Mixed Sources

Product group from well-managed forests and other controlled sources

Waterless printing, which does not generate hazardous effluents, is adopted for this report. It is printed with volatile organic compound (VOC)-free inks on FSC-certified paper containing materials from properly managed forests.
In “Commitment by Top Management,” the Chairman We invited our customers and suppliers to a round-
issued by Japan’s Ministry of the Environment
On the feature pages, the Tokyo Electron Group’s Organizations covered: Tokyo Electron Group
Areas covered: Environment, society, and economy
We have prepared this environmental and social report
We will keep ownership in mind as we think things through, and engage in thorough implementation in order to achieve our goals.
We always have an awareness of problems, and tackle challenges with enthusiasm and a sense of responsibility.
We make decisions quickly, and do what we consider to be the best course of action.

TEL Values

Ownership
We will keep ownership in mind as we think things through, and engage in thorough implementation in order to achieve our goals.

Teamwork
We respect each other’s individuality and we place a high priority on teamwork.

Awareness
We must have awareness and accept responsibility for our behavior as respectful members of society.

Editorial Policy
We have prepared this environmental and social report to introduce our activities, in particular our environmen-
tal, health, and safety (EHS) activities, as intelligibly as possible. Key features of the report are as follows:

- In “Commitment by Top Management,” the Chairman and President of TEL express their opinions on what the semiconductor industry should do to protect the natural environment and solve the problems of socie-
ty as well as on the roles and missions that the Tokyo Electron Group should fill in the industry from a global perspective (see pages 4 and 5).
- On the feature pages, the Tokyo Electron Group’s business and products are explained in relation to the entire semiconductor manufacturing process in an easy-to-understand manner with the use of illus-
trations (see pages 6 and 7).
- We invited our customers and suppliers to a round-
table meeting, focusing on reducing the environmen-
tal impact caused by the semiconductor manufactur-
ing process, which is one of the main targets to be achieved by the semiconductor industry as part of its social responsibility (see pages 8 to 13).

In preparing this report, we referred to the Environmental Reporting Guidelines (Fiscal Year 2003 Version) issued by Japan’s Ministry of the Environment and to the 2002 Sustainability Reporting Guidelines published by the Global Reporting Initiative.

We hope that we can promote communication with all stakeholders of the Tokyo Electron Group through this report and incorporate their opinions into our future activities. We look forward to receiving your opinions and comments.

Scope of Reporting
- Organizations covered: Tokyo Electron Group
- Japan
  - Tokyo Electron Limited
  - Tokyo Electron AT Limited
  - Tokyo Electron Tokohoku Limited
  - Tokyo Electron TS Limited
  - Tokyo Electron Kyushu Limited
  - Tokyo Electron Technology Development Institute, Inc.
  - Tokyo Electron Software Technologies Limited
  - Tokyo Electron FE Limited
  - Tokyo Electron PIS Limited
  - Tokyo Electron BP Limited
  - Tokyo Electron Agency Limited
  - Tokyo Electron Device Limited United States
    - Tokyo Electron U.S. Holdings, Inc.
    - Tokyo Electron America, Inc.
    - Tokyo Electron Massachusetts, LLC.
    - TEL Technology Center, America LLC.
    - Europe
      - Tokyo Electron Europe Ltd.
      - Tokyo Electron Israel Ltd.
      - Asia
        - Tokyo Electron Korea Limited
        - Tokyo Electron Korea Solution Limited
        - Tokyo Electron Taiwan Limited
        - Tokyo Electron (Shanghai) Limited
        - Tokyo Electron (Shanghai) Logistic Center Limited
          (Company names as of August 2007) Period covered: Fiscal year (FY) 2007
          (April 1, 2006 to March 31, 2007) Areas covered: Environment, society, and economy

Environment and Safety Activities Milestones
- May 1994 Standardization, Environment and Safety Center (Environment, Health & Safety Center) established
- Apr. 1996 Environmental Subcommittee (Tokyo Electron Group EHS Committee) launched
- Dec. 1997 Sagami Plant acquires ISO 14001 certifica-
tion (and subsequently other plants also acquire the certification one after another)
- Sep. 1998 Tokyo Electron Group Credo and Principles on Environmental Preservation established
- Jun. 1999 “Health, Safety, and Environment” added to the Management Philosophy
- Apr. 2000 Environmental accounting introduced
- Apr. 2000 Unified safety training system “Safety 2000” implemented
- Oct. 2001 Environmental training introduced in facili-
ties not yet certified under ISO 14001
- Dec. 2002 Tokyo Electron Group Internal Assessment mutual auditing by environment or safety representatives from each facility started
- Oct. 2005 Energy-Conservation Task Force starts activities to promote energy-saving products
- May 2006 Tokyo Electron Group Credo and Principles on Environmental Preservation revised

Tokyo Electron Limited (TEL) summarized the values and codes of conduct of the Tokyo Electron Group as TEL Values in April 2006. We will share TEL values with all employees of the Group around the world, which will drive us toward new growth in the future.
Corporate Profile

Company name: Tokyo Electron Limited (TEL)

Address: TBS Broadcast Center, 3-6 Akasaka 5-chome, Minato-ku, Tokyo 107-8481, Japan
Tel.: +81-3-5561-7000

Established: November 11, 1963
Capital: ¥54,961,190,000 (as of May 1, 2007)

Main products: Semiconductor production equipment and flat panel display (FPD) production equipment

Employees: 1,015 (non-consolidated, as of May 1, 2007) 9,932 (consolidated, as of May 1, 2007)

Net Sales by Region (Consolidated) (%)

- Japan 36.8
- Taiwan 21.5
- Korea 14.4
- North America 12.4
- Europe 5.6
- China 4.7
- SE Asia 4.4
- Other 1.1

Net Sales and Ordinary Income (Consolidated) (Billions of yen)

- Year ended on March 31, 2007
  - Net sales: 673.6
  - Ordinary income: 75.9

HIGHLIGHT

- TEL's Products and Business
- Roundtable Meeting with Stakeholders
- Green Fab—Requirements for a Good Semiconductor Factory

MANAGEMENT REPORT

- Corporate Governance
- Compliance

EHS REPORT

- EHS Management
- EHS Activity Goals and Results
- Details of Environmental Impact/Environmental Accounting
- Product-Related Initiatives for the Environment
- Environmental Initiatives in Transportation
- Environmental Initiatives by Our Suppliers
- Plant and Office Initiatives for the Environment
- Health and Safety

SOCIAL REPORT

- Relationship with Employees
- Communicating with Society
- Comments from a Stakeholder
Commitment by Top Management

Development of Modern Civilization at the Expense of the Global Environment

I am afraid that the global environment is approaching a critical point in recent years. Looking back on our history, human beings have been approaching nature in two different ways. Some pursued sustainable development in harmony with nature while others just fought against nature. Especially in the modern age, people went to extremes to conquer nature and almost destroyed it. Particularly in the advanced countries, modern civilization has been developed at the expense of the global environment, and I am afraid that the earth’s capacity to replenish and repair itself is near its limit.

In turn, the development of modern civilization has, however, forced us to recognize the importance of the environment. For example, as a result of humankind achieving its dream of space flight, it has become possible for us to view the earth from an objective viewpoint outside the planet, and we are now widely aware that the earth is vulnerable even to minor risks.

It is becoming increasingly difficult to maintain the global environment in a stable manner, and so we have no time to waste: we must act rapidly to restore the global environment using the knowledge we have accumulated as our civilization has developed and the wisdom cultivated based on our experience of living in harmony with nature.

Providing Environment-Friendly, Cutting-Edge Manufacturing Process and Semiconductor Production Equipment in Response to the Increasing Role of Semiconductors

As a key to restoring the global environment, it is important to encourage the newly industrializing countries (NICs), who are involved in improving their economies and the living standards of their people, to pursue development in a way that will not further damage the environment. The center of semiconductor production is now shifting from the United States and Japan to the Asian region, and it will then shift to the NICs. When these countries develop the semiconductor industry in their countries, it is essential that they incorporate the concept of EHS (environment, health and safety) into their economic development to protect the environment, and I believe that it is the Tokyo Electron Group’s mission to provide these countries with environment-friendly and highly economical and productive semiconductor production equipment and technology.

It is also important to ensure the safety of our products. We will provide our customers with semiconductor production equipment together with the know-how needed to use the equipment in a safe manner.

We are now entering the era of the ubiquitous network society. In the future, devices utilizing semiconductor technologies will be more widely used in society, which will improve the efficiency of society and contribute to reducing environmental impact in its various aspects.

Semiconductor manufacturers are now attributing more importance to the design and development of software in order to manufacture next-generation semiconductors. Society is increasingly demanding that manufacturers of semiconductor production equipment and materials take charge of developing semiconductor manufacturing process technologies.

Tokyo Electron Group will further contribute to the creation of a society where people live in harmony with the global environment by providing environment-friendly, cutting-edge semiconductor manufacturing process technologies.

“As semiconductors and flat panel displays (FPDs) become part of the social infrastructure, the mission of semiconductor production equipment manufacturers is becoming increasingly important.”

Tetsuro Higashi
Chairman & CEO
Tokyo Electron Limited
I participated in the Davos meeting\(^1\) in January 2007. Many sessions focusing on global warming were held during the meeting, and I felt strongly that the problem is attracting a great deal of attention on a global scale. To solve the global warming problem, technology will play the most important role: I believe that drastic technological innovation will be necessary in solving the problem.

As for semiconductors, society expects us to supply semiconductor production equipment that enables semiconductor manufacturers to produce high-performance and highly environmentally efficient semiconductors at low cost. The semiconductors thus produced and used in electronic devices and automobiles will contribute to reducing the power consumed globally, and eventually to the solution of the global warming problem.

In the future, we intend to actively cooperate with companies whose efforts are contributing to reducing the power society consumes by providing energy-saving devices such as power semiconductor devices and solar panels.

One of the fundamental requirements in the development of more energy-saving semiconductor production equipment in our core business, and one that our developers are now widely aware of, is that we have to reduce the environmental impact caused by the equipment while it is in use. Based on this recognition, the design for safety is as important as environment.

It is also important to raise the environmental and safety standards of the entire industry. At the Davos meeting, I talked with some top executives of leading semiconductor production equipment manufacturers from overseas and we agreed on the necessity of giving active support to SEMI\(^2\) to share environment- and safety-related technologies across the industry.

---

\(^1\) Davos meeting: Annual meeting of the World Economic Forum held in Davos, Switzerland, where the world’s corporate managers, politicians, and economists gather to discuss global politics and economy

\(^2\) SEMI: Semiconductor Equipment and Materials International, an international industrial association of semiconductor/FPD production equipment and materials manufacturers

---

**The Mission of Tokyo Electron Group Is to Provide the Equipment to Manufacture High-Performance Semiconductors Efficiently**

Dramatically Improving the Performance of Our Equipment Will Eventually Contribute to the Growth of Developing Countries

Semiconductors will play an important role in the growth of the world’s developing countries. In the IT industry, which focuses on software, you can start up a business with a small investment. Also, a lot of people in developing countries will be able to learn regardless of distance and time if they use communication devices and technologies based on PCs, which use semiconductors. To this end, I believe it vital that we expand the use of semiconductors.

To achieve these objectives, however, semiconductor prices need to be reduced substantially, while semiconductor manufacturers, who are our customers, need to make a profit. In support of this, we will make strenuous efforts to improve the performance of semiconductor production equipment.

I am proud that TEL is part of the semiconductor industry, which can make a great contribution to society at large in the ways I have described here.

“We will support our customers in developing semiconductors by providing them with more energy-saving equipment.”

Kiyoshi Sato
President & COO
Tokyo Electron Limited
TEL’s Products and Business

We provide semiconductor and flat panel display (FPD) production equipment.

As a leading supplier of semiconductor production equipment, the Tokyo Electron Group has been developing, manufacturing, and selling a wide range of products since its foundation in 1963. The company also leverages specialized technologies developed for the semiconductor production equipment market to engage in the area of flat panel display (FPD) production equipment.

The manufacture of semiconductors and FPDs involves some 200 to 300 manufacturing steps, and for each of these steps, different types of production equipment are required. The Tokyo Electron Group develops, manufactures, and sells semiconductor and FPD production equipment and many of its products hold the world’s top share in their respective markets.

In fulfilling the environmental aspect of our role in society, we help our customers reduce the environmental impact caused by the manufacture of semiconductors and FPDs at their plants. Furthermore, we are committed to contributing to the production of more energy-saving semiconductors and FPDs with higher performance through the provision of excellent semiconductor and FPD production equipment, aiming to contribute eventually to the creation of a society where everyone in the world will have equal access to knowledge and information.
**HIGHLIGHT**

**TEL's Products and Business**

**Used in Electronics Products**

The manufactured semiconductors are used in PCs, cell phones, automobiles, home electrical appliances, and other electronics products to support people in their daily lives in our digital network society.

**Back End Assembly Process**

Silicon wafers with patterned circuits (silicon wafers on which semiconductor circuits are etched) are cut for wiring and packaging.
Roundtable Meeting with Stakeholders
Green Fab1—Requirements for a Good Semiconductor Factory

On June 27, 2007, we invited some of our stakeholders to a roundtable meeting to discuss the requirements for a good semiconductor factory. Specifically, we invited representatives of the following companies engaged in the upstream and downstream semiconductor manufacturing processes: semiconductor manufacturers, relevant equipment and component manufacturers, and a company engaged in the design and construction of clean rooms.

1. Green Fab: Meaning a factory/manufacturing process that is comprehensively environment-conscious

Collaboration from the Upstream through Downstream Processes Is Essential

Mr. Honma: I would like to comment in my capacity as someone engaged in building semiconductor factories and production systems. As a result of the shift from 200-millimeter wafers to 300-millimeter wafers, the power consumed by semiconductor production equipment is increasing, and we are now required to save even more energy. For the environment, it is important to eliminate duplication and waste in semiconductor factories from a comprehensive viewpoint, but the environmental efficiency of individual parts and equipment in the semiconductor factory has already improved dramatically, and so we can no longer expect substantial improvements in environmental efficiency from them. In the past, semiconductor production equipment manufacturers and component manufacturers were independently developing products with lower environmental impact, including more energy-saving products downstream of the supply chain. From now, however, I believe that the three parties—semiconductor manufacturers, semiconductor production equipment manufacturers, and component manufacturers need to collaborate more fully by exchanging information that will enable us to reduce the environmental impact resulting from the manufacture of semiconductors.

Mr. Iwaida: I agree with Mr. Honma. I also feel strongly that these three parties together will be able to implement effective measures. Our company manufactures pneumatic devices used in semiconductor production equipment. Usually, we seldom have the opportunity to talk directly with the semiconductor manufacturers who are the end users of our products. We are only informed of the situation at the end user via the semiconductor production equipment manufacturers. However, when we have the rare opportunity to visit the factory of a semiconductor manufacturer, we often find room for improvement at the factory, something which only component manufacturers would be able to see. For example, the pipe on a freezer might be too long and coiled up. Although the freezer is working hard to keep the temperature below zero, the long pipe is continuously giving out heat beside the freezer. Reducing this type of waste would help reduce the environmental impact of the factory, and roundtable meetings like this one are very useful for this purpose.

Mr. Urano: I think it necessary for all the companies involved in the upstream to downstream steps to collaborate to reduce the environmental impact generated over the entire semiconductor manufacturing process. Our company deals with exhaust systems,

Roles Played in the Semiconductor Manufacturing Process by Participating Companies

- NEC Electronics Corporation
- Elpida Memory, Inc.
- Sony Corporation
- Edwards Japan Limited
- Edwards Japan Limited
- SMC Corporation
- Taisei Corporation
- Taisei Corporation

Participants in the Roundtable Meeting

Mr. Michio Honma
Mr. Kazuhiro Tada
Mr. Junichi Aoyama
Mr. Chiaki Urano
Mr. Masaharu Miki
Mr. Katsuro Iwaida
Mr. Tomoo Gocho
Mr. Tsutomu Kobayashi
including vacuum pumps and gas scrubbers. Recently, various process gases have been introduced in the production process and I am afraid that the exhaust system is regarded as a “dust box” into which any kind of gas can be put and eventually rendered harmless. However, if different kinds of gases are mixed without being sorted out, they can easily solidify and this may cause the vacuum pump to halt. To prevent this, more nitrogen gas need to be injected. This will impose an extra load on the gas scrubbers and will result in an increase in environmental impact. However, if the production process is improved and the types of gases used and their flows are limited, the problem can be alleviated.

Mr. Komiyama (TEL): I am in charge of managing the clean rooms in the Tokyo Electron Group. It is true that process engineers working on semiconductor production equipment tend to increase gas flows to improve the process and as Mr. Urano has pointed out, this might impose an extra load on the exhaust system.

Mr. Tada: How about showing the process developers the adverse effect of increasing gas flows by using the check list that can be used for a design review?

Semiconductor Manufacturers Need to Disclose More Information

Mr. Urano: I have long thought that Japanese semiconductor manufacturers do not seem willing to disclose information. For example, when constructing a new semiconductor factory, they will not disclose any information about which components from which manufacturers they are going to use in the new factory. After the individual pieces of equipment and components are delivered, piping routes are worked out on a case-by-case basis. As a result, the facility area in the clean room is like a jungle of pipes and signal cables. I believe it important for semiconductor manufacturers to disclose more information in order to reduce their environmental impact and to improve the performance of the equipment.

Mr. Kobayashi: I completely agree with Mr. Urano. In designing a clean room, we have to predict the rate of operation according to given specifications. We are not provided with practical data about the clean room, including data on cooling water, air conditioning load, and exhaust air. If we are given more practical data, we will be able to contribute more to energy saving. For example, there are two methods of cooling: one uses water and the other uses air for cooling. If air is used for cooling, the energy consumed will be five or six times as large as the energy required for water cooling. However, we are not given the relevant information. Without the appropriate information, we cannot decide whether it is really necessary to use air for cooling, whether water could be used instead, or whether the air in the clean room should be used for the air cooling. If these kinds of problems with information disclosure are solved one by one, I believe we can contribute substantially to reducing the total environmental impact generated by semiconductor factories.

Mr. Iwaida: Information is really important. We component manufacturers manufacture products according to the specifications given by our customers without knowing the entire process flow. However, the specifications do not always reflect the reality. For example, we once made a temperature controller with a cooling ability down to minus 30 degrees centigrade. We delivered it to the end user’s factory and found out that the factory did not actually need that much cooling ability. If we say that a temperature controller with a cooling ability of minus 20 degrees centigrade is like the engine in a luxury car, a temperature controller with a cooling ability of minus 30 degrees is like the engine in a fighter aircraft. If we had the right information, we would not have had to make this kind of pointless effort.

Mr. Kobayashi: In the future, we would like to provide our customers with clean rooms equipped with a function to reduce chemical pollutants, which will in turn reduce the load on the filters. We also want to offer energy-saving technologies for air conditioning systems. However, there are limits to what we can do working on our own. If we have opportunities to exchange information like at today’s meeting, I think we will be able to propose more ideas and technologies for energy conservation.
We Need to Overcome Organizational Boundaries to Reduce Our Environmental Impact.

Mr. Honma: In reducing the environmental impact caused by our factories, we face the problem of organizational boundaries—each organization, department, and employee foolishly limits the scope of their jobs and tend not to think beyond the range of their own jobs. We may need to remove these boundaries if we want to make more improvements.

Mr. Gocho: I fully agree with Mr. Honma’s opinion that we need to overcome organizational boundaries. In the construction industry, too, we have boundaries between the building and civil engineering sectors and between the sections working on air conditioning and structural designing. In the past, many people would express their opinions of the job being done by other departments, but now this is rare, perhaps because their scope of work is too clearly defined. As a designer and constructor of clean rooms, in the future we would like to ask semiconductor production equipment manufacturers questions like “Is it really OK to set the temperature of the cooling water at 25 degrees centigrade?”

Mr. Ibuka (TEL): There are indeed organizational and personnel boundaries. I think it necessary to create a model of collaboration between organizations based on the concept of “total optimization.”

No One Has a Comprehensive Overview of the Factory Equipment.

Mr. Kaneko (TEL): I am afraid semiconductor factories are producing substantial amounts of wasteful exhaust. Also, there are some cases in which semiconductor production equipment can actually be operated using only around 60% of the specified amount of energy. So I think it is important for us semiconductor production equipment manufacturers to study how we can reduce wasteful operations.

Mr. Aoyama: When we build a new factory, the department in charge of construction gathers data on cooling water, facilities, and electricity separately from those who will run the factory and fixes the specifications based on that department’s experience and intuition. But in fact, no one knows the real electrical capacity required. There is no one who can oversee the construction in a comprehensive way. In the power industry and the steel manufacturing industry, some companies have started to monitor the efficiency of their equipment while it is in use in real time to maintain high efficiency over an extended period. In the semiconductor manufacturing industry as well, things need to be done not only to ensure the perfect finish on a wafer but also to improve the efficiency of the semiconductor production equipment.
Mr. Urano: In order to make the entire semiconductor manufacturing process more energy-saving, it would be necessary to take the exhaust system, valves, and cooling system into consideration from early on in the design stage, in addition to making individual components capable of saving greater amounts of energy by adopting pumps and temperature controllers that use lower amounts of energy. This will also limit the unnecessary use of gas and contribute to energy conservation.

Mr. Miki: Pump manufacturers think that energy conservation can be achieved by skillful pump layouts and skillful piping configurations. Energy-saving can be implemented efficiently if it is started back at the initial stage of construction of the factory and we have been putting forward proposals to do this for the last 10 years. But our proposals have not yet been widely accepted.

Mr. Kaneko (TEL): It is true that semiconductor manufacturing factories do not pursue total optimization from scratch: instead, they seem to want to pursue energy conservation and environmental friendliness by simply combining optimal components. For example, they think that they can reduce their energy use simply by improving the performance of individual components. Semiconductor manufacturers need to manage their factories in a more comprehensive manner and semiconductor production equipment manufacturers must have the strength to put proposals to semiconductor manufacturers and persuade them to accept their proposals. Otherwise, semiconductor production equipment manufacturers cannot show a good example to the manufacturers of their equipment components. The three parties must rely on mutual communication and understanding to ensure the consistency of the factory facility as a whole.

Use of Life Cycle Assessment (LCA)\(^2\) to Promote Energy Conservation

Mr. Aoyama: We can use LCA to do this. Using LCA, we can get a comprehensive understanding of the effects of an improvement. For example, we can identify the reduction in CO\(_2\) emissions throughout the process achieved by introducing a gas scrubber. Comprehensive measures can be taken more easily for new production lines and so the construction company can make a comprehensive proposal on an energy-saving line in addition to simply constructing a new building. Of course we can also make existing lines more energy-saving using LCA. When our company renovated a factory, we implemented measures to substantially reduce power consumption and the money we invested in this initiative will be recovered over a relatively short period.

Mr. Ibuka (TEL): I regard LCA as a “double-edged sword,” which can simultaneously help and hinder us. With LCA, any semiconductor manufacturer can identify the amount of energy used and so unless we, in proposing the use of LCA, are first past the post with the use of LCA, our competitors will make good use of LCA to gain customers. So it is important to encourage information sharing, while at the same time remaining vigilant of the effect that information sharing may have on competition in the market.

2. Life Cycle Assessment (LCA): Method to assess the environmental impact of a product throughout its life cycle from production to recovery and reuse.

Encouraging Discussions between Upstream and Downstream Companies

Mr. Honma: I have been participating in a variety of improvement projects recently and this experience has helped me to recognize one thing. There are multiple layers in the supply chain for semiconductors, and it is not really necessary to encourage collaboration between companies on two layers that are far apart from each other in the supply chain. Usually, a lot of improvement can be made by collaboration between companies in two adjacent layers. However, it is essential to have a consultant who questions the status quo of the entire supply chain. I believe small improvements can produce great results if they are implemented in the form of projects.

Mr. Ibuka (TEL): We held individual forums with suppliers on PFC gas.\(^3\) Open forums with these companies and the forums held by industry associations are indeed effective.
Mr. Honma: It would be better to draw a clear line between information that must be kept confidential and technologies that can be transferred. In other words, there are topics that can be discussed in a relatively open manner at the meetings of JEITA* or SEMI and those that should be discussed among limited participants, for example by members of a consortium.

Mr. Aoyama: Even if each company conducts its own environmental activities, the effects will be limited and I think that we can conduct activities appropriately within the framework of JEITA. Component manufacturers, too, can more easily engage in environmental activities if they are led by JEITA. Every semiconductor manufacturer in the world is aware of its environmental responsibilities. We do want to disseminate environmental information and cooperate with equipment and component manufacturers to protect the environment.

Mr. Tada: I think we should make the environmental performance of semiconductor production equipment invisible. By that, I mean to incorporate the environmental functions as an integral part of the equipment. For example, we could make the equipment inoperable if the environmental functions are deactivated. We should meet the following requirements for our products in this order of priority: (1) introduction of advanced manufacturing process technologies; (2) high operational productivity; and (3) voluntary contribution to environmental and energy conservation. Environment-friendly and energy-saving functions tend to be low-priority functions, and we aim to build these undervalued functions invisibly into our products.

Mr. Kaneko (TEL): To make environmental functions invisible sounds great. To deactivate the equipment if the environmental and energy-saving functions are removed is also a good idea.

Mr. Tada: Sales of semiconductor production equipment will increase in the NICs in the future and it is highly probable that customers in these countries will demand that we remove the low-priority environmental functions due to cost reduction. However, to reinforce the need to reduce environmental impact across the world, it will be better if we provide these customers with equipment in which environmental functions are inseparably integrated with the manufacturing process technologies and functions to improve productivity.

Pursuit of Profit Will Result in a Reduction in Environmental Impact.

Mr. Aoyama: Now, I would like to ask one question: what are the basic requirements for a good semiconductor manufacturing factory? I think FPD factories in Japan represent the most useful example. These factories are excellent in terms of harmony with the local environment and also in terms of creating local employment and returning profit to the local communities in the form of taxes. Their products do contribute to energy conservation and the factories producing these products help improve the corporate image of the companies that own the factories.

Mr. Miki: Generally, good factories input the minimum required amount of resources and output the maximum values and profits with low emissions. This is consistent with the concept of Green Fab.

Mr. Iwaida: I agree with the idea that environmental measures will lead to profit making. Many of our users are small factories and some of them are not environmentally aware. If, however, the most effective way to recommend energy-saving products is to show how much money they can save by reducing their annual power consumption. The use of energy-saving products will of course contribute to reducing the environmental impact.
HIGHLIGHT

In response to the roundtable meeting

The Tokyo Electron Group held its first roundtable meeting for its environmental and social report in 2004, participated in by people responsible for the environment and safety within the Group. Subsequently in 2005, we held our second roundtable meeting, inviting the Group’s employees responsible for sales, development, and design. In 2006, we held our third roundtable meeting, and invited our customers. For our fourth meeting held this year, we invited representatives from Sony Corporation, Elpida Memory, Inc., NEC Electronics Corporation, who are our customers, Edwards Japan Limited and SMC Corporation, who are manufacturers of components for semiconductor production equipment, and Taisei Corporation, a designer and constructor of clean rooms. The meeting provided EHS managers at these companies with a great opportunity to exchange information on comprehensive energy-saving measures for clean rooms.

At the meeting, participants recognized once again the necessity of reducing environmental impact across the entire supply chain and proposals were made by some participants to hold this kind of meeting regularly for information exchange. The meeting was therefore very meaningful. The meeting also gave us an opportunity to reconfirm how important it is to make reducing the environmental impact generated by the products of our Group and customers into one of our business objectives. We should make concerted efforts with everyone involved to attain that objective.

We will continue to ask a variety of people for their opinions and examine ways in which we can make it easier for our Group to design environmentally conscious products.

Masaki Kaneko
Director of Environment, Health & Safety Center
Tokyo Electron Limited
Corporate Governance

We are strengthening the corporate governance framework to ensure management that prioritizes improvements in corporate value.

**Fundamental Policy Concerning Corporate Governance**
In order to maximize corporate value and increase shareholder satisfaction, we think it important to enhance our corporate governance and are committed to complying with corporate ethics and compliance program. We are also dedicated to improving and reinforcing internal control and risk management systems, and to maintaining transparency and objectivity in our business activities.

**Strengthening the Framework of Corporate Governance**
Tokyo Electron Group regards the strengthening of corporate governance as vital to increasing its corporate value for all its stakeholders including shareholders. To this end, we concentrate on three aspects of corporate governance: 1) ensuring the transparency and soundness of business operations; 2) facilitating quick decision-making and the efficient execution of business operations; and 3) building an effective structure for the timely and suitable disclosure of information.

Specifically, the Board of Directors comprises 13 directors, including two external directors. The Board has two committees: the Compensation Committee and the Nomination Committee. The term of office for directors is set at one year to allow prompt and flexible responses to changes in the management environment. The Board of Directors held a total of 14 meetings in FY 2007. We have four statutory auditors, two of whom are from outside the company. We have adopted this auditing system to improve corporate governance. In FY 2007, the auditors held a total of five meetings. In the execution of business, we have introduced the executive officer system to clearly separate the roles of the Board of Directors and of those actually executing business operations. We plan and implement business strategies promptly under this system.

1. Compensation Committee: Makes a draft remuneration plan for the Chairman & CEO and the President & COO and presents the draft to the Board of Directors
2. Nomination Committee: Selects candidates for directorships for submission to the annual shareholders’ meeting and a candidate to be elected as president by the Board of Directors.

**Internal Controls and Risk Management**
To behave towards all our stakeholders in a responsible manner, we are committed to strengthening an even more effective internal control system. We have our Global Audit Center for internal control. This Center conducts internal audits on business operations, compliance, and systems targeting Tokyo Electron Group’s bases both in Japan and overseas, and evaluates the effectiveness of the Group’s internal control systems.

In addition, the Center makes regular reports to management on the audit results, and exchanges information with the auditors and submits reports to them to strengthen the internal audit function of the Group.

To implement measures to manage risks including business and operational risks, we have established a department in charge of risk management, which creates and revises in-house rules on risk management and conducts risk-related education and enlightenment activities.

**Establishing Even More Effective Internal Control Systems**
Following the enforcement of the new Companies Act, Tokyo Electron Group decided its basic policies to ensure appropriate business operations at the meeting of its Board of Directors held on May 12, 2006. In line with the policies, we have been reexamining our business risks and establishing even more effective internal control systems.

<table>
<thead>
<tr>
<th>Internal control systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Compliance system</td>
</tr>
<tr>
<td>2. Risk management system</td>
</tr>
<tr>
<td>3. System to ensure the appropriateness of financial reporting</td>
</tr>
<tr>
<td>4. System to store and manage information</td>
</tr>
<tr>
<td>5. System to ensure the efficiency of business execution</td>
</tr>
<tr>
<td>6. System to ensure appropriate business operations of the corporate group</td>
</tr>
<tr>
<td>7. System to ensure the effectiveness of internal audits</td>
</tr>
</tbody>
</table>

Furthermore, in order to establish an internal control system for financial reporting, which we will launch in the year ending March 31, 2009 to comply with the Financial Instruments and Exchange Law (so-called Japanese SOX), we are creating rules and manuals, checking our business processes, and preparing the required documentation.
The Tokyo Electron Group conducts fair and trustworthy business activities in strict compliance with corporate ethics, laws, and regulations.

Approach to Corporate Ethics and Legal Compliance
Trust is and will always be the lifeline of the Tokyo Electron Group. The fundamental requirements for maintaining trust are rigorous conformity to our ethical standards and compliance with the law, by our employees as individuals, and by each of our organizations. We give first priority to compliance with high ethical standards and laws in conducting our business operations.

Establishing Ethical Standards
We believe that common standards must be applied throughout our divisions in order to create the globally excellent company that we envision. In 1998 we established a Code of Ethics, which concretely describes our basic views. At the same time, we established the Ethics Committee as an organization for actual operations.

In June 2007, in response to the results of a survey conducted on our Code of Ethics and compliance measures in the Group in 2005, we revised our Code of Ethics, including adding items and modifying expressions, to make them easier to understand and more consistent with the current business environment and sense of ethics.

Measures to Strengthen the Compliance System
We established our Compliance Regulations in 2004. The Regulations, which provide for basic matters concerning compliance, are designed to help those engaged in the business operations of the Tokyo Electron Group understand fully the relevant laws, regulations, and international rules as well as in-house rules and act accordingly at all times.

In 2006, we provided all employees in Japan with web-based training on export compliance. Due to the tense international situations, controls on exports from Japan have been strengthened and it is becoming very important for all the departments, including both the sales and service departments who directly contact overseas customers, and those indirectly involved in export to understand the basic export rules.

We provide compliance-related information on the intranet and give employees web-based education to ensure that they all understand our compliance policies and are more aware of their importance, thereby further strengthening our compliance system.

Protection of Personal Information
Leakage of personal information has become a social concern in recent years and companies are required to manage the personal information they hold in an appropriate manner.

In Japan following the enactment of the Act on the Protection of Personal Information in April 2005, the Tokyo Electron Group formulated its basic policies and rules on the protection of personal information. We educate employees on the implementation of the policies and rules, endeavoring to make them more aware of these policies and rules. Furthermore in Japan, we investigated personal information stored on approximately 13,000 PCs leased to employees and created a ledger of personal information to be managed by each Group company and department. Also, we installed servers to be used exclusively for storing personal information and prohibited employees from storing important personal information on their PCs. Through these measures, we ensure that personal information is managed in an appropriate way.

The Code of Ethics of Tokyo Electron Group

Introduction

I. Principles
1. Compliance with Applicable Laws
2. Acting in Accordance with Social Conscience
3. Maintaining Harmonious Relationships with Local Communities

II. Honest and Fair Business Activities
II-1 Technology, safety, and the Environment
4. Ensuring Safety and Pursuing Quality
5. Promoting Environmental Preservation Activities
6. Ethics in Manufacturing

II-2 Fair Trade
7. Implementing Fair and Open Competition
8. Fair Business with Suppliers
9. Handling of Confidential Information
10. Strict Export/Import Controls
11. Reasonable Exchanges of Gifts and Entertainment within the Bounds for Common Sense

II-3 Relationship between the Company and Individuals
12. Prohibition of Conduct Causing Conflicts of Interests
13. Prohibition of the Improper Use of Company Assets
14. Prohibition of Conduct of Harassment

III. Being a Good Corporate Citizen
15. Prohibition of Insider Trading
16. Prohibition of Political Activities and Contributions
17. Prohibition of Involvement in Antisocial Forces
18. Respect for Individuals

Implementation of the Code of Ethics:

* The “Implementation” section provides the specific matters and procedures.
The Tokyo Electron Group is globally conducting environmental, health and safety (EHS) activities.

Basic Idea Behind EHS Activities
The Tokyo Electron Group conducts EHS activities, regarding people’s health and safety and the global environment as its management priorities. In operating our business, we place first priority on environmental conservation activities and on health and safety, aiming to become a group of companies trusted by everyone involved in our business operations. As a responsible member of society, we make efforts to contribute to a more affluent society. In the Tokyo Electron Group Credo and Principles on Environmental Preservation, which we revised in May 2006, we make it clear that we will develop products in line with a clearly defined environmental roadmap and verify the environment-friendliness of the products at their design, manufacturing, and use stages. The Credo and Principles also clearly state that the Tokyo Electron Group will disclose the results of verification and other relevant information to stakeholders via environmental and social reports and other means.

The Tokyo Electron Group Credo and Principles on Environmental Preservation

The Tokyo Electron Group believes that preserving the global environment and constantly improving it is one of the most important objectives for mankind as well as its business. Based on this credo, we are determined to expand our business by maintaining harmony with the global environment, and thus win the trust of our many customers, shareholders, employees, and society in general.

The Tokyo Electron Group Credo on Environmental Preservation
1. Continuous Improvement
   The Tokyo Electron Group is conscious that products manufactured by the Group affect the environment, and based on this awareness, we, with our customers and suppliers, shall continually strive to minimize the impact of processes and operations on the environment. We will develop products consistent with a clearly defined environmental roadmap for the Group products, verifying the appropriateness of efforts during design, manufacture, and use. To further confirm the appropriateness of such efforts, we will undertake activities that fully take into account regulatory and industry requirements and the needs of customers and other stakeholders.

2. Knowledge
   The Tokyo Electron Group continually strives to enhance its understanding of the impact that the Group has on the environment and the responsibility that this entails. In addition, the Group aims to gain a quantitative grasp of environmental factors, and the impacts resulting from its activities and operations.

3. Performance Criteria
   In addition to strict adherence to environmental laws, treaties, and agreements, the Tokyo Electron Group will also promote conservation of the global environment by formulating activity plans that take into account regulatory and industry requirements and various other environmental requirements.

4. Disclosure
   In addition to ensuring that all employees clearly understand our environmental concepts, policies, the state of our contribution to environmental protection, and the state of product-related environmental efforts, as well as improving the levels of awareness, we will disclose relevant information to those outside the company via environmental reports and other means.

5. Partnership
   The Tokyo Electron Group actively participates in environmental protection activities practiced by its customers, suppliers, and communities.

May 26, 2006

The Tokyo Electron Group Safety and Health Credo and Principles

Safety and health training are required for all employees and board members of the Tokyo Electron Group. Our profit and delivery date requirements must not be met at the sacrifice of human life and the safety of our facilities and equipment.

The Tokyo Electron Group Safety and Health Credo
1. Continuous Improvement
   The Tokyo Electron Group is conscious that the factors that affect the safety and health of customers and its employees exist at the stage of manufacturing, transportation, installation, use, maintenance, and service of its products. Based on this awareness, we shall continually strive to improve the safety and health of our products and eliminate factors that affect human health.

2. Knowledge
   The Tokyo Electron Group continually strives to enhance its understanding of safety and health and improve these conditions for all people working at its sites. To that end, the Group aims to gain a qualitative and quantitative grasp of safety and health factors on its activities and operations.

3. Performance Criteria
   As well as strictly observing mandatory safety and health laws, treaties, and agreements, the Tokyo Electron Group strives to enhance its own safety and health management system and improve global safety and health programs by the proactive establishment of aggressive safety and health performance criteria.

4. Disclosure
   The Tokyo Electron Group shares information about its safety and health credo, policies, and the progress of its safety and health activities with all board members and employees, and will publish its progress to the general public as the need arises.

5. Partnership
   The Tokyo Electron Group participates in safety and health activities practiced by its customers, suppliers, and communities.

November 27, 1998

Global EHS Conference

The Tokyo Electron Group held its Global EHS Conference in June 2007, participated by management of the Group and the members of the EHS Committees.

At the beginning of the Conference, the Chairman and President of TEL explained the Group’s future direction and plans for establishing a safety culture within the Group and for environmental protection. Subsequently, the representatives of each district and business unit (BU) gave presentations and actively discussed EHS-related matters.
EHS Promotion System

Our EHS system takes the form of three pillars: Product EHS, which advances EHS priorities in our products in general; Customer-Site EHS, which advances those priorities during and after start-up of our products; and Factory and Office EHS, which concerns our facilities.

The Tokyo Electron Group companies, in particular TEL’s manufacturing subsidiaries, started developing and implementing environmental management systems based on ISO 14001 in 1997, and obtained ISO 14001 certification.

Table: ISO 14001-Certified Plants and Office

<table>
<thead>
<tr>
<th>Company name</th>
<th>Plant/office name</th>
<th>Certification date</th>
<th>Certification number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tokyo Electron AT Limited</td>
<td>Fukuoka Plant (Fukuoka district)</td>
<td>May 15, 1998</td>
<td>1124-1998-AE-KOB-RvA</td>
</tr>
<tr>
<td>Tokyo Electron Device Limited</td>
<td>Miyagi Plant</td>
<td>March 1, 2005</td>
<td>01245-2005-AE-KOB-RvA</td>
</tr>
<tr>
<td></td>
<td>Yokohama Office</td>
<td>July 14, 2004</td>
<td>EC04J0144</td>
</tr>
</tbody>
</table>

EHS Risk Management System

At manufacturing subsidiaries of TEL, environmental and safety risks are estimated based on ISO 14001 and OHSAS 18001 standards for labor safety and health management systems. These subsidiaries are implementing measures to eliminate higher risks first. Also, they are endeavoring to reduce some risks although they are not yet legally required to do so. We believe it most important to implement anti-global warming measures in line with the Kyoto Protocol targets in future EHS risk management.

Abiding by the Law

The Tokyo Electron Group operates in strict obedience to the law. We closely track new environmental laws and emissions regulations and for some substances have enacted independent standards that are stricter than legally required. In FY 2007, we were not subject to legal actions of any kind with regard to environmental accidents, violations, fines, or complaints.

EHS Training

The Tokyo Electron Group offers EHS training under the principle of “the necessary training for the necessary people.” Training courses are grouped by rank and are open both to Group employees and to employees of cooperating companies who work at the Group’s facilities. An EHS training program is also a required part of the curriculum for new hires. In addition, in order to further facilitate EHS activities, we provide training on team resource management focusing on communication within a team as well as safety training for middle-level managers.
EHS Activity Goals and Results

The Tokyo Electron Group has set goals for EHS activities and is promoting those activities throughout the Group.

<table>
<thead>
<tr>
<th>Goals and Results for EHS Activities in FY 2007</th>
<th>Action item</th>
<th>Goals for FY 2007</th>
<th>Results</th>
<th>Achievement level</th>
<th>Plans and goals for FY 2008 onward</th>
<th>Page in report</th>
</tr>
</thead>
<tbody>
<tr>
<td>EHS management</td>
<td>EHS internal Audit</td>
<td>Perform EHS internal audit at plants and offices across the supply chain</td>
<td>Conducted an audit at one site adding a supply chain-related audit item and made corrections based on the findings.</td>
<td>○ Achieved target</td>
<td>Continue to conduct audits</td>
<td>P. 17</td>
</tr>
<tr>
<td>Product initiatives for the environment</td>
<td>Energy-saving equipment</td>
<td>Achieve the TEL Roadmap* indicators</td>
<td>Encouraged application to existing equipment</td>
<td>△ Achieved 80% of target</td>
<td>Achieve the FY 2008 and FY 2011 goals</td>
<td>P. 20-21</td>
</tr>
<tr>
<td>Measures to reduce the use of regulated chemical substances in equipment</td>
<td>Measures to reduce the use of regulated chemical substances in equipment</td>
<td>Clarify the targeted chemical substances and the policies</td>
<td>Determined the schedule for totally discontinuing the use of six substances designated under the RoHS Directive</td>
<td>○ Achieved target</td>
<td>Continue to conduct audits</td>
<td>P. 22</td>
</tr>
<tr>
<td>Environmental activities at each plant or office</td>
<td>Saving energy</td>
<td>Reduce energy consumption (1% decrease in CO2 emissions per unit of sales, as based on the Act Concerning the Rational Use of Energy)</td>
<td>Achieved the goal by decreasing CO2 emissions per unit of sales by approx. 17% from the FY 2006 level</td>
<td>○ Achieved target</td>
<td>Continue to reduce energy consumption, more accurately identify the energy used for transportation, and examine and promote modal shift</td>
<td>P. 26</td>
</tr>
<tr>
<td>Waste reduction</td>
<td>Waste reduction</td>
<td>Continue zero emission efforts at manufacturing plants</td>
<td>Achieved zero emissions at all manufacturing plants except one</td>
<td>△ Achieved 80% of target</td>
<td>Continue zero emission efforts and examine reduction in the total amount of waste</td>
<td>P. 28</td>
</tr>
<tr>
<td>Proper management of chemical substances</td>
<td>Proper management of chemical substances</td>
<td>—</td>
<td>Identified the use and emissions (into the air, water, etc.) of chemical substances regulated under the PRTR system</td>
<td>—</td>
<td>Continue to obtain data</td>
<td>P. 29</td>
</tr>
<tr>
<td>Health and safety</td>
<td>Reduction in the number of injury accidents</td>
<td>Reduce the number of accidents requiring four or more days off work to zero and reduce other injury accidents by 30% from the level of the previous fiscal year</td>
<td>The number and rate of accidents requiring four or more days off decreased from the FY 2006 levels but the total number of injury accidents increased by approx. 20%</td>
<td>X Achieved less than 80% of target</td>
<td>Continue to pursue the goal concerning injury accidents for FY 2007 and reduce the number of ergonomically caused accidents by 25% from FY 2007</td>
<td>P. 30</td>
</tr>
</tbody>
</table>

* TEL Roadmap: Environmental policies and plans for the Group’s products
 ○ Achieved target  △ Achieved 80% of target  X Achieved less than 80% of target — Item for which no goal was set

“We cannot achieve reform simply by making daily improvements—We will implement energy saving measures setting even higher, innovative targets.”

Haruo Iwatsu
Executive Vice President and General Manager, Development & Manufacturing

We are now developing our range of next-generation semiconductor production equipment and in FY 2008, we will have a nearly full lineup of next-generation equipment. I have been encouraging employees to develop innovative equipment by setting high targets apart from our daily improvement targets under the slogan of “reform manufacturing with visionary next-generation equipment.”

We have been committed to reducing the energy consumed by our equipment, and for our next-generation equipment, we must dramatically increase their environmental performance. We are thus endeavoring to make semiconductor production equipment that saves even more energy, but I believe it is also important to improve the yield of semiconductors manufactured using the equipment. Although it seems that there is no relationship between yield and environmental performance, an increase in the yield will lead to the elimination of wasteful operations in the semiconductor manufacturing process, resulting in improvements in the overall efficiency of the process.

Our customers are now attributing more importance to environmental-conscious products that save energy and resources than before, and it is now regarded as a matter of course for our departments to look at environmental efficiency as early as at the product development stage. We have established a corporate culture in which employees naturally take environmental matters into considerations without being told to set environmental targets. Also at our manufacturing sites, we make efforts to protect the environment. For example, we are now planning to build a new plant in Taiwa-cho, Miyagi Prefecture and are examining a design for a plant that harmonizes with nature, because we want to keep the local natural environment intact as far as possible.

In FY 2007, the Tokyo Electron Group was able to achieve substantial growth and achieved the greatest ever business results far exceeding the past peak records. Under these circumstances, however, employees tend to work overtime to meet deadlines. However, I think that employees cannot work creatively if they routinely have to work longer hours. I therefore encourage employees to try to make it a habit to finish their work as early as possible so that they do not have to work overtime.
We fully understand the details of the environmental impact caused by our business operations and obtain accurate environmental accounting data for use in our business management.

Details of Total Environmental Impact
The right figures show the material flow at the Tokyo Electron Group’s manufacturing plants and offices.

The Group causes environmental impact mainly in the process of evaluating its products. This is because we evaluate our products using electricity and a range of gases and chemicals to simulate the actual semiconductor manufacturing process.

Environmental Accounting
Scope: Major plants and offices in Japan (in Sapporo, Tohoku, Miyagi, Akasaka, Fuchu, Yokohama, Sagami, Hosaka, Fujii, Amagasaki, Osaka, Saga, Kumamoto, Koshi, and Ozu)
Period covered: April 1, 2006 to March 31, 2007

We conduct environmental accounting according to Environmental Accounting Guidelines 2002 and Environmental Accounting Guidebook II issued by the Japanese Ministry of the Environment.

Environmental Protection Costs in FY 2007

<table>
<thead>
<tr>
<th>Item</th>
<th>Main initiatives</th>
<th>Capital investment</th>
<th>Expense</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Business area cost</td>
<td></td>
<td>493,584</td>
<td>758,590</td>
</tr>
<tr>
<td>Itemization</td>
<td></td>
<td>181,372</td>
<td>280,289</td>
</tr>
<tr>
<td>1.1 Pollution prevention costs</td>
<td>Prevention of air pollution, water pollution, soil pollution, etc.</td>
<td>153,902</td>
<td>52,703</td>
</tr>
<tr>
<td>1.2 Global environmental costs</td>
<td>Prevention of global warming, protection of the ozone layer, etc.</td>
<td>158,310</td>
<td>425,598</td>
</tr>
<tr>
<td>1.3 Resource circulation costs</td>
<td>Efficient use of resources, reduction of waste, etc.</td>
<td>5,538</td>
<td>106,433</td>
</tr>
<tr>
<td>2. Upstream/downstream costs</td>
<td>Green purchasing, green procurement, etc.</td>
<td>28,214</td>
<td>212,988</td>
</tr>
<tr>
<td>3. Management activity costs</td>
<td>Environmental education, monitoring and measurement of environmental impact, etc.</td>
<td>0</td>
<td>1,839,174</td>
</tr>
<tr>
<td>4. Research and development costs</td>
<td>Product R&amp;D, etc.</td>
<td>0</td>
<td>52,012</td>
</tr>
<tr>
<td>5. Social activity costs</td>
<td>Tree planting and vegetation, supporting of local environmental activities, information disclosure, etc.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6. Environmental damage costs</td>
<td>Repairing of damage to the natural environment, etc.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7. Other costs</td>
<td>Other</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>527,336</td>
<td>2,969,197</td>
</tr>
</tbody>
</table>

Economic Benefits of Environmental Protection Activities in FY 2007

<table>
<thead>
<tr>
<th>Classification of environmental costs</th>
<th>Details</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefits related to electricity and other energy</td>
<td>Reduced electricity usage (e.g. benefits from adopting an inverter system on refrigeration equipment)</td>
<td>7,070</td>
</tr>
<tr>
<td>Water-related benefits</td>
<td>Reduced water usage (e.g. circulating of cooling water)</td>
<td>-3,801</td>
</tr>
<tr>
<td>Paper-related benefits</td>
<td>Reduced paper usage (e.g. encouragement of duplex copying and use of electronic media)</td>
<td>-5,438</td>
</tr>
<tr>
<td>Resource-related benefits</td>
<td>Reduced use of heavy oil and gas</td>
<td>-2,736</td>
</tr>
<tr>
<td>Other benefits</td>
<td>Reduced use of liquid nitrogen and copying toners</td>
<td>7,095</td>
</tr>
<tr>
<td>Waste-related benefits</td>
<td>Reduced waste volume</td>
<td>19,230</td>
</tr>
<tr>
<td>Benefits related to release into waters and soil</td>
<td>Reduced release into the sewage system</td>
<td>83</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>21,503</td>
</tr>
</tbody>
</table>
EHS REPORT

Product-Related Initiatives for the Environment

Over its life cycle, semiconductor production equipment has the largest impact on the environment when it is in use. Accordingly, we are implementing measures to reduce the energy consumed by the equipment while in use in addition to measures to reduce the use of regulated chemical substances in the equipment.

Reducing the Total Environmental Impact of Products

Our Approach to Reducing the Environmental Impact of Our Products

We believe it is extremely important to promote environment-conscious designs, as we have clearly stated in the revised Tokyo Electron Group Credo and Principles on Environmental Preservation. We give priority to the provision of energy-saving equipment and to reducing or finding substitutes for the regulated chemical substances contained in our products.

Organization for Reducing Environmental Impact

We have three units established under the Product EHS Technical Committee. The Product Safety Working Group is responsible for conducting activities to improve product safety. The Chemical Substance Measures Team is responsible for reducing and finding substitutes for regulated chemical substances contained in equipment parts and components. The Energy-Saving Task Force, which was founded in October 2005, is responsible for implementing measures to improve the energy efficiency of our products.

Recently, there are increasing expectations from various quarters for us to improve and continue our environmental, health, and safety (EHS) measures. Accordingly, it is becoming more and more important for us to design and develop products that incorporate EHS. In accordance with the globalization of our business, we also need to pay more attention to the legal regulations of each of the countries in which we do business. We will continue to promote “Design for EHS.”

Modification to Existing Equipment to Reduce Energy Consumption

As was pointed out at the roundtable meeting with stakeholders held for our Environmental and Social Report 2006, the Tokyo Electron Group thinks it important to reduce the energy consumed by equipment purchased by our customers in the past and still in use. Although we are now developing, manufacturing, and delivering new products with more consideration given to conserving energy and resources, some of the products that we sold and delivered to customers in the past were not designed with the same consideration for the environment that is acceptable today.

To rectify this, the Tokyo Electron Group markets products which can be used to make improvements to existing equipment. For example, we provide various products designed to improve the environmental functions of the thermal processing system ALPHA (α)-BSE, including the following two products:

1. Improving the heat insulating properties of the pipe heater
   It is necessary to keep the inside temperature of some pipes used in the thermal processing system as high as 100 to 200 degrees centigrade to prevent substances adhering to the inside surface. The electricity consumed by the pipe heaters used to control the inside temperature is reduced by 40 to 50% by installing high-performance heat insulators around the heaters.

2. Energy-saving pumps
   Power consumption is reduced by approximately 70% by replacing conventional pumps with highly-efficient energy-saving pumps. Use of these products may result in an overall reduction in energy use by around 70%.

In addition, we provide products that help reduce the amount of heat discharged into the clean room by the water cooling mechanism, products that reduce the amount of nitrogen used, and products that improve the overall process quality and productivity.
Energy-Saving Measures for Products

To reduce the energy that our products consume when they are used by our customers, we are examining measures to achieve the following five targets and will develop the necessary technologies: (1) reducing energy used by the product itself; (2) reducing energy used by peripheral devices; (3) managing the product in an energy-saving manner; (4) reducing energy used by the clean room; and (5) managing the clean room in an energy-saving manner (planned operation and proper management).

For energy-saving management of the clean room, we need to cooperate with customers and facility manufacturers. This close cooperation will allow us to make further efforts to reduce the energy consumed by our products while they are in use. In addition, we will identify how much energy our products and their supplementary devices (e.g. vacuum pumps and cooling equipment) consume in reference to the SEMI S23 standard, including the consumption of electricity as well as the consumption of water, dry air, cooling water, and exhaust heat, which will be converted into electricity using appropriate energy coefficients.


Energy-Saving Examples

Referring to SEMI S23, we calculated the total energy consumption, including the use of electricity, nitrogen, waste air, and pure water. These were then converted to give the overall power consumption, allowing us to calculate the energy consumed in producing a wafer per unit area. We set reduction targets for each product based on this energy consumption. The following describes two energy-saving efforts we made to achieve our targets.

Initiative for the Coater/Developer CLEAN TRACK™ LITHIUS™

For the coater/developer, we set a numerical target for reducing energy use per unit area of wafer compared to our Group’s baseline year (FY 2000). In FY 2007, we implemented the following: we reduced the standby power consumption using an auto standby function, reduced the nitrogen gas purge volume; made appropriate adjustments to the exhaust flow, and optimized the use of cooling water. As a result, we achieved our numerical target (set at 0.8) with a value of 0.56. In FY 2008, we will continue our efforts to reduce the overall energy consumption, including further optimization in the use of cooling water. Based on this initiative, we will also reduce the energy consumed by our new product CLEAN TRACK™ LITHIUS Pro™.

Initiative for the Test System Precio™

The test system (wafer prober) is used to carry out electrical tests on chips while they are on the wafer by contacting the semiconductors electrodes with probe needles. The system is equipped with heating and cooling functions to enable durability tests in an environment similar to the actual environment in which the semiconductors will be used. Dry air is used for heating and cooling and according to our calculation, the energy used to produce the dry air accounts for a large percentage of the overall energy used by the wafer prober. We focused on the energy used to produce the dry air and reduced its volume by up to 60% by the following method. We installed a dew point meter to monitor and adjust the volume of dry air used to regulate the temperature according to predefined specifications.
Product-Related Initiatives for the Environment

Management of Chemical Substances

Our Commitment to Reducing the Use of Regulated Chemical Substances in Products

Against the backdrop of growing concerns over the impact that harmful substances contained in parts and materials have on the environment and ecosystem, an increasing number of countries are regulating the use of these substances in automobiles and electrical products in recent years. The Tokyo Electron Group is making appropriate responses to these movements. For example, with regard to the RoHS Directive1 that took effect in July 2006, we have made a written statement demonstrating that the semiconductor production equipment manufactured by our Group falls outside the scope of the Directive because they are large-scale stationary industrial tools, to which the Directive does not apply. We have already met all the requirements for China’s RoHS2, which came into force in March 2007.

In order to meet the regulatory requirements of relevant countries even before they are actually implemented, we established a Chemical Substance Measures Team, which comprises representatives from our manufacturing department. The team shares information and investigates the use of regulated chemical substances in our products and advises us when to replace products containing these substances with alternatives in cooperation with our suppliers. In FY 2007, we fixed the schedule to discontinue the use of six substances in our products that are regulated by the RoHS Directive. We are scheduled to start shipping products that do not contain any of these six substances in October 2008.

1. RoHS: Restriction of the use of certain Hazardous Substances in Electrical and Electronic Equipment

2. China’s RoHS: Officially called “Management Methods for the Prevention and Control of Pollution from Electronics Information Products”

Chemical Substances to be Reduced

<table>
<thead>
<tr>
<th>First Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cadmium</td>
</tr>
<tr>
<td>Hexavalent chromium</td>
</tr>
<tr>
<td>Lead</td>
</tr>
<tr>
<td>Mercury</td>
</tr>
<tr>
<td>PBBs</td>
</tr>
<tr>
<td>PBDEs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substances designated as Level A substances in JIG3 (We have already implemented measures for many of these substances.)</td>
</tr>
</tbody>
</table>

* Joint Industry Guide for Material Composition Declaration for Electronic Products (JIG) was prepared by Japanese, American, and European private trade associations and this Guide lists the chemical substances for which measures should be implemented. The Guide classifies the substances into Level A and Level B: 16 substances are listed as Level A substances, including cadmium, hexavalent chromium, lead, mercury, PBBs, and PBDEs, and more than 400 substances are listed as Level B substances.

Response to China’s RoHS

China’s RoHS, which was enforced in China on February 28, 2007, is intended to regulate the use of chemical substances in electronic information products sold in the Chinese market. The Tokyo Electron Group has already made the necessary responses to this regulation, which requires compliance with the following two rules.

1. Product Labeling

Products containing chemical substances regulated under China’s RoHS must carry a label showing the period during which the product can be used in an environmentally safe manner. The Tokyo Electron Group usually sets this period at 25 years.

2. Disclosure of Information on the Use of Chemical Substances

Information on the use of products containing regulated chemical substances should be disclosed in the product’s instruction manual and similar documents in the Chinese language. The Tokyo Electron Group complies with this rule.

System to Reduce the Use of Regulated Chemical Substances

The Tokyo Electron Group’s Chemical Substance Measures Team is responsible for reducing the use of regulated chemical substances. The team comprises representatives from TEL’s headquarters and its manufacturing subsidiaries. We share relevant information through this team and are asking our suppliers to cooperate with us in replacing parts and materials that contain regulated chemical substances with alternatives that do not contain them.

We have established a chemical substances management system based on the principle of not using, purchasing, or selling parts containing regulated chemical substances. This system is used to register and refer to information on the use of chemical substances in various parts. This system allows us to check whether parts to be used in our products contain regulated chemical substances or not and prevents the manufacture or shipment of products containing these substances. We have adopted the JGPSSI format for the system, which is a standardized industry format under the Japan Green Procurement Survey Standardization Initiative (JGPSSI).

Future Regulations on Chemical Substances

In Europe, the REACH1 regulation, which mandates safety evaluations of almost all chemical substances sold in the market and registration of the relevant information, will be enforced and the use of PFOS2 will also be regulated. Under these circumstances, companies will be increasingly required to fulfill their responsibilities as a manufacturer and follow the precautionary principle. To comply with these regulations, all departments of the Tokyo Electron Group, from those engaged in product design, manufacturing, materials procurement, quality assurance, and environment and safety will make concerted efforts.

1. REACH: Registration, Evaluation, Authorization and Restriction of Chemicals
2. Perfluorooctanesulfonic acid (PFOS) is used as a water repellent and waterproof coating and in producing flame-resistant greases and oils.
The Tokyo Electron Group regards implementing environmental measures in transportation as one of its priorities. We are committed to reducing environmental impact and promoting the effective use of energy and resources in our transportation activities.

Our Approach to Environment-Friendly Transportation

In April 2006, Japan’s Act Concerning the Rational Use of Energy (Energy Saving Act) was revised and regulations on transportation were strengthened with the aim of reducing global warming. Accordingly, there are now increasing demands to reduce the environmental impact caused during transportation.

In response, the Tokyo Electron Group has been actively reducing the environmental impact caused by the transportation of its products. For example, we introduced low-emission trucks to transport our products and started to use returnable containers for their delivery. Also, we give first priority to driving safety in delivering products to customers.

Environmental Impact of Transportation

The Revised Energy Saving Act designates shippers who transport 30 million ton-kilos or more a year as specified shippers and they are requested to reduce CO₂ emissions from the transportation of their cargos.

In FY 2007, the Tokyo Electron Group’s freight transportation amount within Japan amounted to 52.42 million ton-kilos (weight of major products transported multiplied by their transportation distance) and the freight transportation amount for TEL alone exceeded 30 million ton-kilos. As a result, we were designated as a specified shipper under the Energy Saving Act. Our transportation amount increased because of an increase in the number of shipments and an increase in the weight per product.

At present, we calculate our transportation amount in freight ton-kilos based on a given load per vehicle. In the future, we will measure the transportation amount and distance and CO₂ emissions from the transportation of our products in a more accurate manner, while examining measures to reduce our CO₂ emissions, including a modal shift to rail and marine transportation. (See the TOPICS below.)

Packaging Methods for Products

The Tokyo Electron Group manufactures and delivers precision machines, which are generally far larger than ordinary products and require special packaging methods and skills. What is more, all of our products are different sizes. Taking the environment as well as the size and weight of each product into account, we try to transport our products safely and economically. For example, we use reinforced cardboard as packaging material to shorten the time required when opening a package. In delivering large machines, we use steel to reduce the packaging volume while maintaining the strength of the packaging.

Modal Shift

Realizing that CO₂ emissions from automobiles account for a large percent of the overall CO₂ emissions during transportation, industries are making a modal shift from transporting freight by truck to the use of rail and marine transportation.

The Tokyo Electron Group manufactures precision machines, which require special transportation methods. Accordingly, we used to deliver our products on individual trucks. However, we studied the use of rail and marine transportation in cooperation with our shipping agents and transportation companies and verified that rail and marine transportation is as efficient as transportation by truck in terms of time and costs, quality and safety. As a result, we started trial transportation of our products by ship in May 2007. We now intend to look at expanding delivery by ship as part of our proactive efforts to reduce CO₂ emissions in the transportation of our products.

In FY 2007, the Tokyo Electron Group’s freight transportation amount within Japan amounted to 52.42 million ton-kilos (weight of major products transported multiplied by their transportation distance) and the freight transportation amount for TEL alone exceeded 30 million ton-kilos. As a result, we were designated as a specified shipper under the Energy Saving Act. Our transportation amount increased because of an increase in the number of shipments and an increase in the weight per product.

At present, we calculate our transportation amount in freight ton-kilos based on a given load per vehicle. In the future, we will measure the transportation amount and distance and CO₂ emissions from the transportation of our products in a more accurate manner, while examining measures to reduce our CO₂ emissions, including a modal shift to rail and marine transportation. (See the TOPICS below.)

Modal shift: A shift from conventional freight transportation by truck to marine and rail transportation for mass transport.

Freight from the Group being driven onto a ferry

Packaging using steel
Environmental Initiatives by Our Suppliers

The Tokyo Electron Group collaborates with its suppliers to reduce the environmental impact of its products. The following describes the initiatives taken by two of our suppliers to reduce environmental impact.

HORIBA, Ltd. and HORIBA STEC, Co., Ltd.

HORIBA, Ltd. and HORIBA STEC, Co., Ltd. (referred to collectively as “HORIBA”) have been constantly expanding their business as measurement device manufacturers and are currently engaged in the following four business segments: automotive test systems business; analytical business; medical diagnostic business; and semiconductor business. HORIBA mainly supplies mass flow controllers (MFC) for use in semiconductor/FPD production equipment to the Tokyo Electron Group. HORIBA has the world’s top market share for MFCs.

* MFC: A variety of gases and liquids are used in the manufacture of semiconductors. MFCs are used to accurately control the flow volume of these substances. MFCs perform important functions in semiconductor production equipment, and the quality and productivity of the entire semiconductor manufacturing process largely depends on the performance and quality of the MFCs.

Establishing an Integrated Management System

HORIBA established an Integrated Management System (IMS) for quality and environmental management based on ISO standards, and an occupational health and safety management system based on OHSAS 18001. These functioned separately until June 2004. HORIBA plans to expand the IMS to its group companies.

Approach to the RoHS Directive

HORIBA is working to meet the requirements for RoHS correspondence for its MFCs, in response to requests from its customers including the Tokyo Electron Group and to regulatory trends in Europe.

In 2004, HORIBA started using lead-free printed boards in the manufacture of its MFCs and in 2006 discontinued the use of substances regulated under the RoHS Directive in its new products. At present, HORIBA is working to meet the requirements for correspondence for its existing products. Lead-free production lines are completely separated from conventional production lines that use lead, and even the tools and jigs used for the two types of lines are kept completely separate. HORIBA inspects samples of the products it procures from suppliers with its own analyzers to check for the use of regulated substances in the products.

Environmental Contribution of MFCs in the Semiconductor Manufacturing Process

HORIBA contributes to reducing the environmental impact caused by the overall semiconductor manufacturing process through its MFCs, whose functions have been improved in response to the RoHS Directive. Specifically, HORIBA’s MFCs contribute to a higher semiconductor yield with more precise flow control and to higher productivity and lower gas consumption through their high responsiveness at all flow volumes. In addition, HORIBA’s multi-gas and wide-range MFCs can be used regardless of the gas type and flow volume, and Tokyo Electron Group is now examining their use for its products. (Conventional MFCs can be used only for a specified gas type and flow volume, and so multiple MFCs must be used, with one MFC each for gas type and flow volume.) The use of multi-gas and wide-range MFCs enables us to reduce the number of MFCs needed and reduce the electricity consumed by the controller.

Comments from TEL

In the future, the importance of optimizing the use of process gases will increase and will be the key to conserving resources and energy and bringing higher productivity to the entire semiconductor manufacturing process. We anticipate that HORIBA will be able to help us with this optimization by the use of its analysis and flow volume control technologies.
YDK Co., Ltd.

YDK Co., Ltd. designs and manufactures information communication devices and semiconductor production equipment. It is also engaged in the work of cutting parts for precision machines.

YDK includes YDK Mechatronics Tohoku Plant and YDK Communications in Tono City, Iwate Prefecture (YDK Iwate District). The Tokyo Electron Group started to commission the processing of parts used in its thermal processing systems manufactured at its own Tohoku Plant to YDK in 1982. At present, we commission the processing of parts, design of equipment, cutting of parts, and assembly of automatic device units to YDK. Also, YDK designs gas controllers as a contractor at our Group’s Tohoku Plant and also dispatches its employees to our manufacturing sites. YDK is therefore both a supplier and a cooperating company for our Group. At our briefing session on manufacturing trends held in April 2007, YDK Iwate District was commended by our Tohoku Plant for its high quality unit assembly and drastic improvement in achieving its deadlines.

Establishing an Environmental Management System

In response to the increase in its responsibilities to society for environmental problems, YDK obtained ISO 14001 certification in November 2003. As one of its environmental activities, the company has introduced packaging materials that can be reused repeatedly and the reuse of rental waste cloth. It is also replacing the fluorescent lamps at its facilities with inverter-type lamps and reducing the amount of paper used. In FY 2008, YDK will conduct environmental activities in a way that is more integrated with its business activities.

Lead-Free Soldering and Response to the RoHS Directive

After Tokyo Electron Group conducted a survey on lead-free soldering in September 2003, YDK Iwate District began to train lead-free soldering trainers following instructions from our Group. Subsequently in February 2006, they started lead-free soldering. YDK Communications in YDK Iwate District attaches “RoHS-compliant” labels to identify its printed boards and other products that comply with the RoHS Directive. YDK will press forward with its discontinuance project for total discontinuance of substances regulated by the Directive in its products including units and assemblies in response to requests from Tokyo Electron Group.

Higher Productivity and Improvement Proposals

YDK’s basic policies are (1) to conduct detailed self-checks to reduce the number of defective products and (2) regard those engaged in the next process steps as in-house “customers.” Based on these policies, the company is actively making improvements and increasing its productivity through mechanization, review of the line layouts for the assembly of units and the production of assemblies, and the adoption of a “street stand system,” in which only the necessary tools are placed on a stand for each step in the unit assembly work.

In July 2007, YDK introduced a new production system, which allowed the company to check order reception and the manufacture of products and parts on PCs. This helps the company reduce unnecessary stock and wasteful operations.

YDK is also proactive in making improvement proposals using our Group’s Value Engineering (VE) proposal form which leads to cost reduction and improvements in quality and productivity for both YDK and Tokyo Electron Group.

Safety Measures

YDK is committed to conducting safety activities, upholding their motto to “abide by rules to ensure safety” and “make a bright workplaces with no accidents.” It holds monthly meetings of its health and safety committee, conducts disaster risk assessments, and gives safety-related education and enlightenment to employees to achieve zero workplace accidents.

Comments from TEL

YDK willingly cooperated with us in introducing lead-free soldering. We also anticipate YDK implementing measures to comply with the RoHS Directive. Proposals from YDK will help us make improvements so that we manufacture better products.
Reducing Energy Consumption

Our Group is committed to reducing energy use in compliance with the provisions of the Energy Saving Act. Its sites are actively reducing their energy consumption by setting specific energy-saving targets for lighting, OA machines, and air conditioners through appropriate temperature control.

For example, Tohoku Plant introduced inverters for the air supply and exhaust fans used for air conditioning. Plant employees had manually adjusted the fans, but after installing inverters, it became possible to operate the electric motors more efficiently, resulting in an annual reduction in the power consumption of approximately 200,000 kWh and a reduction in CO2 emissions of approximately 100 tons.

Energy Consumption

In FY 2007, as in FY 2006, our total energy use increased due to an increase in production quantities. However, we were able to reduce per-unit energy use and achieved the target of reducing the energy use per unit sales by 1% compared with the previous fiscal year. We will continue to improve on our energy-saving measures.

In FY 2007, in calculating CO2 emissions, we converted power consumption into CO2 emissions using the emission coefficients specified by each electric power company and started to identify the use of gas by our overseas sites.

Reducing the Use of Greenhouse Gases other than CO2

We use perfluorocarbons (PFCs) and sulfur hexafluoride (SF6), which are greenhouse gases, in dry etching, cleaning and other processes during process development and process evaluation.

In FY 2007, we used 21,006 metric tons of greenhouse gases (as CO2 equivalent), which is substantially larger than the amount used in FY 2006 (12,643 metric tons). This was partially because the volume of SF6 used for product development and evaluation greatly increased. We will examine replacing these greenhouse gases with alternatives.
Our Approach to Resource Conservation
We are minimizing our use of resources based on the concept of green procurement, which means to give preference to environment-conscious products in purchasing. Specifically, we are reducing the use and purchase of copy paper and stationery, and when we purchase them we choose environment-conscious products. At our offices, we have replaced printer toner cartridges with cartridges made from recycled materials and cooperate with the manufacturers in the recovery of end-of-life cartridges. At some offices, using the intranet, we have established a system under which stationery no longer being used by a certain department can be reused by another department.

Efforts to Reduce the Use of Paper
The entire Group is committed to reducing the use of paper. We have been encouraging duplex copying, copying at reduced size, and digitization of information and documents circulated among employees, but in FY 2007, the total use of copy paper by the Group increased by approximately 10% over the FY 2006 amount, that is, by approximately 8.3 million sheets. This is partially because of an increase in production quantities and business processing. Also, we have been encouraging the use of recycled paper with the exception of some special-purpose papers, and introduced paper cups made from kenaf, which is an alternative to wood pulp.

We will continue to reduce the use of copy paper in our business operations by minimizing the number of different types of records and slips, thereby further reducing the total paper use.

Efforts to Reduce the Use of Water
At our manufacturing plants, various measures are being taken to reduce the use of water. For example, the plants have installed a water recirculating system to reuse cooling water. They have also installed automatic faucets in restrooms and other facilities. These touch-free automatic faucets prevent wastage of water by automatically shutting off the supply when the hands are removed from the sensor range.

Waste Materials Exhibit
At the Yamanashi plant, materials discarded as defective property and waste materials are gathered prior to waste processing so that employees can see the actual materials. The objective is to foster an awareness among personnel about the causes of waste materials and teach them measures to help reduce them. More than 100 employees attended the initial exhibit, which encouraged employees to ask the question, “Why?” Seeing the actual materials first-hand substantially raised awareness and encouraged employees to address the causes of the problem. These types of activities will be continued in the future with the intention of achieving a balance between environmental preservation and business operations.
Our Approach to Waste Reduction and Recycling

The Tokyo Electron Group is making concerted efforts to reduce the generation of waste based on the policy of minimizing waste reduction, recycling generated waste as much as possible, and properly disposing of unrecyclable waste. In recent years, due to the lack of waste landfill sites, landfill costs have surged. This pushes us to reduce the generation of waste to make cost savings. Specifically, we sort waste for recovery, change our manufacturing processes to generate no waste, use more recycling companies, check the qualifications of companies that we commission to dispose of waste, and regularly review the final disposal situation.

Waste Generation and Recycling Rate

In FY 1999, the Tokyo Electron Group set a target of increasing the entire Group’s average recycling rate to 95% by FY 2006. As a result of making efforts to attain this target, we achieved a recycling rate of 96.4% in FY 2006 and 97.3% in FY 2007. In the future, we will focus on reducing our overall generation of waste, including recyclable waste.

Breakdown of Waste

Liquid waste from chemicals used in the product development and evaluation processes accounts for the largest percentage of waste generated by the Group. At present, most liquid waste is recycled. Also, some plants have installed equipment to treat liquid waste inside their premises. (See the TOPICS below.)

Zero Emissions

We define plants where less than 2% of waste generated by the plant is incinerated or landfilled as “zero emission plants” and encourage all plants to achieve zero emissions. In FY 2007, all the manufacturing plants excluding the Tohoku Plant achieved zero emissions consecutively from the previous fiscal year. Tohoku Plant was unfortunately not able to achieve zero emissions because its recycling rate dropped due to debris generated from repairs to floors. In the future, we will also achieve zero emissions at our office facilities.

New Liquid Waste Treatment Facility Constructed at the Koshi Plant

As shown in the “Breakdown of Waste” section, liquid waste accounts for a large percentage of the waste generated by the Tokyo Electron Group. In order to reduce the amount of liquid waste to be disposed of, we have been introducing liquid waste treatment facilities at our plants.

At the Koshi Plant, acid and alkali liquid waste generated from the product evaluation process used to first stored in tanks inside the plant and then carried outside the plant by a transportation company using tankers. After being transported outside, the liquid waste was then disposed of by an external company. In November 2006, however, a new liquid waste treatment facility was constructed within the premises of the Plant and started operation after a trial. Thanks to this facility, the amount of liquid waste carried outside the plant was reduced from approximately 300 metric tons per month to 10 metric tons per month, which resulted in a more than 70% reduction in the total waste generated from the plant. In addition, the environmental impact caused by the transportation of liquid waste from the plant to the outside could be decreased by approximately 70 t-CO2 a year.
Our Approach to the Management of Chemical Substances
The Tokyo Electron Group uses chemical substances mainly in developing and manufacturing products. In developing products, we sometimes adopt new chemical substances that were not used before, or use chemical substances in a way that is different from the traditional usage. In these cases, we look closely at the development facilities and methods, assess the environmental and operational risks associated with the use of the substances, and implement necessary measures before actually using the substances. As for the chemical substances that we use in our manufacturing processes, we are replacing dangerous and harmful substances with safer ones.

Compliance with the PRTR Act
According to the provisions of the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (PRTR Act), we rigorously control the specific chemical substances regulated under the act and identify the use and emissions of these substances on a continuous basis. We use large amounts of hydrogen fluoride, which is one of the substances regulated under the PRTR Act, mainly for cleaning test wafers. The hydrogen fluoride waste is disposed of by an external company specializing in disposal or we dispose of it in the approved manner within our premises.

Yamanashi Plant uses ethylene glycol as a refrigerant for cooling water and the amount used increased substantially in FY 2007 due to the increased production of FPD manufacturing equipment. However, we recycle almost all the amount we use. We will continue to properly manage the risk associated with the use of chemical substances.

* PRTR stands for Pollutant Release and Transfer Register. Under the PRTR system, the use of chemical substances that may be hazardous to human health and the ecosystem, their release into the environment, and transfer (contained in waste) to the outside of the business premises are identified, tabulated, and announced.

PCB Storage
Based on the Law Concerning Special Measures against PCB Waste, we report on the storage and disposal of waste containing polychlorinated biphenyl (PCB) to the governor of the prefecture every year. The Tokyo Electron Group presently stores two waste transformers and four waste capacitors that contain PCB in a strict and secure manner.

Management of Chemical Substances

**Handling of Substances Regulated as Class I Designated Chemical Substances under the PRTR Act**

<table>
<thead>
<tr>
<th>Year</th>
<th>Hydrogen fluoride and its water soluble salts</th>
<th>Ethylene glycol</th>
</tr>
</thead>
<tbody>
<tr>
<td>'02</td>
<td>1,820 kg/year</td>
<td>1,500 kg/year</td>
</tr>
<tr>
<td>'03</td>
<td>3,690 kg/year</td>
<td>4,000 kg/year</td>
</tr>
<tr>
<td>'04</td>
<td>9,144 kg/year</td>
<td>3,503 kg/year</td>
</tr>
<tr>
<td>'05</td>
<td>1,431 kg/year</td>
<td>2,800 kg/year</td>
</tr>
<tr>
<td>'06</td>
<td>6,111 kg/year</td>
<td>577 kg/year</td>
</tr>
<tr>
<td>'07</td>
<td>4,118 kg/year</td>
<td>9,844 kg/year</td>
</tr>
</tbody>
</table>

* Measures in metric tons for use in FY 2002 and FY 2003 (Plants in Japan)

**Material Balance of Chemical Substances Regulated under the PRTR Act**

- Released into the air: 0 kg/year
- Release into water: 0 kg/year
- Handled: 18,761 kg/year
- Waste: 7,308 kg/year
- On-site landfill: 0 kg/year
- Transferred to sewage: 3 kg/year
- Removed: 2,450 kg/year
- Recycled: 9,887 kg/year
- Products 11,975 kg/year

Evacuation Drills for Employees Working in Clean Rooms
The Tokyo Electron Group uses special gasses and liquid chemicals to test its products during their development and evaluation processes by simulating the actual semiconductor manufacturing process. We evaluate our products using special chemical substances in a clean room, which is a special working environment, and employees working there need to evacuate promptly from the room in the event of a large earthquake or a fire.

At the Yamanashi Plant (Hosaka), drills to evacuate the clean room are conducted in preparation for contingencies. In a drill conducted in November 2006 in preparation for an earthquake, employees wearing clean suits evacuated from the clean room to the outdoors after the alarm was given. The number of employees who evacuated was checked by the department and notified to Headquarters. Through these practical evacuation drills, we share the experience of risks and identify problems to be prepared for an emergency at all times.
Health and Safety

We are promoting health and safety for all our stakeholders, including employees and customers, in every aspect of our business operations, believing that ensuring their health and safety is one of our social responsibilities and as a basis on which to conduct business in a smooth manner.

For the Safety of All
The Tokyo Electron Group believes that one of the Group’s corporate social responsibilities is to ensure the health and safety of all employees working for the Group, customers who use our products, and all other stakeholders in its business operations.

In FY 2007, we held safety seminars for middle-level managers, following those held for top managers in FY 2006. At the seminars for middle-level managers, the heads of each department, section, and business group learned about safety, including case studies and discussions.

Team Resources Management (TRM) training for on-site work leaders was also held consecutively from FY 2006. One of the objectives of this training is to make participants more aware of the importance of communication and teamwork, which they regard as a matter of course in their daily operations. In addition, we hold seminars to teach emergency medical care, including how to use automated external defibrillators (AED), which we have installed at our sites across Japan.

Preventing Accidents
In FY 2007, the number of occupational accidents at the Tokyo Electron Group deceased over the FY 2006 level. The work volume, however, increased in accordance with an increase in production quantities, and the number of injuries excluding minor injuries is on an upward trend.

According to the statistics created by the Group, accidents caused by ergonomic factors and accidents that took place at our offices account for approximately 30% of all the accidents occurring within the Group. From the ergonomic aspect, as equipment becomes larger and more complex, employees are forced to work in unnatural postures and they have to manhandle heavy objects, bringing new risks. To deal with this problem, we gave employees training in ergonomics in FY 2007 (see the following page).

Comment from Mr. Hidetaka Takahashi, M.D., an industrial physician who advises the Health and Safety Committees of the Group’s Yamanashi, Fuchu, and Akasaka sites on the health and safety activities of the Tokyo Electron Group

The Tokyo Electron Group is enhancing its system to manage the health of its employees focusing on overwork, mental health, and metabolic syndrome, which are topics that are attracting the attention of contemporary society, so that employees can work in good health and with ease of mind. To this end, business management plays an important role in cooperation with the staff in charge of industrial health.

The Tokyo Electron Group manufactures semiconductor production equipment using special gases and liquid chemicals as well as special work methods. It is therefore especially important that the Group’s management ensure safety and a good working environment for its employees. With regard to the working hours of employees and leveling their work loads, it is necessary to make managers more aware of their responsibilities. Accordingly, the Group is holding training sessions to encourage managers to change their ideas and assume more responsibility for the care of their subordinates.

In my capacity as an industrial doctor, I expect each and every employee to be more aware of the importance of taking their own responsibility for maintaining their physical and mental health, so that the entire Group can be committed to creating a safe and comfortable workplace. I will continue contributing to the steady improvement in health management for the Group’s employees.
Taking an Ergonomic Approach

Basic Ergonomics Training

In response to an increase in the number of occupational accidents caused by ergonomic factors, we held a basic ergonomics training seminar on the Web in FY 2007.

This seminar was composed of topics on the ergonomic environment, examples of accidents caused by ergonomic factors, symptoms of musculoskeletal disorders (MSD) and their risk factors, and measures to reduce ergonomic accidents. At the end of the seminar, participants sat an examination to check their level of understanding. The seminar helped employees to learn that unnatural postures and pressure, heavy objects, and repetitive movements can cause accidents, and highlighted the things that the designers of facilities and workers must focus on to prevent accidents.

Example of Ergonomic Approach
Reducing Ergonomic Risks for Workers Dealing with Heavy Objects

As equipment becomes larger, employees are forced to handle heavier parts. The load on employees who handle these heavy objects will vary depending upon how high these objects must be lifted or where they are installed. The Tokyo Electron Group is implementing various solutions to prevent ergonomic accidents caused while handling heavy objects.

For example, for etching systems, in the past replacement chambers weighing approximately 70 kg had to be lifted into position by four employees. However, this work could lead to accidents or the chamber accidentally slipping. Also, employees might step on other parts while lifting the chamber into position. To avoid these, we designed and manufactured a special ergonomic lifter for these chambers and they are now lifted into position by the lifter and not by employees. This has reduced the ergonomic risk and also reduces the number of employees needed for installation.

Safety Education Using Virtual Reality and 3D Image Technologies

We had been providing employees with safety education and risk simulation experiences using photos and pictures showing accidents that took place in clean rooms. In addition, in cooperation with Solidray Co., Ltd., we created images of clean room accidents using virtual reality (VR) and 3D image technologies. These technologies enable us to prepare more realistic case study materials and give employees who usually have no opportunity to enter a clean room greater awareness of the situation in a clean room and the associated risks.

For the future, we are examining how to increase the sample images and introduce elements of behavioral selection and role-play to this safety education.
SOCIAL REPORT

Relationship with Employees

We have introduced a variety of personnel programs to energize the Group with new ideas and vision.

Concept of the Personnel System

The Tokyo Electron Group respects a spirit of challenge and independence amongst its employees and aspires to be a corporate group in which employees can take on a variety of challenges. Based on this, we are improving the working environment to attain the following three targets: (1) no penalizing of employees who fail while taking reasonable risks in creative endeavors; (2) rigorous fairness in handling of our personnel; and (3) fairness in compensation. Our personnel system is designed to motivate the organization and help each employee develop him/herself. The system does not simply focus on the results, but also attributes importance to the process leading to the results. Our goal is to fairly evaluate employees based on their contribution through the three mainstays of “competency to assess processes,” “the individual’s role (mission),” and “results based on the employee’s role (performance).” Competency is not just the objective of assessment and inspection, but a measure of the growth of the employee’s skills and abilities required for task categories. Also, we are constantly reviewing our personnel system for continuous improvement.

TEL Values

In April 2006, we summarized the values and action guidelines of the Tokyo Electron Group into TEL Values (see page 2). TEL Values show what we valued and will continue to value toward the future under the following five keywords: Pride, Challenge, Ownership, Teamwork, and Awareness. Employees of the Group always keep TEL Values in mind as a driving force toward new growth in the future.

We conduct a survey on employees to investigate their awareness of TEL Values and how they are motivated through the Values once a year and feed back the results to the employees.

Providing Employees with Comfort in the Workplace

The Tokyo Electron Group is committed to providing employees with a comfortable workplace. For example, in April 2007 we expanded the scope of our childcare leave system. Specifically, we extended the period during which employees can take leave.

In addition, we established a new childcare support system, under which employees are given special holidays of up to five days a year to be with their children until they graduate from elementary school. These measures support our employees in raising their children while working. In FY 2007, a total of 65 employees took childcare leave.

In addition, we have a “refresh vacation” system so that employees can refresh themselves both physically and mentally. Under this system, employees can take from two weeks to one month holiday when their term of service reaches 10 years, 15 years, or 25 years.

In recent years, mental problems in the workplace are becoming a serious social concern. In response, we provide mental health education for our executives and are actively implementing measures to help employees to look after their mental health.

TEL University

In August 2007, the Tokyo Electron Group established TEL University to support the development of human resources on a medium- to long-term basis, based on our belief that employees are invaluable assets for the Group. TEL University is designed to provide employees with an opportunity to obtain the knowledge and skills necessary for us to pursue the top position in the world. What is more, the University is useful in developing the capabilities of managers and educating the next generation of leaders as well as in promoting exchanges between management and employees and helping employees deepen their understanding of TEL Values.

At TEL University, we help individual employees develop themselves, and this in turn will energize the Group with new ideas and vision and help it to grow.

TEL Values

In April 2006, we summarized the values and action guidelines of the Tokyo Electron Group into TEL Values (see page 2). TEL Values show what we valued and will continue to value toward the future under the following five keywords: Pride, Challenge,
Communicating with Local Communities

The Tokyo Electron Group is committed to conducting its business operations in harmony with local communities and states “We strive to become a company that local communities hold in high esteem” in its TEL Values. In response to requests from local governments, sites within the Group send lecturers who are experts in industrial human resources development to local elementary, junior high, and senior high schools. These sites also offer learning experiences and the opportunity to visit their plants to local schoolchildren, and provide financial and other support to local events such as festivals and to blood donation activities.

EHS communication meetings are held at the Group’s manufacturing sites inviting representatives of the companies who we commission to do on-site work. These meetings enable the sites and their cooperating companies to communicate closely on the Group’s environmental and safety activities in order to improve them further.

As an example of communicating with local communities, in Yamanashi district we invite children to take plant tours and participate in work experience during their summer vacation. In FY 2007, 30 children who were mainly the children of Group employees participated in the event. In addition, we accept study visits by local junior and senior high school students to our plant throughout the year. In FY 2007, a total of some 350 students visited the plant from eight schools. And in March 2007, we invited local residents to our plant and 70 people, including children, participated in a plant tour.

In the survey we conducted after the study tours, participants commented “I didn’t have any chance to see inside the plant. But this visit enabled me to get to know and understand what the plant is doing” and “If I have the chance, I would like to go on another study tour.” These activities are some of the ways we promote harmony with local communities.
Our Approach to Social Contribution
The Tokyo Electron Group states the following: “We place the highest priority on gaining the trust and acceptance of customers, suppliers, investors, and communities around the world” and “We therefore strive to be a faithful and cooperative member of the communities and nations where we do business.” We are engaged in a variety of activities to contribute to society and build relationships of trust with governments and local communities around our facilities. This is true in Japan, of course, as well as overseas. These efforts are based on the above principles. We will expand our activities, hand-in-hand with our customers and neighbors.

Tokyo Electron Nirasaki Arts Hall
Tokyo Electron AT obtained the naming rights for a culture hall owned by Nirasakai City and on April 1, 2006 renamed it Tokyo Electron Nirasaki Arts Hall. As a way of laying a firm foundation in the community and in support of the city administration’s wish to utilize the hall for the creation and development of local culture, the company is actively contributing to local communities by supporting the maintenance and management of local public facilities.

The company plans to contribute to the creation and development of culture in Nirasaki City by actively proposing the organization of (1) events that give citizens opportunities to familiarize themselves with science and technology, and (2) activities that will give children the opportunity to dream.

Zero Waste Activities at the Miyagi Plant
Companies in the Tokyo Electron Group and their sites contribute to local communities by conducting local cleanups and cutting the grass. For example, 25 employees of the Miyagi Plant cleaned the roads around their site on May 30, which falls on “zero waste” day. In the cleanup activity, the employees also cleaned the reflecting poles beside the road, contributing to traffic safety. Participants in the activity commented, “The amount of waste was larger than I expected,” “I found a lot of litter that had been thrown out of car windows,” and “I was glad to be able to do my bit for the local community through this cleanup.”

Tokyo Electron Kyushu Planting Trees to Protect the Watershed
As in last year, in March 2007 Tokyo Electron Kyushu planted trees on Mt. Tawara in Aso to create a forest to protect the watershed. The planting has been following a five-year plan (three years to plant seedlings and two years for them to grow). This year was the second year of the plan and a lot of employees and their family members participated in the second round of activities.

Participants planted trees with the slogan “Starting 100 years of forest with the planting of small seedlings,” which was chosen from slogans proposed by employees at the company’s request. Participants also built a monument carrying the slogan to commemorate the second round of planting.

In Kumamoto, tap water is sourced from groundwater. The Aso area where the planting on Mt. Tawara is being carried out is said to act as a reservoir for Kumamoto. In fact, rainfall in the area permeates into the ground, and becomes an underground reservoir from which tap water is drawn. It is, however, becoming difficult to maintain the groundwater at the same level because of the decrease in the number of trees and farmland. The planting therefore contributes to maintaining water resources and provides a good opportunity for people to appreciate the environmental situation in the area.

The Tokyo Electron Group has been studying how to grow green plants both inside and outside its sites. We use Eco-Profiler provided by Kokusai Kogyo Co., Ltd. to identify how much we can contribute to society by increasing green land, and this gives us a guideline for our future activities. At the new plant that we plan to construct in Taiwacho, Miyagi Prefecture, we intend to design a plant that harmonizes with the surrounding nature.
**Tokyo Electron U.S. Holdings’s Contribution to Society**

**Supporting the Local Clean Sweep Activity**

Clean Sweep is held annually as part of Keep Austin Beautiful, and is participated in by all residents to keep the locality clean. In cooperation with neighboring companies and local communities, Tokyo Electron U.S. Holdings, Inc. (TEL USHD) has been supporting this activity for more than four years.

**Recycling Promoted by Employees**

Employees of TEL USHD follow the 4R’s (recycle, reduce, reuse, and rebuy) in their environmental conservation activities. Employees bring household waste such as telephone directories, batteries, and cell phones to the company for recycling. In FY 2007, the final volume of waste was reduced by an amount equivalent to 230 trees, 5,100 gallons (approximately 19,305 liters) of petroleum, or 1,200 cubic meters of landfill.

---

**Comments from a Stakeholder**

We received comments on our Environmental and Social Report 2006 and on our business operations from Mr. Noriaki Onoue.

(1) **Comments on the Environmental and Social Report**

After reading the Tokyo Electron Group’s Environmental and Social Report 2006, I was able to understand how serious they are in the environmental and safety activities they are carrying out as part of their corporate social responsibilities.

In addition to its EHS activities, the report refers to the Group enhancing its corporate governance framework and compliance initiatives, which I find noteworthy.

Furthermore, the report is written using easy-to-understand expressions and helpful footnotes, making it understandable even to readers who are not versed in technical matters.

(2) **Comments on the Tokyo Electron Group’s EHS Activities**

The TEL Values, formulated in April 2006 to show the Group’s values and action guidelines, clearly state, “We give top priority to safety, health, and the global environment.” Also in the “Commitment by Top Management” section of the report, both Chairman Higashi and President Sato confirm their commitment to EHS activities. These writings communicate to me the Group’s clear and consistent attitude to its EHS activities.

The report contains numerical verification and details product-related, supplier, and plant and office initiatives. In this way, it introduces the specific activities the Group is involved in based on its corporate philosophy and gives concrete examples which verify the results.

In future environmental and social reports, I look forward to learning about the improvements the Group will implement to attain its unachieved targets.

(3) **Kumamoto Prefecture’s Impression of the Tokyo Electron Group**

Kumamoto Prefecture has formulated its Kumamoto Semiconductor Forest Concept to make Kumamoto a world center for the IT industry. I am sincerely grateful to Tokyo Electron Kyushu for leading this initiative and playing a core role in the plan.

---

**As described in Environmental and Social Report 2006, Tokyo Electron Kyushu’s Koshi Plant in Kumamoto has been trying hard to reduce its water use and as a result, has received the Higo Water Conservation Prize from the Higo Water Conservation Fund. It is clear to me that Tokyo Electron Kyushu is a company actively engaged in environmental activities on a daily basis.**

(4) **Requests and Expectations for the Tokyo Electron Group**

I hope that the Tokyo Electron Group will have opportunities to publicize the activities it is carrying out at its sites, such as the efforts made at the Koshi Plant to reduce water use, because I think that this will help to spread the progressive activities of the Group to other companies.

Recognizing the limited nature of our resources, Kumamoto Prefecture is committed to a recycling-based society. We want to create a living environment for our citizens that is in harmony with Kumamoto’s rich natural environment. I hope that the Tokyo Electron Group will continue with its energetic EHS activities, which are consistent with the policies of our Prefecture.

---

**Our Response**

We thank Mr. Onoue for his frank opinions. Tokyo Electron Kyushu manufactures its products with the slogan, “Manufacturing the world’s highest class products in the world’s greatest environment.”

We would like to manufacture the world’s highest quality products in our Kumamoto, Koshi, and Otsu Plants in harmony with Kumamoto Prefecture’s rich natural environment, and we are committed to continuing our activities to contribute to the local community.

Akira Miura
President and Representative Director
of Tokyo Electron Kyushu Limited
Mixed Sources
Product group from well-managed
forests and other controlled sources

Waterless printing, which does not generate
hazardous effluents, is adopted for this report. It
is printed with volatile organic compound
(VOC)-free ink on FSC-certified paper contain-
ing materials from properly managed forests.