The Dow Jones Sustainability World Index comprises more than 300 companies around the world that represent the top 10% of leading companies committed to sustainability.

The Morningstar Socially Responsible Investment Index (MS-SRI) tracks the share performance of 150 selected Japanese companies based on their commitment to CSR. It is the first such index in Japan.

The KLD Global Climate 100SM Index is made up of companies that are leaders in providing solutions to global warming and offsetting its long-term effects.

Out of consideration for the environment, this report is printed on paper made from wood taken from carefully managed forests, in accordance with the FSC’s (Forest Stewardship Council) requirements. It also uses non-solvent-based soy ink, which releases fewer volatile organic compounds, and a water-based plate printing process that eliminates the need for dampening water containing alkaline developers or isopropyl alcohol.

Toray Group CSR Report 2008

April 1, 2007—March 31, 2008
Management Philosophy

Corporate Philosophy

Contributing to society through the creation of new value with innovative ideas, technologies and products

Corporate Missions

For our customers
To provide new value to our customers through high-quality products and superior services

For our employees
To provide our employees with opportunities for self development in a challenging environment

For our shareholders
To provide our shareholders with dependable and trustworthy management

For society
To establish ties and develop mutual trust as a responsible corporate citizen

Corporate Guiding Principles

Safety and Environment
Placing top priority on safety, accident prevention and environmental preservation, ensuring the safety and health of our employees, our customers and local communities, and actively promoting environmental preservation

Ethics and Fairness
Obtaining the trust of society and meeting the expectations by acting fairly while maintaining high ethical standards and a strong sense of responsibility and maintaining transparency in management

Customer-focus
Providing customers with new values and solutions, and achieving sustainable growth together

Innovation
Achieving continuous innovation in all corporate activities, and aiming for dynamic evolution and growth

Fieldwork and Initiative
Strengthening fieldwork abilities and initiative, the foundations of our corporate activities, through consistently learning from one another and constant self-driven efforts

Global Competitiveness
Pursuing competitiveness through global top quality standards and cost management, and achieving growth and expansion in the global marketplace

Global Coalition
Developing global coalition through integrated internal linkages and strategic alliances with external parties

Emphasis on Human Resources
Providing an environment where employees find value in their work, and building positive, energetic relationships between people and the organization

Editorial Policy

In this report, Toray Group outlines its CSR achievements and gives some examples of its CSR activities during FY 2007. The information is set out in a clear, easy-to-understand way in order that all stakeholders can appreciate the company’s CSR activities.

Report coverage

Environmental content:

Toray, and the 53 manufacturing subsidiaries and affiliates below (total 64 companies), promote Safety, Health, Agricultural Preservation and Environmental Audits.

(Note: As of March 2008, 30 Japanese subsidiaries and affiliates and 33 overseas subsidiaries and affiliates, including those below and non-manufacturing categories.)

Japanese Subsidiaries and Affiliated Companies

DuPont Toray Co., Ltd.
Toray PES Products Inc.

O’Neil Toray Co., Ltd.
Toray Advanced Film Co., Ltd.

Tokie Tecno, Inc.
Toray Celanese Co., Ltd.

Tokie Co., Ltd.
Toray Fibers & Textiles Research Laboratories Co., Ltd.

Tokie Montemar Co., Ltd.
Toray Engineering Co., Ltd.

Tokie Fibers & Films Co., Ltd.
Sodebo-Kumon Co., Ltd.

Tokie Textiles Co., Ltd.
Tokie Medical Co., Ltd.

Tokie Plastic Co., Ltd.
Torie Uehara Co., Ltd.

Social content:

Primarily Toray, with coverage of subsidiaries and affiliates according to the status of their initiatives in various areas

Economic content:

Toray and 238 consolidated companies (a total of 239 companies)

Target period

FY 2007 (April 1, 2007 to March 31, 2008)

This report also includes more recent information up to June 2008.

This report complies with the Japan Responsible Care Council’s Responsible Care Code.

In this document, the terms with an asterisk (*) indicate Toray Groups registered trademarks or trademarks pending registration.

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38 Perform Risk Management
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44 Step up Environmental and Recycling Efforts
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Message from the President

Toray Group consistently strives to make a contribution to society through “Innovation.” The Group also seeks to remain a high-value corporate group for all stakeholders.

Introduction

Toray Industries, Inc. was founded in 1926, starting business as a manufacturer of the man-made fiber viscose rayon. The company has always shown an enterprising spirit: It has harnessed this spirit to build on its core technologies in polymer chemistry, synthetic organic chemistry, biotechnology and nanotechnology, consistently taking up the challenge to develop new products and new technologies. A range of new business areas opened up from this development. In addition to increasing the sophistication of Toray’s core technologies—such as fibers and textiles, resins, films and chemical products—the company’s enterprising spirit has also provided the thrust behind its diversification into such areas as carbon fiber composite materials, IT-related products, pharmaceutical and medical products, and the water treatment business. Toray has also devoted considerable effort into attaining its goal of developing first-class production technologies and quality management systems, and the company received the Deming Prize in 1954. Toray will continue to focus on the sustainable development of both its business and society, and strive to retain its high standard as a manufacturer of basic materials that offers high-quality products and services.

The Way Forward

Aiming for both sustainable development and to make a new leap into the future, Toray Group established a new long-term corporate vision “AP: Innovation TORAY 21” in April 2006. Looking towards the realization of this vision, the Group adopted the corporate slogan “Innovation by Chemistry,” based on Toray’s Corporate Philosophy of “Contribution to society through the creation of new value with innovative ideas, technologies and products.” Through this approach, Toray Group aims to become one of the world’s leading manufacturers of advanced materials, and its dedication to pursuing “Innovation” and innovative management, in all its corporate activities.

The Business Environment and Toray Group’s Response

In recent years, the social and economic environment has been changing very rapidly. These unprecedented and massive changes have led to more and more issues that humanity must respond to on a global scale: increasingly serious environmental issues, high oil prices and thus expensive other products; economic globalization, and limited resources and food supplies.

I believe that it is Toray Group’s mission to see these changes in the global environment as both challenges and opportunities, and to respond promptly: taking the chance to leap forward and maintain growth. To do this, it is important to reinforce the Group’s management foundations, and at the same time to consistently create new value through continuous innovation.

Chemical technology is making substantial contributions to the resolution of a variety of issues. Among these, the steep increase in the price of oil and the degradation of the global environment can provide the impetus for both a spur in Toray Group’s growth and the stimulation for the Group to play an active role in the ongoing development of society as a whole. I believe that this will allow Toray Group to retain its place as a high-value corporate group for all our stakeholders.

Promotion of CSR Initiatives

In light of issues such as these, Toray Group is aggressively implementing various CSR initiatives. The Group has always recognized safety, accident prevention and environmental conservation as priority management issues. Now, management is driven by an assessment of the impact of all the Group’s activities on the global environment. Toray Group has been promoting its EcoStream™ Project, to expand the use of more environmentally friendly products and service business activities, as well as to increase recycling. In 2008, the Group began the Project EcoChallenge to further develop new environmental technologies, to improve the environmental friendliness of composite materials, and to reduce emissions of greenhouse gases (GHGs) into the future. Toray will make even greater use of leading-edge technologies, accelerating its efforts as a diversified chemicals group to tackle environmental issues.

To emphasize safety, accident prevention, and environmental preservation, all Group companies are working together towards achieving Zero Accident not only in plants, but in head office and at other business sites. The entire Group is fully complying with the EU’s Registration, Evaluation, Authorization and Restriction of Chemical substances (REACH) Regulations.

Recent incidents concerning companies’ falsely labeled products have caused Japanese customers some anxiety. In relation to efforts to ensure product safety and quality, Toray Group believes that product safety and quality assurances are a manufacturer’s fundamental responsibility. The Group has been enhancing systems aimed at ensuring safety and consumer confidence, and improving product quality, as well as taking firm measures to further strengthen systems ensuring strict compliance with corporate ethics, company rules and regulations.

In implementing internal control systems, Toray will ensure even closer understanding of the need for observance of the law. For example, the company has responded to Japan’s Corporate Law by implementing an enterprise risk management system and security trade administration. From the current fiscal year, Toray will respond to legal requirements of Japan’s Financial Instruments and Exchange Act, setting up internal systems for Statutory Disclosure of Quarterly Financial Statements and Publication of Internal Control Reports.

The implementation of CSR should be an ongoing concern for any company. This CSR Report presents a summary of the results of Toray Group’s CSR activities in FY 2007. I am confident that from this report the reader will be able to gain a good understanding of how active Toray is in its approach to and promotion of its CSR activities.

I look forward to your kind understanding and continued support for Toray Group’s corporate activities into the future.

September 2008

President, CEO and COO Representative Director Toray Industries, Inc.
Toray Group Business Activities

**Toray Group Current Status and Business Strategies**

Toray Group is engaged in a wide range of business activities. In its operations, the Group develops and cultivates markets by exploiting its core technologies: organic synthesis, chemistry, polymer chemistry, biotechnology and nanotechnology; and it promotes the advanced materials developed by combining these technologies. Toray Group aspires to become a world leader in advanced materials, and is moving forward with the mid-term business strategies defined in the "Project Innovation TORAY 2010 (IT-2010)" to attain this goal. Global business development is a feature that distinguishes Toray Group.

While Toray Group’s Foundation Businesses of Fibers & Textiles and Plastics & Chemicals continue to generate steady income, the Group has broadened its focus on what are termed Strategically Expanding Businesses, including IT-related Products and Carbon Fiber Composite Materials to improve earnings and profit. At the same time, the company is nurturing Strategically Developing Businesses such as Life Science, Water Treatment and Environmentally Friendly Products, which will form the cornerstone of the next generation of improved earnings, and of the company’s sustainable development.

### Main Countries and Regions with Toray Group Subsidiaries and Affiliates

![Region Map](image)

- **Japan**
- **North America**
  - U.S.
  - Canada
  - Mexico
- **Europe**
  - United Kingdom
  - France
  - Germany
  - Czech Republic
  - Switzerland
- **Middle East**
  - Saudi Arabia
  - Iran
  - United Arab Emirates
- **Asia**
  - China
  - Indonesia
  - Malaysia
  - Philippines
  - South Korea
  - Thailand
- **Latin America**
  - Brazil
  - Mexico
  - Argentina
- **Africa**
  - South Africa
- **Other areas**
  - Australia
  - India
  - South Korea
- **Total**

**Overview of Toray Industries, Inc.**

*(As of March 31, 2008)*

<table>
<thead>
<tr>
<th>Region</th>
<th>Japan</th>
<th>Overseas</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field-in-capital</td>
<td>90,007,280,771</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of employees</td>
<td>38,550</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Number of Consolidated Companies**

*(As of March 31, 2008)*

<table>
<thead>
<tr>
<th>Region</th>
<th>Japan</th>
<th>Overseas</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consolidated subsidiaries</td>
<td>95</td>
<td>78</td>
<td>173</td>
</tr>
<tr>
<td>Equity method subsidiaries</td>
<td>24</td>
<td>31</td>
<td>55</td>
</tr>
<tr>
<td>Equity method affiliates</td>
<td>12</td>
<td>27</td>
<td>39</td>
</tr>
<tr>
<td>Total</td>
<td>132</td>
<td>152</td>
<td>284</td>
</tr>
</tbody>
</table>

**Consolidated Business Results**

*(FY 2007)*

<table>
<thead>
<tr>
<th>Region</th>
<th>Total (Million yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>1,649,783</td>
</tr>
<tr>
<td>Operating income</td>
<td>164,970</td>
</tr>
<tr>
<td>Ordinary income</td>
<td>102,403</td>
</tr>
<tr>
<td>Net income</td>
<td>91,471</td>
</tr>
</tbody>
</table>

**Mid-term Business Strategies IT-2010**

In FY 2007, Toray Group, aiming to make a significant leap, pressed on with its IT-2010 mid-term business strategies, which were formulated in October 2006. Under IT-2010 the Group set development of the “Five Innovations”—business structure, technologies, competitiveness, business-awareness and CSR—as key challenges, while the implementation of the “Eight Projects” dramatically shifted the management’s priority to innovation. The basic IT-2010 strategies are described in the box below. The results of the efforts addressing “Expansion of advanced material business in four major growing fields” in FY 2007 are as follows: 1. In the field of information, telecommunications and electronics the Group boosted plant capacity for photolithographic polish coating material for semiconductors at Japanese facilities and optical film used in flat panel displays in Korea. 2. In the field of Life Science, Toray began to sell Careo LA, a drug for the treatment of arterial hypertension. In the bio-technical business, Toray is developing a new set of DNA chips for use in environmental analysis. 4. In the fields of Environment/Water-related/Energy, Toray Group is increasing the production capacity for reverse osmosis (RO) membranes and elements for water treatment in both the U.S. and Japan and is boosting its global sales framework.

According to the “Innovation of business awareness” initiatives, Toray Group is promoting a Corporate Brand Strengthening Project. This involved new advertisements on television and in newspapers. The Group succeeded in enhancing a corporate image of an innovative company at the cutting edge of the development of advanced materials in line with the company’s long-term corporate vision, “AP Innovation TORAY 21.” Toray Group also made badges and published a brand handbook bearing the corporate slogan “Innovation by Chemistry” for its employees.

Toray Group is innovating throughout its fields of business activity, putting into action the Group principle of “Contributing to society through the creation of new value with innovative ideas, technologies and products.”

**Five Innovations and Eight Projects**

<table>
<thead>
<tr>
<th><strong>Five Innovations</strong></th>
<th><strong>Eight Projects</strong></th>
<th><strong>Key Issues</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Transforming to a highly profitable business group</td>
<td>Business Structure Innovation Project</td>
<td>Transformation to a highly profitable business group by reinvigorating business portfolio and enhancing management efficiency in overseas businesses</td>
</tr>
<tr>
<td>2. Expanding Strategically Expanding Businesses (profit growth driver)</td>
<td>Strategically Expanding Business Strengthening Project</td>
<td>Enhancement of core business activity in advanced functional materials through strategic expansion of the existing business base</td>
</tr>
<tr>
<td>3. Expanding Strategically-Developing Businesses (profit growth driver)</td>
<td>Strategically-Developing Business Expansion Project</td>
<td>Strategic expansion of business in the mid-term business strategy through implementation of the &quot;Innovation of business awareness&quot; initiatives</td>
</tr>
<tr>
<td>4. Advancing business structure reform</td>
<td>Business Structure Innovation Project</td>
<td>Improvement of the business structure through strategic expansion of businesses and Strategically Developing Businesses</td>
</tr>
<tr>
<td>5. Expanding advanced materials</td>
<td>Innovative Business Portfolio Expansion Project</td>
<td>Expansion of business activities in every segment and increase in net sales</td>
</tr>
<tr>
<td>6. Advancing advanced material business in four major growing fields</td>
<td>Innovative Business Portfolio Expansion Project</td>
<td>Expansion of advanced material business in four major growing fields</td>
</tr>
<tr>
<td>7. Expanding advanced material business in four major growing fields</td>
<td>R&amp;D Capabilities Innovation Project</td>
<td>R&amp;D expansion in new materials</td>
</tr>
<tr>
<td>8. Manufacturing Innovation Project</td>
<td>Manufacturing Innovation Project</td>
<td>Manufacturing the next generation of high-performance products</td>
</tr>
</tbody>
</table>

**IT-2010**'s Basic Strategies

1. **Transformation to a Highly Profitable Business Group**
   - Focus on the core businesses and increase capital efficiency.

2. **Expanding Strategically Expanding Businesses**
   - Increase profitability by expanding strategic businesses while ensuring steady profit from core businesses.

3. **Expanding Strategically-Developing Businesses**
   - Increase profitability by expanding key growth industries identified in the long-term business strategy.

4. **Advancing Business Structure Reform**
   - Improve the business structure through strategic expansion of businesses and Strategically Developing Businesses.

5. **Expanding Advanced Materials**
   - Expand advanced material businesses in every segment and increase net sales.

6. **Expanding Advanced Material Business in Four Major Growing Fields**
   - Increase sales in the four major growing fields identified in the long-term business strategy.

7. **Expanding Advanced Material Business in Four Major Growing Fields**
   - Increase R&D capabilities in new materials.

8. **Manufacturing Innovation Project**
   - Enhance manufacturing processes and capabilities.

**Innovation of Business Awareness**

1. **Innovation of Business Awareness**
   - Implement business awareness initiatives throughout the organization.

2. **Strategically-Developing Business Expansion**
   - Expand key growth industries identified in the long-term business strategy.

3. **R&D Capabilities Innovation**
   - Enhance R&D capabilities in new materials.

4. **Manufacturing Innovation**
   - Enhance manufacturing processes and capabilities.

5. **Cost Innovation Project**
   - Reduce costs and enhance cost competitiveness.

6. **Marketing and Sales Innovation Project**
   - Enhance marketing and sales capabilities.

7. **Corporate Brand Strengthening Project**
   - Enhance the Group's corporate brand.

**CSR Activities**

- Promoting CSR-related activities, strengthening the Group's corporate brand and promoting sustainable business operation.

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*Note: This text snippet is extracted from a document that likely contains a table and multiple figures. The tables and figures are not included in the natural text representation.*
Environmental Friendly Products and Technologies

Toray Group pursues environmental design practices in an effort to contribute to environmental preservation by reducing the environmental impact of its products.

1. Water treatment membranes
   - Helping to use water resources effectively by desalination of seawater and recycling of waste water (Photograph: water treatment facility at Kinuta Water Purification Plant, Tokyo).

2. Parts to reduce the weight of cars
   - Automobile parts using engineering plastics instead of metal.

3. Plant-based materials for clothing
   - SOTAKE® made from renewable and non-petrochemical raw materials.

4. Biodegradable fishing line
   - The world’s first biodegradable fishing line Fieldmat®.

5. Materials for power-generating windmills
   - Blades for power-generating windmills made using Torayca® carbon fiber.

6. Film for solar power
   - A billboard with solar cells using Luminex® polyester film (Photograph: the Marina Plant).

7. Aircraft materials for lighter aircraft bodies
   - New generation aircraft, Boeing 787 constructed with materials using Torayca® carbon fiber.

8. Environmentally friendly cellular phone parts
   - Cellular phones made using Topical®, a color filter for liquid crystal displays that eliminates use of environmentally harmful heavy metals.

9. Computers using plant-based resin
   - Plant-based resin EcoDear® is used in computer cases.

10. Non-halogen fire-retardant plastic resin components
    - Electric and electronic connectors using engineering plastic, highly heat resistant and halogen-free.

11. Printing materials which do not generate liquid waste
    - Toray Waterless Plate® improves printing efficiency and helps to preserve the environment as it does not generate liquid waste during the printing process.

12. Plant-based packaging materials
    - Containers and packing film using plant-based plastic and film made using EcoDear®.

13. Household water purifier
    - Torayvin®, the household water purifier that eliminates chlorine residue, and general bacteria.

14. Cellulose sponge
    - Environmentally friendly cellulose sponge made with non-petroleum natural pulp.

15. Material for thermal clothing
    - Innerwear made using "HEAT TECH®" material with a high heat retention.
    - "HEAT TECH®" is a registered trademark of FAST RETAILING CO., LTD.

16. Plant-based wadding
    - Blankets made with EcoDear® fiber filling.

Toray Group’s advanced materials and technologies are used in many everyday situations, affecting the lives of everyone. As technology is continually advancing, and products are evolving, it is vital to focus on the impact on people and the environment, and not allow these to become overlooked.

In considering the future, Toray works toward the preservation and improvement of the environment, as well as technological innovation.
Toray Group’s Corporate Social Responsibility

As the director responsible for Toray Group’s CSR, I undertake to ensure that the Group is positioned as a world leader in implementing CSR by 2010.

Toray has always given priority to tackling a wide variety of management issues in the areas of safety, accident prevention, and environmental preservation, as well as to upholding corporate ethics and complying with laws and regulations. In recent years, however, demands made by society, affecting corporate responsibility have on the increase, and Toray Group believes that it is important that it should further deepen its awareness of CSR-related issues and contribute to the betterment of the global environment through an expansion of its advanced materials business. At the same time, Toray Group should more actively engage in efforts to address a range of social issues.

A unique strength of Toray Group’s approach to CSR lies in its 2 sets of systematic activities: “CSR guideline activities” and “CSR line activities.” CSR guideline activities take place within the comprehensive set of 10 CSR Guidelines that the entire Group should address: action programs and implemented follows. Along with this, the company implements CSR line activities are undertaken by every department in all Group companies, based on the CSR Guidelines, and all employees take part. I believe that these 2 systematic activities generate synergetic effects that help the Group fulfill its corporate social responsibility.

Under the mid-term business strategies “Project Innovation TORAY 2010 (PT-2010)” that were launched in October 2006, “Five Innovations” were adopted. One of these is “CSR Innovation,” and toward this goal, Toray Group is developing the abovementioned “CSR line activities.” The Group is also implementing line activities designed to ensure absolute adherence to the requirements of security trade administration, the implementation of internal control, etc. The directors and employees of Toray Group are united in their firm resolve and determination to build on the results of their daily efforts, and not to waver in taking the challenge of CSR innovation into the future.

Ten Basic Environmental Rules

1. Environmental preservation is the top priority
2. Prevention of global warming
3. Zero discharge of environmental pollutants
4. Use of safer chemicals
5. Promotion of recycling
6. Improvement of the level of environmental management
7. Contributing to society through environmentally improved technologies and products
8. Improvement of environmental management in overseas business
9. Improvement of employee awareness of the environment
10. Sharing of environmental information with the society

Corporate Ethics and Legal Compliance Code of Conduct

1. Basic Policy & Enhance Corporate Governance
2. Uphold Corporate Ethics and Comply with Laws and Regulations
3. Emphasize Safety, Accident Prevention, and Environmental Preservation
4. Ensure Product Safety and Quality
5. Perform Risk Management
6. Promote Dialogue with Stakeholders
7. Step up Environmental and Recycling Efforts
8. Secure and Train Personnel and Promote Human Rights
9. Cooperate with Suppliers in their Environmental and Social Initiatives
10. Pursue Social Initiatives

Corporate Ethics and Legal Compliance Code of Conduct (Adopted: October 2003)

1. Contribute to society
2. Communicate with the parties and stakeholders associated with the company, including its customers and shareholders as well as members of the local community.
3. Behave as a good corporate citizen
4. Play an active role in preserving the global environment
5. Prioritize fairness and trust in corporate activities
6. Comply with national laws and regulations
7. Make motivation and create a corporate culture
8. Break off relations with antisocial forces
9. Observe and respect the rule of law
10. Share environmental information with the society

Toray Group”s Corporate Philosophy and CSR

Since its founding, Toray Group has focused on the goal of “contributing to society through the creation of innovative ideas, technologies and products,” as stated in its Corporate Philosophy.

“Corporate Philosophy” clearly states the relationship with the Group’s stakeholders; “Corporate Guiding Principles” lists the objectives that should guide the actions of every employee, and “Corporate Ethics and Legal Compliance Code of Conduct” sets out concrete examples for these actions.

For Toray, the implementation of CSR activities is nothing other than put toward this goal, Toray Group is developing the abovementioned “CSR line activities.” The Group is also implementing line activities designed to ensure absolute adherence to the requirements of security trade administration, the implementation of internal control, etc. The directors and employees of Toray Group are united in their firm resolve and determination to build on the results of their daily efforts, and not to waver in taking the challenge of CSR innovation into the future.
Special Features of Toray Group’s CSR Activities

Toray Group implements 2 sets of CSR activities in parallel, both based on its unique CSR Guidelines. The 2 are “CSR guideline activities,” which are implemented on an organizational basis and “CSR line activities,” which are implemented by each division.

The CSR Guidelines categorize the important issues that Toray Group should address. For each guideline, a director has been nominated as the person responsible for implementation, and the responsible department draws up an action program and implements CSR guideline activities. The Company-wide CSR Committee began making reports on the outcomes of all activities, and publishes this information externally, in CSR Reports, for example.

CSR line activities, on the other hand, are activities in which all employees participate. The activities are implemented by all departments at head office and at all subsidiaries and affiliates, in and outside Japan. At Toray, CSR line activities commenced in FY 2005, with section managers being nominated as implementation leaders, and at each workplace, the aim is to resolve issues from a CSR standpoint. Subsidiaries and affiliates in Japan and elsewhere began implementation in FY 2006, and this was extended to all overseas regions in FY 2007.

Third Party Evaluation under Consideration

Under consideration

Progress on Implementation of the Second CSR Road Map

In June 2007, the position of overall supervisor for CSR and for a dedicated CSR Operations Department were newly established. Also in FY 2007, systems for the deployment of CSR across the entire Group were put in place, and CSR guideline activities were steadily implemented. The expanded implementation of CSR line activities in Japanese and overseas subsidiaries and affiliates proceeded according to plan, and progress is being made engendering interest in the CSR perspective in all Group companies. Chosen companies for CSR promotion overseas were designated in all regions in which Toray has a base (including the ASEAN region, the United States, Europe, China, etc.) and implementation commenced in those companies.

To further spread CSR awareness, Toray made progress in incorporating CSR issues into Group-wide training systems. As planned, responses to the requirements of Japan’s Corporate Law and Financial Instruments and Exchange Act were further developed in the company’s internal control systems. Following due consideration, however, implementation of Group-wide self-assessment and self-audit targets corresponding to PDA2* check items was not proceeded with. It had been envisaged that each Group company would conduct self-assessments with check lists, etc., but Toray Group decided that it would not be effective to introduce common self-assessment standards as the Group encompasses such a wide variety of business activities.

Formulation of Third CSR Road Map

Based on the direction taken following 2 to 3 years’ debate of CSR issues, Toray decided to formulate a Third CSR Road Map. The Second CSR Road Map was brought to an end at the end of FY 2007. One factor behind the decision to formulate the Third CSR Road Map was the intention to enhance Toray Group’s CSR activities. When the Second CSR Road Map was being planned, as CSR guideline activities and CSR line activities moved from the planning to the implementation phase, a new Road Map was required.

Taking this situation into account, Toray formulated the Third CSR Road Map, by incorporating CSR guideline activities and CSR line activities into plans that can be promulgated even more effectively. In addition, the company aims to establish a system for enterprise risk management by 2010, for which development commenced in earnest in FY 2008.

To put “CSR Innovation” in practice—one of the 5 goals of Toray Group’s mid-term business strategy IT-2010—it is Toray’s intention to further boost CSR activities in accordance with the goals stated in the Third Road Map.

* The management cycle that follows the order of Plan, Do, Check and Act.
Taking up the challenge of combating climate change with materials that can be used to make lighter automobiles and aircraft

The First Commitment Period of the Kyoto Protocol began in 2008, amid growing global concerns about climate change. It has become clear that the effects of climate change will be both rapid and serious, and all countries are now recognizing the need to establish a framework for addressing the issue. Industry in Japan and around the world is under mounting pressure to carry out fundamental reviews of all aspects of production, including the procurement of raw materials, production methods, use of finished products, and their eventual disposal. Toray Group believes that its mission as an industry leader in the development of advanced materials is to develop materials that are environmentally conscious. Adopting a global perspective, the Group has been helping society in its efforts to reduce GHG emissions.

Reducing the environmental impact of a wide range of products with Toray’s high-strength and light-weight materials

CFRP Means Outstanding Weight Reductions in Finished Products

Toray pioneered mass production of carbon fiber in 1971. Carbon Fiber Reinforced Plastics (CFRPs) are made by impregnating and hardening resins in carbon fiber, which is made by baking and carbonizing acrylic fibers. CFRP offers superior strength and elasticity. It’s superlatives stems from the fact that, in comparison with metals such as steel or aluminum, it offers the same degree of strength and rigidity at much less weight. CFRP was first used in sports and leisure goods such as golf clubs, tennis rackets and fishing rods, and applications expanded into the aerospace industry for materials used in aircraft and satellites. In the 1990s, CFRP began to be widely used in industrial applications, such as pressure vessels, industrial machinery and civil engineering construction materials. The use of CFRP in automobiles and aircraft offers dramatic weight reductions in the finished product, and this lowers fuel consumption. As a result, the demand for CFRP has been growing at an unprecedented rate, particularly in response to the urgent need to combat climate change.

Key Characteristics of CFRP

- Light-weight: 25% the weight of steel
- Strength: 10 times stronger than steel (modulus strength, weight for weight)
- Does not corrode

Reduction of CO₂ Emissions over the Product Life Cycle

At first sight, CFRP appears to present an issue in that higher levels of CO₂ are emitted in its production, when compared with traditional materials such as steel. However, over a product’s life cycle, the CO₂ emissions occurring during the production of raw materials and intermediate materials, or at the time of its eventual disposal are comparatively low, as nearly all of the CO₂ emissions occur during the actual use of the automobile or aircraft. CFRP, with its significant effect on weight reduction, makes it possible to achieve a huge reduction in CO₂ emissions over the product’s life cycle. The charts on the following page depict life cycle assessments (LCAs) for the full-scale adoption of CFRP as a material in automobiles and aircraft.

If we compare the volume of CO₂ emissions of a car that uses CFRP and those of a conventional vehicle, over a typical 10 year period, it is possible to achieve a reduction of approximately 5 tons with a CFRP-based car. In comparison with a conventional automobile, one that uses CFRP materials can offer a reduction of approximately 27,000 tons of CO₂ emissions over a 10 year operational period (Chart 1). Calculations show that if CFRP was used in all the 62 million privately owned automobiles and 430 large passenger aircraft owned in Japan, it would be possible to achieve an annual reduction of approximately 1.5% in Japan’s total CO₂ emissions of 1.3 billion tons.

If all 42 million privately owned automobiles, and 430 large passenger aircraft used CFRP, the annual reduction in domestic CO₂ emissions would be approximately 1.5% of Japan’s total emissions of 1.3 billion tons.

Studies have found that penguins in Antarctica are facing food shortages brought about by global warming, and their population is declining. Many fear that the birds are in danger of becoming extinct.

For both automobiles and aircraft, the reduction in CO₂ emissions from the use of CFRP exceeds the additional emissions arising from their production.
Use of CFRP for Key Structural Components of Aircraft

The aircraft industry, which is struggling to cope with steep rises in fuel costs, has already made progress towards the full-scale adoption of CFRP. The Airbus A380, a jumbo jet that has been in service since 2007, uses around 35 tons of CFRP per airplane, and the Boeing 787, a mid-size model that is expected to go into service in 2009, will also use around 35 tons per plane. (Amounts of CFRP used are Toray estimates.)

Highlight 1

Senior Manager, Aerospace Technology Section
Toray Industries, Inc.

CFRP has fully satisfied our expectations.

Tetsuyuki Kyono, the Senior Manager of Aerospace Technology Section, Advanced Composite Material (ACM) Technology Department, which has been engaged in collaborative development with Boeing, explains: “The development of a new material that has excellent impact durability, and is composed of high-strength carbon fiber and extremely tough resin was a technological milestone. This material was adopted in 1997 for use in the empennage and floor beams of the Boeing 777, and this aircraft. The material received excellent feedback in actual use, and Toray’s CFRP was also adopted for use in the Boeing 787 for that aircraft’s fuselage, wings and other key structural elements.”

Reduction in Environmental Impact in Production and Development of Recycling Technologies

Adoption of CFRP significantly altered the aircraft design and manufacturing processes. Whereas in conventional methods, the fuselage’s metal parts had to be welded and riveted together, the new methods allow tubular molding of the entire fuselage as a single unit.

“Materials used in aircraft must be of the highest possible specifications in all aspects, such as in strength and durability, and the technologies used in production too are highly refined. As efforts proceeded towards the practical application of CFRP in aircraft, the development of the technical processes for integral molding proceeded swiftly, and as a result Toray succeeded in greatly reducing the environmental impact at the time of production. This led to a further boost in the performance of CFRP and its in environmental credibility, and we now expect that the market for CFRP will expand across all types of industry,” says Kyono, and his office is receiving increasing numbers of inquiries in the field of space technology development.

The recycling of CFRP remains a challenge, and several technologies are being investigated. Technologies for the production of recycled milled carbon fiber are being developed, and these will allow recycling of more than 90% of the recovered product, with an environmental burden of just one twentieth that of non-recycled carbon fiber. The demand for carbon fiber is growing at a rate of 15% annually, and Toray is actively engaged in efforts to develop recycling technologies in response to anticipated growth in the amount of CFRP that will need to be disposed of.

Highlight 2

Senior Staff, Advanced Composites Development Center
Toray Industries, Inc.

It is possible to recycle the nose of carbon fiber, see page 9.

Ongoing Technical Innovation in the Automobile Industry

Now that legal frameworks for environmental responsiveness are about to be implemented in the automotive field, CFRP is being increasingly adopted for use in vehicles. Hidehiro Takemoto of Toray’s Advanced Composites Development Center says: "Many countries are on course to implement tough regulations on automobiles. For example, in Japan, passenger vehicles will have to achieve an average fuel consumption of 16.8 km/l or more by 2015, and in the EU, CO2 emissions must be less than 130 g/km by 2012. In order to meet the requirements of such regulations, vehicles will have to be much lighter. Toray aims to have CFRP used in automotive components, and it is proceeding with collaborative development in partnership with automakers and major parts manufacturers.”

As part of a national project known as the "Automotive Light Weight Structural Elements of CFRP Composites" supported by Japan’s New Energy and Industrial Technology Development Organisatiion and the Ministry of Economy, Trade and Industry, since 2003, Toray has been conducting research and development together with Nissan Motor Co., Ltd. that addresses concrete technical matters of relevance to the adoption of CFRP for automotive components.

Takemoto continues: “We carried out a major reworking of molding processes for CFRP components, which used to be more complex and time-consuming than the processes used for metal components. As a result, the molding process for a vehicle platform that had taken 160 minutes using the old technologies was shortened to just 10 minutes. This means that there is now the potential to use CFRP for major components in vehicles with annual production of tens of thousands. Furthermore, this improvement results in a reduction of the amount of energy needed for the operation of production machinery, and a consequent reduction in CO2 emissions during production—something that had been an issue.”

Toray continues to work towards reducing the environmental impact during production, and it is making ongoing contributions to the efforts to combat climate change by furthering the use of CFRP as an environmentally friendly material.

Highlight 3

Manager, Strategy Planning, Environment and Social Affairs
All Nippon Airways Co., Ltd.

Photo courtesy of Boeing

The Boeing 787, which uses CFRP for its structural parts

Photo courtesy of Boeing

Automotive components is another field where CFRP is being adopted

Photo courtesy of Nissan Motor Co., Ltd.

Takayasu Kiyohito
Senior Manager, Aerospace Technology Section
ACM Technology Department
Toray Industries, Inc.

High Expectations from Airlines

CFRP Offers Great Advances in Fuel Efficiency and Aircraft Life Expectancy

Some 98% of all CO2 emitted during the course of the All Nippon Airways Co., Ltd. (ANA) Group’s business is generated by the aircraft that it operates. ANA, as a company operating in the air transportation sector, which sustains itself at the expense of high CO2 emissions, is doing its best in every possible area towards improving fuel consumption efficiency, including the introduction of energy-efficient aircraft. The company’s introduction of the Boeing 787, which is expected to improve fuel efficiency by 20% in comparison with current aircraft, is a major environmental protection initiative. Aircraft that use CFRP will not only offer a great reduction in CO2 emissions over their lifecycle, they will also allow reduced maintenance workloads in comparison with metal-based airframes and make possible a longer operational life.

ANA has high expectations for Toray to continue to supply its high quality CFRP. We are also relying on Toray to help further develop the Boeing 787 as an aircraft with even more outstanding maintenance characteristics. ANA is always pursuing safety and customer comfort, and we have great expectations pinned on advanced materials such as CFRP which could lead to improved safety.

Tomonobu Matsumura
Director, CSR Promotion, Environment and Social Affairs
All Nippon Airways Co., Ltd.

High Expectations from Aircraft Manufacturers

Use of CFRP in the Boeing 787

Since 2003, joint development of CFRP has been under way at Toray and other parts and material manufacturers. Our greatest challenge was to develop low-cost manufacturing technologies based on integrated molding. The success of CFRP has fully satisfied our expectations.

CFRP has many advantages. In the build of the aircraft, we see significantly less waste, fewer hazardous materials and shorter cycle times. In operation, the structure is more durable and does not corrode or fatigue like metals. Passengers will be able to enjoy greater comfort from lower altitudes and higher humidity in the cabin. Airlines will be able to save on lower landing fees that correspond to aircraft body weight, in addition to fewer repairs.

In the future, we expect to see Toray take further steps in cutting down the environmental impact from material manufacturing. We use composites from Toray to improve structural efficiency of our aircrafts which results in significant reductions in life cycle fuel consumption and in overall emissions.

Alan G. Miller
Manager, Technology Integration
Boeing Company

Feature

CFRP

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Tomonobu Matsumura
Director, CSR Promotion, Environment and Social Affairs
All Nippon Airways Co., Ltd.
Delivering safe and reliable water for people around the world

Rapid population increases and economic development around the world are having a negative impact on the world’s water environment and causing water resource shortages. Some 95% of the world’s water is in the oceans. Most of the remaining 5% is in glaciers and underground water, while only 0.01% is readily available for human use. At the moment, around 1 billion people do not have access to safe drinking water. Toray Group has developed seawater desalination and wastewater reclamation systems based on high-performance membrane and water treatment technologies, which have been refined over many years, and has been providing such water treatment systems for large plants around the world. The Group has been meeting the challenges of water resource problems by utilizing water treatment technologies to meet the various requirements for water quality.

Effective Use of Global Water Resources with Minimal Energy Input

Supplying Water for Various Purposes Using Efficient, Energy-Saving Water Treatment Technologies

Toray started research and development of membranes for seawater desalination in 1968. In 1980, the company developed and marketed reverse osmosis (RO) membranes for ultra-pure water for semiconductor production. After that, a variety of separation membranes were developed, utilizing Toray’s core technologies—organic synthetic chemistry, polymer chemistry, biotechnology and nanotechnology. In addition, Integrated Membrane Systems (IMS) were developed, utilizing Toray’s core technologies—organic synthetic chemistry, polymer chemistry, biotechnology and nanotechnology.

Toray Membrane Technologies and Their Functions

Examples of membrane modules for water treatment

A Water Treatment Setup Using RO Membranes

Water treatments using RO and NF membranes are advanced separation processes in which a pressure greater than osmotic pressure is applied to force the water through the membrane. In the case of seawater desalination, the advantages of the RO membrane process over the conventional thermal process are:

- Recovery ratio: 4 times greater than thermal process
- Less stringent requirements: less than 20% of thermal process
- Low plant cost: 50 to 90% of thermal process

Trends of Energy Consumption for Seawater Desalination

"Our partnership with Toray and its cutting-edge technologies will be a boost to our R&D activities as we actively seek to build a vibrant R&D sector in Singapore." (Mr. Kho) In December 2007, PUB and Toray signed an MOU on joint development in water treatment.

"Presently, a low-fouling RO membrane module is planned for use at the 228,000m³ per day Changi NEWater plant, which is scheduled to start-up in 2 phases from 2009. Because of its low-porosity, it is less than one-third the energy of RO desalination methods. (Uemura) In combining the existing NEWater plant at Sefarar and the Tuas desalination plant, treatment output from plants using Toray’s membranes will be total approximately 400,000m³ per day, equivalent to approximately 30% of Singapore’s water needs.

"Our aspiration is to build Singapore into a hub for water technologies. We hope that the collaboration with Toray will yield new solutions that can bring us closer to our goal." (Mr. Kho) Toray will contribute to Singapore’s water management through its partnership with PUB and the continuing advancement of membrane application technologies.

Contributing to Resolving Water Issues Around the World: Drought, and Floods

Global water shortages and water contamination are becoming more serious due to global warming. In the United Arab Emirates (UAE), Toray’s proprietary membrane bioreactor technology, which excels in maintaining water permeability and anti-fouling properties against sludge, has been applied in wastewater treatment and reclamation. In addition, large-scale desalination plants are to be built in areas with scarce water resources including the Middle East, the Mediterranean and the Caribbean.

Technological development in recent years has enabled a significant reduction in the energy consumption for membrane water treatment and desalination, and the environmental advantages of the water membrane filtration system are expected to spur wider use. Toray will continue to aim at innovation of water treatment technologies, and to support nations facing water resource problems by securing safe water supplies at low cost with low energy consumption. Toray keeps contributing to realizing a higher quality of life of the people in these nations.
**Highlight 3: Initiatives for Development of Global Human Resources**

Fostering self-motivated and capable people from all over the world for the benefit of the company and society

Development of human resources is not only in a company’s interest, it is also for the good of the local communities where the company is located and where the employees live and work. In the pursuit of globalization in countries and regions outside Japan, Toray Group has been steadily giving its management a more global focus, addressing the needs of borderless economies, and developing the communication tools to match the advance of globalization. Toray aims to recruit human resources who have the international perspective appropriate to company goals, and it aims to generate the diversity among employees that catalyzes innovation.

### Improved Training at Overseas Companies and Affiliates

**Tony Group** is well aware that hiring, training and keeping a diverse mix of people is essential for corporate management. Accordingly, the Group organizes human resource training to reflect both this diversity and the management methods that are necessary for global business. In order to support the management training curriculum in place at each Group company and Senior Management Seminars in Japan, Tony Group is working on expanding opportunities for Senior Management Seminars in different regions. The Group has held regional Senior Management Seminars in English in Europe since 2004 and in the United States since 2006. From 2007, such seminars have also been held in China, Thailand, and Indonesia in local languages.

The training focuses on understanding such matters as the Group’s Management Philosophy, mid-term business strategies and Group-wide management methods. In order to strengthen human resources development structures, we are designing a training program for new managers to learn basic human management skills in 2008. Although Toray Group companies hold joint seminars to train managers, individual training programs are also organized. A good example of this approach is the **CSR training program**. Since 2006, Toray Group has been developing and using in conjunction with the training program. An informational brochure was developed as a companion to the DVD. We hope that other Toray Companies in the U.S. will use this tool in the near future.

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**Development of CSR Tool Kit for Use in Group Companies**

Since 2006, Toray Group companies in the U.S. have jointly conducted the U.S. Senior Management Seminar. In 2007, 18 participants from 6 companies gathered to learn about Toray Group’s Corporate Philosophy and Mission, as well as to discuss such topics as leadership, intracultural communication and other management skills. The participants also discuss various topics related to the Toray Group management philosophy. In order to strengthen human resources development structures, we are designing a training program for managers to learn basic human management skills. Moreover, the Group has developed a CSR tool kit that can be used in conjunction with the training program. An informational brochure was developed as a companion to the DVD. We hope that other Toray Companies in the U.S. will use this tool in the near future.

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**Focus on Passsing on Technical Know-how from Experts to New Employees**

**Société des Fibres de Carbone S.A.** (SOFCAR) considers human resource development to be one of the most important issues in business. In 2007, more than 70% of all staff took part in education and training, a total of more than 3,000 hours. The objective was to pass on technical know-how from experts to new staff. The curriculum for the in-house training program is tailored to the abilities and needs of individual employees, based on interviews with top management. Subjects such as safety, product technology and communication are added to the tailored program. The company plans to hold a seminar to study cross-cultural communication between Japan and France for sector management. The project aims to advance internationalization in these countries.

In 2007, 14 people from 10 companies took part in the Senior Management Seminar, which is held every year in Europe.

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**Global Human Resource Capability is the Key**

First Toray Group China Senior Management Seminar

In August 2007, 16 people from 10 companies gathered for the first Toray Group China Senior Management Seminar. It was an interesting and packed program: participants could get a clear idea of Toray’s goals for the future; they saw for themselves the importance of personal training, through studying a wide range of subjects from Toray’s Management Philosophy, sales and health, accident prevention and the environment to business development, production management, and R&D.

First Toray Group Indonesia Management Seminar

The first Toray Group Indonesia Management Seminar was held in Novermber 2007, with 45 managers from 12 companies in the region participating. In addition to looking at Toray’s Management Philosophy and business, the curriculum covered crucial business areas such as how to perform status analysis, and the identification and solution of problems.

First Toray Group Thailand Management Seminar

The first Toray Group Thailand Management Seminar was held in May 2007 in the Thai language to give the participants (28 persons comprising Deputy General Managers and General Managers from the 4 Thai Group companies) a better understanding of Toray’s Corporate Philosophy, global operations, Project IT-2010 and CSR activities. The seminar’s focus was to improve the participants’ abilities in situation analysis, problem discovery and solving, and to strengthen their identity as part of Toray Group.

The participants recognized the importance of proactively taking countermeasures by anticipating problems at an early stage, and they engaged in identifying and solving problems in the seminar workshop.

The seminar proved to be very useful at a practical level and is expected to continue to provide local staff with opportunities to develop and improve their performance effectively.
In compliance with Japan’s Financial Instruments and Exchange Act, the Internal Control Department has established internal control systems and is engaged in the documentation of administrative processes and other activities.  

In March 2008, the following items were added to Toray’s “Basic Policy for Internal Control Systems” under Japan’s Corporate Law: thorough implementation of security trade administration, cutting all ties with antisocial forces, and promoting the establishment and operation of internal control systems relating to financial reporting.

Toray Group makes assessments on enterprise risk management based on the probability of an event and the extent of the event’s impact.

The Group initiated CSR Line Activities in all regions outside Japan.

Toray Group Governance Structure

In pursuit of its fundamental objective of deserving the trust placed in it by society and its stakeholders, Toray Group has developed a governance structure characterized by sincerity and transparency.

Management Execution and Supervision by the Board of Directors and Executive Committees

Toray supplies basic materials to a wide range of industries. The company believes that decision-making, management and supervision by the 30 members of the Board of Directors, all of whom are thoroughly familiar with this wide range, will result in responsible, transparent management. In consequence, Toray does not employ a system of external or executive directors. Rather, the company follows an autonomous approach to governance: a strict adherence to the authority of top management decision-making for each organizational entity.

For efficiency, the Executive Committee and Board of Senior Vice Presidents deliberate in facilitating resolutions by the Board of Directors, and decisions by the president. The Executive Committee is responsible for the general direction of policy, while the Board of Senior Vice Presidents implements policy. Management is further supplemented by the CSR Committee, as well as by company-wide committees that have been established to oversee key management issues.

Management Monitored by the Board of Corporate Auditors

The Board of Corporate Auditors monitors Group management. It comprises 4 auditors, including 2 external auditors. The Auditing Department cooperates with auditors as requested.

In FY 2007, all auditors attended meetings of the Board of Directors. The auditing policy for the current fiscal year was decided by the Board of Corporate Auditors, which met at least every 3 months. In line with this policy, after meetings involving all directors, including the president and general managers, regular audits were conducted at business offices, plants and subsidiaries and affiliates in and outside Japan. In this way, Toray maintains and promotes a system that scrutinizes the operational performance of the company’s directors.

Internal Control Required by Japan’s Financial Instruments and Exchange Act

From the fiscal year beginning from April 2008, Japan’s Financial Instruments and Exchange Act required companies to submit reports on internal control for financial reporting and to implement independent audits by external auditors. To comply with the new law, the Internal Control Department developed internal control systems, including the documentation of administrative processes, in FY 2007; actual operations started from April 2008.

Review of Basic Policy for Internal Control Systems

In March 2008, Toray reviewed its “Basic Policy for Internal Control Systems”—a policy which is required under Japan’s Corporate Law. Some changes were made following a decision by a meeting of the Board of Directors in May 2006.

The main changes were: (1) the thorough implementation of security trade administration (2) cutting all ties with antisocial forces, and (3) promoting the establishment and operation of internal control systems relating to financial reporting. Details of these changes were described in the “Corporate Governance Report,” submitted to the Tokyo Stock Exchange, and published on the company’s website.

Dialogue with Labor Unions

Toray holds meetings of the Central Labor and Management Council twice a year. The meetings are attended by directors at the senior vice president level and higher and labor representatives at the union head level and above. At these meetings, management-related information is shared, and there is an ongoing dialogue with the labor union. Resolution of labor issues is undertaken at separate Labor and Management Council meetings, and these have resulted in such initiatives as a system for helping improve employees’ balance between work and family life, a system that was revised in April 2007.

Promotion of CSR Activities

Toray Group believes that CSR is so important an issue for corporate management as growth in revenue. CSR has pride of place in the Management Philosophy, which has at its core the Group’s Corporate Philosophy: The company promotes CSR activities as a way of applying that philosophy.

Group-wide Promotion of CSR

The CSR Committee, which reports directly to the president, coordinates the activities of 6 company-wide committees. In addition, CSR/Legal Compliance Committees have been established in each subsidiary and affiliate, division, and plant, where they promote CSR activities and serve as a task force for the CSR Committee. To boost CSR line activities and accelerate the Group-wide deployment of CSR, 2 changes were made in June 2007: a role of overall supervisor for CSR at director level was introduced, and a CSR Operations Department, as an independent organization to promote CSR activities, was established.

Development of CSR Line Activities

In April 2006, CSR line activities were initiated in each department at Toray, and simultaneously line activities were initiated at 6 chosen subsidiaries in Japan. From March 2007, line activities were initiated at the remaining Japanese subsidiaries and affiliates. By carrying out the PDCA cycle to firmly establish a Group-wide CSR management system under the CSR Road Map, Toray aims to follow up on the results of these line activities—“Do” in the PDCA cycle—on an annual basis and use this to draw up and implement activity plans for the following fiscal year.

Among overseas subsidiaries and affiliates, in each region, Toray has chosen model companies for CSR promotion. These companies promote CSR line activities that take the circumstances in each country into consideration. In addition to companies in 3 ASEAN countries (Thailand, Malaysia and Indonesia) in which CSR activities were initiated in March 2007, companies were chosen from the United States, Europe, China and elsewhere in Asia and CSR line activities got under way in FY 2007, and implementation across all these regions is now complete. In the model companies in these regions, top management and locally hired senior management have been trained, and these companies are now working to develop their own line activities by setting up themes or adopting issues. From FY 2008, Toray plans to provide assistance to overseas companies and affiliates other than these chosen companies towards their promotion of CSR line activities.
Toray Group will conduct ongoing educational activities concerning corporate ethics and legal compliance, while taking action as necessary to adjust to legal and other changes in the environment in which the Group operates.

**Action Program Results**

1. The Group continued educational activities at Toray and 115 Japanese and overseas subsidiaries and affiliates.
2. The Group implemented “FY 2007 CSR and Legal Compliance Line Activities” in all workplaces.
3. The Group actively sought to further enhance legal compliance by employees Group-wide. Study groups in security trade administration were organized and the “Legal Reform Information Distribution System” was made good use of. The Group also developed and established internal control systems for financial reporting, responded to changes in laws and regulations, and consolidated the severance of relations with antisocial forces.

**Commitment**

Toray Group considers corporate ethics and legal compliance to be among its most important management issues. Based on a clearly defined stance and the leadership of top management, the Group works to optimize its conduct in this area.

**Promoting Corporate Ethics and Legal Compliance**

The figure below illustrates the framework within which Toray promotes corporate ethics and legal compliance. The Corporate Ethics Committee, which is chaired by the president, discusses policies related to corporate ethics and to the employee code of conduct and the Committee also encourages labor and management to work together in their efforts to improve CSR. The Company-wide Legal Compliance Committee primarily comprises section managers; it has an open operational framework, placing considerable importance on direct communication with top management. The Committee also plays a key role in facilitating various activities initiated by the employees themselves: comprehensively addressing Group-wide issues and ensuring legal compliance. At the division- and plant-level, CSR/Legal Compliance Committees also encourage each employee to practice on-site activities based on his/her awareness of related issues.

**Framework for Promoting Corporate Ethics and Legal Compliance**

<table>
<thead>
<tr>
<th>Corporate Ethics Committee</th>
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<tbody>
<tr>
<td>President</td>
</tr>
<tr>
<td>Members of the Board and Chair of Toray Labor Union</td>
</tr>
<tr>
<td>Auditors</td>
</tr>
<tr>
<td>Company-wide Legal Compliance Committee</td>
</tr>
<tr>
<td>Executive in charge of CSR initiatives</td>
</tr>
<tr>
<td>Division- and Plant-level CSR/Legal Compliance Committees</td>
</tr>
<tr>
<td>Auditors</td>
</tr>
<tr>
<td>Division plant general manager</td>
</tr>
</tbody>
</table>

In addition to each company’s CSR/Legal Compliance Committees, a Corporate Ethics and Legal Compliance Group has been established in Toray’s Affiliated Companies Division as a point of contact for the implementation of mini-code standards and to the employee code of conduct and the Committee also encourages labor and management to work together in their efforts to improve CSR. The Company-wide Legal Compliance Committee primarily comprises section managers; it has an open operational framework, placing considerable importance on direct communication with top management. The Committee also plays a key role in facilitating various activities initiated by the employees themselves: comprehensively addressing Group-wide issues and ensuring legal compliance. At the division- and plant-level, CSR/Legal Compliance Committees also encourage each employee to practice on-site activities based on his/her awareness of related issues.

**Fostering Corporate Culture Based on Ethics and Legal Compliance**

Toray Group strives to ensure a thorough understanding and acceptance of its corporate ethics and legal compliance standards. One way in which it does this is by having each workplace device and implement a range of educational activities. For example, corporate ethics and legal compliance issues are taken up at monthly meetings, study groups are organized and public reports of instances of corporate misconduct are reviewed.

The Group has introduced a Legal Reform Information Distribution System, under which bulletins relating to amendments to laws relevant to administration within Toray Group are emailed to all Toray departments and Japanese subsidiaries and affiliates on a weekly basis. A Toray Group intranet allows employees and managers to check items in detail. The intranet also features a Company-wide CSR/Legal Compliance Bulletin Board system, which has enhanced the Group’s ability to distribute information on legal compliance issues.

**Establishing and Operating Reporting and Consultation Channels**

Any actions that might be subject to Corporate Ethics and Legal Compliance Code of Conduct should, in the first instance, be reported to and discussed with a direct supervisor. Should that avenue present difficulties, several alternative options have been created: Consultation offices where matters can be reported or discussed have been established at each division and plant; employees can also use a dedicated hotline or email service to directly report to or consult with the chairperson or secretariat of the Legal Compliance Committee for Toray Group. In addition, the Executive Meeting attends to represent Toray’s employees a wide range of proposals and opinions from employees.

The confidentiality of employees using these reporting and consultation channels is strictly maintained. Labor contracts and company regulations specifically prohibit discrimination against employees making reports or seeking advice, and they clearly stipulate the disciplinary action that would result from false accusations.

**Company-wide Activities in FY 2007**

In FY 2007, Toray established or undertook the following company-wide activities:

- Strengthening and extending the reach of legal compliance education in specific fields, such as Security Trade Administration
- Developing and establishing an internal control review system for financial reporting
- Improving information distribution system for legal reforms and related issues
- Responding to amendments to laws, regulations and government notices (Japans Subcontract Act, etc.)
- Consolidating the severance of relations with antisocial forces

### Strengthening Security Trade Administration

In response to a warning issued by Japan’s Ministry of Economy, Trade and Industry (METI) to Toray and Toray International in May 2006 in relation to an application to export certain products to Taiwan (see page 23 of the 2007 CSR Report) Toray strengthened management systems and implemented countermeasures in its Japanese and overseas subsidiaries and affiliates to prevent a recurrence. As a result, in November 2007 Toray and Toray International regarded the METI’s general approval certificates. Toray will continue to ensure that directors and employees are thoroughly aware of Security Trade Administration requirements and will ensure strict implementation of internal management procedures.
In the critical area of safety, we are striving to achieve the
world’s lowest rate of lost-worktime injuries and our “Zero
serious accident” target by pursuing the Step-Up 3Z (Zero
Accident Program), an important part of the IT2010 Manufac-
turing Technology Innovation Project. Environmentally, we are
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to contribute to the realization of a recycling-based society by
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In the critical area of safety, we are striving to achieve the
world’s lowest rate of lost-worktime injuries and our “Zero
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Accident Program), an important part of the IT2010 Manufac-
turing Technology Innovation Project. Environmentally, we are
working to further reduce the impact of our operations and
to contribute to the realization of a recycling-based society by
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turing Technology Innovation Project. Environmentally, we are
working to further reduce the impact of our operations and
to contribute to the realization of a recycling-based society by
achieving the targets set out in the Third-Three-Year
Environmental Plan adopted in FY 2007.
Converting from Fuel Oil to City Gas

Toray is systematically converting fuel in boilers, and completed the process at the Shiga, Seta and Mishima plants in FY 2007. The result of this initiative to date is a reduction in CO₂ emissions of 90,000 tons per year. Current plans for further reductions in GHG emissions include reductions in fuel consumption through even more efficient use of energy in plants and other facilities.

Installing High-Efficiency Equipment

In FY 2007, Toray upgraded the existing steam turbine generator at the Tokai Plant to a high-efficiency generator, increased the amount of power generated without increasing the amount of fuel consumed, and expanded production facilities to help reduce CO₂ emissions by 35,000 tons per year.

Energy Conservation Activities at Overseas Subsidiaries and Affiliates

Toray Group consistently implements energy conservation activities every year, both in Japan and overseas, as part of its effort to reduce GHGs. In FY 2007, PT. Indonesia Synthetic Textile Mills, and PT. Acryl Textile Mills introduced energy conservation diagnostics, effectively reducing GHGs by some 4,000 tons of CO₂ per year.

Initiatives to Protect the Ozone Layer

Toray ceased using chlorofluorocarbons (CFCs) in all manufacturing processes in 1994. The company has also stopped purchasing CFCs for use in refrigerators. It is working to replace existing CFCs with alternative compounds, and planning to introduce high-efficiency alternatives to CFC refrigerators in FY 2008.

Voluntary Initiatives to Reduce Atmospheric Emissions of Chemical Substances

Under the third three-year environmental plan launched in 2007, Toray Group designated the reduction of atmospheric emissions of chemical substances as a top-priority issue, and the entire Group has introduced voluntary initiatives to reduce these emissions. The initiatives have been expanded to include volatile organic compound (VOC) emissions, and the Group is systematically reducing emissions.

Reducing Atmospheric Emissions of PRTR Law Substances

In FY 2007, Toray Group emitted 900 tons of substances subject to the PRTR Law into the atmosphere. This represents a reduction of 8% over the previous year (a reduction of 54% over FY 2000) and is the result of reductions at Toray and all Japanese and overseas subsidiaries and affiliates. Additional measures planned at the Toray Ehime Plant, and at Toray Plastics (Malaysia) Sdn. Berhad in FY 2008 are part of Toray Group’s continued commitment to further reductions in emissions.

Atmospheric Emissions of PRTR Law Substances

<table>
<thead>
<tr>
<th>Year (FY)</th>
<th>Overseas subsidiaries and affiliates</th>
<th>Japanese subsidiaries and affiliates</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>’00 (Base year)</td>
<td>1971</td>
<td>163</td>
<td>2134</td>
</tr>
<tr>
<td>’04</td>
<td>165</td>
<td>1163</td>
<td>1328</td>
</tr>
<tr>
<td>’05</td>
<td>977</td>
<td>903</td>
<td>1880</td>
</tr>
<tr>
<td>’06</td>
<td>847</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reducing Atmospheric Emissions of VOCs

Working toward its Group-wide goal of a 55% reduction in atmospheric emissions of VOCs by FY 2005 levels by FY 2010, Toray Group has introduced voluntary initiatives to meet this target. In FY 2007, initiatives implemented at Toray Fine Chemicals Co., Ltd’s Tokai Plant, and at other plants, effectively reduced emissions by 4% over the previous year (a reduction of 51% over FY 2000). The achievements of Toray’s overseas subsidiaries and affiliates were particularly significant, with a 7% reduction in atmospheric emissions of VOCs over the previous year.

Atmospheric Emissions of VOCs

<table>
<thead>
<tr>
<th>Year (FY)</th>
<th>Overseas subsidiaries and affiliates</th>
<th>Japanese subsidiaries and affiliates</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>’00 (Base year)</td>
<td>3420</td>
<td>410</td>
<td>3830</td>
</tr>
<tr>
<td>’04</td>
<td>1721</td>
<td>1706</td>
<td>3427</td>
</tr>
<tr>
<td>’05</td>
<td>1683</td>
<td></td>
<td></td>
</tr>
<tr>
<td>’06</td>
<td>1529</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Initiatives at Toray

Initiatives to reduce emissions introduced at the Ehime and Chiba plants at the end of FY 2006 proved effective throughout FY 2007. Measures to strengthen emission recovery, the installation of regenerative combustion facilities, and other such initiatives resulted in a 10% reduction over the previous year in atmospheric emissions of substances subject to the PRTR law. Further reductions are planned for FY 2008 with initiatives to reduce emissions at the Tokai and Okazaki plants.

Initiatives at Japanese Subsidiaries and Affiliates

Toray Advanced Film Co., Ltd. (Fukushima) installed a regenerative combustion facility for organic exhaust gases at the end of FY 2007. The equipment came fully online in FY 2008, and for this fiscal year Toray expects to see a reduction of more than 15% in VOC atmospheric emissions over the previous year at Japanese subsidiaries and affiliated companies overall.

Initiatives at Overseas Subsidiaries and Affiliates

Overseas subsidiaries and affiliates began voluntary investigations into the use of PRTR Law-specified substances in FY 2000. The measures introduced at Toray Plastics (Malaysia) Sdn. Berhad for recovering organic exhaust gases at the end of FY 2006 led to an 11% reduction in VOC atmospheric emissions over the previous year in FY 2007. Overseas subsidiaries and affiliates will continue to focus on these initiatives in FY 2008 and beyond.

Note: Figures have been revised in the final figures to correct for estimates used in certain base unit calculations for FY 2006.
Emphasize Safety, Accident Prevention, and Environmental Preservation

Initiatives to Prevent Air and Water Pollution

Toray Group has ongoing environmental initiatives in place for the prevention of air and water pollution during production. At both overseas and Japanese plants, the installation of deodorisation equipment and fuel conversion has cut SOx emissions, and the improvement of wastewater treatment facilities has reduced chemical oxygen demand (COD) emissions.

Atmospheric Emissions Management (Performance for FY 2007)

Toray Group reduced SOx, NOx, and dust emissions by 31%, 10%, and 32% respectively over the previous year, to 3,275, 3,506, and 453 tons. Toray has reduced BOD emissions by 159 tons and COD emissions by 45 tons by implementing measures to prevent water pollution at source (by a process of concentration of the wastewater, and then outsourcing treatment) and stringent operating management of the wastewater processing facilities at the Shiga and Takai plants.

Overseas subsidiaries and affiliates have reduced emissions of BOD and COD by 52 tons and 258 tons respectively. These reductions were achieved by, for example, increasing the capacity of the wastewater treatment facilities and by robust operating management at No. 4 Plant of Pertifab Sdn. Berhad and TATLEX (Thailand) Ltd.

In FY 2007, Toray achieved a cut in emissions of 1,016 tons for SOx, 322 tons for NOx and 69 tons for dust emissions. In addition to the main emission-reduction measures already in place, introduction of natural gas cogeneration (as of January 2008 at the Shiga Plant) fuel conversion (as of November 2006 at the Shiga Plant, and July 2007 at the Mihama Plant) and the implementation of a switch to purchased electricity (at the Okazaki Plant) all contributed to a reduction in dramatic reduction in emissions.

At overseas subsidiaries and affiliates; emissions of SOx were reduced by 468 tons, NOx by 193 tons and dust by 139 tons. These reductions were achieved by, for example, a conversion to natural gas at the Number 3 Plant of Luckytex (Thailand) Public Company Limited and by the utilization of low sulfur coal at PT. Indonesia Toray Synthetics.

Water Quality Management (Performance for FY 2007)

Toray Group reduced chemical oxygen demand (BOD) and COD emissions by 13% and 9% respectively over the previous year, to 1,480 and 2,916 tons. Toray has reduced BOD emissions by 159 tons and COD emissions by 45 tons by implementing measures to prevent water pollution at source (by a process of concentration of the wastewater, and then outsourcing treatment) and stringent operating management of the wastewater processing facilities at the Shiga and Takai plants.

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Natural gas cogeneration facility (Shiga Plant)

Toray Group has zero emissions initiatives in place as it works toward the realization of a sustainable, recycling-based society. Toray Group has set numeric targets for the rates of simply disposed waste*, landfill waste* and recycled waste* which form the zero-emissions indicators in the Third Three-year Environmental Plan, in order to encourage progress toward zero emissions.

* [Target/

Recycling Rate: Toray Group

Zero Emissions Activities

Toray Group defines zero emissions as a waste stream where simply disposed waste accounts for 1% or less of total waste generated; all Group companies and plants are working hard towards achieving this goal. In FY 2007, a further 3 plants achieved zero emissions. However, since some plants were not able to sustain zero emissions or underwent a plant reorganisation, the final total of plants achieving zero emissions was 12 plants at 9 companies; 1 plant fewer than in FY 2006.

Recycling Rate

Initiatives at Toray PEF Products Inc. (Tsukuba)

In addition to recycling plastic waste, the company has achieved zero emissions by thermally recycling plastic sheets, previously disposed of by landfill.

Initiatives at Toray Advanced Film Co., Ltd. (Nakagunaga)

The company has been working towards a reduction of simply disposed waste through the recycling of film scrap, by cantiion waste materials carefully, and by moving forward with the recycling or selling of waste as a resource with monetary value. The company has achieved zero emissions.

Initiatives at Toray Engineering Co., Ltd. (Seta)

The company has achieved zero emissions by proceeding with the sale of metal waste with monetary worth. In addition, glass bottles and ceramic wares are recycled as road surfacing materials, and paper waste is carefully sorted and then either sold or recycled as plastic fuel (RPP).
3 Emphasize Safety, Accident Prevention, and Environmental Preservation

OCCUPATIONAL SAFETY INITIATIVES
Toray Group is working to completely eliminate serious accidents and to achieve the world's lowest rate of lost-worktime injuries by 2010 through its Zero Accident Program.

Toric Group Safety Meeting
Toray Group hosts an annual safety meeting attended by Toray's president and executives, general managers of offices and plants, as well as the presidents of Japanese subsidiaries and affiliates. Since 2007, representatives from overseas subsidiaries and affiliates have also attended, making the meeting the all the more beneficial. At the meeting the Toray president explained company safety directives. As well as allowing Toray and its subsidiaries and affiliates to report on their safety activities, the event is an opportunity for an exchange of information. As a motivational tool, awards are presented to companies which have attained safety goals such as the “Zero Accident” target, and to employees who are addressing safety initiatives.

2007 Safety Slogan
“IT-2010 Achieve Zero Accident. = Everyone Keep the Basic Rule!"

Principal 2007 Initiatives
- Observe work standards
- Enforce use of protective equipment and enforce associated management
- Develop countermeasures for serious near-accidents and apply laterally throughout the organization

Zero Accident Initiatives Since 2006, Toray Group has conducted various Zero Accident activities as part of the Manufacturing Technology Innovation Projects under the mid-term business strategy FT-2010. The core aim of these initiatives is the elimination of serious accidents, and the achievement of the world's lowest rate of lost-worktime injuries (0.05 or lower). The entire Group is working together with individual companies, offices and plants developing their life activities for Zero Accident, as well as developing the life activities across the organization.

Direct Safety Training Using Simulations Toray Group has carried out simulator training drills in order to acquaint employees with hazards, to increase safety awareness and to drive home the importance of prevention. In addition to using simulators to give direct experience of entrapment in rotating parts, of being caught between moving parts on machinery, and of electric shocks, employees can see for themselves what happens when, for example, sausages become caught in moving parts on machinery, and of electric shocks, employees can see for themselves what happens when, for example, sausages become caught in moving parts on machinery, and of electric shocks.

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Voluntary Safety Inspections with Toray’s Proprietary Checklist Toray Group carries out annual voluntary inspections using its own checklist comprising 550 items—basic items to prevent fires and explosions, and additions in light of lessons learned from past accidents in the Group. In FY 2007, inspections were performed on hazardous substance facilities, management of flammable materials, plant management etc.

Accident Prevention Education and Drills Toray Group believes increased awareness of the possibility of fires and explosions is essential for accident prevention. The Group regularly carries out demonstrations of explosions using experimental equipment, which enable employees to see for themselves the potential hazards of the chemicals they are handling and the explosion hazards. This training was carried out on 9 occasions at Toray and Japanese subsidiaries and affiliates in FY 2007.

Toray Group Safety Achievements Toray Group’s safety achievements for 2007: the total number of incidents of all types (lost-worktime + non-lost-worktime) was 21, with 3 occurring at Toray, 8 instances occurring at Japanese subsidiaries and affiliates, and 10 occurring at overseas subsidiaries and affiliates. For the Group, the rate of injuries resulting in lost worktime* stands at 0.13 (Toray 0.19). This compares well with the rate of 1.02 for Japanese manufacturing industry as a whole. The overall accident rate including accidents that did not cause lost worktime was 0.27 (Toray 0.32). Going forward, the Group will continue to work towards its target of the world’s lowest rate of lost-worktime injuries (0.05 or lower).

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* Rate of accidents per million man-hours worked.
Environmental Accounting

Toray introduced environmental accounting in FY 1999 to record environment-related investment and costs and to calculate their effectiveness.

**Toray FY 2007 Accounting Results**
Total investment was 2.72 billion yen. Most of this was concentrated in boiler fuel conversion, reducing atmospheric emissions of chemical substances, enhancing wastewater treatment facilities, and renovating production recycling facilities.
Total costs were 8.06 billion yen, of which 2.3 billion yen was allocated to efforts to improve air quality and 2.66 billion yen to improve water quality. Operating costs for existing exhaust gas and wastewater treatment facilities accounted for the majority of the total.
Energy costs were reduced by 540 million yen, waste disposal costs by 40 million yen, and the sale of valuable (i.e. with monetary worth) recycled resources was 760 million yen.

**Environmental Risk Management**
Toray Group is promoting activities for the management and reduction of environmental risk, based on the first item of the Corporate Guiding Principles of Toray’s Management Philosophy: Place top priority on safety, accident prevention and environmental preservation, ensuring the safety and health of our employees, our customers and local communities, and actively promoting environmental preservation.

**Environmental Risk Management System**
Toray Group places importance on managing environmental risk. The Safety, Health, and Environment Committee considers policies and measures for the whole group, and follows up on the results of initiatives. In addition, the Group carries out activities for reducing environmental risk at all its companies and plants, and assesses the conditions at its sites every year through Safety, Health, Accident Prevention, and Environmental Audits.

**Thorough Wastewater Management**
In order to ensure thorough wastewater management, it is important for every employee to understand the final destination of the wastewater he or she sends down the drain. To raise employees’ environmental awareness and improve the level of wastewater management, the Shiga Plant carries out “wastewater education tours.” The actual process from wastewater acquisition and usage to purification and discharge is demonstrated.

**Proper Waste Disposal**
As illegal dumping has become a social issue, Toray Group is undertaking waste disposal from a risk management perspective. The Group has established waste disposal management rules that include the selection of highly reliable disposal companies from the perspective of a responsible waste emitter, and regular (at least once a year) on-site confirmation of waste disposal conditions. Toray Group confirms that these rules are being followed through annual safety, health, accident prevention, and environmental audits, and it strives to ensure strict waste disposal management.

**Soil and Groundwater Pollution Prevention**
Toray Group constructs special embankments around facilities and storage tanks holding hazardous or dangerous substances to prevent spills from leaking into the surrounding area or seeping into the soil.
Cleanup operations have been progressing favorably at 2 problematic sites discovered through Toray’s own investigations: the soil contamination at the Nagoya Plant (refer to CSR Annual Report 2005), and the groundwater contamination at Toray Monofilament Co., Ltd. (see Toray Group: Environmental Report 2002).

**Compliance: Accident Prevention and Environment**
In FY 2007, none of Toray Group companies or sites were subject to government sanction due to violation of any law or ordinance. However, there were no accidents, including an explosion at the Mishima Plant (see below). All of these cases were immediately reported to the authorities, and measures were taken to prevent recurrences.
There were a total of 5 complaints from local residents concerning odors or noise. These reports were taken seriously and the Group made improvements to address these issues.
**Product Safety and Quality Assurance**

Toray Group established a practical framework, under "14th Innovation TORAY 21," to achieve the "Quality" and "Customer-focus" aspects of its corporate image for the 21st century in its long-term corporate vision. The Group is driving product safety and quality assurance in tandem, leveraging both.

1. We make our best efforts to meet our customers’ expectations with products and services of high satisfaction.
2. We commit ourselves to abide by the "Quality First" principle, and to improve the quality and reliability of our products, in all our divisions, including sales, manufacturing and research and development.
3. We meet quality requirements at the stage of design and development, and ensure and enhance these in the manufacturing process.
4. We continuously strive to organize, maintain and improve our quality management system.

**Quality Policy (revised June, 2007)**

We give top priority to the product quality offered to our customers as well as to safety and to the environment in our corporate activities. We work on quality assurance with the stance of "Customer First."

1. We shall conduct adequate safety evaluations prior to market introduction.
2. For products already on the market, we shall take note of new safety information and take appropriate action.
3. We meet quality requirements at the stage of design and development, and ensure and enhance these in the manufacturing process.
4. We continuously strive to organize, maintain and improve our quality management system.

**Perfecting Systems in Support of Quality Assurance Activities**

Under the Group-wide quality assurance system that Toray introduced in December 2006, the Product Safety and Quality Assurance Planning Department is responsible for developing the relevant policies and strategies for Toray Group. Individual business divisions’ Quality Assurance Departments are responsible for ensuring that these policies and strategies are reflected in the Group’s business activities. In FY 2007, Quality Assurance Control Regulations were established for all Group companies. The new regulations clarify the roles, responsibilities and authority in each business area. Quality assurance is now conducted on a business division basis, including for external suppliers and for imports that Toray receives, etc., while the management of quality assurance regulations was transferred to a plant basis.

**Ensuring Thorough Implementation of Product Safety Activities**

Toray’s Product Safety System is set out in the chart on page 37. Based on product safety control regulations, the Product Safety Managers Council promotes and implements annual Group-wide product safety themes that are established by the Product Safety and Quality Assurance Committee.

**Product Safety System**

- **Product Safety and Quality Assurance Committee**
  - Discuss important issues
  - Propose important issues for the next meeting
  - Establish or change the quality assurance policies for the product

**Product Safety Management Council**

- Discuss specific measures
  - Discuss product safety

**Product Safety Managers Council**

- Discuss specific measures
  - Discuss product safety

**Divisional and Departmental Secretariats**

- Review Board
  - Confirm safety of products placed on the market
- Divisional and Departmental Secretariats
  - Confirm safety of products placed on the market
- General Manager of division or department of new product
  - Approve product safety statement

**Product Safety Inspection Flow Chart**

- General manager of division or department of new product
  - Approve product safety statement
- Director in charge of manufacturing new product
  - Confirm safety of new product
- Project leader of new product
  - Confirm safety of new product
- Division of new product
  - Confirm safety of new product

**Recall notice placed in the Nikkei Shimbun May 14, 2008**
Perform Risk Management

Promoting Risk Reduction Activities

For Toray, risk management (the appropriate management of risk) is viewed as a fundamental pillar of corporate management. In January 2004 Toray established a set of “Crisis Management Regulations.” By pinpointing potential risks in its operations, the company strives to proactively prevent and also reduce the effects of risk events in normal times. Toray also prepares and maintains emergency response plans to be deployed in the event of a major crisis.

Developing a Risk Management System

Toray’s risk management system is outlined in the diagram below: As a Company-wide management body, the Risk Management Committee has been established as an organization subordinate to the CSR Committee. The committee will routinely keep track of the risk management situation within Group companies, and it is responsible for the integrated planning of Group-wide policies.

Each division, department, office and plant has also organized Risk Management Committees (which will be referred to as Local Risk Management Committees) as organizations subordinate to the CSR Committee. Each of these committees ascertains the specific risks relevant to the particular business area or plant, and works to reduce risk in a planned manner, having established priority action areas. Each local committee is also engaged in proactive prevention activities.

Local Risk Management Committees report on their activities to the Company-wide Risk Management Committee, and a summary of the contents of these reports is then given to the higher level organization, the CSR Committee. The responsible division or department plays a central role in planning and implementing responses to individual risks.

Risk Management System

There are a multitude of risks facing the company, and the risk management that is adopted in response is an important part of its business management. In order to respond effectively to all kinds of risks, it is important to identify potential risks before the event, and to take appropriate preventive measures for risks that can be protected against. This minimizes the chances of events occurring, and reduces the impact of events that do occur. Risk management is an intrinsic part of the evolution of Toray Group, and we see it as our corporate responsibility to stakeholders. Toray Group continues to steadily pursue further development of its risk management activities.

Boosting Risk Management Activities

As a matter of course, Toray undertakes routine risk reduction activities in each of its divisions, departments, offices and plants, and it responds to specific risks through such mechanisms as internal control systems, product safety management and security trade administration. In addition, it promotes the Group-wide development of risk management systems: undertaking comprehensive analyses of all risks that could conceivably affect the company’s operations and management, and preparing countermeasures.

In FY 2007, Toray carried out a survey of all categories of risk that the company faces. It identified risks that are yet to become overt, and made a comprehensive analysis of each type, using “likelihood of occurrence” and “degree of impact” as evaluation parameters.

From a company-wide standpoint, Toray now consider concrete countermeasures for each risk that has been identified as being key for the company, and will continue to seek to strengthen its risk management procedures.

Developing a Risk Management System

Toray has established crisis management regulations which are clear fundamental principles that form the basis of company-wide responses should a major crisis occur, and the company works to ensure the thorough implementation of these regulations in a crisis.

In the event of a major crisis affecting the company’s operations, the Emergency Quick Response System, as outlined in the chart below, will be put into effect. A Company-wide Emergency Headquarters will be set up, led by the Toray president, or a person nominated by the president. The Company-wide Emergency Headquarters will work closely with the On-site Emergency Headquarters, undertaking a variety of activities aimed at preventing any further escalation of the crisis and at achieving a speedy return to normality.

The Company-wide Emergency Headquarters will be responsible for the provision of emergency information to relevant areas, both within and outside Toray, in accordance with the regulations.

Following the accident involving a burst vessel at the Midhima Plant in September 2007, the systems that were put in place in compliance with the “Crisis Management Regulations” functioned extremely effectively, and each responsible department was able to take speedy and appropriate countermeasures.

Implementing the BCP

Toray has established and is now implementing a BCP to respond to the scenario of a severe earthquake (upper 6 or above on the Japanese scale).

Specifically, the company recognizes the need to make preparations on a regular basis for the early commencement of (1) head office functions, (2) information systems, and (3) production. Toray is also proceeding to put together business continuity measures to be applied in the event of an earthquake, as well as to increase the earthquake resistance of infrastructure.

During FY 2007, a “Report on Anticipated Earthquake Damage” was prepared with respect to the company head office. This report assessed the expected damage to the head office building and the surrounding neighborhood, and based on that expected damage a “Major Earthquake Emergency Response Plan” was established, which systematizes the emergency measures that need to be taken, in particular in initial response.

As a means of supplementing procedures for ascertaining the safety of employees and their families in an emergency situation, a safety confirmation system that makes use of the Internet functionality of mobile phones and computers was introduced. In relation to key areas of head office functions, the priority sequence for transfer of those functions to alternative departments with responsibility for the relevant duties has been established. The results have been shared with the alternative departments, as set out in the Operations Manual. Toray’s computer systems in the Shiga Information Systems Center were further strengthened against earthquake, and emergency response drills were carried out.

Measures relating to production undertaken since 2002 include the strengthening of production plant buildings to guard against earthquakes, to protect lives and minimize the impact outside the company. This work has proceeded giving due consideration to the BCP in relation to key buildings such as those that house utilities. For new building projects, where production facilities will be used for key products, earthquake resistance design standards for withstanding an earthquake of upper 6 on the Japanese scale are used, exceeding previous design standards.

Initiatives to Protect Personal Information

Toray put in place a system for protecting personal information by introducing a set of Personal Information Management Regulations in March 2005, predating the enactment of Japan’s Personal Information Protection Law in April of the same year.


*1 (*1) Inquiries to Protect Personal Information, please visit: http://www.toray.com/stp/fixes.html
Promote Dialogue with Stakeholders

Tory Group will review its corporate behavior: reforms will be implemented through the practice of CSR line activities that promote dialogue and cooperation with stakeholders.

1. Promotion of dialogue with stakeholders through the development of CSR line activities: The Group initiated CSR line activities at selected overseas subsidiaries and affiliates and initiated them at certain companies.

2. Dialogue with customers: The Group carried out customer surveys as part of the Corporate Brand Strengthening Project. It also held IT-2010 Management Meetings between employees and executives.

3. Dialogue with employees: The Group carried out an employee survey as part of the Marketing and Sales Innovation Project and the Corporate Brand Strengthening Project.

4. In September 2007, Toray was included in the Dow Jones Sustainability World Index (DJSI World) for the first time. The company was also listed in the Carbon Disclosure Leadership Index (CDLI) in the Carbon Dis

I think that dialogue with stakeholders is the foundation for the sustainable development of a company. Toray has been providing the right information at the right time to all stakeholders—customers, employees, stockholders, local communities and the global community, as well as doing its best to meet their expectations. I believe that this two-way communication should be the basis for our management actions.

Providing Information for Stakeholders

Tory Group publishes a great deal of information on its website in order to promote communication with its many stakeholders; the website contains information about the company, research and development, investor relations, CSR activities, products and so on. All of this information is updated frequently, and each workplace develops its own tools for communication with stakeholders.

The following chart summarizes dialogue and collaboration between stakeholders and Toray Group. See the indicated page numbers for more specific examples.

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Disclosure of Management and Business Information on the Website

Toray posts financial results and related materials on the Investor Relations pages of the Toray website at the time they are released to the stock market and mass-media. In addition on the website, the company also publishes the presentation materials disclosed at investors’ briefings without delay. Furthermore, through measures such as promptly publishing these materials in English on the website, the company has been voluntarily disclosing information over and above that required by laws and regulations.

Clear, easy-to-understand information about the Group’s management and business activities is provided in the “Toray Group Overview” of the website.

Reflecting the Voice of Stockholders and Investors in Management and Business Activities

The opinions of stockholders and investors gathered by the IR Department in the course of day-to-day communication are regularly reported to the Board of Directors. They are also discussed at company-wide Communications Committee, composed of members of the management, as the companyоварies to ensure the opinions of stockholders and investors are reflected in its management and business activities.

Employee Awareness Survey

Toray carried out an employee awareness survey in February 2008. The aim was to assess the extent to which employees have grasped the aims of the Corporate Brand Strengthening Project and the Marketing and Sales Innovation Project, and to gain an understanding of employees’ sense of identity with the company and of their motivations; as these attitudes underpin both projects. Both these projects are part of the IT-2010. The response rate was around 90%, with generally positive indications of both motivation and sense of identity with the company. The results of the survey were reported back to employees in the company magazine.

Going forward, regular employee awareness surveys will serve to make the above projects successful, as well as to invigorate communication within the company.

Communication with Business Partners

As a partner involved in joint business activities, the Group holds policy briefings for business partners and analysts on the same day that it announces its financial results. At these briefings the president and executive vice president provide an explanation of the current status of management. The briefings also offer an excellent opportunity for management to listen to the valuable opinions of investors and analysts directly. In addition, following the release of financial results, Toray holds a press conference and discloses detailed information to the mass-media, striving to ensure that information reaches stockholders and investors through the reporting.

Besides the financial results announcements, in order to promote deeper understanding of Toray Group, the company hosts business strategy briefings about individual business sectors, and also takes part in IR meetings for individual investors hosted by the various stock exchanges. The Group is working hard to facilitate communication through as many avenues as possible.

The aim of the meetings was to set up a forum for direct interaction between executives and employees to increase the latter’s understanding and awareness of management issues, business innovations, and corporate culture through frank exchanges of opinions. The plants and offices were assigned to various directors, who then visited the places to relate their personal experiences as well as to elaborate on the proud corporate culture of Toray and other aspects, while linking these to the corporate brand. The meetings were then followed by a lively exchange of opinions on topics such as typical workplace issues, how to increase employees’ motivation and how to strengthen the corporate brand.

Communication with NPOs

Toray endorses the objectives of the Japan Women’s Innovative Network (J-winn), an NPO concerned with the advancement of women. The company has been involved with and supported the network’s activities as a member since its foundation. Toray is also actively involved with the Japan Water Forum (JWF), an NPO concerned with issues regarding water resources both in Japan and overseas. As a member of JWF for the past five years, Toray has been taking part in its annual conferences, hosting it at the company’s Nagoya plant in 2007.

Communication with Local Communities

Toray promotes positive interaction with local communities by hosting regular meetings with people living near its plants, through activities such as taking part in local festivals and in events hosted by the community, and by inviting local residents to take part in summer festivals held in the grounds of the plants.

In addition, the company has been working to enhance cooperation with local government and local community associations at its offices and plants. For example, the agreement drawn up for the provision of temporary facilities between the Aichi Prefectural Government and Toray’s plants in FY 2007 is proof of the further strengthening of such ties.

Communication with the Media

The Corporate Communications Department serves as the interface between the company and various media organizations, providing the latter with publicity information. The department is working with a full understanding of the company’s accountability for information disclosure, and the role it plays in shaping public opinion. Information disclosure means the active transmission of information, even when it might be sensitive or negative, based on Toray’s Information Disclosure Principles.

Major Media Activities in 2007

<table>
<thead>
<tr>
<th>Press conferences</th>
<th>Press interviews given</th>
<th>Surveys conducted</th>
</tr>
</thead>
<tbody>
<tr>
<td>196</td>
<td>529</td>
<td>400</td>
</tr>
</tbody>
</table>
**CSR Guideline**

7 Step Up Environmental and Recycling Efforts

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**Action Program (FY 2007)**

Toray Group will demonstrate consideration for environmental impact through the development and marketing of environmentally friendly products. The Group will establish and promote a plan to expand recycling activities, in order to realize its vision of the future.

**Action Program Results**

1. Toray took the scandals surrounding certain Japanese companies falsifying the rates of recycled materials in their products as an opportunity to audit its own recycling processes. The company ensured that these are functioning well.

2. Polyactic acid (PLA) fibers were adopted as designated procurement items under the Green Purchasing Law.

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**Commitment**

Implementation Leader:
Chikai Tanaka
Executive Vice President and Representative Director
General Manager, Technology Center
Toray Industries, Inc.

Damage to the environment is reaching a point of no return. To address this, Toray Group places management policies emphasizing the environment firmly at the center of all its business strategies. The Group is initiating Project EcoChallenge based on its EcoDream brand of environmentally friendly products and activities. With Project EcoChallenge the Group will offer advanced materials which have a reduced impact on the environment. It will also set long-term goals in this area, and work hard to attain the goals, both within the Group and in the global community.

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**Approach to Environmentally Friendly Manufacturing**

In line with Toray Group’s vision of making a global contribution to conserving resources, protecting the environment and developing a sustainable, recycling-based society, Toray opened the Environmental Research Laboratory in 1991. Technologies and new products developed in this laboratory and new products are helping to reduce environmental impact. The Group is also developing environmentally friendly products, as well as recycled products and technologies, with a reduced environmental impact based on the concepts of “Clean” and “Less Energy.”

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**Increasing Production of Environmentally Friendly Products**

As part of the EcoDream® project to generate environmental products and activities, Toray Group conducted research and development into reducing the environmental impact through the conservation of resources and energy, environmental protection, recycling, and offering environmentally conscious products and technologies to society.

Toray Group has established a plan to more than double FY 2005 net sales of Toray Group’s environmentally friendly products, including recycled products, around FY 2010. The company is looking forward to progressing in this business.

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**Pursuing Environmental Design to Create Environmentally Friendly Products**

Toray Group pursues environmental design in order to develop environmentally friendly products. As the diagram below shows, Toray Group implements Life Cycle Assessment (LCA) methods, assessing the environmental impact at every stage from R&D and product design to production.

Before launching new products in the marketplace, the Group requires the relevant divisions to create an Environmental Assessment Checklist as part of the product safety review. Environmental data as well as product safety data are subject to review and verification before products are commercialized.

For more information on our Product Safety Review, refer to page 37.

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**Expanding the Usage of PLA Resin**

Toray regards PLA as the next key polymer and is developing a wide range of uses for polymer alloy technology and nanotechnology. Pioneer Corporation employs non-halogen Flame retardant PLA nano-alloy resin in the material for a part of its DVD drive casing (front panel). Toray has been working with NTT Advanced Technology Corporation, Memory-Tech Corporation and Advan Co., Ltd. on the development of heat resistant biomass CDs, and the company has decided to use PLA nano-alloy resin. Furthermore, Toray has developed a plant fiber-reinforced PLA plastic with improved heat resistance, rigidity and moldability by compounding cellulose-based plant fibers with PLA. This resin has the world’s highest heat resistance for a resin of biomass origin. It is scheduled to be developed for use in automotive parts and for a wide range of other applications.

**Development of New Cellulose-based Fibers**

In addition to PLA, Toray is bringing out a new fiber called Forex™, recycled from biomass and manufactured using the world’s first application of the mat spinning technique. As the manufacture of Forex™ does not require organic solvents, which were essential for manufacturing conventional cellulose fibers, the environmental impact is low. With this process it is also possible to manufacture high performance fibers such as hollow Forex™ received two awards: the Fiber Research Synthetic Fiber Award, in both the Grand Prix and the Technical Division in FY 2007.

**Projects Contributing to the Reduction of GHGs**

Toray is working to develop and market non-petrochemical products in response to the need to use these materials in order to combat global warming and to conserve non-renewable resources. For example, the company developed plant-derived PLA, which is a renewable polymer and contributes to a reduction of GHGs. The eco-friendly material will be used in textiles and plastic goods and marketed under the EcoDream® brand.

**Authorization of PLA as a Designated Procurement Item under the Green Purchasing Law**

Following a cabinet decision in February 2008, synthetic fibers, including PLA fibers, made using plant-derived materials, and proven to have reduced environmental impact, were included for the first time in the criteria for designated procurement items under the Green Purchasing Laws.

In line with these laws, Toray produced declarations of the environmental soundness of PLA fiber products and disclosed policies for procurement of raw materials and product design.

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**Products Contributing to the Reduction of GHGs**

Toray Group is working to develop and market products and technologies based on the concepts of “Clean” and “Less Energy,” with goals such as the reduction of GHGs, environmental conservation and increased recycling.

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**Environmental Products**

<table>
<thead>
<tr>
<th>Expected results</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction of GHGs</td>
<td>Troyant®, Carbon fiber for turbine engine, engineering plastics, capacitors (for hybrid cars)</td>
</tr>
<tr>
<td>New energy</td>
<td>Components for wind turbine generators, components for solar cells, fiber for solar sales</td>
</tr>
<tr>
<td>Non-petrolchemical materials</td>
<td>PLA fibers, plastic films, 3GT fibers (PTT: poly(butyleneterephthalate), &amp; fabrics, flexible composite films, flexible film films, paper-like protein film, flexible heat-resistant films</td>
</tr>
<tr>
<td>Water purification (under treatment)</td>
<td>RO membranes, UF/MF membranes, water treatment systems for breweries, Forex™</td>
</tr>
<tr>
<td>Environmental preservation</td>
<td>Membrane materials for air purification, Forex™</td>
</tr>
</tbody>
</table>
Step Up Environmental and Recycling Efforts

Products Supporting Environmental Conservation

Toray Group promotes the development of products that lead to a reduction, or an elimination of hazardous substances, as those used for water purification, air purification, soil cleanup.

Ultrasonic DNA Chips Detect Microorganisms

Toray and Matsushita Environmental and Air-conditioning Engineering Co., Ltd. (the current Panasonic Environmental Systems & Engineering Co., Ltd.) have developed ultrasonic DNA chips for the detection of pollutant-degrading microorganisms. The DNA chips are a low-cost tool for soil and groundwater cleanup, with a low environmental impact. Toray developed the ultrasonic DNA chip 3D-Gan+ making use of MEA’s soil and groundwater cleanup data on effective microorganisms and original microarray technology; this made the product 100 times more sensitive than previous chips. It has the capability to detect and identify 22 types of VOC-degrading (volatile organic compounds) organisms simultaneously. Furthermore, it is able to detect micro VOC-degrading organisms in amounts which were not previously detectable.

Ultrasonic DNA Chip for the detection of pollutant-degrading microorganisms

Products Contributing to Recycling of Resources

The basic principle underpinning Toray’s recycling is “Less Energy.” In line with policies put in place in FY 2004, Toray aims to achieve efficient recycling through the application of a wide variety of recycling technologies appropriate to the individual properties of the materials. In FY 2006, Toray formulated recycling goals for the entire Group for each category of materials in order to boost recycling rates. A framework is essential for recycling resources; Toray is moving forward developing this with its customers.

Recycling Activity Principles (adopted in March 2004)

1. We shall design, produce, and sell products that reduce our impact on the environment.
2. We shall purchase and use materials and products which will help reduce our impact on the environment.
3. We shall disclose information related to recycling programs and recycled goods.
4. We shall voluntarily cooperate with customers to recycle or otherwise appropriately dispose of our products.

Recycling Vision

Company-wide
- Approach recycling based on the concept of “Less Energy”
- Pursue sustainable recycling through partnerships with customers
Fibers & Textile recycling
- Approach recycling based on the concept of “Less Energy”
- Focus on recyclable products and recycling methods
Plastic recycling
- Approach recycling based on the concept of “Less Energy”
- Focus on recyclable plastic and recycling methods
Composite material recycling
- Demonstrate a full recycling system and as part of a national project
- Lead the carbon fiber industry by establishing recycling methods

Fiber and Textile Recycling—Nylon-6

Chemical recycling of Nylon-6 by a collection cycle system uses the collected Nylon-6 products, turning them back to caprolactam material at Nagoya Plant facility, thereby reused as raw material for processing Nylon-6.

Ny6on-6 Chemical Recycling Flow

The production of Nylon-6 through chemical recycling uses approximately 30% of the energy used for virgin Nylon-6 produced from crude oil. Furthermore the amount of CO2 emitted in the former production process is approximately 30% of that emitted in the latter.

Comparison of Energy Consumed and CO2 Emissions

- Conventional Nylon-6 using crude oil
  - Energy consumed: 100%
  - CO2 emissions: 100%

- Chemically recycled Nylon-6
  - Energy consumed: 30%
  - CO2 emissions: 30%

In May FY 2007, Toray obtained “Wide-Area Certification”1,2,3 from the Ministry of Environment in Japan. This is a special certification regulated as part of the Waste Management Law. Toray began full-scale development of recycled uniforms made with Nylon-6. Under the system, these uniforms are endowed with the Ecological Life and Culture Organization’s recycle mark, and are recovered and recycled after use via the Nippon Express Co., Ltd. logistics network.

Toray formed an agreement with Patagonia Inc. in December 2007 to work together on creating a recycling system for materials in general clothing. In spring-summer 2008 the development of recyclable surfing pants began, and from fall-winter an alpine climbing jacket goes on sale in 2,000 stores in 12 countries. These products are part of the Common Thread Recycling Program developed by Patagonia. The products are stitched with the recycle mark, and when they are no longer used they can be returned to the Patagonia shop where they are collected as a valuable resource in exchange for a sticker.

Fiber Recycling—Polyester

As part of its collection and certification material recycling of polyester, Toray has teamed up with Ecolog Recycling Japan Co., Ltd. to recycle uniforms. Used polyester uniforms are recycled into useful materials such as hangers, buttons, fasteners, padding etc. at Ecolog.

Plastic Recycling

Toray commercially develops the recycling of plastics such as ABS, nylon, PBT, PET and PPS resins, and many other types of polymer through material recycling. Toray is aware that a total recycling system, including recovery, is crucial, and the company promotes this system in collaboration with customers.

In FY 2007, Toray launched full-scale recycling of materials from cross-flow fans to fans for use in air conditioner units sited outdoors, in collaboration with Hitachi Appliances, Inc.

Composite Materials Recycling

It is expected that in future the volume of CFRP produced—and recycled—will increase in line with the expansion of production and operations. As a member of the Recycling Committee of the Japan Carbon Fiber Manufacturers Association, Toray endorses other CFRP manufacturers to engage in recycling initiatives as well.

In FY 2007, the recycling test plant constructed at Onuma City was completed, that operations took place and is scheduled to move into the verification test phase from FY 2008.
**Efforts to Promote Human Rights**

Toray Group believes that respect for human rights is a fundamental principle, essential to the management of the company. The Group therefore strives to promote and increase awareness of human rights issues, while prohibiting discrimination in any form based on factors such as race, creed, gender, academic background, nationality, religion or physical characteristics in the areas of recruiting, hiring, positioning, compensation, education and retirement. In addition, the Group respects international standards such as the United Nations Universal Declaration of Human Rights, the UD Convention and the United Nations Global Compact, prohibiting forced labor and child labor under any circumstances, and it complies with the laws and regulations of each country and region in which it operates.

**Human Rights Promotion System**

Toray has established a Human Rights Promotion Section in its Industrial Relations Department, as well as company-wide Human Rights Promotion Committees and such committees function at the office and plant level under the Corporate Ethics Committee. In addition, the company has appointed Human Rights Promotion Officers for each workplace; some 350 such officers dedicate themselves to making the work environment more pleasant and productive. For FY 2007, Toray focused on responding to the Equal Employment Opportunity Law and, given the diversification of types of employment, focused on promoting human rights for non-regular employees such as temporary and part-time workers.

**For Toray, as it aims to become the leading global player in the advanced materials industry, the key to success lies in the company’s ability to secure, train, retain and key employees who can thrive on the world stage. With this in mind, one of the company’s guiding principles is “an emphasis on human resources.”**

Respecting each employee as a vital asset for the company, I personally commit myself to taking the lead in promoting various initiatives to create a happy, vibrant corporate group where all employees can find meaning in their work and where the corporate culture encourages taking on new challenges.

**Implementation of Human Rights Training Workshops**

To help increase awareness and promote a clear understanding of human rights issues, Toray held training workshops and camps at both head offices and plants. Activity objectives in FY2007 were based on a campaign theme of developing all employees’ awareness of human rights, increasing communication with others, and creating a cheerful workplace without discrimination or harassment. Activities were undertaken bearing in mind such human rights issues as the elimination of sexual harassment, of bullying and power harassment, as well as achieving greater diversity in the workforce.

In an initiative to raise each employee’s awareness of human rights issues, Toray held training sessions for operational and administrative managers at each office and plant and conducted workshops in conjunction with workplace study groups. To take one example, in July 2007, Toray’s Shiga Plant invited the Director of Equal Employment Opportunities from Shiga Labour Bureau as a speaker for a Human Rights Seminar it held for managers. The 197 attendees gained a deeper appreciation of equal employment opportunities for men and women, of sexual harassment and of other issues.

**Harassment Prevention**

Toray established Sexual Harassment Prevention Guidelines in 1999. When problems arise the company swiftly launches an investigation and takes firm steps both to help the victim and to prevent a recurrence. In addition to educating employees about sexual harassment through training seminars at each level of its organization, counseling services have been established and the Speak-Up Program (complaint box) has been adopted at every Toray office and plant. Toray also undertakes educational activities aimed at preventing power harassment.

**Developing Human Resources to Create New Value**

The development of human resources is one of Toray’s Group’s most important managerial concerns. Toray Group conducts personnel training with the following objectives: (1) the cultivation of fair-minded members of society who have high ethical standards and a sense of responsibility; (2) the training of professionals with advanced expertise, technical skills and originality; and (3) the cultivation of leaders with foresight and a sense of balance.

**Rational and Well-organized Training System**

The Toray Group employee education system represents a rational, systematic approach to human resources responding to various needs in every field. The Group conducts many types of training for employees of all levels and in all areas to improve management performance, sales performance, production management skills, professional skills, and international operations. For example, the voluntary Challenge Training Program helps motivated employees develop their own talents while the Overseas Junior Training Program develops employees with a global mindset.

**Early Leadership Development**

To promote unified management across Toray Group, courses at the Toray Management School designed to develop future executives have been held since 1991. These enable middle-ranking managers to gain the knowledge and skills they need to become senior executives.

Toray is currently seeking to give section and unit managers coaching skills*1 and to boost their problem-solving skills using logical thinking*2. The company has also established the Toray School of Technology and Business for training mid-level employees at plants. This initiative offers selected employees a year’s full-time education in a law-school environment. In FY 2007, Toray also established a new higher-level management training program for managers and senior administrators.

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*1 Communication skills designed to promote a greater degree of autonomy among staff
*2 Skills and techniques that foster the identification and resolution of problems using coherent, logical thinking
CSR Guideline

Secure and Train Personnel and Promote Human Rights

A Personnel System that Prizes Employee Motivation and Accomplishment

Toray adopts the following personnel system to create a dynamic orga-
nizational culture that encourages individuals who strive to explore new possibilities of ways to contribute to the company.

Toray’s Personnel System

Management-by-objectives (MBO) system

This system is designed to facilitate a fair appraisal of employees based on their job descriptions: "set goals
together, work together, and achieve together." This system is also applied to corporate officers and has been extended to the heads of overseas
offices.

Personal appraisal system

In this system, employees are evaluated on the basis of their previous year’s job results, and their performance
is assessed by their supervisors, peers, and themselves.

Individual meeting system

The supervisor and the employee meet to discuss work-related topics and the employee’s career plan.

Self-assessment system (for managers, occupational specialists, and general staff)

This system gives employees an annual survey of topics covering their work experience and business
across the company, with the aim of developing employees who can actively take control of their
own careers.

Career assessment system (for general staff)

This system is to ensure that employees are in line with the company’s personnel development plans.

Job opening system

The system gives employees an opportunity to apply for jobs outside of their current ones based on
their personal career goals.

Bonus system for employee inventions

Toray received its fourth Patent of the Year in 2004 for inventions led by employees and their supervisors.

Development and Promotion of Local Key Staff

As a means of fostering globally oriented management, Toray Group en-
courages the development of human resources at overseas subsidiaries and affiliates, including the promotion of local employees to executive posi-
tions. This approach—localization of management personnel at overseas
subsidiaries and affiliates—is one of the Group’s key business challenges.

Infrastructure for Developing and Promoting Local Personnel

Positions deemed critical for the global management of Toray Group have been classified into four levels based on a Group-wide common standard. Toray head office is working with overseas subsidiaries and affiliates to develop and promote local staff in these positions. These em-
ployees are known as National Core Staff.

In 2004 Toray commenced Toray Group Executive Seminars, through which Toray promotes the mid-career recruitment of experienced individuals with specialized knowledge and skills, and the employment of international stu-
dents who have graduated from Japanese universities and Japanese students who have graduated from overseas universities. Company workplaces provide opportunities for these graduates to make the most of their skills and per-
nonal qualities.

Creating an Organizational Culture Conducive to Women and to the Advancement of Women

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In November 2006 the company plans to progressively increase the maximum age for reemployment and concluded a new labor-management agreement. As a result, the reemployment period will be extended to age 65 by April 2013. The company offers counseling to employees prior to reemployment.

Mid-career Recruitment and Employment of International Students

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Cooperate with Suppliers in their Environmental and Social Initiatives

CSR Procurement Guidelines

1. Establish an internal CSR organization and be committed to CSR
2. Work to enhance corporate ethics and comply fully with all laws and regulations
3. Position safety, accident prevention, and environmental preservation as a management priority and practice green procurement and purchasing wherever and whenever possible
4. Put crisis management systems into place, including capabilities for responding swiftly in unexpected situations, and disclose accurate information
5. Encourage dialogue and cooperation among all stakeholders
6. Ensure product safety as a precondition for supplying products
7. Respect human rights, eliminate discrimination, and improve workplace environments; prohibit forced labor, slave labor, child labor, and unfair low-wage labor
8. Maintain the confidentiality of information and respect others’ intellectual property rights

Toray Procurement and Purchasing Activities

Basic Purchasing Policies
1. Toray does its best to select suppliers and determine actual purchases fairly and on the basis of economic rationality, with consideration for price, quality, capability to provide stable supplies, technological capabilities, reliability, and other factors.
2. In selecting suppliers, Toray opens its doors to a wide range of companies inside and outside Japan. Toray does not rely solely on vendors it has existing or past relationships with, or on members of its corporate group.
3. In making purchases, Toray complies with relevant laws and regulations while taking environmental preservation and fulfilling corporate social responsibility (CSR) issues into account. Toray actively pursues green procurement and purchasing as part of its environmental efforts.
4. Toray works to maintain and improve the quality of purchased products through cooperation with its suppliers.
5. Toray works to uphold its corporate social responsibilities on a company-wide basis.

Toray Group will increase the ratio of procurement and purchasing from suppliers that meet its CSR Procurement Partner Standards and make efforts to raise awareness and to improve the situation at suppliers that do not meet these standards.

Commitment

Implementation Leader
Kazuhiro Manuyama
Senior Vice President
General Manager, Purchasing & Logistics Division
Toray Industries, Inc.

A company’s social responsibility requires consideration both across the range of corporate operations and throughout the entire value chain. Therefore, we believe that suppliers’ CSR efforts, including environmental and social considerations, are important criteria for our decision to purchase raw materials. In the Purchasing & Logistics Division, our mission is to promote Group-wide CSR procurement.

Basic Purchasing Policies

Enhancing Communication with Distribution Partners

Basic Distribution Policies

1. We shall select our transport and warehousing providers and determine individual agreements impartially and based on factors such as economic rationality with consideration given to price, quality, stability, technological capabilities, reliability, and efforts to reduce environmental impacts.
2. We shall be open in selecting our transport and warehousing providers, rather than relying exclusively on companies with which we have done business in the past or companies affiliated with Toray Group.
3. We shall comply with relevant laws and regulations, consider environmental preservation, and fulfill our corporate social responsibilities in outsourcing our transport and warehousing operations.
4. We shall cooperate with our transport and warehousing providers in gauging and reducing the environmental impact of our transport and warehousing operations.

Surveys of Status of CSR Implementation and CSR Procurement Partners

Toray asks its materials suppliers to fill out questionnaires in “Surveys of Status of CSR Implementation” that are designed to ascertain how well suppliers understand Toray’s “CSR Procurement Guidelines” and how well they address environmental issues and respect laws and regulations. Suppliers whose responses reach or exceed a certain standard are registered as “CSR Procurement Partners.” Separate follow-up with individual monitoring is undertaken for suppliers that still have room for improvement.

A “Specified Consigner” under the revised Law Concerning the Rational Use of Energy

Toray encourages its distribution partners to obtain environmental management certification such as ISO14001, and other green management certifications. As a Specified Consigner defined by the Law Concerning the Rational Use of Energy, Toray is required to reduce CO2 emissions by an annual rate of at least 1% per unit energy consumption basis. However, Toray has also set a target to reduce absolute CO2 emission volumes by 5% by 2010 compared to 2006 levels, and it is undertaking a variety of initiatives outlined below. In FY 2007 these initiatives resulted in a 1.35% ton reduction in CO2 emissions, an effective reduction of 1% over the previous year.

Initiatives with Distribution Partners

Systematization of Packaging Collection

The specialized packaging materials used by Toray, such as plastic film, are produced to conform to the 3R strategy of Reduce, Reuse and Recycle. To increase the rate of collection and reuse of these materials, Toray undertakes activities to enhance the understanding and cooperation with customers. The company also developed a Packaging Collection Support System to sustain this initiative. Now that the system is up and running, Toray can easily calculate the volume of packaging materials that is being retained by third parties.

Systermatization of Packaging Collection

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Enhancing Communication with Distribution Partners

Toray has established the following “Basic Distribution Policies”:

1. Shall we select our transport and warehousing providers and determine individual agreements impartially and based on factors such as economic rationality with consideration given to price, quality, stability, technological capabilities, reliability, and efforts to reduce environmental impacts.
2. Shall we be open in selecting our transport and warehousing providers, rather than relying exclusively on companies with which we have done business in the past or companies affiliated with Toray Group.
3. Shall we comply with relevant laws and regulations, consider environmental preservation, and fulfill our corporate social responsibilities in outsourcing our transport and warehousing operations.
4. Shall we cooperate with our transport and warehousing providers in gauging and reducing the environmental impact of our transport and warehousing operations.

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**Toray Group Social Contribution Activities**

Toray Group has always engaged in social contribution activities, particularly in providing financial support for science foundations both in Japan and overseas. The Group’s work for society is “to establish ties and develop mutual trust as a responsible corporate citizen,” as stated in the Corporate Mission.

As a member of the 1% Club formed by Nippon Keidanren (the Japan Business Federation) in 1990, Toray Group established Toray Group Social Initiative Policies designed to ensure the systematic development of social contribution activities in the future.

**Toray Group Social Initiative Policies (adopted May 2005)**

1. Based on its Corporate Philosophy of “Contributing to society through the creation of new value with innovative ideas, technologies, and products,” we will contribute to sustainable development of local and global society as a good corporate citizen, while continuously supporting social initiatives among employees.
2. We will pursue original programs dedicated to the improvement of social welfare in local communities, international exchange through traditional culture, sports promotion, and especially the advancement of science.
3. Using company awards and other measures, we will create a culture that encourages employees to participate in society in constructive ways such as engaging in voluntary activities with an eye to local needs.
4. We will examine all marketing and advertising activities from the perspective of social contribution before finalizing them.
5. We will contribute funds amounting to about 1% of our consolidated ordinary income to social initiatives.

**Results of Social Contribution Activities in FY2007**

In FY 2007, sustained implementation of social contribution activities at Toray Group generated a consolidated 980 million yen, or 11% of its consolidated ordinary income, in donations. Toray contributed 710 million yen, or 1.7% of non-consolidated ordinary income, in donations.

Principal activities included donations to the Toray Science Foundation and Toray Science Foundations in 3 ASEAN countries in 1993 and 1994. These foundations in Malaysia, Thailand, and Indonesia present the Science and Technology Award, the Science Education Award and the Science and Technology Research Grant.

**Facility Visits and Cleanup Activities**

Volunteer activities at Toray plants, subsidiaries and affiliates included visits to neighborhood senior citizen homes and social welfare facilities to call on residents and help with cleaning. Another way in which employees contribute to society is by participating in cleanup activities for roads and rivers near Toray plants and offices and at other similar events.

**Support for Culture and the Arts**

Toray is committed to promoting international exchange in arts and culture. Examples include providing support for the ‘Usui de Moteau et sa Postérité’ exhibit held at the National Art Center, Tokyo (sponsored by the Yomiuri Shimbun), for the Qualuros Voice performance in Japan, and for performances in China (Nantong) and Japan by Orchestra Asia. Toray continues to implement activities designed to keep traditional arts alive, such as providing backing for performances of Youkina, a type of marionette theater with a history of over 370 years.

**Other Major Activities**

1. Supported Science Camp, a hands-on science and technology program for high school students who intend to pursue careers in science (sponsored by the Japan Science and Technology Agency).
2. Supported public master classes offered by such string quartets as the Vermeer Quartet and the Shanghai Quartet.
4. Supported Japan Tent (sponsored by the Japan Tent Steering Committee), an event held in Ishikawa Prefecture that promotes exchange among students from around the world.
5. Supported art programs such as Setagaya Public Theatre School, a joint program instituted by Setagaya Public Theatre in collaboration with schools.

**Support for Local Communities through Sports and Events**

Toray contributes to local communities through sports. This includes holding volleyball classes led by the Toray Arrows, and judo and kendō classes taught by Toray employees in a number of different communities. The company also opens up its sports grounds, gyms, and other sports facilities to the public.

**Helping Nurture Future Generations**

Toray has been providing support for applied education to help elementary and junior high school students learn in an enjoyable way using the company’s products and technologies. In FY2007, Toray held classes on 11 topics: the environment, education in functionality of clothes and laboratory science.

The environment class was conducted at Setagaya Ward Takamagahara Junior High School in Tokyo. It was a class offering opportunities for students to learn first-hand about environmental issues and about corporate approaches to addressing these issues, primarily through visiting the 9th Eco-Products 2007 exhibition.

Based on the theme “functionality in clothes and textile recycling,” the clothing education class was offered at 4 elementary schools as part of the Designers Career Education Program implemented by the Saku City Board of Education.

Offered at 3 elementary schools in Osaka Prefecture, the laboratory science class focused on fluid filtration experiments using hollow hydro-processing membranes. The results of the experiments conducted in these classes were cited as examples on the pamphlets used by the Ministry of Economy, Trade and Industry’s Laboratories Science Project.

Toray remains committed to contributing to foster future generations, by developing the classes and teaching materials that only a company such as Toray is able to offer.

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**Pursue Social Initiatives**

**Action Program (FY 2007)**

Toray Group will continue its program of social contribution activities in accordance with the Toray Group Social Initiative Policies, mainly through donations to the Toray Science Foundation. The Group will also support employee participation in volunteer activities.

**Action Program Results**

1. The Group undertook social contribution activities, in accordance with Toray Group Social Initiative Policies, contributing funds of more than 1% of consolidated ordinary income.
2. The Group promoted participation by employees at each office and plant, and at subsidiaries and affiliates in volunteer activities such as cleanup campaigns at nearby rivers and roads and visits to social welfare facilities.

**Commitment**

Implementation Leader: Norihiko Saitou Senior Vice President In charge of CSR General Manager, Investor Relations Department, Corporate Communications Department, Internal Control Department, and Advertising Department General Manager, General Administration & Legal Division Toray Industries, Inc.

At Toray, all employees take steps to put the Corporate Philosophy into daily practice, and to contribute to society in a variety of ways. For example, Toray aims to engage in business activities that create a rich and sustainable global society. As a responsible corporate citizen, Toray is committed to ongoing activities that promote and support science and technology, sports, culture and the arts, as well as activities that foster future generations.
Environmental Data

Environmental Impact Overview

Japanese Subsidiaries and Affiliates

<table>
<thead>
<tr>
<th>Input</th>
<th>Energy (1,000,000 gigajoules)</th>
<th>Water (1,000,000 ton)</th>
<th>Raw materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>2006</td>
<td>2007</td>
<td>Yf (%)</td>
</tr>
<tr>
<td>Greenhouse gases (1,000 ton CO2)</td>
<td>143</td>
<td>100</td>
<td>14.0</td>
</tr>
<tr>
<td>PRTR Law-specified substances (ton)</td>
<td>132</td>
<td>114</td>
<td>14.5</td>
</tr>
<tr>
<td>Atmospheric emissions</td>
<td>105</td>
<td>67</td>
<td>34.9</td>
</tr>
<tr>
<td>Water emissions</td>
<td>1</td>
<td>1</td>
<td>0.0</td>
</tr>
<tr>
<td>Waste transfers</td>
<td>637</td>
<td>719</td>
<td>11.1</td>
</tr>
<tr>
<td>Air pollutants (ton)</td>
<td>2</td>
<td>2</td>
<td>0.0</td>
</tr>
<tr>
<td>SOx</td>
<td>3.3</td>
<td>3.3</td>
<td>0.0</td>
</tr>
<tr>
<td>NOx</td>
<td>1.0</td>
<td>1.0</td>
<td>0.0</td>
</tr>
<tr>
<td>NH3</td>
<td>2</td>
<td>2</td>
<td>0.0</td>
</tr>
<tr>
<td>Particulate matter (1,000 ton)</td>
<td>0.1</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Water pollutants (ton)</td>
<td>71</td>
<td>46</td>
<td>38.3</td>
</tr>
<tr>
<td>BOD</td>
<td>79</td>
<td>59</td>
<td>27.5</td>
</tr>
<tr>
<td>COD</td>
<td>67</td>
<td>46</td>
<td>17.6</td>
</tr>
<tr>
<td>Phenol</td>
<td>1</td>
<td>1</td>
<td>0.0</td>
</tr>
<tr>
<td>Monthly (1,000 ton)</td>
<td>20</td>
<td>10</td>
<td>50.0</td>
</tr>
<tr>
<td>Recycled</td>
<td>20.5</td>
<td>35.1</td>
<td>16.4</td>
</tr>
<tr>
<td>Biocatalyst and other</td>
<td>10.5</td>
<td>10.5</td>
<td>10.5</td>
</tr>
<tr>
<td>Direct landfill disposal</td>
<td>1</td>
<td>1</td>
<td>0.0</td>
</tr>
<tr>
<td>Direct incineration</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Wastewater treatment</td>
<td>1.2</td>
<td>1.2</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Japanese Subsidiaries and Affiliates

The following are the totals for water pollutants.

**Toray**
- COD: 70 plants and 47 research laboratories
- BOD: 67 plants and 40 research laboratories

**Japanese subsidiaries and affiliates**
- BOD: 40 plants at 26 companies
- COD: 43 plants at 21 companies

**Overseas subsidiaries and affiliates**
- BOD: 40 plants at 26 companies
- COD: 43 plants at 21 companies

Sites with ISO 14001 Certification

(Toray: 30 plants)

<table>
<thead>
<tr>
<th>Country</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>Osaka, State, Ohio</td>
</tr>
<tr>
<td>UK</td>
<td>Toray Textile Europe Ltd</td>
</tr>
<tr>
<td>Italy</td>
<td>Toray SpA</td>
</tr>
<tr>
<td>Germany</td>
<td>Toray Germany GmbH</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Toray Plastics Malaysia Sdn. Bhd</td>
</tr>
<tr>
<td>Japan</td>
<td>Toray Chemicals, Ltd.</td>
</tr>
</tbody>
</table>

**Japanese subsidiaries and affiliates: 34 plants at 19 companies**

<table>
<thead>
<tr>
<th>Company</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osaka, State, Ohio</td>
<td>Osaka, State, Ohio</td>
</tr>
<tr>
<td>Toray Germany GmbH</td>
<td>Toray Germany GmbH</td>
</tr>
<tr>
<td>Toray Chemicals, Ltd.</td>
<td>Toray Chemicals, Ltd.</td>
</tr>
</tbody>
</table>

Chemical Substance Emissions and Transfer Data

PRTR Law-specified substance emissions and transfer data for FY 2007

**Substance name**
- COD: 70 plants and 47 research laboratories
- BOD: 67 plants and 40 research laboratories

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- BOD: 40 plants at 26 companies
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**Overseas subsidiaries and affiliates**
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## Environmental Data for 12 Toray Plants and Principal Subsidiaries and Affiliates

### Siga Plant

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Seta Plant</th>
<th>Ehime Plant</th>
<th>Nagoya Plant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenhouse gas emissions</td>
<td>10,000 tons CO2/year</td>
<td>113</td>
<td>108</td>
<td>221</td>
</tr>
<tr>
<td>PRTR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emissions</td>
<td>tony/year</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Emissions</td>
<td>tony/year</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Emissions</td>
<td>tony/year</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Waste transfers</td>
<td>tony/year</td>
<td>90</td>
<td>0</td>
<td>437</td>
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<tr>
<td>Gas emissions</td>
<td></td>
<td>63</td>
<td>0</td>
<td>883</td>
</tr>
<tr>
<td>SOx</td>
<td>tony/year</td>
<td>64</td>
<td>1</td>
<td>139</td>
</tr>
<tr>
<td>NOx</td>
<td>tony/year</td>
<td>1</td>
<td>0</td>
<td>47</td>
</tr>
<tr>
<td>Dust</td>
<td>tony/year</td>
<td>130</td>
<td>1</td>
<td>102</td>
</tr>
<tr>
<td>Water emissions</td>
<td></td>
<td>112</td>
<td>1</td>
<td>144</td>
</tr>
<tr>
<td>BOD</td>
<td>tony/year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COD</td>
<td>tony/year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wastewater</td>
<td>million m3/year</td>
<td>26.9</td>
<td>0.6</td>
<td>36.4</td>
</tr>
<tr>
<td>Waste</td>
<td></td>
<td>567</td>
<td>0.3</td>
<td>93</td>
</tr>
<tr>
<td>Simple incineration and other</td>
<td></td>
<td>7</td>
<td>0</td>
<td>35</td>
</tr>
<tr>
<td>Landfill disposal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Tokai Plant

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Aichi Plant</th>
<th>Okazaki Plant</th>
<th>Mishima Plant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenhouse gas emissions</td>
<td>10,000 tons CO2/year</td>
<td>777</td>
<td>3.5</td>
<td>13.6</td>
</tr>
<tr>
<td>PRTR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emissions</td>
<td>tony/year</td>
<td>79</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Emissions</td>
<td>tony/year</td>
<td>16</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Emissions</td>
<td>tony/year</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Waste transfers</td>
<td>tony/year</td>
<td>67</td>
<td>23</td>
<td>35</td>
</tr>
<tr>
<td>Gas emissions</td>
<td></td>
<td>21</td>
<td>18</td>
<td>159</td>
</tr>
<tr>
<td>SOx</td>
<td>tony/year</td>
<td>361</td>
<td>25</td>
<td>45</td>
</tr>
<tr>
<td>NOx</td>
<td>tony/year</td>
<td>10</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>Dust</td>
<td>tony/year</td>
<td>369</td>
<td>5</td>
<td>38</td>
</tr>
<tr>
<td>Water emissions</td>
<td></td>
<td>373</td>
<td>2</td>
<td>52</td>
</tr>
<tr>
<td>BOD</td>
<td>tony/year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COD</td>
<td>tony/year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wastewater</td>
<td>million m3/year</td>
<td>14.9</td>
<td>2.7</td>
<td>73</td>
</tr>
<tr>
<td>Waste</td>
<td></td>
<td>9,644</td>
<td>231</td>
<td>5,112</td>
</tr>
<tr>
<td>Simple incineration and other</td>
<td></td>
<td>806</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Landfill disposal</td>
<td></td>
<td>522</td>
<td>13</td>
<td>14</td>
</tr>
</tbody>
</table>

### Chiba Plant

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Tsuchiura Plant</th>
<th>Gifu Plant</th>
<th>Ishikawa Plant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenhouse gas emissions</td>
<td>10,000 tons CO2/year</td>
<td>2</td>
<td>3</td>
<td>10.6</td>
</tr>
<tr>
<td>PRTR</td>
<td></td>
<td>Air tony/year</td>
<td>Water tony/year</td>
<td>Soil &amp; landfill tony/year</td>
</tr>
<tr>
<td>Emissions</td>
<td>tony/year</td>
<td>48</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Emissions</td>
<td>tony/year</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Emissions</td>
<td>tony/year</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Waste transfers</td>
<td>tony/year</td>
<td>7</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Gas emissions</td>
<td></td>
<td>567</td>
<td>0.6</td>
<td>716</td>
</tr>
<tr>
<td>SOx</td>
<td>tony/year</td>
<td>64</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>NOx</td>
<td>tony/year</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Dust</td>
<td>tony/year</td>
<td>130</td>
<td>1</td>
<td>77</td>
</tr>
<tr>
<td>Water emissions</td>
<td></td>
<td>112</td>
<td>1</td>
<td>77</td>
</tr>
<tr>
<td>BOD</td>
<td>tony/year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COD</td>
<td>tony/year</td>
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<td></td>
<td></td>
</tr>
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<td>Wastewater</td>
<td>million m3/year</td>
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<tr>
<td>Waste</td>
<td></td>
<td>4,037</td>
<td>99</td>
<td>862</td>
</tr>
<tr>
<td>Simple incineration and other</td>
<td></td>
<td>88</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Landfill disposal</td>
<td></td>
<td>12</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

### Toyo Tire Cord Co., Ltd.

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Toyo Advanced Films (Mishima)</th>
<th>Pentabric (Mill. IV)</th>
<th>Toray Plastics Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenhouse gas emissions</td>
<td>10,000 tons CO2/year</td>
<td>1.6</td>
<td>0.6</td>
<td>3.1</td>
</tr>
<tr>
<td>PRTR</td>
<td></td>
<td>Air tony/year</td>
<td>Water tony/year</td>
<td>Soil &amp; landfill tony/year</td>
</tr>
<tr>
<td>Emissions</td>
<td>tony/year</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Emissions</td>
<td>tony/year</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Emissions</td>
<td>tony/year</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Waste transfers</td>
<td>tony/year</td>
<td>0</td>
<td>71</td>
<td>0</td>
</tr>
<tr>
<td>Gas emissions</td>
<td></td>
<td>567</td>
<td>0.6</td>
<td>716</td>
</tr>
<tr>
<td>SOx</td>
<td>tony/year</td>
<td>64</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>NOx</td>
<td>tony/year</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Dust</td>
<td>tony/year</td>
<td>130</td>
<td>1</td>
<td>77</td>
</tr>
<tr>
<td>Water emissions</td>
<td></td>
<td>112</td>
<td>1</td>
<td>77</td>
</tr>
<tr>
<td>BOD</td>
<td>tony/year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COD</td>
<td>tony/year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wastewater</td>
<td>million m3/year</td>
<td>4.4</td>
<td>0.3</td>
<td>11.0</td>
</tr>
<tr>
<td>Waste</td>
<td></td>
<td>4,037</td>
<td>99</td>
<td>862</td>
</tr>
<tr>
<td>Simple incineration and other</td>
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<tr>
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<td></td>
<td>12</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

### Principal manufactured products

- **Siga Plant**: 
  - Tiemphosphoric acid
  - Tetoron® chips
  - Torayfa® (IPS resin)
  - Nylon filament yarn
  - Rayal® plastic optical fiber

- **Tokai Plant**: 
  - Capron®elastam
  - Tetoron® chips
  - Torayfa® (IPS resin)
  - Nylon filament yarn
  - Rayal® plastic optical fiber

- **Chiba Plant**: 
  - Torayfa® (IPS resin)
  - Tetoron® chips
  - Torayfa® (IPS resin)
  - Nylon filament yarn
  - Rayal® plastic optical fiber

- **Toyo Tire Cord Co., Ltd.:** 
  - Rayal®: ABS resin
  - Torayfa®: BOP polypropylene film

- **Toray Plastics Europe**: 
  - Polyester-cotton blend textile
  - Torayfa®: BOP polypropylene film
  - Torayfa®: BOP polypropylene film

* PRTR: Potential Reduced Treatability Ratio
* Reporting values based on EU-ETS

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External Commendations

The Environment and Social Responsibility

Toray

Receiving Award for Energy Management in Factories

Toray ACE Shima Plant received the Award for Energy Management in Factories in recognition of its excellent performance in energy management.

Receiving award from Ministry of Health, Labour and Welfare

Toray Ishikawa Plant received an award from the Ministry of Health, Labour and Welfare for its excellent performance in occupational health and safety management.

Overseas Subsidiaries and Affiliates

Receiving Chinese Chemical Fiber Industry’s Environmentally Friendly Enterprise Award

Toray Fibers (Nantong) was awarded the Chinese Chemical Fiber Industry’s Environmentally Friendly Enterprise Award by the China Chemical Fiber Association.

Receiving Presidential Award

STECO was awarded the Presidential Award for Promotion Innovation at the National Quality Management Convention.

Japanese Subsidiaries and Affiliates

Receiving Fire and Disaster Management Agency Commissioner’s Award for Excellent Management of Hazardous Materials

Toray Engineering received an award from the Fire and Disaster Management Agency Commissioner for its excellent management of hazardous materials.

Research and Technical Development

Receiving the Okochi Memorial Production Prize

Toray was awarded the Okochi Memorial Production Prize for its innovative short cycle RTM process for carbon fiber reinforced plastic automotive parts.

Receiving the Nikkei BP Technology Award for Ecology Division

Toray was awarded the Nikkei BP Technology Award for Ecology Division for its innovative short cycle RTM process for carbon fiber reinforced plastic automotive parts.

Awarding institution

The Energy Conservation Center, Japan

Ministry of Education, Culture, Sports, Science and Technology Research Promotion Bureau

Ohno Chamber of Commerce and Industry

Ministry of the Environment

Sodima Mieku Banking Corporation, Environmental Businesswomen

Japanese Modern Committee

Japan Industrial Design Promotion Organization

Awards

Ministry of Economy, Trade and Industry Award for Excellent Energy Management in Factories

Ministry of Health, Labour and Welfare Award for Excellent Management of Hazardous Materials

Ministry of Education, Culture, Sports, Science and Technology Award for Innovative Contribution

Science and Technology Award by Minister ECOS

Award for Long and Excellent Service by Employees

Environmental Business Award: eco japan cup 2007

Toray’s Sanpro® swimwear fabric and Toray®-nylon cloth both selected for the Japanese Modern top 100

Good Design Award

Awarding institution

Commissioner of Fire and Disaster Management Agency

Director-General of the Social Insurance Agency

Ministry of Health, Labour and Welfare Standards Bureau

Awards

Fire and Disaster Management Agency Commissioner’s Award for Excellent Management of Hazardous Materials

Award (Cooperation with welfare and pensions)

Excellence in Food Hygiene Facilities

Completion of works with no accidents throughout the full term of the various works and projects.

Recipient company, plant

China Plant

Tatehama Plant

Shiga Plant

Tosaccoy and Advanced Composites Division

Toray

Toray vito Sales and Marketing Department

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Director-General of the Social Insurance Agency

Director of the Ministry of Health, Labour and Welfare

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Recipient company, plant

Toray ACE Co., Ltd.

Toray Monofilament Co., Ltd.

Soda Armonia Co., Ltd. (Nicks)

Toray Engineering Co., Ltd.

Awarding institution

Ministry of Labor and Social Welfare, Thailand

Ministry of Labor and Social Welfare, Thailand

China Chemical Fiber Association

Korea Green Management Excellence Award

Ministry of Commerce, Industry and Energy, Korea

Awards

Award for Excellence in Safety, Occupational Health and Work Environment, Thailand

Award for Excellence in Labor Relations and劳动 Welfare, Thailand

Chinese Chemical Fiber Industry’s Environmentally Friendly Enterprise Award

Korea Green Management Excellence Awards

President of Production Innovation at the National Quality Management Convention

Recipient company, plant

Toray Fibers (Thailand) Co., Ltd.

Toray Fibers (Nanjing) Co., Ltd.

Toray Fibers (Nanjing) Co., Ltd.

Steco, Ltd.

Awarding institution

The Energy Conservation Center, Japan

Ohno Chamber of Commerce and Industry

Ministry of the Environment

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Evaluation by Socially Responsible Investment (SRI) Indexes and other SRI-related organizations

An SRI index is constructed from stocks in companies that exceed evaluations for certain specified standards for CSR activities. The companies providing these indexes independently select index components and calculate the indexes based on publicly available data and questionnaire surveys. Individual SRI funds determine the components of their fund portfolios based on these SRI indexes and on their own investigation. In September 2007, Toray was selected as an index component of the Dow Jones Sustainability World Index.

In addition, Toray was listed in Carbon Disclosure Leadership Index (CDLI) in the Carbon Disclosure Project Report 2007 Japan, published by the Carbon Disclosure Project in 2007. The Carbon Disclosure Project was established as an NPO representing institutional investors in order to promote an ongoing dialogue between stakeholders and corporations in relation to climate change, which impacts on corporate value and corporate activities.

As of June 2008, Toray was included in the SRI indexes at right.

Third Party Opinion from an Academic

Anticipating great improvements through understanding management issues and corporate governance

The Sustainable Management Forum of Japan has been engaged in the rating, diagnosis and evaluation of businesses from the point of view of sustainable management. The Forum rates Toray’s activities highly for its special efforts in the following three areas:

1. Clearly positioning CSR activities as a means of putting its Corporate Philosophy into practice, then deeply examining the issues the company faces.
2. “CSR guideline activities” are carried out through the PDCA cycle at the management level.
3. Issues are addressed by “CSR line activities” by all employees at the workplace level. Toray implements these activities in parallel with CSR guidelines activities.

The present CSR Report explains these matters in an orderly and easily comprehensible manner.

I expect to see Toray Group achieve even more, as a strong corporation possessing an open corporate culture, 1) by having the 39,000 employees in its about 240 companies in Japan and abroad face urgent management issues, including the worsening problem of global warming; 2) by ensuring results from efforts to positively adopt CSR activities; and 3) with well-developed governance systems that would never overlook even a small accident or legal reprimand.

Nobuyuki Kimita
Professor; Tottori University of Environmental Studies and Vice Chairman, Sustainable Management Forum of Japan

Borns in Aiki, Japan, 1941. Graduated from Tohoku University. Completed graduate studies at Kyoto University Graduate School of Engineering. Master of Engineering. First-class Architect. Fields of specialization are environmental engineering, value engineering, facility management, global environmental problems and management approval. Publications include: "Environmental Management: Rating and Risk Management" and "The Role Posed to Japan’s Social Capital by Climate Change". Professor Kimita co-authored "Viaggio and Strategies for a Sustainable Economy", "The Goals and Characteristics of Sustainable Management: Rating and Management Diagnosis", etc.

Human resources training with an emphasis on diversity focusing on “Five Innovations”

When I read the Toray Group CSR Report 2008 from an SRI viewpoint, what left the greatest impression on me was the concept of “CSR Innovation.”

In its mid-term business strategy (T2010, Toray lists “Five Innovations” as management issues: business structure, technologies, competitiveness, business-awareness and CSR. I was impressed because I understood that the fact that CSR innovation was included here showed that for Toray Group, CSR was a growth strategy, and it was seen as a source of competitive advantage.

On this point, I was interested in how Toray Group proposed to improve the quality of its human resources, given that the people who are the instruments of innovation are the most crucial factor in attaining the “Five Innovations.” I believe that the report would have been even more appealing if there were some explanation as to where the strategic priorities were placed among the 10 items in the CSR Guidelines, and why.

Toray Group has been dispatching its employees on overseas assignments for more than 50 years, and it has had overseas production facilities for 45 years. Because it was one of the first Japanese materials manufacturers to have developed overseas operations, there are likely to be many employees with sound experiences in inter-cultural communication in key areas in the company’s head office. Also, in 1958, Toray led the way in promoting women to management positions, and in 1974, it introduced a child care leave program, nearly 20 years before this became part of Japanese law. From these and other examples, I can see that Toray has generated a climate in which a diversity of human resources is made a part of its corporate culture.

It is this diversity that is the “cradle” that creates new value in human resources, and this is a point that should definitely not be forgotten by any company that stresses innovation. We produce our evaluation reports after learning what we can about a company’s approach to diversity from CSR reports, and then by confirming our impressions through company visits and telephone interviews.

Mizue Tsukushi
Founder and CEO
The Good Bankers Co., Ltd.

Put together Japan’s first SRI financial product, “Nikko Eco-Fund” in 1999. Recipient of the first Good Design Award for a financial product. Family Friendly Fund developed in 2004 also won a Good Design Award and an outstanding performance award of the Work-Life Balance Award. In September 2010, received Japan’s Prime Minister’s Award for “Encouragement of a Society with Equality of Male/Female Participation.” Member of the Japanese National Commission for UNESCO; Member of the Central Environment Council; numerous public appointments.

Third Party Opinion from an SRI Analyst

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