractor." Takeshi proudly states, "The tractor can be used to perform work quickly and efficiently, and this



leads to fuel savings. The tractor is exceptionally efficient and economical. It truly benefits from the advantages of the Eco-Diesel Engine.

One thing in particular that cannot be overlooked in terms of environmental friendliness in agricultural activities is the use of agricultural chemicals and pesticides. Takeshi explains, "More consumers are demanding organic vegetables or pesticide-free vegetables, but a complete elimination of agricultural chemicals means a drastic decrease in the amount of crops harvested. A certain amount of agricultural chemicals is actually necessary in order to nurture the human population. Yanmar is putting considerable effort into the development of the technologies needed to minimize the amounts of chemicals that must be used, and to apply the chemicals uniformly." Yanmar has developed spreaders to minimize chemical drift during application, and an unmanned helicopter that can be used to remotely distribute chemicals for safer application. The unmanned helicopter distributes the chemicals from a low altitude, which minimizes chemical drift and also makes it possible to effectively do in a few minutes what used to take an hour.

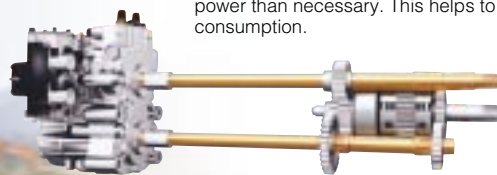
The "Eco-Tractor" and "HMT Tractor," machinery that brought about a tractor revolution

The important types of agricultural machinery in Japan are tractors, rice planting machines, and combines. Of these, the tractor has undergone repeated evolutionary advancements. In 1996, Yanmar began selling its "Eco-Tractor," the first Yanmar tractor to incorporate environmental considerations. The tractor combined the Eco-Diesel Engine, which had been developed earlier, with a high-speed rotary cultivator. The tractor was able to cultivate land at speeds 1.5 to 1.8 times faster than conventional tractors, and while the amount of work that

could be done by the tractor varied depending on the soil quality, on average the tractor realized savings of approximately 20% for both time and fuel. This tractor received considerable attention as the first of its type in the industry, and also received various awards. Since that time, the tractor has become affectionately known as the "Yanmar Eco Tora."

In 2006, Yanmar announced the "Electronically Controlled Continuously Variable Transmission HMT¹ Tractor EG700 Series," initiating yet another tractor revolution. Agricultural machinery is affected by soil conditions, making it difficult to operate at a constant speed. However, work efficiency and uniform chemical distribution are affected by machinery speed. So, new technology was developed that makes it possible to select optimum machinery speed and engine rpm over a continuous, stepless range in accordance with the type of operation and land conditions for all types of work. The machinery can be operated smoothly throughout the transition from a full stop to maximum speed, without the jerkiness caused by gear shifting. The technology itself has actually been around for a while, and around the world, there are many tractors operating at 100 hp or more that are equipped with HMT for continuous variable speed.

In regard to this revolutionary concept, Takeshi states, "We brought this technology to the 70 hp class to meet the needs of the Japanese farmer. The skill of a manufacturer can be seen in its ability to reduce the size of an existing technology and accurately apply the technology to an engine or transmission. This tractor could be considered an orchestration of Yanmar technologies. The smaller you attempt to make a product, the more advanced technology you require, and cost also increases, making this a difficult



Electronically Controlled HMT Continuous Variable Speed Transmission

This type of transmission can smoothly accelerate and decelerate between a full stop and maximum speed. This makes it possible to continuously maintain an optimum working speed, allowing the machinery to be used without outputting more power than necessary. This helps to further decrease fuel consumption.

Electronic Control Eco-Diesel Engine

This engine has a high displacement and uses direct injection, realizing stable high power output even during sudden workload increases. The engine is also environmentally friendly and complies with exhaust gas regulations, thanks to enhancements in fuel injection technology.





process." In 2007, Yanmar announced the 60 hp-class EG600 Series, and the company is currently working to apply this technology to even smaller machinery.

1 HMT

"Hydraulic-Mechanical Transmission." This type of transmission realizes the excellent operability of an HST (Hydraulic Static Transmission) and the high transmission efficiency of a mechanical transmission that uses planet gears. transmission that uses planet gears.

The Expanding Asian Market Providing high-speed, lightweight machinery at low cost

Overseas, countries are beginning to implement farming methods known as "precision farming" ² that simultaneously decrease environmental burden and increase productivity. With such methods, various data, including the conditions of yield points and soil, amount of growth, etc., is collected and analyzed in order to promote rational agricultural production. These methods already being used in the United States and Europe, but in Japan, precision farming is still at the R&D stage. Yanmar is currently working in the research of an intelligent tractor, but Takeshi states that such a tractor may not become as popular in Japan as in the United States and Europe. That is because in Japan, agricultural fields are smaller, and these fields are already being meticulously managed. Furthermore, the rice paddies in Japan, in which fertilizer is dissolved in

water and spread evenly throughout the paddy, are being managed in a very level condition.

Takeshi continues, "Yanmar continuously strives to develop products that are more environmentally friendly. In other words, Yanmar wants to contribute to a reduction in environmental burden by supplying farmers with fast, lightweight machinery at low cost." Yanmar also has its sights set on Asian countries as a new market region that is experiencing rapid growth. Takeshi states, "The popularity of agricultural machinery increases proportionally to GDP development. In Asia, the full-fledged popularization of agricultural machinery is just beginning. Industries in the United States and Europe have expanded the market for agricultural machinery for wheat and corn, while agricultural machinery for rice cultivation is a specialty of Japan. Yanmar is hoping to take the entire Asian region by storm." With original environmentally friendly technologies well suited to today's needs, Yanmar is planning to spread the Yanmar brand throughout Asia.

2 Precision Farming

Data related to such factors as the conditions of yield points and soil, amount of growth, amount of protein contained in the crops, work information, and weather information is collected and analyzed, and that information is used to determine the amounts of agricultural chemicals and fertilizers needed at each ground point. LISA (Low Input Sustainable Agriculture) is a fundamental concept in precision farming.

Report



The "Eco Tora" Tractor Realizes 20% Savings in Both Time and Fuel

Tomofumi Ochi
Senior Engineer, Product Technology Division, Development Department Tractor Headquarters, Yanmar Agricultural Equipment Co., Ltd.

In 1993, the tractor rotary cultivation of rice paddies was generally conducted at speeds of 0.3 to 0.7 m/sec. Rideable rice planting machines and combines, on the other hand, operated at speeds of 1.3 to 1.5 m/sec. So, in order to improve tractor efficiency, we developed the high-speed cultivation Eco Tora tractor. Aiming to reduce work time and fuel consumption, Yanmar made repeated tests to find a good balance between engine performance and rotary cultivation performance, and eventually was able to reduce both work time and fuel

consumption by approximately 20%. For its work in tractor development, Yanmar has received the Outstanding Performance Award of the Nikkei Excellent Products Service Award and the Outstanding Energy-saving Award of the Japan Society of Industrial Machinery Manufacturers Association Chairman's Award.

Yanmar subsequently developed new functions and mechanisms, including the "Nicety Eco Tora UFO," which allows for improved control during high speed operation, and a function that is linked to the eco-diesel engine for controlling cultivation depth in response to workload. By combining these technologies, Yanmar was able to further expand its tractor lineup. In 2006, Yanmar developed integrated controls for its "Electronically Controlled Variable Speed HMT," the "Eco-Tora UFO," and eco-diesel engines in order to improve work efficiency and fuel consumption by 15% to 20% compared with similar machinery.

With respect for diversity, we foster personnel of individuality and originality.

Yanmar is developing a diverse range of businesses in locations around the world. As such, we strive to employ personnel from around the world, regardless of nationality, gender, or age, seeking personnel who have a strong spirit of challenge, a spirit that can provide the driving force for innovation. Our goal is to provide training and education to these persons, and then dispatch them throughout the world.

We are also working to create a corporate climate and business system that will allow these employees, coming from a diverse range of backgrounds, to grow and mature within the company, and to fully utilize their individuality and originality.



Hidehiro Nakaji

Hidehiro is the Chief Manager of Yanmar's Human Resources Department. He took his current position in 2005.

Working to further increase employee satisfaction

The Yanmar Group has approximately 15,000 employees around the world, with approximately 2,600 of these, nearly 20%, working overseas. The Yanmar Head Office has clarified its personnel policies in its "Global Human Resources Management Policies" and "The Type of Personnel We Want" document, and this information is presented at global human resource meetings at the beginning of each year. In conjunction with these policies, we also plan and implement local employment activities in other countries.

Mr. Hidehiro Nakaji, head of the Personnel Department at Yanmar, tells us, "Regardless of whether we are hiring in Japan or abroad, the thing that Yanmar is looking for is a spirit of innovation and challenge. We have two missions with respect to human resources. One is to conduct fair and just human resource activities that take into consideration efforts to increase employee

satisfaction and to achieve a work-life balance. The second is to create a corporate climate that can foster the type of personnel who will become the driving force of innovation, and to turn out personnel capable of working on the global stage."

Once every few years, Yanmar conducts an employee satisfaction survey. According to the survey company that analyzes the survey results, the level of employee satisfaction at Yanmar is high compared with that of other companies, and many employees respond that they are satisfied with their work because Yanmar products and services are being used around the world, or because even young employees are given important jobs, and employees have the opportunity to work overseas. From these surveys, we can see that Yanmar's level of contribution to societies, its corporate climate that utilizes the individuality and creativity of the individual, and its human resource system all serve to motivate Yanmar employees.

Tatsuhiko Shio, a young employee working in personnel employment at Yanmar tells us, "At Yanmar, there is a good and open sense of family in the company. Another appealing aspect of the company is that employees are given work with true responsibility, even at the initial stages of their careers."

Emphasizing the importance of communication in a variety of situations, Hidehiro states, "Communication is very important to the creation of an open corporate climate. With the propagation of the intranet, the barriers between company divisions have come down, and we are now able to exchange information in various ways. In a business corporation in our group, the intranet is not only a means of disclosing management information, it can also be skillfully used as a communication tool that gives a voice to each employee. While it is still important to provide many opportunities for people to meet and talk in person, we hope to expand our circle of communication through the intranet."

What we are looking for is personnel capable of working on the global stage.

Recently, the number of businesses undertaking diversity management ¹ has also been increasing in Japan, and Yanmar as well places great importance on the diversity of each individual. In recent years, main career tracks for women have also been increasing, and we have been employing more women in our management staff as well as in business operations and as engineers. From the standpoint of globalization, we are also employing foreign workers each year, and are actively working to employ physically challenged workers, and to conduct intermediate recruitment.

Other systems Yanmar is using to promote the individuality and potential of the individual include a "Self-Return System," a "Dreams Come True System" by which employees can apply directly for positions and jobs announced on the intranet, and the "CDP System" (Career Development Program) by which employees can

experience a different type of work position for a specific period of time in order to provide an abundance of career-building opportunities. The fundamental rule behind the "Dreams Come True System" is that employees can apply to a position without first notifying their superiors, so the system places great emphasis on respecting the intentions and spirit of challenge of the applicant.

In addition to diversity management, another matter that has recently been receiving attention worldwide is work-life balance. The goal of work-life balance is not to simply reduce the amount of overtime; Yanmar has begun working towards helping its employees achieve a harmonious balance between their work and their daily lives, in the truest sense. This is, however, a very difficult goal to achieve. For example, we have the "Discretionary Work System." The system has been introduced for lines of work in the research and development fields and planning fields requiring at least three years of continued service. The system is still in the trial and error stage, but we are working to find ways to develop and promote a working environment in which our employees can work easily.

Hidehiro goes on to explain about the future issues Yanmar will face in terms of personnel. "One issue deals with what we must do in order to ensure that we have enough personnel capable of working on the global stage. Another issue is the fostering of personnel who will be undertaking Yanmar business in the future, that is, personnel capable of working as the presidents of Group companies and in the top management of each department. We cannot limit our personnel to people capable of working in top positions at our bases in Japan, but not overseas; ideally, we will have people capable of working both in Japan and abroad. Such personnel will truly be the backbone of our global operations.

Also, we have established our "Exchange Program" ² system as part of our global training efforts. The system is just getting underway, and it aims to foster personnel for Yanmar Group companies in Japan and abroad. We hope to make full use of this program."

Yanmar is working at a rapid pace to establish systems that can utilize its personnel globally, while emphasizing respect for the diversity of each individual employee.

¹ Diversity Management

The concept of utilizing a diverse sense of values encompassing ethnicity, nationality, religion, gender, age, career, etc., in business operations.

² Exchange Program

The goal of this program is to foster personnel capable of working as leaders in organizations that go beyond national boundaries. The program promotes mutual exchanges between core personnel belonging to local overseas corporations and personnel in Japan.

Social Responsibility



Relationship with Our Suppliers

By creating partnerships with business associates who are motivated about environmental preservation in countries around the world, we are able to promote "Green Procurement", an environmentally conscious system of procurement.



Relationship with Our Employees

Placing importance on the individuality and originality of each individual, we strive to foster personnel capable of working on the global stage, while also providing support in a variety of ways that respect diversity.



Relationship with the Environment

Taking "Coexistence with the Environment" as our corporate theme, we are placing greater effort in the development of environment-oriented products, environmental preservation in our manufacturing processes, and "environmental communication" activities.

Relationship with Our Customers

Placing great importance on the bonds of trust we have established with our customers around the world, we aim to create value that is meaningful to both our company and our customers as we strive to achieve original quality assurance and universal design.



Relationship with Society

Aiming to move forward together with the regions and societies we serve, we work to make contributions to societies and regions in Japan and abroad. These efforts include the revitalization of agriculture, support for education and sports, and charitable contributions.



Environmental Conservation Activities

Relationship with Our Customers

The Yanmar Group has its own quality assurance system, considering quality as its “bond of trust with customers.”

It is very important for us to have smooth communication with our customers in order to provide them with products that they can use safely and without anxiety. We also place emphasis on incorporating the concept of universal design into our products.

Our Efforts to Achieve High Quality

Our Outlook on Quality

The Yanmar Group regards "quality" as a bond of trust with customers. Each employee continuously strives to earn the trust of customers by providing products of unparalleled quality and performance, and by offering prompt, suitable services. In 1968, we were the engine industry's first winner of the Deming Application Prize ¹, the greatest honor bestowed for the pursuit of quality control, and since that time, all of our employees have been striving to achieve quality improvements and product safety through the ongoing promotion of TQM ² and QC circle activities.

¹ This award is given to organizations that have achieved distinctive performance improvement through the application of TQM in a designated year. The Deming Prize Committee is established in the Union of Japanese Scientists and Engineers.

² A systematic activity that conducts effective and efficient operation of all of the organizations of a company, and contributes to the achievement of the company's target so that satisfying commodities and services can be provided at the right time and at the right price. Also referred to as a "general quality commitment."

Our Quality Assurance System

Yanmar is engaged in quality assurance activities in all stages of business activities, ranging from the planning and development of products to production, sales and service, with the quality assurance department of each business unit ³ serving as the general contact. Every business unit has a Product Safety Committee in place to ensure product safety. The entire group is being monitored for quality assurance by the group-wide Quality Assurance Committee. We have also obtained ISO 9001 certification at 24 units, including some overseas.

³ The collective name for operations divisions (including the Power System Operations Division, Large Power Products Operations Division, and Marine Operations Dept.) and business companies (including Yanmar Agricultural Equipment Co., Ltd., Yanmar Construction Equipment Co., Ltd., Yanmar Energy System Co., Ltd., Yanmar Marine System Co., Ltd. and Kanzaki Kokyukoki Mfg. Co., Ltd.).

Quality Assurance and Product Safety Activities

We are conducting systematic activities to ensure product quality and safety at every stage of our business activities, including the planning, development, production, sales and service of our products. At the development and design stage, we incorporate market needs and customer requirements into design quality through QFD (quality function development) and predict and identify potential problems in the life cycle of each product through FMEA (failure mode effect analysis).

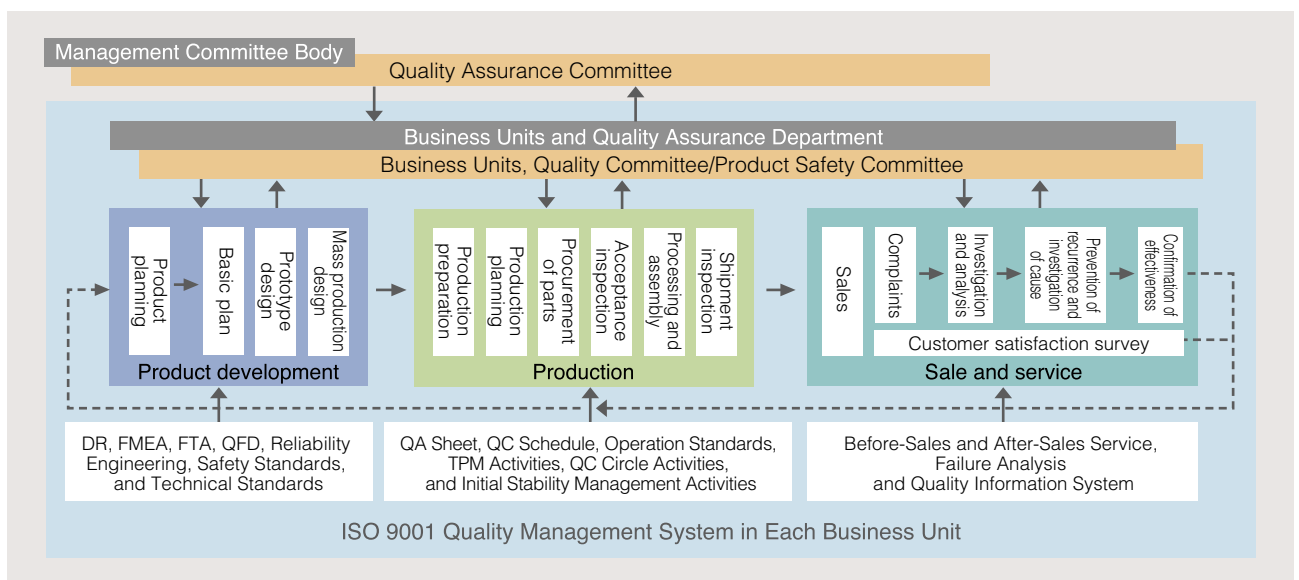
Product safety is particularly important. In addition to compliance with all applicable standards and regulations both domestically and internationally, we have a stricter set of in-house standards in place. We also conduct continuous design reviews, and hold evaluation meetings at each step of new product development. With this system, new products must undergo assessment from the viewpoints of both quality and safety before being put into mass production.

At the production stage, quality and safety are indispensable factors in each process. Our quality management system is constantly being improved through QC circle and ISO 9001 activities.



QC group

Yanmar's Quality Assurance System



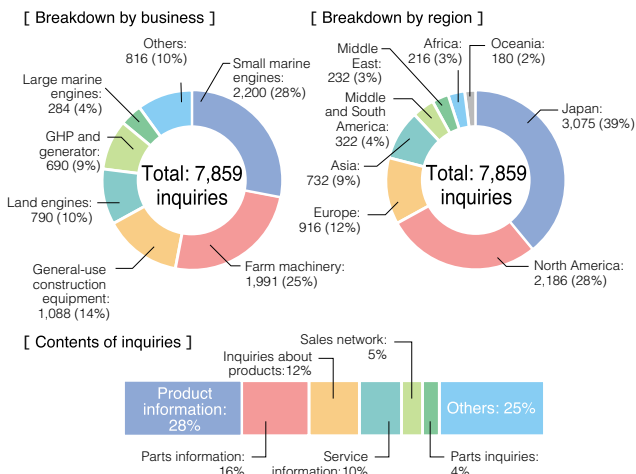
Response to and Support of Customers

Communication with our customers is very important for Yanmar as we strive to help our customers use our products safely and appropriately. We quickly and accurately respond to customer complaints, opinions and requests in order to improve customer satisfaction.

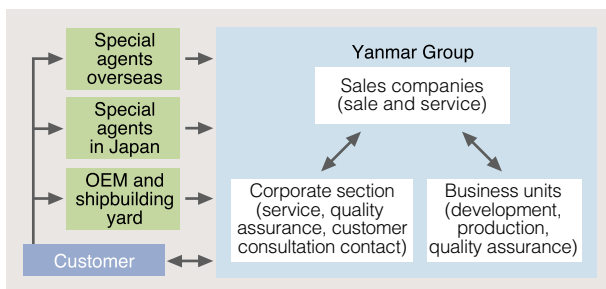
Customer Consultation Office

We have established a Customer Consultation Office in Japan that responds to telephone inquiries from customers. Customers can also send their opinions and requests by e-mail from our website.

E-mail inquiries (FY2007)



Response to customer requests



After-sales Service

Annual nation-wide customer questionnaire surveys are used to obtain information about our stores, sales activities, services and products. Yanmar Agricultural Equipment Co., Ltd. conducts customer satisfaction surveys on new products, mainly large agricultural equipment, choosing three machines as survey subjects in 2007. A guarantee that includes a checklist for free inspections is issued for some products as part of our after-sales service improvement policy.

Report

“Preventive Service” Extends Product Service Life and Reduces Maintenance Cost



Naoto Uesugi
Manager,
Market Service Group
Customer Support Dept.
Yanmar Marine
System Co., Ltd.

Since the service section does not communicate with customers so often except during maintenance work, we are in constant contact with the sales people to ensure no omission in our service. It is very important for us to understand the maintenance condition of each customer's equipment and conduct extra checks for any other areas that could result in failure when we perform repair or servicing. In other words, we focus on “preventive service” rather than ordinary “after-sales service.” From the viewpoint of preventing a failure in advance, we recommend that customers perform warm-up and cool-down operation. We ask our customers to check our servicing work, and we also take pictures of the engine during servicing as records. We expect the plants to provide strict quality control to eliminate complaints immediately after delivery. I have my own boat and like fishing. Exchanging information on fishing with customers is greatly effective in my communication with them.

TOPICS

Yanmar's Large Product Sales Engineer and Mechanics are Promoted to Qualifications Certified by Health, Labor and Welfare Minister

Since the national government launched a program to develop new leaders of agriculture, large agricultural equipment has been widely spread Japan. The Yanmar Agricultural Equipment Group's in-house qualification system for “sales engineers and mechanics of Yanmar's large agricultural equipment,” which has been upgraded since 2006, was promoted to a qualification certified by the Health, Labor and Welfare Minister in October 2007. The certified in-house qualification is called the “Yanmar Agricultural Equipment Co., Ltd. In-house Skill Examination,” and it is applied to the “sale of large agricultural equipment” and “technical service for large agricultural equipment.” In FY2007, many employees of the Yanmar Agricultural Equipment Group took the examination to acquire those qualifications to improve their sale and technical service capability for large agricultural equipment. More specifically, 164 and 70 took the 2nd Class Sales Engineer test and the Mechanical test, respectively.

Relationship with Our Customers

Universal Design

Promotion of Universal Design

Fully aware of the need to develop agricultural machinery that is user-friendly for both aged and beginner users, Yanmar Agricultural Equipment Co., Ltd. (YAE) actively uses the concept of universal design (UD) for every agricultural machine. YAE have established their own unique "seven rules" that fit the special characteristics of agricultural machinery based on the generally accepted "Seven Rules of Universal Design," namely "easy to understand," "easy to use," and "safe to use," when designing and producing agricultural implements. In addition, they added three further rules, namely "economic efficiency," "aesthetic beauty," and "environmental kindness," to finally formulate a guideline based on the "ten rules." In the developmental stage, YAE makes the prototype machines available for trial use by users, including aged and female users, in order to conduct a numeral evaluation in terms of operability or comfort during use. The results of the trial use tests are then analyzed by age or the level of experience in order to identify problems to eliminate or improve so that the new findings are constantly incorporated into new product development to ultimately provide customers with universally user-friendly machines.



Operation panel



Multi-functional wing handle



Newly debuted AS318 (AJ218 series)

Debut of AJ218 Series Combine

One of the fruits of those efforts is the AJ218 Series Combine. We listened to the opinions of our combine users in Japan and learned that some of our past products had been unsatisfactory in terms of visibility as they say, "It has a round handle; I can't clearly see the reaping part because of the top of the handle and have to lean over slightly to see that." Thus, we dropped the round handlebar and newly used the multi-functional wing handle to improve visibility, and the AJ218 was thus born. Its operation panel is easier to look at, and specific coloring is used to provide users with easily distinguishable panel elements. In addition, the machine is made easier to ride on and off with a few improvements, including lowering the level of the auxiliary step by 10 cm compared to the predecessor and the addition of a few more assist bars.

As the user variety increasingly diversifies with users aging, generations changing, collectivization, the increased participation of women, and project globalization, the Yanmar Group intends to assimilate the concept of UD to not only encompass combines but also all other agricultural machines, including tractors and rice planters.

Report

"Difficult to Use" Points Our Customers Have yet to Realize

We are trying to incorporate the concept of UD by not simply eliminating "difficult-to-use" points of which customers are already aware but also anticipating "difficult-to-use" points that customers have yet to realize but will do so in future. We believe this approach is the very expression of our consideration to our customers.



Yasunobu Sano
Administration Group,
Development Planning
& Administration Dept.
Technical Management
Division
Yanmar Agricultural
Equipment Co., Ltd.

Report

Improving the Yanmar Brand Based on the UD Concept

I feel happiest when I hear regular customers say "Your combine is easy to ride. Next time I will also choose Yanmar!". I am committed to UD in developing new products to help enhance the brand value.



Shoichi Sato
Manager, Special Projects
Development Dept.2
Engineering Development Dept.
Agricultural Machinery &
Equipment Div.
Yanmar Agricultural
Equipment Co., Ltd.

The Swift and Accurate Provision of Product Safety Information

Product safety regulations are recently becoming more stringent, such as the recently revised Consumer Product Safety Act. In response, Yanmar is taking various measures to swiftly and appropriately respond to product-related accidents and complaints by establishing the Yanmar Technical Information System (YTIS) via the web and intranet and improving the in-house response system.

Yanmar Technical Information System

Enhanced Response to Recall

In case an unexpected problem arises affecting products purchased by customers and some action is judged necessary, Yanmar shall swiftly implement appropriate actions, including the recovery, repair, inspection or replacement of products with customer safety and damage prevention as the top priorities. In case of a recall, we shall notify the relevant organizations and disclose this information on our website.

The Ministry of Land, Infrastructure, and Transport, the Ministry of Economy, Trade and Industry, CPSC, EPA, the Japan Boating Industry Association, etc.

Important News on Quality

<http://www.yanmar.co.jp/quality/info.htm>

Communication with Customers

The Yanmar Group aggressively exhibits our products worldwide and we take such events as great opportunities for communication with customers. At such venues, we can introduce our product performances, listen to customers' opinions and requests and learn a lot for our future products.



Yanmar booth at Marintec China 2007

Cooperation with Dealers

The Yanmar Group holds the Yanmar Convention every year to encourage efforts to improve customer satisfaction and uses this opportunity to share ideas, directions and product information and reinforce the relationship of trust.

The Yanmar Construction Equipment Convention was held at the Kobe Portopia Hotel on July 11 and 12, 2007, and 470 participants, mainly rental contractors, attended the convention from 22 countries, including Japan. The Yanmar Agricultural Equipment National Convention was held at the Kobe Portopia Hotel on January 23, 2008. The new slogan "Agriculture Changing and Answering - Now Let's Set the Foundation for the Future" was announced, and presentations of each division's policies and a product display workshop were held.

The Yanmar Marine Convention, held until 2006, was reorganized as the Yanmar New Boat Presentation and Test Ride Event following enhanced convenience for participating dealers and encouraging the presentation of products fine-tuned to local characteristics. This new event is to be held at three locations in Japan, the New Nishinomiya Yacht Harbor, Hyogo, Urayasu Marina, Chiba, and Marine Pia Musashi, Oita.

Report

Yanmar Construction Equipment Convention Gathered 470 Participants from 22 Countries



Nobuyuki Tanaka
Manager, Special Projects
Sales Planning Group,
Customer Support
Management Dept.
Yanmar Construction
Equipment Co., Ltd.

We invited 470 participants from 22 global nations to the 2007 Yanmar Construction Equipment Convention, held in Kobe in July 2007.

Under the slogans "Challenging the Limit with Innovativeness - Building the Future with Vision" and "Yanmar Construction Equipment Constantly With Customers," we explained market trends affecting the construction machinery industry and our product concepts and environmental actions and presented new products. These products were on display at the adjoining exhibition hall.

Yanmar Construction Equipment is determined to actively strive to be customers' No. 1 business partner.



Yanmar Construction Equipment Convention

Relationship with Our Suppliers

Yanmar promotes "Green Procurement" that ensures the procurement of safe members designed and produced to be environmentally-friendly in various parts of the world. Under this concept, we prioritize transactions with suppliers who are enthusiastic about environmental conservation activities and conduct safety inspections of the materials and parts they provide.

Fundamental Purchase Policy

The Yanmar Group ensures thorough compliance with "value, quality and delivery time," the basic functions of procurement service, on a global level and with strategic group-wide purchasing. We also collaborate with suppliers in environmental conservation efforts and other activities in order to meet social needs from a long-term standpoint.

- **Reinforcement of Partnership**

From a long-term perspective, we promote the deepening of mutual understanding and trust with suppliers.

- **Stable Supply**

We audit suppliers in terms of equipment capability, personnel reinforcement, productivity improvement and supply from overseas bases, provide the necessary instructions concerning those matters, and promote partnerships with suppliers to ensure the stable acquisition and timely delivery of materials and parts from those suppliers.

- **Quality Assurance**

We aim to ensure the appropriate quality of parts delivered by suppliers by taking various actions, including quality audits and guidance to suppliers, a quality committee, the initial stable management of new products, and implementation of the Quality Priority Management System and Quality Control Excellent Plant Certification System.

Quality Priority Management System: System to provide special quality instructions every year to suppliers with low-rated quality evaluations.

- **Cost Reduction**

We set up cost targets and target cost reduction with this in mind.

- **Legal Compliance**

We comply with social norms, laws, regulations, and their spirit and ensure thorough compliance with security protection.

Purchase Policy Briefing

The Yanmar Group communicates with suppliers in various ways to deepen our mutual understanding.

One of these ways is a Purchase Policy Briefing session held every year for our major suppliers at the beginning of the year at seven locations in Japan. In February 2008, we requested the participating suppliers' cooperation and requested that they conduct a green procurement survey for products and eliminate environmental hazardous substances.

Supporting Suppliers' Effort for Improvement

The Procurement Dept. of the Yanmar Group selects certain of our domestic and overseas suppliers from the viewpoints of value, quality and delivery time every year and provides instructions for improvement. The Power System Operations Division promotes YWKS activities (productivity improvement activities) to enhance the constitutional improvement of suppliers and reinforce partnership with them.

YWKS stands for Yanmar Way by Kaizen with Suppliers, which is an extended version of YWK activities to include suppliers. YWK (Yanmar Way by Kaizen) activities are ongoing improvement activities conducted by the Yanmar Group and specifically include efforts to reduce the defect ratio, lead time reduction, and production cost reduction at 6 divisions and 17 plants in Japan.

Green Procurement

Reinforcing the Green Procurement System

Since the establishment of the Yanmar Green Procurement Guideline in April 2003 (revised in December 2006), we have been promoting the procurement of safe parts and components designed and produced in an environmentally-friendly way while collaborating with our suppliers at various parts of the world. In November 2006, we formulated the Regulations on Restrictions of Use for Environmental Hazardous Substances to identify substances which we should voluntarily refrain from using.

In selecting suppliers, we prioritize transactions with suppliers enthusiastic about environmental conservation activities with an established environmental management system in addition to such evaluation items as value, price and delivery time. With the Procurement Dept. of the head office as the main player, we hold briefing sessions to the management of all suppliers to request their cooperation with a green procurement survey and green procurement.

List of substances banned for use in products, and substances voluntarily banned by Yanmar

Substances banned for use	Asbestos, specified chlorofluorocarbons, triethanolamine, polychlorinated biphenyls (PCB), polybrominated biphenyls (PBB), polybrominated diphenylether (PBDE)
Substances voluntarily banned for use	Lead and its compounds, mercury and its compounds, cadmium and its compounds, and hexachromium and its compounds

Survey for Parts and Materials

We check the materials and parts provided by suppliers for any content of substances banned for use based on our guidelines.

We are going to put the chemical substance content information from suppliers into a database and independently establish the Product Content Chemical Substance Management System for the integrated management of those substances in 2008 in order to disclose information on chemical substances contained in Yanmar products.

Green Procurement Guideline :

http://www.yanmar.co.jp/aboutus/env/green_01.htm

Relationship with Our Employees

Yanmar devotes its energy to nurturing individual self-initiative and originality and fostering personnel capable of working on a global scale. We also respect each employee's diversity, support various ways of working and help them balance work and family life.

Human Resources Vision

In order for Yanmar to survive amid competition on a global scale, we need to "strengthen" not only our products but also our organization and individual employee capability. Based on this understanding, we formulated three visions from the viewpoint of organization and personnel and applied them to actual management. The three visions, shown below, clarify our answers to the three questions: (1) how to acquire and foster the human resources necessary for business operation, (2) how to treat personnel who have obtained excellent achievements while considering the motivation of the organization and each individual employee amid a fiercely competitive environment, and (3) how to organize human resources and improve the efficiency of actual business operations.

The Vision for Personnel (Acquisition and Fostering of Human Resources)

- (1) We have professional human resources capable of working on a global scale; regardless of nationality, gender or age.
- (2) We operate a career development program that can swiftly foster human resources for future management positions.
- (3) We promote personnel exchange in the Yanmar Group, including overseas, in order to make effective use of the group personnel.
- (4) We have in place a system that allows us to respect the plans, desires and intentions of each individual employee in terms of personnel development and assignments.

The Vision for Mechanism (Personnel and Treatment System)

- (1) We fairly evaluate the achievements of individuals and the company and convincingly allocate the results.
- (2) We have a system in place that allows high-achieving employees to enjoy above level compensation in the industry.
- (3) Long-term employment is the basic pattern of employment in principle, and measures are available that help each employee lead a career life that matches his/her respective lifestyle.

The Vision for Organization and Functions (Organizational System and Business Operations)

- (1) We have an organizational system based on mission management, to ensure full awareness of the target direction of each business by all employees, and have clearly defined the duties and roles for all employees based on each mission.
- (2) We have a simple and efficient chain of command in place, conduct appropriate delegation of authority, and can engage in swift decision-making.
- (3) We have clearly defined core operations in each division in order to ensure the implementation of business operations with a small organization and a small group. Non-core operations are actively outsourced.

Global Talent Development

When the entire group is seen from a global viewpoint, we realize the increasing demand for our personnel. To meet such demand, we are establishing the optimum learning structure in all Yanmar business fields, and intend to impart the capability of an innovative mindset to each employee and nurture capable talent using the established learning structure. We are developing well-thought-out education and training programs to apply these to all Yanmar employees, including overseas companies, in order to provide them with an equal opportunity for education, thereby helping improve the capability development effort for the entire Yanmar Group.

Support for Self-motivated Personnel

It is important for each individual employee to motivate themselves to enhance their capability. We provide various opportunities for capability development, such as "engineer (basic) education," "correspondence education," and "selective workshops ('Challenge Seminar'), particularly to those employees who "want to make their own career design and master professional skills that are competitive even outside the company" or who "are determined to learn by themselves."

Improvement of Global Communication Capability

Business globalization is one of the ongoing trends. To promote the 'globalization' of our personnel, we emphasize specialized training, such as that designed to improve practical English capability ("Designated English Conversation Training"), international business skill training ("English business writing class" or "training for presentation, socializing and negotiation in English"). We also continue to reinforce our training programs in order to develop employees' globally competitive capabilities.

Development of Human Resources for Future Managerial Positions

Considering the fact that Yanmar is a globally operating corporation, business leaders are increasingly required to have in-depth knowledge and experience in management strategy, marketing, strategic thinking, financial matters and many other business- and administration-related fields. Our solution to develop such

competent future leader talent is the provision of various programs to help improve management and leadership capability, such as the Yanmar Management School.



Personnel training

Relationship with Our Employees

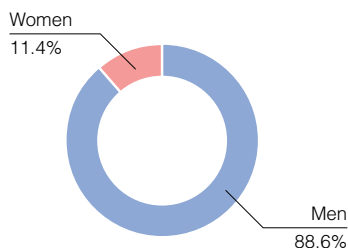
Listening to the Employees' Voices

We conduct an employee awareness survey as a means of listening to their voice. The way in which employees' awareness varies over the years is monitored and analyzed in our survey concerning employees and their feelings of happiness or burden against "work," "workplace," "superiors" and the "company"; issued once every three to four years via the intranet in a questionnaire format. Analysis of the results is used to develop measures to revitalize the organization and workplaces.

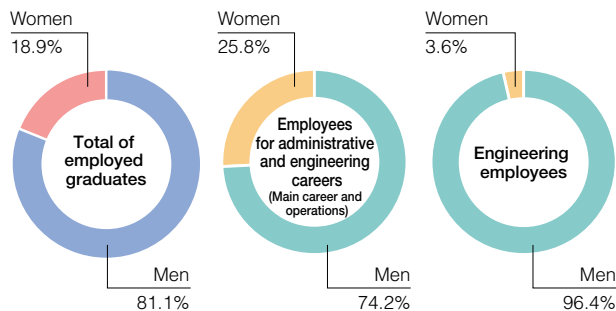
Employment of Personnel

Yanmar employs capable people in various ways based on the objective of "acquiring professional personnel who can work globally, regardless of nationality, gender or age." Two types of employment patterns are used, namely graduate recruitment and mid-career recruitment. In recent years, the emphasis on diversity management that respects individual diversity has encouraged us to hire more foreigners and more women for main career tracks. As of May 20, 2008, Yanmar alone, on a non-consolidated basis, had 2,842 employees, with a male-female employment ratio of 88.6% (2,519) versus 11.4% (323).

Man-woman employment ratio (as of May 20, 2008)
(Yanmar only, not consolidated)



Man-woman graduate recruitment ratio for 2007
(Yanmar only)



Diversity and Opportunity

Supporting a Balanced Life between Work and Family

Yanmar wants to help our employees balance their work and family lives ("work-life balance"). We develop and improve a better employment environment to help stabilize the career and family life of employees who raise children or take care of their aged parents by providing a recently revised child nurturing and nursing care system, a female employee reemployment system, intended for former woman employees who quit due to marriage or childbirth, and a discretionary work system for employees engaged in R&D or planning for three years or more.

Promotion of Employment of the Physically Challenged

We are making a group-wide effort to attain the statutory level of the physically-challenged employment ratio. Recruitment activities are implemented at employment bureaus as well as in conjunction with graduate recruitment activities; including visits to schools or participation in briefing sessions. After employment, the physically challenged employees have the opportunity for consultation in the third year for the case of graduate recruitment and the second or third year for the case of mid-career employment as well as consultation with the newly employed to help them stay. Also in line with the guidance from administration and other external organizations, we conduct case studies on the establishment of a preferential subsidiary and consider what actions to take as the group.

Reemployment of Older People

An over-60 re-employment scheme for hiring people 60 and older, has also been put in place to promote the propagation of technical expertise and help workers achieve post-retirement stability.

Respect for Human Rights

To promote respect for human rights, Yanmar hold workshops with external lecturers to the newly employed as well as younger and mid-career employees and make educational texts available via internal publication to create a bright working environment where human rights are respected. In addition, we utilize morning meetings and in-house bulletin boards to impart the importance of human right to employees. In the Shiga Zone, Yanmar is a member of the Shiga Corporations Coordination Meeting on Anti-discrimination and, as a managing member, is actively engaged in educational activities to promote anti-discrimination in other member companies.

Promotion of Health Improvement

Health Management and Promotion Committee

The Health Management and Promotion Committee is formed by the health insurance union and the members of the labor union engaged in personnel and labor affairs sections. The Committee consults on, and promotes, various health-related matters such as periodic medical checks and measures to mitigate "metabolic syndrome" in order to enhance employees' physical and mental conditions.

Health Control

Yanmar conducts a periodic medical check for all employees every year. We also provide a medical check for adult disease prevention for employees aged 30, 35 and over 40 as well as optional checks at request. As a result of those checks, those diagnosed as having metabolic syndrome are qualified to take specific healthcare guidance at their request or by appointment of the company.

In addition, we focus on the healthcare of overworked employees. For example, hard-working employees whose overtime exceeds 100 hours a month or whose average overtime in three months exceeds 80 hours are requested to fill in healthcare survey charts and see industrial medical advisors based on the periodic medical checkup result and are recommended to undergo adult disease checkup as required.

Mental Healthcare

Mental healthcare training is conducted as part of managerial worker training and the rank-specific training curriculums (such as newly appointed key job training or upper supervisory job training). Its programs contain a summary explanation of mental health, how to notice junior employees' anomalies and how to respond to it, self-realization, and notice by the surrounding people. We also host a lecture by an industrial medical advisor at the head office once a year. In addition, we provide various information on mental health, including the placement of mental health information on group bulletin boards and reference to mental health consultation services.

Labor-Management Relationship

Yanmar maintains a stable relationship with the Yanmar Labor Union and engages in periodic negotiations and discussions on employee working conditions. We also have the opportunities to explain and discuss the financial conditions of the company by holding meetings to explain the corporate condition and other labor-management meetings.

Occupational Health and Safety

The Yanmar Group has an occupational health and safety committee at every production plant to fully ensure the health and safety of workers. Each plant maintains and reinforces their occupational health and safety management by conducting health and safety patrols and other activities under the direction of the Occupational Health and Safety Committee. The status of safety management of each plant is reported to the head office in monthly occupational hazard reports. These reports are used to improve employee awareness and to prevent the recurrence of accidents through measures such as the in-house disclosure of report information and the incorporation of the lessons learned into education and training programs. Since the working environment differs from plant to plant, each plant utilizes its own management system.

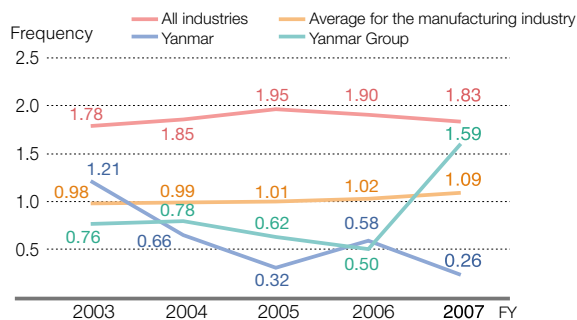


Laboratory building inspection



Gas turbine factory inspection

Occupational Hazard Statistics



Frequency: Fatalities or injuries per one million working hours
 Subject period: From January 1, 2007, to December 31, 2007
 Two companies were added in FY 2007, namely Yanmar Casting Technology Co., Ltd. (casting) and New Delta Industrial Co., Ltd. (fabrication and assembly). This resulted in an increase in accident ratio in the casting genre, which eventually pushed up the accident occurrence ratio of the entire group.

Our Relationship with Society

Always wanting to live and grow with the local community and society, Yanmar engages itself in various activities to make contributions that enhance the local community and society by, for example, supporting agricultural revitalization, educational and athletic activities, community programs and donations in and out of Japan.

Social Contribution Activities

The Yanmar Group has been supported and nurtured by the local societies it serves. As such, we are eager to participate in various social contribution activities as a token of our gratitude for the support we have received.

The Revitalization of Agriculture

Yanmar Student Essay Contest

Yanmar annually invites submissions for a "Student Essay Contest" to create a forum of discussion with young people concerning the future of agriculture and rural areas. There are many universities that traditionally take on our essay contest as part of seminar activities or many agricultural colleges that incorporate the essay contest as part of their curriculums. Eventually we receive many proposals and recommendations from those young students. For the 18th Student Essay Contest based on the theme of "Food, Agriculture and Living of the New Century," we had 544 entries, including 89 theses and 455 essays. The grand-prize winner in the genre of thesis is Minori Sawa who wrote a thesis on "food education" titled "We All Eat - Agricultural Education Starting from the Dining Room." The grand-prize winning essay is "Life Force" written by Itsumi Kai who made up her mind to take over her father's business as a result of flood damage and enthusiastically relates her future dream.



Student Essay Contest Awardees

Children's Picture Exhibition

Yanmar provides support for a children's picture exhibition entitled "Countryside Paddies and Streams" sponsored by the National Federation of Land Improvement Associations (National Midori Net). The 8th exhibition held in 2007 received 12,548 entries, far greater than the previous year, and as a result of a three-day screening, 21 prize winners, 111 entries and 71 group prize winners were selected.

The Yanmar Prize went to a picture drawn by Goki Yoshida, Fukuoka city, titled "Rotate More and Transport More." Award-winning and selected pieces were on display at the venue of the Midori Experience Event held in the underground mall of the Shiodome Shiosite, Tokyo, from October 27 to November 2, 2007.



Awards ceremony

Support for Sports

Supporting the activities of Cereso Osaka (J league)

Yanmar supports the activities of the Cerezo Osaka J League professional soccer team as an operating organization for the team. Yanmar is working together with local administrations and leading corporations to help promote sports culture rooted in the local community. Cerezo team members contribute to the growth of athletic activities by holding soccer lessons at local elementary schools, and by participating in events and other types of community interaction.



Cerezo

Supporting the Round-the-world Project with biodiesel fuel

Yanmar supports the Round-the-world Project with Biodiesel Fuel organized by photojournalist Shusei Yamada. In this project, Mr. Yamada receives a supply of waste food oil at places he visits, refines it to create biodiesel fuel in his own car and keeps on driving around the world. Since this project serves to enlighten people about the environmental importance deeply related to Yanmar, we provide funds and support generators installed on board his car.



Shusei Yamada's car equipped with generators

Education Support Activities

The Yamaoka Education Foundation was established in 1950 by Magokichi Yamaoka, the first president of Yanmar, to develop human resources capable of contributing to world peace and prosperity and cultural improvement. Magokichi's commitment to this project has been passed down through successive generations, and the Foundation currently makes scholarship grants and loans available to high school, college and university graduate students. Since 1989, foreign exchange students have also been qualified to receive scholarship grants. In FY 2007, scholarship was granted to 44 graduate students including 12 foreign exchange students, 59 college students, and 29 high school students, totaling 132. So far over 5,000 people have received those scholarships and moved on to perform active roles in various fields.

Scholarships Granted in 2007

(Unit: Persons/¥1 million)

Classification	No. of Students	Amount
Graduate students	44	37
	(Japanese students)	(23)
	(Foreign students)	(14)
College students	59	21
High school students	29	4
Total	132	62

Voluntary Activities

Yanmar helps local communities enhance their societies by participating in voluntary activities that include cleaning projects. Such activities help increase the awareness of environmental importance.



Cleaning activity around the plant (Yanmar Construction Equipment)

Social Contribution Activities in Foreign Countries

Supporting the 35th Anniversary of the Chicago and Osaka Sister City Relationship

The cities of Osaka and Chicago, USA, have a long history of friendship. A variety of commemorative events are planned in 2008, the 35th anniversary of the sister city relationship. Because of its location, Chicago, Yanmar America donated \$5,000 to the 35th anniversary commemorative events to support the mutual prosperity and friendship of the two cities.

Donation of Engines in Thailand

Yanmar S.P. (a local Thai corporation, herein YSP) donated two horizontal water-cooled diesel engines to the Agricultural Machinery Development Bureau of the Ministry of Agriculture, Thailand, to support the development of Thai agriculture in August 2007. The Bureau installed the engines in the rotary implements, a type of tilling machine jointly developed with a local corporation, and conducted the test at an agricultural experiment station run by the royal family. On the day of the experiment, the Agricultural Ministry, government people, representative farmers and the second princess of Thailand, Princess Sirindhorn, attended the event, and the princess herself planted rice with a smile. It was a very moving ceremony.

Thailand is a country that has prospered with agriculture as the main drive, and over 40% of the people are still engaged in farming. But an increasing number of people are

leaving their hometowns to work elsewhere as guest workers with the progress of rapid economic growth, and the shortage of agricultural workers has worsened. Now the mechanization of agriculture is an urgent task to be tackled. The ceremony was televised, and since then, YSP has had a number of inquiries from people in the relevant fields.

Rotary implement: Working machine (work vehicle) to till the land



YSP President Oshima presenting over a catalog to the princess

Supporting the Project of Bridge Donation to Indonesia

A pedestrian bridge used in Moriguchi city, Osaka, for 41 years was relocated to a village near Jogjakarta, Java, in February 2008. This project was planned by Osaka Prefecture and supported by Yanmar. In this village, after the original bridge was washed away by flooding, the villagers continued to use a makeshift bridge made of bamboo for a while. The Osaka government personnel who visited Java to support restoration from damage of the major earthquake in 2006 learned that the local villagers wanted to restore the bridge and moved forward to make their wish come true.

Since the relocated bridge is a sturdy one that is expected to last for over 50 years, the bridge now has a new lease on life as a bridge dedicated to people, bicycles and motorcycles. The restored pedestrian bridge was beautifully painted with logo marks of supporting companies, including Yanmar, to create an eye-catching design.



Relocated pedestrian bridge

Environmental Management

The Yanmar Group is adopting a number of environmental management measures based on the Yanmar Group Global Environmental Charter on a thorough group-wide basis. The 2012 Environment Vision is also being pursued as a milestone of the centenary of our foundation.

Policies for Environmental Activities

Our society is still facing a variety of serious problems, including global warming, the depletion of resources, the destruction of nature, and environmental pollution. True to its founding spirit of a "Beautiful World with Sincere Thankfulness," Yanmar has been engaged in environmental conservation activities ever since the company was established. In 1995, we established the Yanmar Global Environmental Charter, and all of Yanmar's production

facilities obtained certification for the ISO 14001 Environmental Management System standard in 1998. In these ways, Yanmar is making steady and continuous progress in its efforts to reduce environmental load.

In 2002, Yanmar updated its Yanmar Global Environmental Charter, creating the Yanmar Group Global Environmental Charter to further promote environmental awareness in the management philosophy of the Group as a whole.

Yanmar Group Global Environmental Charter

Environmental Philosophy	The Yanmar Group aims to contribute to the sustainable development of society by constructing a harmonious relationship between group development and the needs of the global environment.
Action Guidelines	<ol style="list-style-type: none"> 1. We position environmental conservation as one of the most important management objectives of the Yanmar Group for the purpose of Group-wide environment management. 2. We strictly observe the laws of all countries and the ordinances and regulations of all districts where we conduct production activities, and when necessary, establish voluntary environmental regulations in order to achieve superior levels of environmental conservation. 3. The Yanmar Group Global Environment Committee establishes environmental promotion guidelines and disseminates them throughout the Group to achieve an overall promotion of environmental conservation by the Group. 4. We actively disseminate environmental conservation information internally and externally to promote the understanding of Group companies and partners about the need for cooperation in the efficient promotion of environmental conservation activities. 5. We promote effective measures systematically and on a continuous basis in the following four environmental fields: <ul style="list-style-type: none"> The establishment of technologies that contribute to environmental conservation, and providing products and services that reduce environmental load. The reduction of environmental load in each stage of business activities. The joining of forces and cooperation with external parties to contribute to local communities and disseminate environmental information. The raising of environmental awareness among Yanmar employees, and the promotion of internal environmental education, lifestyle innovation, etc.

(Revised March 2002)

Environmental Vision

Yanmar established the 2012 Environmental Vision to define goals to be achieved by 2012, the 100th anniversary of our founding. We never stop moving ahead with this vision as the common goal for the entire Group, working towards the realization of a sustainable society.

2012 Environmental Vision

The Yanmar Group, in full recognition that it does handle products that can impose environmental load, undertakes to:

1. Contribute to the growth of a sustainable, resource-recycling society
[A society that promotes the prevention of global warming, zero-emission, re-use, and recycling]
2. Provide number-one, only-one, as called, products that are compatible with both environmental and economic needs
[Products that emit cleaner exhaust gas, have higher energy efficiency, and reduce harmful substances]
3. Fulfill social responsibilities in cooperation with society
[Promote legal compliance, voluntary regulations, information disclosure, and communication with the communities]



To achieve these objectives, the Group shall:

- (1) Construct extensive common environmental preservation systems for all consolidated companies in Japan and abroad
- (2) With implementing environmental preservation activities step-by-step, providing environment-friendly products, increase the brand image and reliability of the Yanmar Group as a whole
- (3) Provide business resource to the prevention of global warming and reduction of harmful substance in order to stay one step ahead of the requirements
- (4) Expand environmental education for associated companies and dealers

Second Environmental Mid-term Plan

Yanmar developed the Second Environmental Mid-term Plan (2006 - 2010) to achieve its Environmental Vision 2012 and has set 24 achievement goals in five domains of "Structure," "Environmental Management," "Business Operation," "Product Measures" and "Society."

In the field of "Product Measures," we revised the product assessment regulation that incorporates environmentally conscious design into product development. Yanmar will further strive to promote and reinforce the life cycle assessment (LCA) in order to achieve these goals.

Evaluated as group results except some items in 2007.

Targets of the 2nd Environmental Mid-term Plan (2006 - 2010) and the Status of Achievement

Category	Item	Mid-term targets	2007 Group Goals	2007 Group Results	Evaluation
Structure	Transformation to a CSR Structure	Start of publication of CSR Report in 2008	Promotion of consultation to establish a CSR structure	Establishment of a CSR Dept.	
	Expansion of the Global Environment Committee	Participation of overseas affiliated companies, and expansion of Global Environment Meeting	Promotion of Environmental Conservation Committee activities at each site	Implementation of Environmental Conservation Committee activities at each site	
Environmental Management	Environmental Audits	Start of the use of consolidated accounting in 2008 by domestic companies	Environmental compliance audit	Auditing at 5 sites	
	Environmental Performance Management	Environmental accounting, risk management, preparation of internal environment report	Establishment of an environment information system	Review of introduction	×
	Acquiring ISO 14001 Environmental Certification	(Domestic and overseas) Production companies: 100% Non-production companies: 50% or more	Yanmar Energy System Co., Ltd. to acquire certification Yanmar Agricultural Equipment East Japan and Kansai to expand certification	Yanmar Energy System Co., Ltd. and Yanmar Agricultural Equipment (China) Co., Ltd. acquired certification Yanmar Agricultural Equipment East Japan and Kansai expanded certification	
	Execution of Environmental Education	Establishment and implementation of environmental education system based on hierarchy			
Business Operation	Reduction of Gases Causing Global Warming	Six global warming gas emission: Reduction of 5% or more (compared with 2005)	Emissions of six global warming gases: Reduction of 2% or more (compared with 2005)	Emissions of six global warming gases: Reduction of 4.2% or more (compared with 2005)	
	Reduction of Energy Consumption	Reduction of 5% (compared with 2005)	Reduction of 2% or more (compared with 2005)	3.9% drop (compared with 2005)	
	Resource Savings	Water consumption: Reduction of 20% (compared with 2005)	Reduction of 10% or more (compared with 2005)	2.7% drop (compared with 2000)	×
	Elimination of Materials That Produce Environmental Load	Banning of the use of prohibited hazardous materials: total elimination by 2008 PRTR substances: 30% reduction (compared with 2001)	Survey to verify the content of environmentally burdensome materials PRTR substances: Reduction of 10% or more (compared with 2001)	Preparation and commencement of content survey, and launch of management system for environmentally burdensome materials PRTR substances: 2.3% drop (compared with 2001)	×
	PCB Treatment	Disposal of PCB: disposal by 2016	Development of a PCB disposal plan and application	Disposal plan developed and application filed	
	Waste Reduction	Emissions reduction of 10% (compared with 2005)	Emission: Reduction of 6% or more (compared with 2005)	Emission: 17.2% increase (compared with 2005)	×
	Paper Resource Savings	Paper recycling ratio: 70% or more	Paper recycling ratio: 50% or more	Paper recycling ratio: 57.7%	
Product Measures	Promotion of Green Purchasing	Eco office goods purchasing ratio: 70% or more	Eco office goods purchasing ratio: 50% or more	Eco office goods purchasing ratio: 53% (Yanmar only)	
	Improvement of the Environmental Performance of Products	Advance achievement of clean emission regulation	Advance achievement of clean emission regulation	Advance compliance with clean emission regulation	
	Improvement of Energy Efficiency	Operating efficiency: 20% or more (engine thermal efficiency: 5% or more) (compared with 2005)			
	Environment Coordination Design	Implementation of LCA for all new products	Development of product LCA mechanism	Test trials with tractors	
	Elimination of Materials That Produce Environmental Load	Total elimination of six substances under consideration for banning: total elimination by 2008	Survey to verify the content of environmentally burdensome materials	Green procurement survey conducted	
	Provision of Environment-Related Information	Inclusion of information on the environment, recycling, and waste disposal in instruction manuals			
Social Contribution	Development of Ecologically Friendly Products	Development of products with Environmental Label III			
	Reduction of Environment Burden at Time of Product Disposal	Research and improvement of product disposal processes			
	Voluntary Activities	Local voluntary activities: 5 or more	Local voluntary activities: steadily 5 or more	Cleaning of plant vicinity, My Hometown Cleaning Movement, "Cherry Blossom Festival" garden opening, summer festival, "Wasshoi Carnival," etc.	
Social Contribution	Communication with Local Residents	Holding of social gatherings: 1 or more	Social gatherings with locals: 1 or more	Participated in local events	
	Promotion of Tree and Flower Planting	Promotion of tree-planting	Increase in trees planted	Started tree-planting activities	

Environmental Management

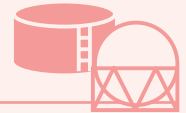
Eco Balance

The Yanmar Group understands the need to quantitatively measure and ascertain the environmental loads created by all stages of its business activities, namely from raw material procurement to production, transportation, distribution, use and disposal. It is also essential that we strive as required to reduce these loads.

In fiscal year 2007, environmental loads were measured at production plants of Group companies to gather the necessary data. In future, we will continue striving to determine the environmental loads created at each stage of the product life cycle, and promote the analysis and review of the identified loads for all companies, including Group companies.

INPUT

Energy



Electricity	210,353 MWh	Town gas	3,438,000 Nm ³
Bunker A	10,956 kl	Butane	246 t
Kerosene	716 kl	LPG	3,327 t
Diesel oil	1,887 kl	LNG	2,108 t
Gasoline	298 kl		



Business Activities

Development and Design

Ecology & Economy
Development of environmentally-friendly products



Procurement of Materials

Reduction in chemical materials
Green procurement



Production

Prevention of global warming (energy savings)
Waste reduction
Reduction in hazardous chemical materials
Underground piping survey
Storage of equipment containing PCB: 1,722 pcs.

Intra-plant circulating material
Raw materials
Water



OUTPUT

Discharge into the Atmosphere

CO ₂	163,624 t-CO ₂
SO _x	94.8 t
NO _x	328 t
PRTR-controlled substances	598 t


Discharge into Waters

Sewerage	535,650 m ³
River	651,204 m ³
BOD	78 t
COD	45 t

Calculation

- CO₂ Emission** : Calculated by multiplying electricity or fuel consumed by a "CO₂ emission factor." The "CO₂ emission factor" used here is based on the greenhouse effect gas emission calculation and report manual of an act related to the "Promotion of the Measures to Cope with Global Warming."
Note that the CO₂ emission factor for electric power is fixed at 0.378 t-CO₂/1,000 kWh.
- SO_x Emission** : Calculated by multiplying heavy oil and light oil consumed by "specific gravity" and "S content ratio."
- NO_x Emission** : Calculated from the exhaust gas data of combustion facilities.
- PRTR-controlled Substances** : Calculated based on the regulations of an act related to reports, etc., about "Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management."


Materials



<Major materials>
Steel, etc.


<Indirect materials>
Oil 2,306 t

Water Resources




Total water resource input 1,771,756 m³
 Groundwater 1,042,974 m³
 Industrial water 195,399 m³
 Clean water 531,238 m³
 Rainwater 2,145 m³

PRTR-controlled Substances

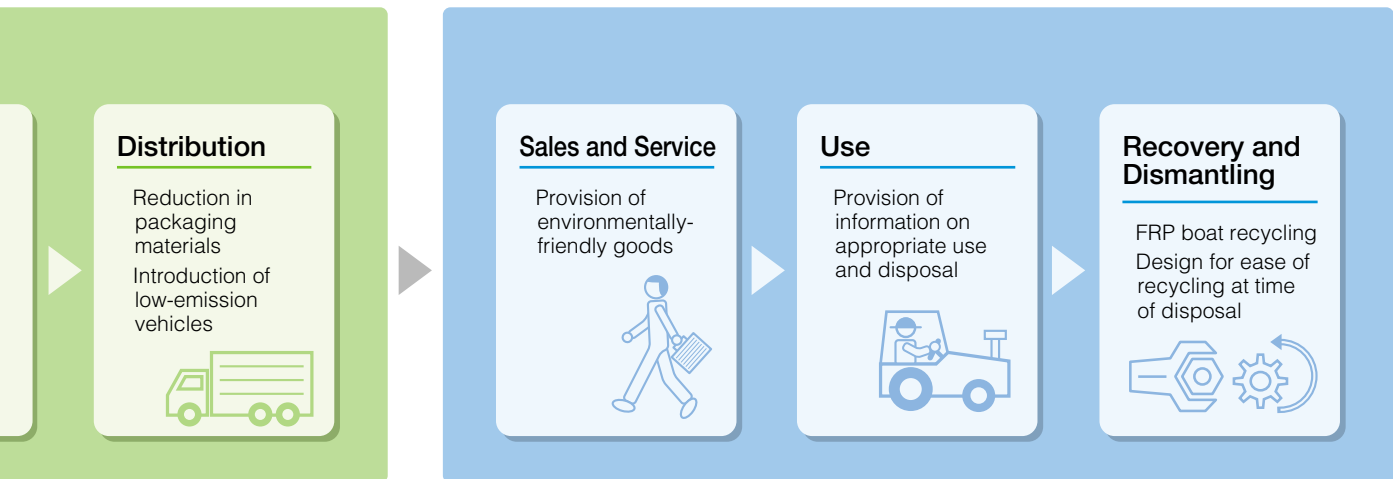


1,526 t


Distribution Energy



Diesel oil 104 kl




Generation and Disposal of Waste




Waste generated 37,634 t
 Waste recycled 17,735 t
 Waste finally disposed of 8,023 t

Discharge into the Atmosphere Resulting from Distribution



CO₂ 271.1 t-CO₂
 Yanmar Logistics Service Co., Ltd. (14 units owned)

Products



No. produced: 660,542 units
 Production horsepower: 18,012,000 PS

Environmental Management

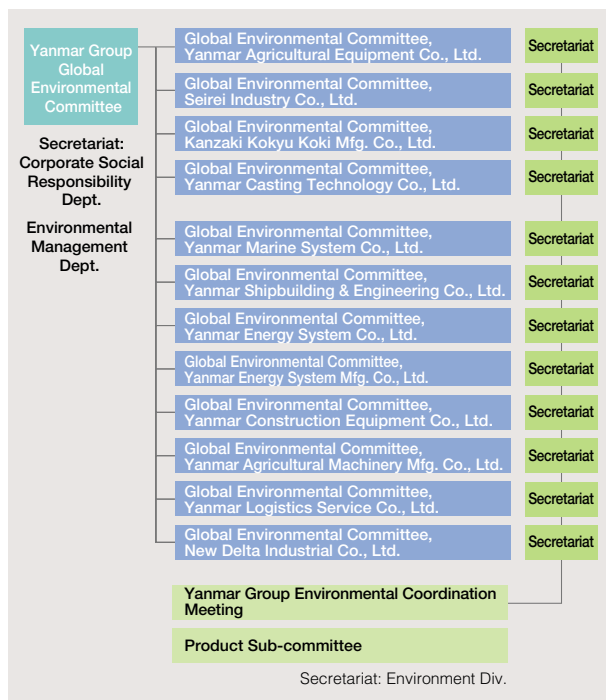
Implementation Structures

The Yanmar Group Global Environmental Committee, consisting of top executives from each Group company, was established in 2002 to promote high-level environmental management for the Group as a whole. The Committee is managed by 13 Group companies engaged in production, sales, and distribution. Each Group company has its own Global Environmental Committee that takes the initiative in promoting environmental conservation activities under the leadership of the top management of the company. The Yanmar Group Coordination Meeting is also formed by the secretariats of those company-level committees as a subordinate organization of the Yanmar Group Global Environmental Committee, and engages in the communication of activity policies and discussion of activity status. In addition, the Product Subcommittee, consisting of the development managers of Group companies, was established under the Coordination Meeting and undertakes various activities to improve the environmental performance of our products.



Yanmar Group Global Environmental Committee

Organization Chart of the Yanmar Group Global Environmental Committee



Acquisition of ISO 14001 Certification

The Yanmar Group promotes group-wide efforts to achieve ISO 14001 certification, an international standard for environmental management systems, as part of our efforts to continuously promote environmental conservation activities.

We endeavor to encourage both domestic and international non-producing facilities to acquire certification.

ISO 14001 Certification by Site

[Yanmar Domestic Facilities]

Division Name	Accredited Business Units	Audit & Registration Organ	Register No.	Accredited Date
Large Power Products Operations Division (Amagasaki Zone)	Amagasaki Plant, Tsukaguchi Plant	LRQA	770250	Jun. 1997
Power System Operations Division (Shiga Zone)	Biwa Plant, Kinomoto Plant, Yamamoto Plant, Nagahama Site, Yanmar Logistics Service Co., Ltd.	JQA	JQA-E-90134	Mar. 1998

[Group Companies]

Company Name	Accredited Business Units	Audit & Registration Organ	Register No.	Accredited Date
Yanmar Agricultural Machinery Mfg.	Head Office, Ibuki Plant	LRQA	4002304	Mar. 1999
Kanzaki Kokyukoki Mfg. Co., Ltd.	Head Office Plant	LRQA	772501	Mar. 1999
Seirei Industry Co., Ltd.	Okayama / Yamada Plants	JQA	JQA-EM 0277	Dec. 1998
Yanmar Construction Equipment Co., Ltd.	Fukuoka Plant	JQA	JQA-EM 0281	Dec. 1998
Yanmar Casting Technology Co., Ltd.	Head Office / Matsue Division	LRQA	YKA-4002315	Aug. 2003
New Delta Industrial Co., Ltd.	Head Office Plant	JICQA	JICQA-E 840	May 2004
Yanmar Energy System Co., Ltd.	Head Office	CIJ	CI/5129E	March 2008
Yanmar Energy System Mfg. Co., Ltd.	Head Office Plant	JIA-QA Center	JE0464A	July 2004
Yanmar Agricultural Equipment Co., Ltd.	Head Office, Technical Supervision Division, Development Dept. of Tractor Business Division, Development Dept. of Agricultural Equipment Business Division, Head Office of Hokuto Yanmar Co., Ltd., Head Office of Yanmar Agricultural Equipment East Japan Co., Ltd., Head Office of Yanmar Agricultural Equipment Kansai Co., Ltd., Yanmar Helicopter Service Co., Ltd.	JQA	JQA-EM 4278	October 2004
Yanmar Shipbuilding & Engineering Co., Ltd.	Head Office and Plant Nos. 1 and 2	JQA	JQA-EM 5433	July 2006
Yanmar Sangyo Co., Ltd.	Head Office	CIJ	CI/7751E	March 2007

[Yanmar Group Overseas Companies]

Company Name	Accredited Business Units	Audit & Registration Organ	Register No.	Accredited Date
P.T. YANMAR DIESEL INDONESIA	Head Office Plant	KEMA Quality B.V	2032854	Jul. 2003
YANMAR AGRICULTURAL EQUIPMENT (CHINA)CO.,LTD.	Head Office Plant	CHINA QUALITY CERTIFICATION CENTRE	00108E2 0099ROM /3200	Mar. 2008

Environment Audits

ISO 14001 certified facilities are committed to continuously improving their environmental management systems. Specifically, their environmental policies are disclosed and their environmental performance periodically audited to ensure ISO compliance. Internal audits are conducted annually, likewise third-party examinations by an external certification organization.

Implementation of the Environmental Compliance Audit

Environmental compliance audits were audited for the five sites of the Yanmar Group, or Nagahama Site, Omori Plant, Yamada Plant of Seirei Industry Co., Ltd., New Delta Industrial Co., Ltd., and Yanmar Shipbuilding & Engineering Co., Ltd. in 2007.

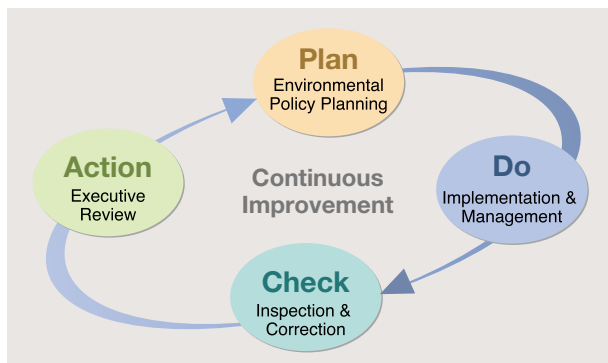
The audit revealed certain discrepancies to improve, including no updated indication of responsible facility managers, no regular confirmation of intermediate and final industrial waste disposal sites, voluntary upper limits for discharged water exceeded, and materials in hazardous storage exceeding regulated levels.

Accordingly, those sites were instructed to make the necessary corrections including list-based management of the capability and capacity and a manager of specific facilities to ensure compliance with applicable laws. In addition, we also instructed them to develop a checklist of management operations so that the necessary responses can be "visualized."



Environmental Audits

Continuous Improvements Under ISO14001



Legal Compliance

Yanmar vows to comply with environment-related laws and ensures strict control of relevant operations, including the retention and reporting of measurement records. There was no group-wide violation of applicable laws in 2007.

Prevention of Air Pollution

Yanmar endeavors to prevent air pollution during operations, including recovery of exhaust gas emitted from engine durability tests and pre-shipment product test runs with exhaust gas recovery equipment.

Prevention of Soil and Water Pollution

Pollution checks are conducted on parcels of land scheduled for sale or alternative use and any pollution emerging is subject to remedial measures with the guidance and attendance of the administration.

The quality control for water discharged from our plants is strictly regulated by setting our own voluntary standard more stringent than applicable legal requirements. A once monthly patrol in the plants and drill are also conducted assuming a spill accident once a year to ensure continual alertness whenever an accident may occur.

Measures against Noise and Malodor

All complaints from local residents concerning noise or malodors are recorded. In response, we hold briefing meetings to explain the situation and immediately take actions for correction or improvement.

Measures to control noise or malodors are taken and implemented for the new Amagasaki Plant experiment building completed in December 2007 by installing an active silencing system, which is one of our system products, or equipment to remove black smoke.



Active silencing system

Reduction of Environmental Risk

Regular proactive drills and updating of risks are conducted for foreseeable risks to prevent the occurrence of risks such as environmental pollution.

The Yanmar Group identifies environmental risks, in line with ISO 14001, and updates them as required by taking necessary actions, conducting drills or making internal audits. Identified environmental risks are reported to the Risk Management Committee as those affecting the entire Group for recording and annual updating.

Environmental Management

Environmental Education

Yanmar provides continuous environmental education to help each employee improve his or her awareness of the environment. Our environmental education consists of general courses intended for new recruits and general employees, and special courses for employees engaged in special work and for internal environment auditors. Thus Yanmar employees can participate in educational programs that are well suited to their specific job requirements.

Environmental Education for New Recruits

New recruit education is provided to new employees to promote environmentally appropriate actions at the jobsites to which they are assigned. They acquire a basic understanding of environmental issues and deepen their understanding of the environmental activities of the Yanmar Group.



New Recruit Training

Environmental Education at Production Sites

Education on methodologies and technologies related to environmental protection is provided to all employees, based on their jobs, at every plant once a year. Facilities that have acquired ISO 14001 certification provide environmental education and training to employees in line with this ISO standard. Employees working at worksites that can have a major impact on the environment are provided with special training that teaches the employees about the operating procedures of relevant equipment and systems. Employees thus learn to ensure environmental protection at their jobsites.

External educational institutes are also used to help our employees obtain qualifications related to the environment.

Support for Group Companies for the Acquisition of ISO 14001 Certification

Yanmar supports the establishment of environmental management systems to ensure the smooth and efficient acquisition of ISO 14001 certification by Group companies that are working to acquire such certification.

Environmental Awareness through Internal Publications

Employee environmental awareness is also promoted through "ECHO," an internal publication by the Yanmar Group. Every issue includes information that helps employees keep abreast of the latest environment-related information. Since the spring issue of 2008, ECHO has featured information on CSR for greater awareness of corporate social responsibility.

2007 Spring Issue	[Environment Series] EU's hazardous substance control
2007 Summer Issue	[Environmental Series] Yanmar Group's environmental activities – Seirei Industry
2007 Autumn Issue	[Special feature] Raising the environmental sensitivity [Environmental Series] Environmental & Social Report 2007 issued
2008 Winter Issue	[Environmental Series] Yanmar Group's environmental activities – Yanmar's Large Power Products Operation Division

Education at Yanmar Co., Ltd.

Staff Category	General Education	Special Education
Staff in special fields		Work practices for boilers, liquid waste processing facilities, etc.
Internal environmental auditors		ISO Auditing methods 1. ISO environmental regulations and Yanmar standards 2. Legal stipulations 3. Processes for reaching environmental targets / Auditing techniques
General staff	Environmental targets and implementation by business division	
New recruits	Introduction to environmental issues	

Number of Staff Members with Major Environmental Qualifications (Yanmar Co., Ltd.)

	Shiga Zone	Amagasaki	Tsukaguchi	R&D Center	Head Office	Total
Pollution Control Manager for Water Quality	13	1	3	4	4	25
Pollution Control Manager for Air Quality	11	5	3	3	2	24
Pollution Control Manager for Noise	12	1	2	3	1	19
Pollution Control Manager for Vibration	8	1	2	3	0	14
Specially Managed Industrial Waste Control Manager	14	5	1	1	0	21
Waste Disposal Facility Engineering Manager	0	0	0	0	0	0
High Pressure Gas Control Manager	8	0	0	2	1	11
Chief Electrician	6	0	0	0	0	6
Type 2 Chief Electrician	1	0	1	0	0	2
Type 3 Chief Electrician	12	9	1	8	0	30
Class 1 Boiler Engineer	4	0	0	1	0	5
Class 2 Boiler Engineer	22	4	2	3	3	34
Environmental Management System Auditor Assistant	0	0	0	0	2	2
Internal Environmental Auditor	44	32	15	0	0	91
Energy Control Manager (Electricity)	4	0	0	0	0	4
Energy Control Manager (Heat)	4	0	0	1	0	5
Energy Control Manager	0	2	0	2	0	4
Energy Controller	5	0	2	0	0	7
Total	168	60	32	31	13	304

Merged into the Energy Control Manager (covering both electricity and heat) in April 1, 2006. The number of people having each type of qualification is shown.

Environmental Accounting

The purpose of environmental accounting is to fully and quantitatively grasp and analyze costs related to environmental conservation in business activities and the resulting effects, to provide feedback to business activities, and to share the analyzed data with related parties in and out of the company in order to promote the understanding of Yanmar environmental activities. Data compilation complies with the Environmental Accounting Guidelines of the Ministry of the Environment.

Cost of Environmental Conservation

The total cost of environmental conservation for fiscal year 2007 was approximately ¥5.3 billion, 93% of which was for R&D. The principal business activities of Yanmar involve the manufacturing and sales of engines, and since R&D expenses for new engines result from the improvement of fuel

efficiency and gas emission, nearly all of these expenses fall within the category of environmental conservation.

Effects of Environmental Conservation Activities

We have been able to successfully reduce energy consumption, oil consumption, service water consumption, and waste material output per production unit volume compared with the previous year.

Future Developments

We started to announce our environmental accounting information in 2003. We will continue to announce information for use in environmental management tools and indices.

Environmental Conservation Costs

(Unit: ¥1 million)

Classification of Environmental Conservation Costs	Main Items Covered by Related Activities	Investment	Total Cost
Cost of controlling environmental load within business area:		219.76	262.51
Public nuisance prevention costs	Air quality, water quality, waste, vibration and noise	108.73	194.60
Global environment conservation costs	Prevention of greenhouse effects, energy-saving, improving distribution efficiency	85.13	38.01
Resources recycling costs	Reduction of oil/grease, water, and waste	25.90	29.90
Cost of controlling environmental load up and down stream from Yanmar facilities	Green procurement, removal of products from the market, recycling, etc.	0	0
Environmental conservation costs in administrative activities	Environmental education, EMS, greenery promotion, information disclosure, environmental advertising, management personnel cost, etc.	0	81.58
Environmental conservation costs in R&D activities	Improvements related to engine exhaust gas, R&D to improve environmental performance	284.54	4,946.62
Environmental conservation costs in social activities	Environmental volunteer activities, etc.	0	0
Costs of repairing environmental damage		0	0
Total		504.29	5,290.71

Quantitative Effects

(Unit: ¥1 million)

Outline of Effect	Environmental effect index	Reduction volume	FY2007
Energy consumption per production unit volume	kl (in terms of crude oil) / ¥100 million	7.4%	27.90
Oil/grease consumption per production unit volume	kl / ¥100 million	23.0%	0.77
Water consumption per production unit volume	ton / ¥100 million	8.7%	579.97
Discharge of waste per production unit volume	ton / ¥100 million	4.0%	2.90

Economic Effects

(Unit: ¥1 million)

Outline of Effect	Economic items	FY2007
Income from recycling	Sales of wastes, etc.	239.0
Cost reduction through energy saving	Change of electric power supplier, use of cogeneration system, production process restructuring	34.4
Cost reduction through resource-saving	Oil and grease, water resource recycling	214.8
Reduction of waste treatment cost	Improved yield, recycling, simple packing	-1.7

Compilation Method

- (1) Period of compilation: March 21, 2007 to March 20, 2008
- (2) Range: Yanmar only, not consolidated
- (3) Method complies with Environmental Accounting Guideline of the Environment Ministry.
- (4) Cost amount includes personnel cost and depreciation cost.
- (5) For complex items, the portion related to environmental improvement is extracted or calculated proportionally.
- (6) R&D for new engine development relates mostly to combustion and exhaust gas improvements. Accordingly, almost all such costs have been appropriated.
- (7) For economic effects, only the measurable items are appropriated; no assumed effects are appropriated.

Developing Environmental Products

Yanmar has begun striving for the advancement of our environmentally friendly techniques to help realize a recycling society from the early stage. The concept of “environmentally friendly product,” which helps reduce the environmental burden, is alive in the development and design activities of all our product fields.

R&D with Foresight

The Yanmar Group has been consistently involved in the advancement of the environmental friendliness of all of our products, namely, the development of engines with cleaner emission and lower noise and vibration levels. We contribute to the development of a recycling society by pursuing and providing products that help reduce environmental load.

R&D (Abstract)

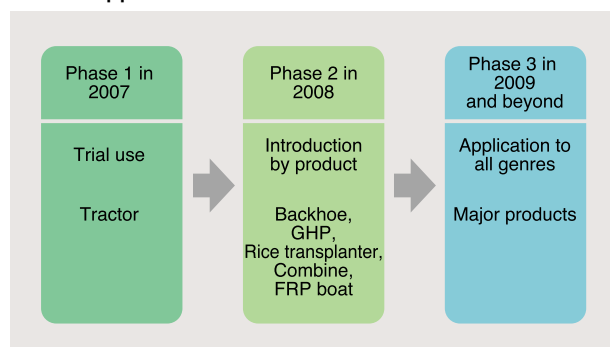
Field	Item	Description
Engine technology	Low emission	Improvement of engine combustion
		Electronic control technologies
		Emission gas post-processing equipment
System technology	Improvement of system efficiency	Coolant cycle technology Control technologies
	Gas engine for GHP	Combustion, emission post-processing and engine control technologies
	Reduction in engine fuel consumption	Improvement of combustion, loss of air intake and discharge, etc.
	Low vibration and noise	Proprietary analysis system VINAS
Agricultural technology	Ecology and economy	Reduction in fuel consumption, improvement of work efficiency
	Easy operation	FDS (forced differential transmission)
	Transplanting Technologies	Horizontal controls
Applied Technologies	Construction equipment, distribution equipment, transmissions, marine products and environmental fields	

Introduction of LCA

The Yanmar Group is introducing LCA (Life Cycle Assessment) that quantitatively ascertains the effects on the environment of a product throughout its entire lifecycle, as well as from the standpoint of the procurement of raw materials, production, transport, distribution, use and disposal of the product.

The creation of numeric data reflecting the effects on the environment requires the accumulation and analysis of the necessary data for assessment from all related processes, namely from the design to production stages. We applied LCA to the tractors in FY2007 and intend to increase the scope of application in 2008 by including major representative products such as backhoe, GHP, rice transplanter, combine and boat.

LCA Application Plan



Development of Environmental Technology

Yanmar takes on the challenge of further refining environmentally friendly technologies for our products to help create a recycling society. Specifically, our efforts in the area of cleaner engine emission focus on the development of elemental technologies for emission, resulting in compliance with the third EPA regulations and the primary regulations of the IMO Convention, prior to the actual enforcement of these regulations. The focus of other efforts in this respect are product energy savings, resource savings, recycling, and the extension of service life. We aim to improve the operating efficiency of our products by over 20%, on average, by 2010.

For the control of hazardous materials, we are also developing environmental technologies that allow us to comply with directives such as the ELV Directive and RoHS Directive.

Labels Indicating Product Environmental Information

The Environmental Label is intended to inform the market of the environmental aspects of a product or service, and serves as a judgment criterion for customers when selecting a product. ISO 14020 sets the standard for three Environmental Labeling schemes: Type I labels are awarded to products by a third party based on their predetermined standards. An example is Japan's Eco Mark. Type II labels are based on a manufacturer's self-declared claim about a product's environmental performance and are therefore called "self-declared labels." Type III labels provide environmental data quantified based on the LCA method, and it is up to the purchaser to decide how to judge the information.

The Yanmar Group plans to develop products for Type III labeling in 2009.

Reduction of Environmental Load from Product Disposal

Environmental consideration is incorporated into our products from their design stage so that the products can be easily disassembled, and the disassembled parts easily recycled. In the design and development stage, factors related to the dismantling and recycling performance of a product are quantified as numeric values, and targets are set based on these values. Those targets allow us to minimize the environmental load of products as well as the parts or materials that constitute the products when they are disposed of. We will promote the further investigation of how products are disposed of in order to achieve greater improvements in this area.

Yanmar's Environmentally Oriented Products

Industrial and Construction Machinery Field

Industrial Engines

TNV Series (Vertical Water-cooled Diesel Engines)



Complying with the Environmental Standards of Various Countries in the World

Our lineup of diesel engines offers output ranging from 10 kW to 70 kW, all of which comply with the environmental standards of various countries throughout the world. Incorporating Yanmar's unique fuel injection system, combustion technique, and electronic control technique, the TNV series satisfy the requirements posed by EPA-Tier 3 and Interim Tier 4, USA, which are effective in 2008, and NRMM-Stage IIIA of Europe. Compared with the past model, the new series successfully achieve NOx + HC ¹ reduction by about 40% and PM ² by about 25%.

¹ NOx + HC: total of nitrogen oxides and hydrocarbons contained in the exhaust gas

² PM: particulate matters contained in the exhaust gas

LV Series (Air-cooled Diesel Engines)



Compliant with US's stringent EPA regulation

Leading the world as an air-cooled single-cylinder diesel engine, the LV Series are also environmentally friendly products, complying with the Japanese voluntary emission regulations (established by the Japan Land Engine Manufacturers Association) and one of the world's most stringent standards, the EPA emission regulation of USA.

TF Series



Meeting the Low-fuel Consumption Requirements of Southeast Asian Countries

Equipped with an advanced fuel injection system, the TF Series comply with the exhaust gas emission regulations in Japan like the LV Series. The Southeast Asia version, which offers fuel savings of about 15% compared with its predecessors because of Yanmar's unique DI technology ³, satisfies the low-fuel consumption requirements in Southeast Asian countries, thereby helping reduce energy saving and CO2 emission in user countries.

³ DI technology: technique that directly injects fuel inside the combustion chamber for fuel combustion

Construction Machinery

Universal ViO 17

Complying with the Latest Emission Regulations of Japan and the US

Our backhoes are fitted with direct injection engines that satisfy the third regulation for construction machinery of the Ministry of Land, Infrastructure and Transport (MLIT) and the Tier 4 regulations of US EPA. This class of mini backhoes (rear short radius), which are very often used particularly in residential worksites for their compactness, is certified as super low-noise construction machinery by the MLIT and also complies with Europe's noise control regulation Stage II.

Another of ViO 17's features is its energy saving performance. Realizing the optimal arrangement of engine and hydraulic system, ViO17 provides powerful performance at a low fuel consumption rate with its fuel consumption rate per working time (earthwork volume per liter of fuel) 20% up from our own predecessor backhoes.

Recyclability is also improved; major exterior parts including the hood and upper frame are made of steel plates structurally for improved reparability and recyclability.



TOPICS

Compact Horizontal Water-cooled Diesel Engine Type HB Certified as Mechanical Engineering Legacy

Yanmar's cornerstone engine, compact horizontal water-cooled diesel engine Type HB, was certified as a Mechanical Engineering Legacy of the Japan Society of Mechanical Engineers on Machine Day, August 7, 2007. The Society assigned the status of Mechanical Engineering Legacy to 25 items in 2007 citing they "are important successful results in the history of mechanical technology development" and "have made contributions to the lifestyle, culture, economy, society and technological education of the people."

The world's first commercialized compact diesel engine model developed by Yanmar in 1933, Type HB, was widely used to supply power to agricultural users and many other industrial users and contributed greatly to the mechanization and modernization of Japan and foreign countries.



Yanmar's Environmentally Oriented Products

The Field of Energy

Gas Heat Pump Air-conditioners

High-efficiency Gas Heat Pump Air-conditioner H1 Series

Industry's No. 1 Full-year Energy Efficiency

Yanmar launched the gas heat pump air-conditioner (herein GHP) H1 Series, which achieved the industry's greatest fuel-efficiency, or 2.14 in full-year energy consumption efficiency (herein APF) (equivalent to 30 hp), in April 2008. Featuring improvement in "environmental kindness," "energy saving," and "installability and convenience," the H1 Series are particularly characterized by their decreased full-year energy consumption and CO₂ emission because of the improved APF. In addition, its new design concept, which started development of equipment structure from the ground up, realized great downsizing compared with the conventional types, thereby enhancing the level of installability and convenience.



TOPICS

High-efficiency GHP High-power Multi Awarded the Encouragement Prize by the Heat Pump & Thermal Storage Technology Center of Japan

In May 2007, the sale of Yanmar GHP topped 200,000 units, and on June 12, our new series High-efficiency GHP High-power Multi was awarded the Encouragement Prize by the Heat Pump & Thermal Storage Technology Center of Japan. Yanmar started development of GHP together with three city gas companies and 12 other manufacturers in 1979 after the oil shock and launched the first model in 1987. In the 20 years since then, we have overcome various challenges including an expansion in variation, improvement of reliability and durability and cost reduction, and have successfully spread the model as an environmentally friendly GHP among many users in Japan. In the future, we plan to sell the model internationally, including South Korea, China, and Oceania.



Awards ceremony

The Field of Agriculture

Combine

AJ216/218/318

Compact Models Incorporating UD + ECO



Combine Athlete Justy Series AJ216/218/318 put to market in 2007 now enjoy a high reputation among users as the machines that incorporated the concept of universal design (UD) and environmental friendliness (ECO). UD-incorporated elements of the models include wing handle FDS, stainless steel receiver net, and pull-up unit detachment. Environmentally friendly elements include reduction of space volume by 15% and mass by 10% compared with our conventional models for downsizing and weight reduction as well as installation of TNV engines that comply with the applicable environmental standards for fuel efficiency improvement. Simultaneous development of AJ216/218 for two-lane harvesting and AJ318 for three-lane harvesting realized chassis standardization, sharing of the threshing element, and energy saving in production processes including mechanical arrangement and coating. We intend to apply this environmentally friendly design concept to all combine models.

Tractor

EG600 Premium

Equipped with Electronically Controlled HMT Variable Speed Transmission



The EG600 Premium tractor gives professional farmers what they want - "improved operation efficiency," "improved operation precision," and "improved operability." The tractor is fitted with the TNV direct-injection eco diesel engine featuring our advanced technologies, such as our latest fuel injection and combustion technologies. Whenever the load suddenly increases during work, the machine maintains stable power, without experiencing a drop in engine speed.

Its electronically controlled HMT variable speed transmission is the product that realized both the excellent operability of the HST (hydraulic static transmission) and the high transmission efficiency of the mechanical transmission system using planetary gears. Smooth acceleration and deceleration without gear shifting shock is ensured from the halt condition to the maximum speed during either operation or moving. Since the Premium also constantly allows selection of the optimal operating speed, the user can make the most of the engine output and enjoy further fuel saving.

The Field of Marine Products

Boat

Top Run J “EF23B”

Meeting the Needs for both Low Fuel Consumption and a Smooth Ride

Equipped with Yanmar’s diesel engines and sterndrive, the Top Run J Series has long enjoyed popularity as a relatively low-priced fishing boat for beginners. In 2008, Yanmar launched EF23B, equipped with Suzuki’s 4-stroke outboard engine through joint development with Suzuki Marine Co., Ltd. This boat is 6.88 m in total length and offers two types of engine, one with an output of 51.5 kW (70PS) and the other with 66.2 kW (90 PS). A comfortable ride is guaranteed by adopting the V-shaped omega hull and filling the boat bottom with urethane foam to mitigate bottom shock during cruising.

Environmentally conscious elements include improved “fuel consumption rate” and “lowered noise generation.” Installation of the four-stroke gasoline outboard engine realizes a reduction in fuel consumption by about two thirds of the boats with a two-stroke gasoline outboard engine. The noise level around operator’s ear is also reduced by about 8 decibels compared with that of the two-stroke outboard engine boats. EF23B has another safety feature, which is the urethane foam filling in the boat bottom. Thanks to this light-weight material, the filling makes the boat less subject to sinking even if part of the bottom is damaged at sea.



Marine Engines

6CX530

Yanmar’s First Engine Equipped with Common-rail Fuel Injection System



6CX530 is Yanmar’s first marine engine equipped with a common-rail fuel injection system that satisfies the requirements of US EPA 2nd emission regulation. The engine realizes excellent fuel combustion and eventual reduction in pollutants in the emission gas by ensuring optimized injection of fuel pressurized up to 160 MPa by fine-tuning the timing arrangement. In addition, fitted with an operation control system that reduces the number of cylinders to be used, it suspends three cylinders during idling to remarkably reduce white smoke emission.

The Environment and Daily Life Field

Biomass Power Generation System

Wooden Biomass Power Generation Plant (300 kW Co-generation System)

Demonstration Operation Started toward Realization of Low-Carbon Society

This system generates thermal decomposed gas from wood chips produced from lumber processing, and the gas is used as fuel to provide power and heat. Yanmar has been engaged in verification tests of this undertaking as one of NEDO’s (New Energy and Industrial Technology Development Organization) “Verification Projects for Biomass and Other Untapped Energy” since 2005 and started demonstration operation in July 2008. Since the dual-fuel method is used for the engine, it is capable of using low-caloric gas and thus generating power stably against any change in fuel gas conditions. Supplied with 250 kg of wood chips and 20 liters of liquid fuel per hour, the plant can generate 300 kWh of electric power, which is equivalent to an annual reduction of 1,000 t of CO₂. This will be a great contribution to global warming prevention. Because it uses waste biomass, the system offers economic advantages and environmental value to the customer.

Operation for 6,000 hours per year



Gasification plant



Co-generation system

Environmental Conservation Activities

The Yanmar Group is committed to prevent global warming, a serious issue that is intensifying.

To do so, various actions are adopted, including the promotion of energy saving in production processes, the introduction of highly efficient equipment, reinforced waste recycling efforts and the effective use of resources.

Prevention of Global Warming

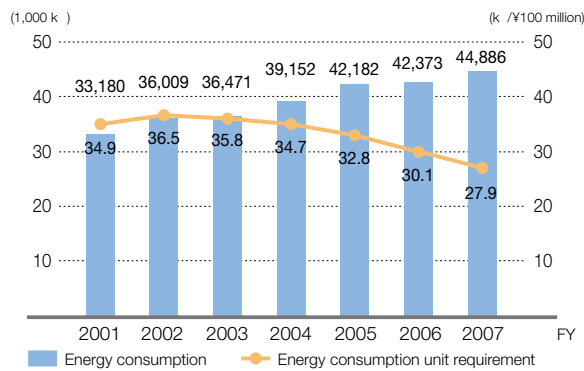
Promotion of Energy Savings

The Yanmar Group is reducing all kinds of energy used in production activities, including electricity and fuel, in order to tackle the challenge of contributing to the prevention of global warming.

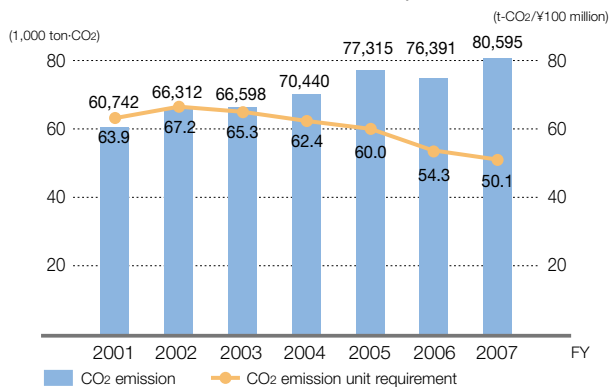
In FY2007, the Yanmar Group undertook the challenge of reducing energy consumption in production processes and introducing high-efficiency equipment. Through this challenge, the Group was able to reduce CO₂ emission in unit requirement by 7.7%.

The Yanmar Group set a goal of a 5% reduction in energy consumption and a 5% reduction in CO₂ emission by 2010, relative to 2005 levels.

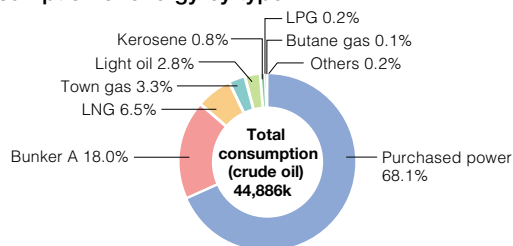
Energy consumption (in crude oil) and energy unit requirements (Yanmar Co., Ltd.)



Total CO₂ emission and CO₂ emission unit requirement (Yanmar Co., Ltd.)



Consumption of energy by type



Introduction of the Power Regenerator

In the Shiga Zone, the Nagahama Site introduced a power regenerating system that recovers power generated from durability tests of engines as electric energy.

The Nagahama Site purchased a single prototype power regenerating system in 2005 and started test operation in preparation for full installation. After repeated trial and error, they finally developed an optimal device. The Site introduced 7 equipment units by 2007 and regenerated electricity of a maximum of 900 MWh per year, achieving 346 t-CO₂ reduction (equivalent to some 30,800 cedar trees). Production restructuring reduced the purchase requirement from 15 to 7, and the program of regenerator installation at the Nagahama Site was thus completed. The introduction of the regenerator to other factories is also under consideration.



Power generation section



Power regenerator of the Nagahama Site

Energy Saving Activities of the Group Companies

Our Group company plants are also adopting various measures to promote energy saving activities, including the installation of energy saving equipment.

Replacing lighting equipment with the energy-saving type	Changing the pressure settings of the supplied air to factories
Replacing cooling water pumps with the inverter type	Improving the cooling and heating effectiveness by changing the slate ceiling to ALC (Amagasaki Plant)
Reducing fuel consumption by replacing power generators for frequency converters	Promoting localized lighting
Replacing capacitors with the energy-saving type	Reducing overnight lighting
Replacing transformers with the energy-saving type	Promoting lights-out during lunchtimes and after hours
Replacing compressors with the inverter type	Managing the air-conditioning setting temperature
Repairing air leakage	Promote non-idling of company cars

TOPICS

The Development Bank of Japan awarded Yanmar the highest environmental ranking, and Yanmar become the first Kansai based company to be entitled to the loans based on environmental rating.

In September 2007, Yanmar was evaluated among the highest ranks as a corporation "specially advanced in environmentally conscious actions" based on the environmental rating of the Development Bank of Japan (DBJ). Consequently, Yanmar was selected under the Project to Promote Environmentally Conscious Management and became the first Kansai company to be entitled to the Loan Program for Promotion of Environmentally Conscious Management. The evaluation contents are as follows:

【 Contents of Evaluation 】

Yanmar endeavors to create corporate value by harmonizing between society and the environment to fulfill their social responsibility according to their founding spirit "Beautiful World with Sincere Thankfulness."

Yanmar relaunched the Environmental Report, published up until 2006, as the Environmental & Social Report in 2007 reflecting greatly improved disclosure of environmental performance values and enhanced social responsibility.

In business activities, Yanmar contributes to reducing the environmental load in agricultural production by supplying environmentally conscious products in response to strict emission regulations such as NOx and PM.

Yanmar is engaged in advanced undertakings toward the realization of clean alternative fuels including biofuels.

Yanmar tries to maintain water quality by applying voluntary standards exceeding statutory standards.

Yanmar is expected to further enhance environment management-related issues to supply chain and information disclosure, and establish its status as an environmentally advanced corporation by appropriately coping with intensified emission regulations in Japan, the USA and Europe, as well as conducting CSR management unrivalled by other competitors in the same industry.



Awards ceremony



In September 2007 the company received a Development Bank of Japan loan based on its being rated at the highest grade in DBJ's four-grade environmental rating schedule: "companies with particularly impressive environmental programs."

Environmental Conservation Activities

Effective Use of Resources

Waste Reduction

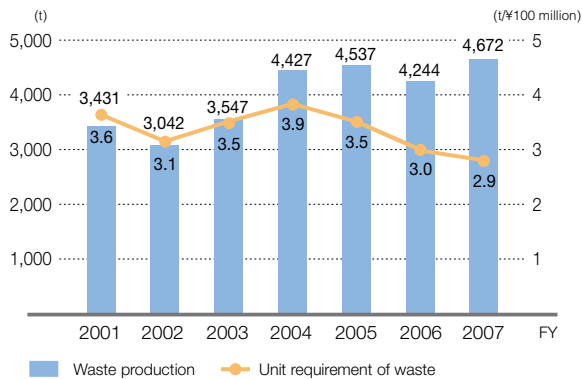
The Yanmar Group is taking aggressive actions to curb the generation of waste from production processes and decrease the total amount of waste disposal by promoting the recycling of waste by type, converting the waste into material with value.

To ensure thorough separation of waste by type, employees are frequently informed of the importance of waste separation by a list of waste separation rules posted at necessary locations, including waste storage sites in plants, worksites and offices. Employee education programs are used to promote understanding. Efforts are also made to promote further recycling including the introduction of returnable pallets. Waste oil produced from plants is also converted into a valuable resource by using improved production processes that prevent foreign materials from mixing with the oil.

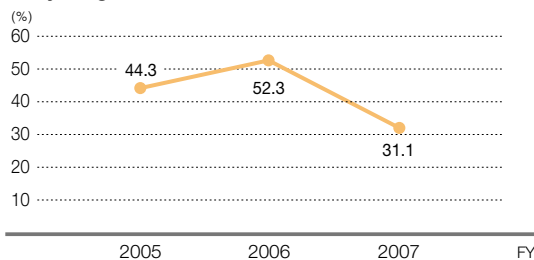
Other actions taken to reduce costs include the reuse of cardboard materials as valuable types and the recycling of shredded paper waste.

By 2010, we aim to achieve a 10% reduction relative to the 2005 level. In FY2007, we reduced waste generation by 17.1% in unit requirement.

Waste production and unit requirement of waste (Yanmar Co., Ltd.)



Recycling rate



Recycling of Abandoned FRP Boats

It is difficult to dispose of FRP boats ¹ because of their high strength, which is one of the reasons why the number of illegally abandoned FRP boats is increasing. Unlike fishing boats that can be handled as industrial waste, pleasure boats are treated as general waste when put to disuse. This makes it difficult to dispose of these boats because of the poor availability of disposal routes.

Considering these circumstances, the Japan Boating Industry Association launched a project to establish an FRP boat recycling system. Because of their effort, the category of "abandoned FRP boat" was added to the scope of exceptions in the disposal of general waste in September 2005, and the FRP boat recycling system started operation in November of the same year. Companies that disassemble ships are in charge of the rough disposal of abandoned FRP boats, and the final recycling of the materials from the boats is handled by cement companies.

Actively participating in this system, the Yanmar Group readily fulfills its role as an FRP boat manufacturer in terms of EPR ² by promoting the appropriate disposal of FRP boats as part of our effort to form a recycling society and prevent illegal dumping.

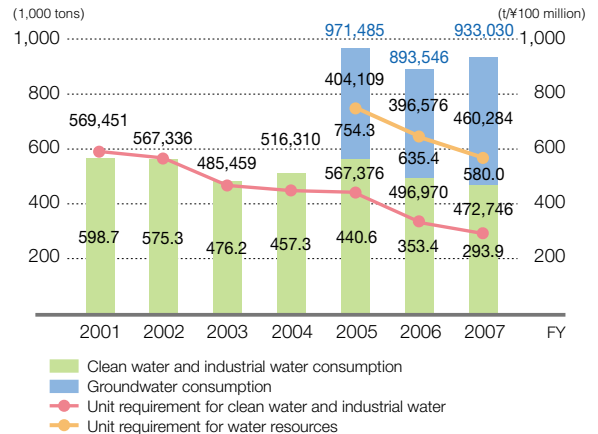
¹ FRP boat: FRP (fiber reinforced plastics) greatly strengthens the body of a boat and generally ensures a durability of over 30 years. The fibers used are glass fibers or carbon fibers. FRP boats are made by molding FRP.

² EPR: extended product responsibility

Reduction in Water Resource Consumption

Our active promotion of the recycling of water and the reuse of rainwater for plants has allowed us to reduce water resource consumption by 23.1% relative to the standard level of 2005 in unit requirement, with about 38,455 tons of water consumed for FY 2007.

Water consumption and unit requirement for water consumption (Yanmar Co., Ltd.)



Measurement of groundwater consumption started in FY2005.

Appropriate Management of Chemical Substances

Legal Compliance and Prevention of Pollution

The Yanmar Group aggressively pursues the appropriate management and reduction of chemical substances according to applicable laws and regulations, including the PRTR Act, in order to avoid environmental risks associated with production activities. We annually submit reports on the amounts of PRTR-controlled substances emitted or moved with respect to our business activities.

All plants of Yanmar strictly practice the appropriate storage, management and notification of PCB-containing equipment, including capacitors, in accordance with the PCB Special Measures Act and the Waste Disposal Act.

PRTR Act = Act concerning the reporting, etc., of the release into the environment of specific chemical substances, and the promotion of improvement to the management of the substances

No. of PCB equipment items at Yanmar Co., Ltd. plants

Div.	Shiga Zone	Amagasaki Plant	Tsukaguchi Plant	R&D Center	Head Office	Total
PCB equipment items	919	204	2	0	0	1,125

No. of PCB equipment items at Yanmar Group companies

Company name	Yanmar Agricultural Machinery Manufacturing	Seirei Industry	Kanzaki Kokyukoki Mfg	Yanmar Energy System	Yanmar Construction Equipment	Matsue Div. of Yanmar Casting Technology	Koga Div. of Yanmar Casting Technology	New Delta Industrial	Subtotal
PCB equipment items	2	427	54	88	0	2	23	1	597

Yanmar's Consumption of Chemicals Covered under the PRTR Act

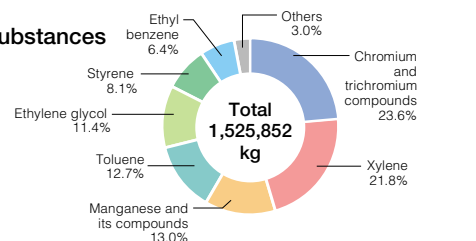
Reg. no.	Names of Chemicals	Yanmar Co., Ltd.	Yanmar Agricultural Machinery Manufacturing	Seirei Industry	Kanzaki Kokyukoki Mfg	Yanmar Energy System Mfg	Yanmar Construction Equipment	YMR Shipbuilding	Matsue Div. of Yanmar Casting Technology	Koga Div. of Yanmar Casting Technology	New Delta Industrial	Total
1	Water soluble zinc compounds	112	444	2,085	0	0	1,488	0	0	0	0	4,129.3
16	2-aminoethanol	999	0	0	0	0	0	0	0	0	0	998.5
24	Straight chain alkyl Benzenesulfonic acid and its salt form	2	0	0	0	0	0	0	0	0	0	1.8
25	Antimony and its compounds	0	0	0	0	0	0	0	1,257	3,560	0	4,817.1
30	Bisphenol A epoxy resins	59	0	876	0	0	0	0	3	0	0	938.3
40	Ethyl benzene	43,784	3,927	17,061	298	0	28,713	54	429	0	3,870	98,137.2
43	Ethylene glycol	35	80,444	3,990	0	88,886	5	0	0	0	0	173,360.0
61	Epsilon-caprolactam	0	0	0	0	0	0	0	0	0	0	0.0
63	Xylene	180,654	16,629	77,390	1,288	0	49,793	72	1,222	0	5,710	332,757.8
68	Chrome and trivalent chromium compound	0	0	0	0	0	0	0	302,802	57,100	0	359,901.5
69	Hexavalent chromium compound	11	0	0	0	0	131	0	0	0	0	142.5
101	Ethylene glycol monoethyl ether acetate (acetate 2-etoxyethyl)	23	0	0	0	0	0	0	0	0	0	23.3
113	1,4-dioxane	0	0	0	0	0	0	0	437	0	0	436.5
145	Dichloromethane (ethylene dichloride)	0	62	0	0	0	0	0	0	0	0	62.2
176	Organic tin compound	0	18	17	14	0	587	0	0	0	0	636.8
177	Styrene	0	0	0	0	0	0	123,442	0	0	0	123,442.0
224	1,3, 5-trimethylbenzene	2,455	2,205	1,144	0	0	3,827	0	157	0	0	9,788.2
227	Toluene	87,486	38,011	26,468	3,134	0	27,829	1	4,887	0	5,883	193,697.8
230	Lead and its compounds	58	0	0	0	0	641	0	0	0	0	698.9
231	Nickel	0	0	0	0	0	0	0	0	187	0	187.0
232	Nickel compound	0	47	38	0	0	187	0	0	0	0	272.5
243	Barium and its water-soluble compound	0	0	0	0	0	0	0	23	550	0	572.5
253	Hydrazine	95	0	0	0	0	0	0	0	0	0	95.0
266	Phenol	0	0	0	0	0	0	0	16,805	0	0	16,804.8
270	Phthalic acid di-N-butyl	132	14	3	0	0	31	0	0	0	0	179.9
272	Phthalic acid bis (2-ethylhexyl)	78	0	0	0	0	0	0	0	0	0	78.0
279	2-(4-tert-butylphenoxy)cyclohexyl=2 propynyl=sulfate	0	28	0	0	0	0	0	0	0	0	28.1
299	Benzene	0	369	0	0	0	0	0	0	0	0	369.4
304	Boron and its compounds	76	0	0	0	0	0	0	0	0	0	76.0
307	Polyoxyethylene=alkylphenylether	216	0	307	0	0	0	0	0	0	0	522.8
309	Polyoxyethylene=nonylphenylether	102	0	305	207	0	0	0	0	0	0	613.5
310	Formaldehyde	0	0	147	0	0	0	0	4	0	0	151.0
311	Manganese and its compounds	0	0	0	0	0	6,733	0	71,670	120,700	0	199,102.7
314	Methacrylic acid	0	0	0	0	0	0	3	0	0	0	3.0
346	Molybdenum and its compounds	14	9	6	0	0	0	0	118	2,680	0	2,826.4
	Total	316,391	142,207	129,838	4,941	88,886	119,966	123,572	399,812	184,777	15,463	1,525,852.2

Reduction in Chemical Substance Emission

The Yanmar Group is reducing the consumption and emission of PRTR-controlled substances and voluntarily banned some substances as part of its effort to develop environmentally-friendly products and reduce environmental risks. Although the amount of PRTR-controlled substances used in FY2007 increased by 542 t (55%) in total relative to the standard level of 2001, the consumption was a 2.3% reduction in unit production volume. We continue to seek for and use alternative materials instead of substances that have been banned voluntarily, or through regulations.

For wastewater discharged to rivers and sewer systems, we check the water quality of the effluent water every week according to our own standards, which are stricter than legal regulations, so as to ascertain the conditions of any potential pollution from chemical substances. In response to the revised Clean Air Act (enacted in 2006), we are actively involved in reducing the emission of volatile organic compounds (VOC) used mainly in coating processes.

Use of PRTR substances



(Unit: kg)

Environmental Conservation Activities

Environmental Conservation in Distribution

Improvement of Shipping Efficiency

The Yanmar Group works with Yanmar Logistics Service Co., Ltd., which is in charge of product shipping for our Group, to promote the rationalization of distribution so as to realize Group-wide reductions in environmental loads.

The revision of the Energy Saving Act in April 2006 requires every merchant to put effort into saving energy. The Yanmar Group assigns Energy Saving Officers at Yanmar sites and transport companies to quantitatively check and monitor the distribution loads of the Group activities, including consigned distribution, and develops and promotes energy saving programs.

Promotion of Modal Shift

The Yanmar Group expedites "modal shift" that switches means of transport from trucking to freight trains and ships to reduce CO₂ emission from shipping activities.



Transportation of engines in JR containers

Reduced Consumption of Packing and Packaging Materials

Yanmar has been aggressively striving to improve its packing and packaging methods since 1978. In 1995, the Group introduced the full-scale use of "exposed" shipping and returnable pallets using almost no packing materials, and completed improvements to its transportation methods in 2001.

We also abandoned the use of disposable wooden crates and cardboard for packaging, thereby helping save wood resources.

Activities in Our Offices

Green Purchasing

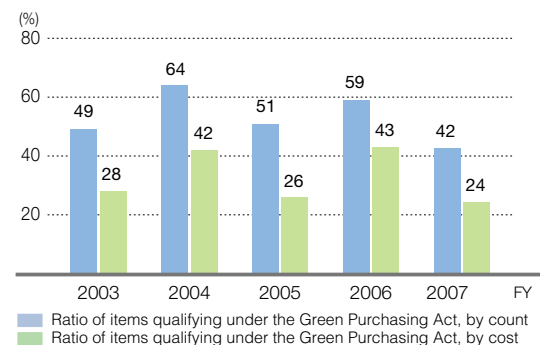
A member of the Green Purchasing Network of the Japan Environment Association, the Yanmar Group promotes green purchasing that favors products with less environmental load, such as Eco Mark products, when purchasing office supplies.

We use the "Benri Net", an electronic purchasing system, to increase the ratio of ecologically conscious products that we purchase, and we are encouraging Group companies to do the same. This system was introduced with the goal of improving the efficiency of purchasing operations and ensuring the proper selection of purchased items.

Yanmar spent ¥7.2 million on green purchasing for FY2007 with a green purchasing ratio of 24%. The green purchasing ratio dropped by 19 points from the previous year because of the drop in the mixing ratio of used paper in recycled paper. Yanmar continues striving to realize further improvements to its green purchasing ratio.

Benri Net is an electronic purchasing system operated by Net Kokuyo Co., Ltd.

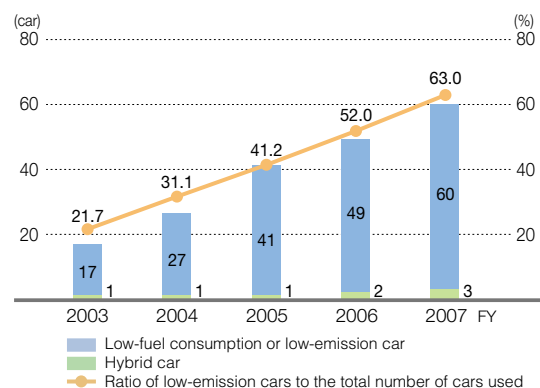
Green purchasing ratio (Yanmar Co., Ltd.)



Introduction of Low-emission Vehicles

The Yanmar Group is systematically shifting to low-emission vehicles such as low-emission gas or hybrid cars for company cars and sales personnel cars. The ratio of low-emission vehicles in FY2007 was 63%, and Yanmar continues to introduce more low-emission vehicles into its fleet.

Introduction of low-emission cars (Yanmar Co., Ltd.)



Environmental Communication

The Yanmar Group actively joins and supports events and exhibitions related to the environment to publicize our environmental conservation efforts and promote communication with the public on various environment-related themes.

Environmental Exhibitions

Exhibits at the Lake Biwa Environmental Business Messe 2007

Yanmar exhibited our products at the environmental industrial fair, the 10th Lake Biwa Environmental Business Messe 2007, held at Nagahama City in Shiga Prefecture, from October 24 to 26, 2007. We have joined the exhibition every year since its start and received an award for our participation for 10 consecutive years. At the Yanmar booth, we displayed a "Lake Biwa Map Panel", showing the locations of joint research sites and Yanmar's plants and laboratories in Shiga Prefecture, and presented our research projects including, power generation by gasification of wood-based biomass (a joint research project with Higashiomi City, Shiga Prefecture) and the biodiesel cogeneration project (joint research with Takashima City). Yanmar's new environmental techniques presented here successfully impressed Yanmar as an environment-oriented company growing with the local community.



The 10th Lake Biwa Environmental Business Messe 2007

Participates in the 27th National Convention for Rich Sea Making

Yanmar and Yanmar Marine System set up our booth in the venue of the 27th National Convention for Rich Sea Making held at Otsu City, Shiga Prefecture, from November 10 to 11, 2007. The convention is intended to enhance public awareness of the maintenance and cultivation of marine resources and the environmental conservation of the sea and lakes. At our booth, various activities and presentations concerning Yanmar's effort to tackle environmental problems were carried out, including the distribution of oil sponge samples to visitors, the display of a live aquarium and a machine to process marine residue, as well as a panel presentation on techniques compatible with biofuels.

On the November 11, when the Emperor and Empress were present, bumper catch flags, donated by Yanmar, were seen waving in a big way during the lake parade aboard fishing boats and governmental boats, and offshore scoop net boats to catch sweetfish, powered by Yanmar engines, appeared during a traditional fishing demonstration. This convention provided Yanmar with an opportunity to promote our commitment to contributing to the local community and living in harmony with Lake Biwa.



National Convention of Rich Sea Making

Sponsorship

Earth Day Tokyo 2008

Yanmar participated in the Earth Day Tokyo 2008 held at Yoyogi Park, Tokyo, on April 19 and 20, 2008. This participation, the second for Yanmar, is part of our effort to realize a resource-recycling society. Earth Day is a global-scale event to increase awareness of the importance of our planet Earth with April 22 set as the "day when we act while thinking about Earth." Initiated in the latter half of the 1960s in the USA, Earth Day is now celebrated in about 140 countries worldwide. In Japan, various events are held at 22 locations on this day.

On this day, Yanmar provided diesel power generators, generated power using biodiesel fuels made from recovered cooking oil waste, and supplied the generated power for the venue. We also set up a booth to present our environmental preservation activities and our experiment to demonstrate biofuels conducted in and outside Japan. Brochures for the eco drive campaign were also distributed to visitors. Since one of the themes of the Earth Day event was "agriculture," a compact tiller (QT30) was on display attracting the attention of many visitors.



Earth Day Tokyo 2008

Report




Participation in Earth Day 2008

Most visitors to Earth Day Tokyo 2008 were citizens with high awareness of environmental issues, and the majority were in their 20s to 30s. When discussing with them, I was surprised that many, although young, had specific action plans for environmental conservation, which they had actually implemented. I also learned that the environmental activities of Yanmar were not well known to the general public. The environment is a theme directly connected to the future. I am willing to engage in further communication with people of various ages.



Shiro Misaki
Environmental Business Development Dept.,
Yanmar Co., Ltd.

● Yanmar Co., Ltd. Production Plants in Japan

	Biwa Plant	Yamamoto Plant	Kinomoto Plant
			
	Kawamichi-cho 1009-2 Nagahama, Shiga Pref.	Yamamoto 3198 Kohoku-cho Higashi Azai-gun, Shiga Pref.	Kuroda 650 Kinomoto-cho Ika-gun, Shiga Pref.
	Business Outline Integrated production (development, machining, assembly, test operation, painting, and shipping) of vertical WC diesel engines for use with farm machinery, construction equipment and industrial equipment in general; assembly of gas engines for air conditioning.	Business Outline Casting of aluminum alloy parts that are vital to the reduction of the weight of engines and other working machines.	Business Outline Assembly, operation, painting, and shipment of engines, primarily vertical water-cooled diesel engines; pressing, welding, and painting of major engine parts and tractor parts; and production of resin parts.

Input/Output	Item	Unit	Biwa Plant			Yamamoto Plant			Kinomoto Plant		
			Standard value	Voluntary value	Measured value	Standard value	Voluntary value	Measured value	Standard value	Voluntary value	Measured value
Energy consumption	Electricity	MWh			39,677			10,991			19,396
	Gasoline	kl			2			2			28
	Kerosene	kl			88			12			10
	Diesel oil	kl			120			10			26
	Bunker A	kl			378			1,134			846
	Town gas	1,000Nm ³			0			0			0
	LPG, etc.	t			2,088			5			43
Total	kl			13,583			3,961			5,888	
CO ₂ emission	t-CO ₂				22,194			7,304			9,912
	NOx	t			31.4			5.1			7.6
	SOx	t			1.3			3.9			2.9
Water consumption	Groundwater	t			65,340			15,730			123,420
	Industrial water	t			0			0			0
	Clean water	t			42,993			7,825			34,537
	Rainwater	t			0			0			0
Discharge (sewage)	t			49,481			900			35,426	
BOD emission	kg			1,296			2			39	
COD emission	kg			0			4			64	
Waste	Amount generated	t			1,038			549			471
	Amount disposed of	t			134			36			20

Water Quality	Discharge location	Item	Unit	Standard value			Voluntary value			Measured value			Standard value			Voluntary value			Measured value						
				Max.	Min.	Ave.	Max.	Min.	Ave.	Max.	Min.	Ave.	Max.	Min.	Ave.	Max.	Min.	Ave.	Max.	Min.	Ave.				
Discharged to Sewage Lines	pH	-	-	5 ~ 9	5.4 ~ 8	8	6.7	7.5	-	-	-	-	-	5 ~ 9	5.4 ~ 8	6.9	6.2	6.6	-	-	-	-	-		
				BOD	mg/L	600	480	100	1.3	26.2	-	-	-	-	-	600	480	2.7	0.5	0.8	-	-	-	-	-
				SS	mg/L	600	480	220	1.4	32.8	-	-	-	-	-	600	480	19	2.2	7.1	-	-	-	-	-
				Oil content	mg/L	5	4	1.0	0.5	0.5	-	-	-	-	-	5	4	3.8	0.5	1.0	-	-	-	-	-
				T-N	mg/L	60	48	46	3.5	21.5	-	-	-	-	-	60	48	32	5.9	23	-	-	-	-	-
				T-P	mg/L	10	8	5.3	0.01	1.44	-	-	-	-	-	10	8	0.11	0.01	0.05	-	-	-	-	-
Discharged to Rivers	pH	-	-	-	-	-	-	-	6.0 ~ 8.5	6.2 ~ 8.2	7.6	6.7	7.3	6.0 ~ 8.5	6.2 ~ 8.2	7.8	6.8	7.2	-	-	-	-	-		
				BOD	mg/L	-	-	-	-	-	30	24	20	0.5	2.6	30	24	3.2	0.5	1.1	-	-	-	-	-
				COD	mg/L	-	-	-	-	-	30	24	84	0.5	4.4	30	24	4.2	0.5	1.8	-	-	-	-	-
				SS	mg/L	-	-	-	-	-	70	56	7.4	1.0	1.4	70	56	6.0	1.0	2.2	-	-	-	-	-
				Oil content	mg/L	-	-	-	-	-	5	4	1.8	0.5	0.7	5	4	1.8	0.5	0.7	-	-	-	-	-
				T-N	mg/L	-	-	-	-	-	12	9.6	0.9	0.2	0.6	12	9.6	1.0	0.6	0.75	-	-	-	-	-
T-P	mg/L	-	-	-	-	-	1.2	0.96	0.2	0	0	1.2	0.96	0.08	0.02	0.04	-	-	-	-	-				

Air Quality	Item	Unit	Facilities			Standard value			Voluntary value			Measured value		
			Facilities	Standard value	Voluntary value	Measured value	Facilities	Standard value	Voluntary value	Measured value	Facilities	Standard value	Voluntary value	Measured value
NOx	ppm		Boiler (Kerosene)	Not regulated		38	Metal melting furnace (Bunker)	180	108	<18	Boiler (Bunker A)	180 ~ 250	108 ~ 150	79
			Boiler (LNG)	150	90	39	-	-	-	-	Dry kiln	230	138	<10
			Co-Gen(LNG)	600	360	250	-	-	-	-	-	-	-	-
SOx	Nm ³ /h		Boiler (Kerosene)	4.65	2.79	<0.01	Metal melting furnace (Bunker)	0.37	<0.03	<0.03	Boiler (Bunker A)	1.16 ~ 8.13	0.70 ~ 4.88	0.04
			Boiler (LNG)	7.35 ~ 8.09	4.40 ~ 4.90	<0.01	-	-	-	-	Dry kiln	1.23 ~ 1.79	0.74 ~ 1.07	<0.01
			Co-Gen(LNG)	0.65	0.40	<0.01	-	-	-	-	-	-	-	-
Soot particles	g/Nm ³		Boiler (Kerosene)	Not regulated		<0.01	Metal melting furnace (Bunker)	0.20	0.12	<0.01	Boiler (Bunker A)	0.3	0.18	<0.01
			Boiler (LNG)	0.10	0.06	<0.01	-	-	-	-	Dry kiln	0.2	0.12	<0.01
			Co-Gen(LNG)	0.05	0.03	<0.01	-	-	-	-	-	-	-	-

Noise Level	Time	Unit	Standard value			Voluntary value			Measured value		
			Standard value	Voluntary value	Measured value	Standard value	Voluntary value	Measured value	Standard value	Voluntary value	Measured value
dB(A)	Morning	dB(A)	65	63	55.8	60	58	52	65	63	58
	Day time		70	68	59.1	65	63	59	70	68	62
	Evening		70	68	59.0	65	63	59	70	68	60
	Night		60	58	57.6	55	53	52	60	58	57

Vibration Level	Time	Unit	Standard value			Voluntary value			Measured value		
			Standard value	Voluntary value	Measured value	Standard value	Voluntary value	Measured value	Standard value	Voluntary value	Measured value
dB(A)	Day time	dB(A)	-	-	-	-	-	-	70	56	30
	Night		-	-	-	-	-	-	65	52	30

Nagahama Site



Sanwa-cho 7-35 Nagahama,
Shiga Pref.

Business Outline

Engine development and testing, and service as a distribution center for the products of six factories in the Shiga Zone.

Omori Plant



Shigenori 354 Takatsuki-cho
Ika-gun, Shiga Pref.

Business Outline

Integrated production (machining, assembly, test operation, shipping) of Fuel Oil injection pumps, a key component of a diesel engine.

Nagahara Plant



Sho 18 Nishi-azai-cho
Ika-gun, Shiga Pref.

Business Outline

Integrated production (machining, assembly, test operation, shipping) of Fuel Oil injection nozzles, a key component of a diesel engine.

Input/Output	Category	Unit	Nagahama Site			Omori Plant			Nagahara Plant		
			Value	Value	Value	Value	Value	Value	Value	Value	Value
Energy consumption	Electricity	MWh	8,374			12,971			7,498		
	Gasoline	kl	41			1			4		
	Kerosene	kl	18			1			1		
	Diesel oil	kl	650			5			4		
	Bunker A	kl	190			106			182		
	Town gas	1,000Nm ³	296			0			0		
	LPG, etc.	t	0			72			6		
Total	kl	3,324			3,497			2,101			
CO ₂ emission	t-CO ₂		6,139			5,425			3,367		
	NOx	t	25.7			4.1			2.5		
Air poll- utants	SOx	t	0.7			0.4			0.6		
	Water consumption	Groundwater	t	184,646			67,760			3,388	
Industrial water		t	0			0			0		
Clean water		t	62,772			4,199			5,198		
Rainwater		t	0			0			0		
Discharge (sewage)	t	32,780			22,331			-			
	BOD emission	kg	33			51			9		
COD emission	kg	69			78			14			
	Waste	Amount generated	t	636			507			412	
Amount disposed of		t	7			4			4		

Water Quality	Discharged to Sewage Lines	pH	BOD	SS	Oil content	T-N	T-P	Standard value			Voluntary value			Measured value																																																																							
								Max.	Min.	Ave.	Max.	Min.	Ave.	Max.	Min.	Ave.																																																																					
Discharged to Rivers	pH	-	6.0~8.5	6.2~8.2	8.2	7.3	7.5	6.0~8.5	6.2~8.2	7.8	6.7	7.3	6.0~8.5	6.2~8.2	7.5	7.0	7.3																																																																				
																		BOD	mg/L	20	4	2.4	0.5	1.0	30	24	27	0.5	2.3	40	32	5.1	0.5	1.1																																																			
																																			COD	mg/L	20	16	3.8	1.0	2.0	30	24	24	0.5	3.5	40	32	4.4	0.5	1.6																																		
																																																				SS	mg/L	70	4	6.4	1.0	1.6	70	56	15	1.0	2.3	90	72	3.0	1.0	1.3																	
																																																																					Oil content	mg/L	5	4	2.0	0.5	0.8	5	4	2.5	0.5	1.0	5	4	2.0	0.5	0.8
	T-P	mg/L	0.8	0.64	0.12	0.07	0.09	1.2	0.96	0.2	0	0.1	1.5	1.2	0.08	0.02	0.04																																																																				



Air Quality	Facilities	Standard value	Voluntary value	Measured value	Facilities	Standard value	Voluntary value	Measured value	Facilities	Standard value	Voluntary value	Measured value
-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	Boiler (Bunker A)	7.62	4.57	0.03	
SOx	Nm ³ /h	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	Boiler (Bunker A)	Not regulated	
Soot particles	g/Nm ³	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-

Noise Level	Standard value	Voluntary value	Measured value	Standard value	Voluntary value	Measured value	Standard value	Voluntary value	Measured value
Day time	65	63	59	70	68	49.6	65	63	52.8
Evening	65	63	49	70	68	49.3	65	63	50.3
Night	55	53	48	60	58	47.7	55	53	48.2

Vibration Level	Standard value	Voluntary value	Measured value	Standard value	Voluntary value	Measured value	Standard value	Voluntary value	Measured value
Night	-	-	-	-	-	-	-	-	

Value calculated from the total water consumption because of lack of discharge data.

● Yanmar Co., Ltd. Production Plants in Japan

	Amagasaki Plant	Tsukaguchi Plant
		
	Higashi-dori 1-1-1 Nagasu, Amagasaki	Honcho 5-3-1 Tsukaguki, Amagasaki
	Business Outline Integrated production (machining to test operation) of main and auxiliary marine engines, large industrial diesel and gas engines, and gas turbines.	Business Outline Integrated production (machining to test operation) of main and auxiliary marine engines, as well as land and industrial engines, gas engines, and compressors.

Input/Output	Category	Unit	Amagasaki Plant		Tsukaguchi Plant	
			Value	Unit	Value	Unit
Energy consumption	Electricity	MWh	15,511		6,045	
	Gasoline	kl	5		7	
	Kerosene	kl	236		2	
	Diesel oil	kl	154		312	
	Bunker A	kl	4,251		907	
	Town gas	1,000Nm ³	1,029		73	
	LPG, etc.	t	0.2		0	
	Total	kl	9,692		2,841	
CO ₂ emission	CO ₂ emission	t-CO ₂	20,523		5,731	
	NOx	t	142.4		12.1	
	SOx	t	6.7		1.5	
Water consumption	Groundwater	t	0		0	
	Industrial water	t	152,065		22,698	
	Clean water	t	128,682		11,777	
	Rainwater	t	0		-	
	Discharge (sewage)	t	280,747		34,475	
BOD emission	BOD emission	kg	1,965		100	
	COD emission	kg	-		0	
Waste	Amount generated	t	968		91	
	Amount disposed of	t	68		14	

Water Quality	Discharge location	Parameter	Unit	Standard value			Voluntary value			Measured value					
				Max.	Min.	Ave.	Max.	Min.	Ave.	Max.	Min.	Ave.			
Discharged to Sewage lines	pH	-	-	5.7~8.7	6.2~8.2	7.0	6.8	6.9	5.7~8.7	5.9~8.5	8.1	7.1	7.75		
				BOD	mg/L	-	-	-	-	-	300	200	7.1	1.3	2.9
				SS	mg/L	300	10	8.3	2.5	4.5	300	200	11.4	1.0	4.39
				Oil content	mg/L	35	10	8.8	1.0	2.7	35	4.5	1.6	< 1	1.0
				Water temperature		40	30	31	19	24	40	30	30.2	10	23.2
				Discharged to Rivers	pH	-	-	-	-	-	-	-	-	-	-
BOD	mg/L	-	-					-	-	-	-	-	-	-	
COD	mg/L	-	-					-	-	-	-	-	-	-	
SS	mg/L	-	-					-	-	-	-	-	-	-	
Oil content	mg/L	-	-					-	-	-	-	-	-	-	
T-N	mg/L	-	-					-	-	-	-	-	-	-	
T-P	mg/L	-	-	-	-	-	-	-	-	-					

Air Quality	Facilities	Standard value	Voluntary value	Measured value	Facilities	Standard value	Voluntary value	Measured value
NOx	Boiler (Bunker A)	150 ~ 250	75 ~ 200	63	Boiler (Bunker A)	180 ~ 250	75 ~ 100	63.8
		-	-	-		-	-	-
		-	-	-		-	-	-
SOx	Boiler (Bunker A)	0.15	2	0.012	Boiler (Bunker A)	0.11 ~ 0.24	0.02 ~ 0.05	0.009 ~ 0.037
		-	-	-		-	-	-
		-	-	-		-	-	-
Soot particles	Boiler (Bunker A)	0.05 ~ 0.30	0.03 ~ 0.08	0.012	Boiler (Bunker A)	0.3	0.01 ~ 0.10	0.02
		-	-	-		-	-	-
		-	-	-		-	-	-

Noise Level	Time	Unit	Standard value			Voluntary value			Measured value		
			Max.	Min.	Ave.	Max.	Min.	Ave.	Max.	Min.	Ave.
dB(A)	Morning	dB(A)	70	67	62	70	65	60	70	65	60
	Day time		70	67	67	70	65	62	70	65	62
	Evening		70	67	62	70	65	61	70	65	61
	Night		60	57	61	60	55	55	60	55	55

Vibration Level	Time	Unit	Standard value			Voluntary value			Measured value		
			Max.	Min.	Ave.	Max.	Min.	Ave.	Max.	Min.	Ave.
dB(A)	Day time	dB(A)	65	62	43	-	-	-	-	-	-
	Night		60	57	34	-	-	-	-	-	-

● Related Companies in Japan

	Yanmar Agricultural Machinery Manufacturing Co., Ltd.	Okayama Site of Seirei Industry Co., Ltd.	Kochi Site of Seirei Industry Co., Ltd.	Kanzaki Kogyukoki Mfg. Co., Ltd.	Yanmar Energy System Mfg. Co., Ltd.
	931 Noishiki Maibara, Shiga Pref.	428 Enami Okayama, Okayama Pref.	203 Satokaida Nangoku, Kochi Pref.	2-18-1 Inadera Amagasaki, Hyogo Pref.	383-2 Saidaijishinchi Okayama, Okayama Pref.
	Business Outline Manufacture of tractors and transmissions for tractors.	Business Outline Manufacture of agricultural machines including compact and medium-sized combines, binders, tillers, vegetable transplanters, and vegetable harvesters.	Business Outline Manufacture of agricultural machines including medium and large-sized combines, self-traveling threshers, and hullers.	Business Outline Manufacture of gears, machine tools, hydraulic equipment, transmissions and marine gears.	Business Outline Manufacture of GHP outdoor units, micro gas co-generators, and package generators.

Input/Output	Unit	Value					
		Yanmar Agricultural Machinery Manufacturing Co., Ltd.	Okayama Site of Seirei Industry Co., Ltd.	Kochi Site of Seirei Industry Co., Ltd.	Kanzaki Kogyukoki Mfg. Co., Ltd.	Yanmar Energy System Mfg. Co., Ltd.	
Energy consumption	Electricity	MWh	12,489	5,276	8,420	16,933	1,012
	Gasoline	kl	101	63	10	14	0.4
	Kerosene	kl	10	104	82	40	0
	Diesel oil	kl	14	39	79	0	0
	Bunker A	kl	1,080	0	170	23	180
	Town gas	1,000Nm ³	0	1,173	0	673	0
	LPG, etc.	t	566	161	310	11	21
Cokes	t	0	0	0	0	0	
Total	kl	5,103	2,983	2,872	5,096	467	
CO ₂ emission	t-CO ₂	9,646	5,425	5,005	8,030	927	
	NOx	t	19.9	3.3	3.2	5.5	6.2
	SOx	t	2.0	0	0.2	0.3	0
Water consumption	Groundwater	t	-	0	506,633	0	0
	Industrial water	t	0	0	0	0	0
	Clean water	t	43,545	49,031	2,676	56,804	3,359
	Rainwater	t	-	0	0	2,145	0
	Discharge (sewage)	t	25,219	23,187	509,309	56,804	3,359
BOD emission	kg	30	63	884	6,419	-	
COD emission	kg	121	218	1,223	0	-	
Waste	Amount generated	t	1,031	287	660	417	34
	Amount disposed of	t	198	237	358	26	2

	Yanmar Construction Equipment Co., Ltd.	Yanmar Shipbuilding & Engineering Co., Ltd.	Matsue Division of Yanmar Casting Technology Co., Ltd.	Koga Division of Yanmar Casting Technology Co., Ltd.	New Delta Industrial Co., Ltd.
	1717-1 Oaza Kumano Chikugo, Fukuoka Pref.	3286-3 Itoharu Musashimachi Kunisaki, Oita Pref.	960 Yahata-cho Matsue, Shimane Pref.	360 Kojibukuro Konan, Shiga Pref.	767 Umema Mishima, Shizuoka Pref.
	Business Outline Development, production, service and sale of compact construction equipment and general-purpose products.	Business Outline Production of pleasure boats, business boats, FRP, floating piers, sea water filtering equipment, aquariums, amusement facility-related equipment, wind power generator blades, and FRP molds.	Business Outline Manufacture and processing of core parts of diesel engines for marine and land use and industrial machine parts.	Business Outline Manufacture of cast iron cylinder blocks and cylinder heads and production of aluminum casting.	Business Outline Manufacture and sale of agricultural equipment, industrial high-pressure pumps and blowers.

Input/Output	Unit	Value					
		Yanmar Construction Equipment Co., Ltd.	Yanmar Shipbuilding & Engineering Co., Ltd.	Matsue Division of Yanmar Casting Technology Co., Ltd.	Koga Division of Yanmar Casting Technology Co., Ltd.	New Delta Industrial Co., Ltd.	
Energy consumption	Electricity	MWh	15,470	926	8,067	19,871	1,426
	Gasoline	kl	2	7	2	0	8
	Kerosene	kl	81	1	19	10	0
	Diesel oil	kl	257	35	40	139	3
	Bunker A	kl	122	34	1,240	113	0
	Town gas	1,000Nm ³	0	0	0	0	195
	LPG, etc.	t	906	33	860	600	0
Cokes	t	0	0	2,061	5,152	0	
Total	kl	5,551	353	6,071	10,077	579	
CO ₂ emission	t-CO ₂	9,774	649	15,847	26,753	972	
	NOx	t	0	0.3	45.4	12.8	0.5
	SOx	t	0	0	22.3	51.9	0
Water consumption	Groundwater	t	35,226	0	0	-	40,831
	Industrial water	t	0	0	20,636	0	0
	Clean water	t	25,114	3,672	13,678	33,201	2,175
	Rainwater	t	0	0	0	0	0
	Discharge (sewage)	t	28,554	3,672	34,314	-	43,000
BOD emission	kg	-	-	395	76	69	
COD emission	kg	-	59	395	129	232	
Waste	Amount generated	t	1,204	163	7,111	22,000	56
	Amount disposed of	t	70	102	4,795	1,946	1

Value calculated from the total water consumption because of lack of discharge data.

History of Yanmar Group Environmental Activities

	Yanmar Group Activities	Events in Japan and around the World
1993		Basic Environmental Law established.
1994	Environmental Division established. Yanmar Global Environment Committee established. First Global Environment Committee held.	Waste Disposal Law revised. Environment Basic Plan guidelines established.
1995	Yanmar Global Environmental Charter established and distributed. Environmental voluntary plan submitted to MITI. Environmental Preservation Basic Rule and organization implementation rules established.	Foul Odor Control Law revised. Containers and Packing Recycling Law established.
1996	Standard for selecting and displaying resin parts established. Environmental Preservation Activities Mid-Term Plan (1996-2000) formulated.	Air Pollution Control Law revised. ISO 14001 Standard issued. Water Pollution Control Law revised.
1997	Large Power Products Operations Division certified under ISO14001.	New Energy Use Special Measures Law (RPS Law) established. Environmental Impact Assessment Law established. Kyoto Protocol adopted.
1998	Six plants of the Power System Operations Division certified under ISO14001. Participated in the 1st Lake Biwa Environmental Business Messe. Three plants of Seirei Industry Co. Ltd. certified under ISO14001.	Energy Saving Law revised. Electric Appliance Recycling Law established. Global Warming Prevention Law established.
1999	Three plants of Kanzaki Kokyukoki Mfg. Co. Ltd. certified under ISO14001. Recycling goals established for major products. Showa Precision Machinery Co., Ltd. certified under ISO14001.	Dioxin Special Measures Law established. Toxic Substance Control Law, (PRTR), established.
2000	Voluntary Action Plan submitted to Kansai Economic Federation. Annual Environmental Report 2001 Edition posted on company website. Environmental accounting approach introduced. The 2nd Stage Environmental Preservation Mid-Term Plan formulated (2001-2005). Environmental Performance Assessment Standard for Products formulated (recycling, etc.).	Green Procurement Law established. Construction Recycling Law established. Recycling Society Formation Basic Law established. Food Recycling Law established. Resources Recycling Law revised.
2001	Full-scale rationalization of packing and wrapping. The 1st Group Environmental Coordination Meeting held.	Environment Ministry inaugurated. PCB Special Measures Law established. Freon Recovery and Destruction Law enacted.
2002	Purchasing Division begins green procurement. All production sites abolished the use of organic chlorine-based compounds. The 1st Group Global Environmental Committee held. Yanmar Group arranged measures to comply with PRTR law. Yanmar Global Environmental Charter revised to the Group Global Environmental Charter. Yanmar Environmental Report posted on the website.	Soil Pollution Control Law established. Automobile NOx / PM Regulation revised. Law on Waste Disposal and Cleaning revised. The Basic Environment Law revised. Global Warming Prevention Law revised. End-of-Life Automobile Recycling Law established. Oil Alternative Energy Law revised. New Energy Use Special Measures Law (RPS Law) revised.
2003	Green Procurement Guidelines established. The 2nd Group Global Environmental Committee held. YADIN and Matsue Diesel certified under ISO 14001.	Law on Waste Disposal and Cleaning revised. Chemical Assessment Law revised. Fire Defense Law revised. Environmental Education Law established.
2004	New Delta Industrial Co., Ltd. and Yanmar Energy System Mfg. Co., Ltd. certified under ISO 14001. The 3rd Group Global Environmental Committee held. The 1st Product Sub-committee held. Yanmar Global Environmental Committee integrated to Yanmar Group Global Environmental Committee. Yanmar Agricultural Equipment Co., Ltd. certified under ISO9001 and ISO 14001 concurrently.	POPs Treaty put into effect. Law on Waste Disposal and Cleaning revised. Air Pollution Control Law revised. Environment-conscious Promotion Law established. ISO14001 Standard revised.
2005	Yanmar Group Management Philosophy revised as a mission statement. Environmental Vision 2012 formulated. Yanmar Group 2nd Stage Environmental Preservation Mid-Term Plan formulated. The 4th Group Global Environmental Committee held. Full-scale Group activities get underway for the elimination of harmful substances. Environmental audit started.	Kyoto Protocol brought into effect. Law on Waste Disposal and Cleaning revised. Global Warming Prevention Law revised.
2006	YN Group expanded ISO 14001 certified area (Hokuto Yanmar, YN East Japan, and YN Kansai) Power System Operations Division expanded ISO 14001 certified area (Yanmar Logistics Service Co., Ltd.) Yanmar Shipbuilding & Engineering and Yanmar Sangyo certified under ISO 14001 The 5th Group Global Environmental Committee held. Usage regulations and rules for environmental burden materials established. Green Purchasing Guideline revised.	EU REACH regulations promulgated. Energy Saving Law revised.
2007	YN Group expanded ISO 14001 certified area. (Yanmar Agricultural Equipment Kanto and Yanmar Agricultural Equipment West Japan.) Yanmar Energy System Co., Ltd. and Yanmar Agricultural Equipment (China) Co., Ltd. certified under ISO 14001. The 6th Group Global Environmental Committee held. Yanmar Environmental & Social Report printed version issued. Green procurement survey started. Product LCA started. CSR organization established.	

Please direct inquiries about
this Environmental & Social Report to:

Planning Group
Corporate Social Responsibility Dept.

Yanmar Co., Ltd.

1-32 Chayamachi
Kita-ku Osaka 530-8311
Japan

TEL : 06-6376-6258
FAX : 06-6373-9272

<http://www.yanmar.co.jp/>

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