

DENKA

C S R R E P O R T



2007

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Editorial Policy

DENKA launched full-fledged CSR Measures in April 2007 by appointing a CSR Promoting Dept. backed by the mission to enforce Corporate Social Responsibility (CSR) to "Society", the "Environment" and the "Economy". This and more will take place through activities that satisfy Responsible Care (RC), that has been conventionally practiced, as well as through new activities taking place according to the new themes set for each category.

This report that was conventionally called the "Environmental Report" has been remand to "CSR Report". It describes the company's effort toward the "Environment and Safety", and covers the area of "Society" and the "Economy" to disclose DENKA efforts to stakeholders. The intention is to provide "detailed information" as well as ensure "easy reading information" on our corporate measures to maintain the stakeholder's respect.

This publication has been prepared with reference to "Reports on Environmental Guidelines 2003" of the Ministry of Environment and "Sustainability Reporting Guidelines v3" of Global Reporting Initiative(GRI).

Scope of this Report

■Target Period
As a rule, this FY2006 report covers the period from April 1,2006 to March 31, 2007. However, the contents will also include performance indices (statistics) prior to FY2006, as well.

■Scope
The data found in this report is based on the information of DENKA's plants and research center documented on pages 38-39, unless noted otherwise. Note that the data on the plants and research center also include those of affiliate companies found on page 23.

For more information

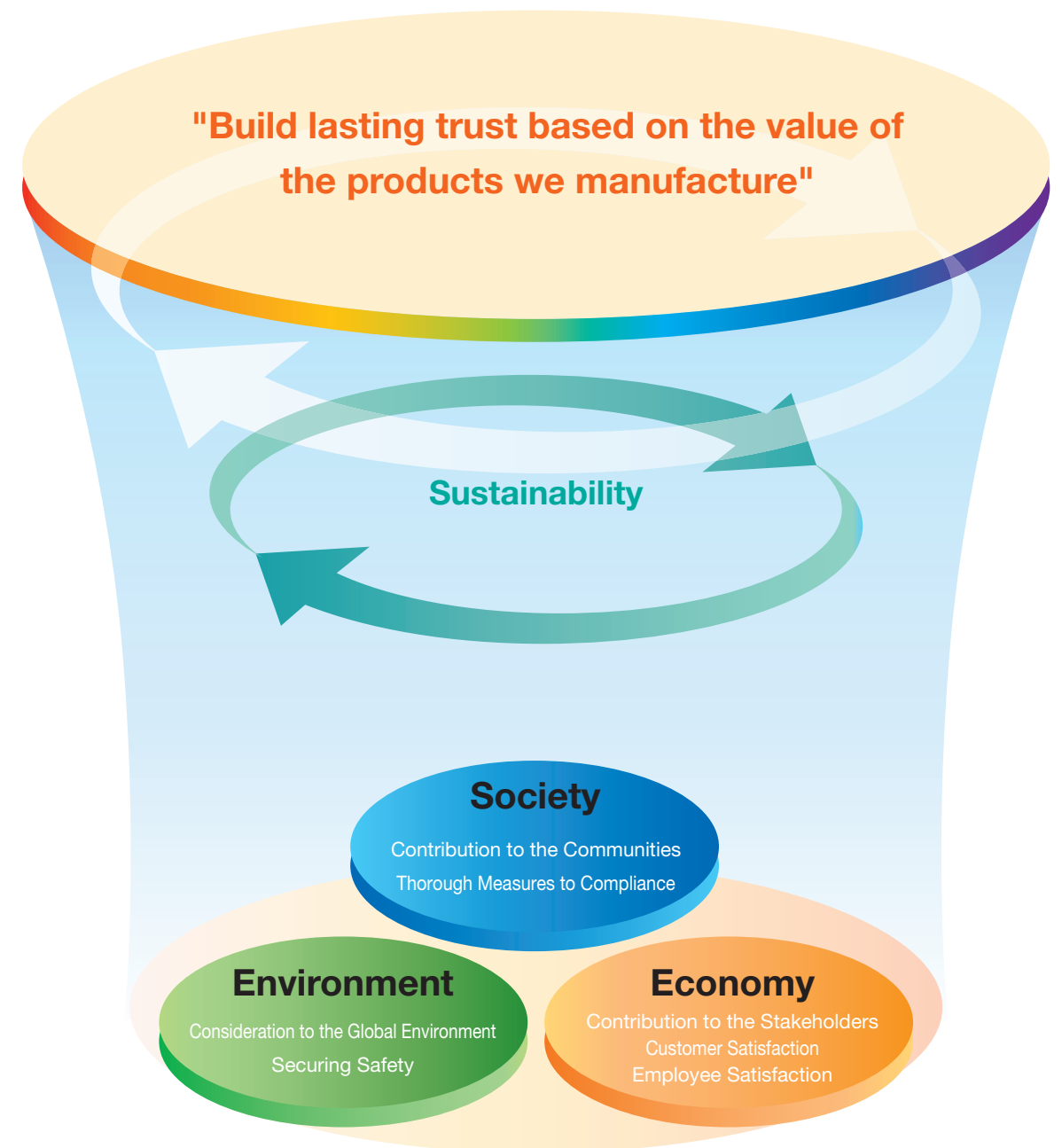
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Basic Policy and Concept of CSR

CSR by DENKA

DENKA promotes "DENKA100", from April 2007, on a company-wide basis to enforce new challenges toward the centennial anniversary of the company in2015. A cooperative and harmonious working relationship with stakeholders is vital to ensure sustainable development of an enterprise. Further, the awareness of social responsibility is also indispensable upon undertaking business activities.

It is DENKA's philosophy to "Build lasting trust based on the value of the products we manufacture". The company is also aware of the importance to be a responsible member of society and to practice "CSR". Thus, relentless effort will continue backed by the understanding that these are mandatory conditions for a successful enterprise, as DENKA proudly enters its 100 years of operations.



MESSAGE FROM THE PRESIDENT

"Build lasting trust based on the value of the products we manufacture"



President *Seiki Kawabata*

DENKA was founded to mainly manufacture and sell calcium carbide and calcium cyanamide. Since then, the company has paved the basics in carbide chemicals, and has further stemmed into the fields of cement and other inorganic materials, as well as petrochemical materials. Recently, the company expanded business to electronic materials and pharmaceuticals. Effort has always thoroughly focused on "manufacturing", with the intention to make living more comfortable and to contribute to growth of society through development to supply products and service.

A New Set of challenges with "DENKA100"

To continuously grow and to create corporate values, DENKA relentlessly challenges the next stage. DENKA also makes it a corporate mission and target to remain to be a good company for the shareholders, customers, employees and all other stakeholders.

DENKA hailed the DENKA "New Stage 2006" (NS06) 3-year plan up to March 2007. This middle-term plan focused on improving profitability of business and strengthening the company's financial status, and the goal was successfully achieved during the subject period. In line with this progress, the company newly introduced "DENKA100" from April 2007. This is a company-wide effort focused on six pillar areas of new challenges. Activities take place in hope to achieve the goals defined, with consideration to the centennial anniversary of the company in 2015.

- ① Business Development with DS09
- ② Employee awareness & operational reforms GCP2.0
- ③ Development of human resources
- ④ Enhancement of productivity
- ⑤ Promotion of research & development
- ⑥ Corporate social responsibility

From "RC" to "CSR"

DENKA has undertaken Responsible Care (RC) activities from 1995, in effort to ensure a sustainable environment and to secure safety as a good, health and sound chemical enterprise. Following the "Primary Middle-Term Environmental Plan" in FY2003, the company has defined the "Second Middle-Term Environmental Plan" in FY05. The current themes focus on prevention of global warming, "reducing waste" and "appropriately controlling chemical substances".

"GCP (Good Company Program)" launched in October 2004 was designed to change the awareness at workforce. It actively concentrates on attaining "safe and stable operations", "zero accident and disaster/fire" and "the global environmental conservation", as well as "compliance" and "stable employment" throughout business activities.

"DENKA100" that defines the new measures from FY07 intends to satisfy the corporate social responsibility as a chemical enterprise. It hails to "Promotion of CSR (Corporate Social Responsibility)", to actively enforce CSR activities through diverse activities concerning "environment", "society" and "economy".

- For shareholders effort focuses on establishing a respectable relationship by ensuring stable business results, improving business, providing information and disclosing information.
 - For customers we supply high quality and highly effective products.
 - For employees we ensure an accident and disaster free workplace, in becoming an enterprise that satisfies their employees.
 - For society we thoroughly enforce compliance and maintain good communications with the local community, as a good corporate citizen.
 - For the environment we continue to improve technologies to prevent global warming, reduce discharge or chemical substances, reduce waste and promote a recycling/reusing society.
- Every effort will continue to become a corporation that creates "value" from "resources" by fully utilizing technical capability.

This report describes DENKA's basic policies on the "environment", "society" and "economy", as well as DENKA's business results.

The intention of this report is to offer you information on DENKA measures for further understanding of our business activities. We will be very happy if we can have your comments and suggestions.

November.2007

DENKA100

A New Set of Challenges with Focus on the centennial Anniversary of the Company

What is "DENKA100"?

DENKA was founded in 1915 and is about to welcome its centennial anniversary in 2015.

In April 2007, we went ahead to launch "DENKA100" as a company-wide movement for a new set of challenges with focus on the 100th year of operations. The basic philosophy of "DENKA100" is to become a corporation that creates "value" from "resources" fully utilizing high technological power. With this in mind, we set our target to increase the operating income twofold from FY2006 levels by 2015 up to ¥50 billion (non-consolidated), and ¥60 billion (consolidated).

The company further defined the following 6 pillar policies to reach the goals set by "DENKA100".

1. Business Development "DS09"

A 3-year action plan will be defined as the first step toward the statistical goal. The goal set here will be to yield by FY2009, an operating income of ¥43 billion on a consolidated that is an additional ¥13 billion of the current operating income, and ¥35 billion on a non-consolidated that is an additional ¥10 billion of the current operating income.

What's more, with DS09, the goal, in addition to the operating income set will include the following 3 indices to boost business efficiency and to ensure sound and healthy business operations.

Operating Income Ratio : 10% and above

ROA* : 10% and above

Interest-bearing Debt Ratio : 20% and below

In addition, effort will be made to attain an shareholders' equity ratio of 50% and above, and interest-bearing debt of ¥60 billion (non-consolidated).

2. Employee awareness & operational "GCP2.0"

The goal is to further develop "GCP (Good Company Program)" that has already been in action to change the employee awareness and operational reforms in the company. Our intention is to reinforce and re-energize the company from inside by changing the conventional awareness and understanding.

3. Development of Human Resources

The goal is to strengthen activities by the "Human Resource Development Center" that mainly focuses on in-house education, as well as review the personnel system.

* ROA : Return on Assets

4. Enhancement of productivity

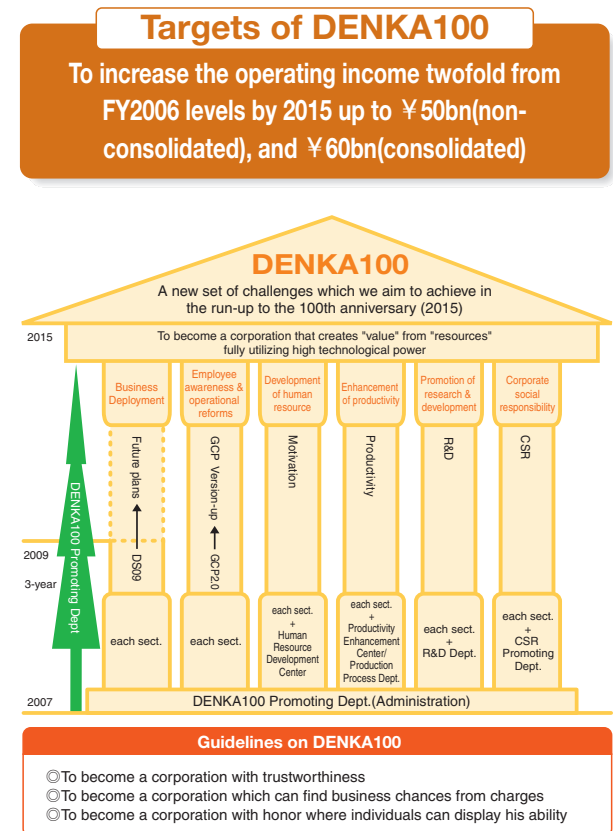
A "Productivity Enhancement Center" has been appointed to promote activities that improve productivity.

5. Promotion of Research & Development

Every effort will be made to further concentrate on R&D that is the key to DENKA's future. This not only encompasses faster turnover of R&D, but also the goal to "strengthen our strong products", as well as develop new products backed by the company's current operations. Nonetheless, consolidated measures will also be enforced to undertake business through new perspectives.

6. CSR

We are a chemical enterprise expected to maintain social responsibility. For this reason, we seriously attend areas of the "environment", "secure employment", "compliance" and "social activities" to satisfactorily and actively fulfill our share of CSR activities.



FY2006 GCP Movement

GCP Group Presentation

In FY2006, a Group Presentation took place twice in June and November.

The presentation in June was presented by 19 groups from the plants, research and development, business departments, and branches. They reported the activities of the second term of FY05, and there were also 2 special lectures that won the GCP Prize the previous year. The GCP-NS06 Promoting Dept. also presented the progress report of GCP-NS06 promotion and the "OP+1", new short-term movement.

In November, there were presentation on GCP activities by 4 departments and presentation of S&PM project-related activities. In addition there were presentations on individual themes of labor safety and hygiene improvement activities.



Scene of GCP Presentation



GCP Activity Report

Publication of "GC News"

The "GC News" has been published every month from March 2005, to provide an activity report on GCP.

The publication mainly focuses on the safety education and operational improvement activities that are major themes of GCP. It also introduces results on various presentations, training programs, lectures by directors, timely topics, etc.

"GCP Progress Report"

A "GCP Progress Report" was published to summarize the 2 and a half years of activities launched from 2004 October. All activities up to date have been included in this booklet from the kickoff proclamation, briefing, presentation, message from the president, details of presentation programs, GC News, etc. Plan is to continue to publish this documentation in the future.

DENKA Work-related Accident Case Studies

DENKA strives to create a workplace that is safe and comfortable as a chemical company to work at. Thus, many measures are undertaken to ensure this, including "activities to improve the environment for safe activities" and to "boost the awareness of safety". In 2006, we created the "DENKA Work-related Accident Case Studies" for in-house distribution.

Various measures will continue to prevent disaster and fire in the future.

S&PM Project Activity

Making information visible to all, the Sales Sector and Manufacturing Sector share information. The "S&PM Project" was introduced to mutually improve productivity and customer satisfaction.

CSR Measures

DENKA Group Guidelines

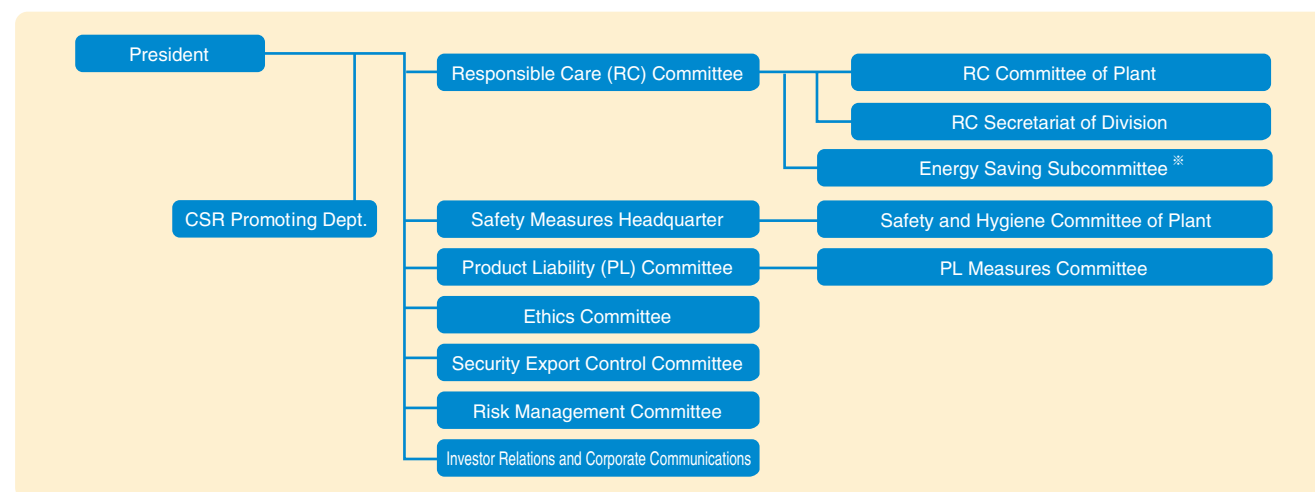
1. We will promote sustainable development of society with conviction that Corporate Social Responsibility is an essence of business.
2. We will contribute to sound growth of society through development to supply products and service of safe and environment-friendly.
3. We will operate our business in accordance with fairness.
4. We will keep good communications with society and disclose appropriate information.
5. We will observe the laws and regulations, perform fair business according to social good senses.
6. We will maintain safe and work environment to respect all fundamental human rights.
7. We will carry out the environmental conservation by effectively utilizing resources, reusing and recycling resources.
8. We will participate in various activities of the global environmental conservation.
9. We will contribute to society as a good corporate citizen.
10. We will contribute to the development of respective communities as a good member of the global society.

Organization for Promoting CSR

DENKA newly organized a "CSR Promoting Dept." to actively promote internal and external CSR activities. Up to now, the permanent committees appointed respectively for the environment, society and economy were working separately. CSR related activities and themes were also dispersed among various operations. However, it is vital to keep all these themes and activities under one flow and promoted through coordinated effort. The "CSR Promoting Dept." was organized to do this in collaboration with the "DENKA100 Promoting Dept." and "Investor Relations and Corporate Communications Dept.". Specific activities by the "CSR" will be introduced below.

- ① Define basic policies and comprehensive solutions on CSR activities by the DENKA Group
- ② Educate and enlighten on CSR activities by the DENKA Group (work in collaboration with the DENKA100 Promoting Dept.)
- ③ Promote CSR activities for public affairs and IR (work in collaboration with IR and Corporate Communications Dept.)
- ④ Internally and externally distribute results of CSR activities (CSR Report, etc.)
- ⑤ Help improve Application Management System
- ⑥ Secretariat in-charge of other CSR promotion activities

CSR Organization



* Details of the Energy Saving Subcommittee organization appears on p. 26 "Measures to Prevent Global Warming".

Corporate Governance

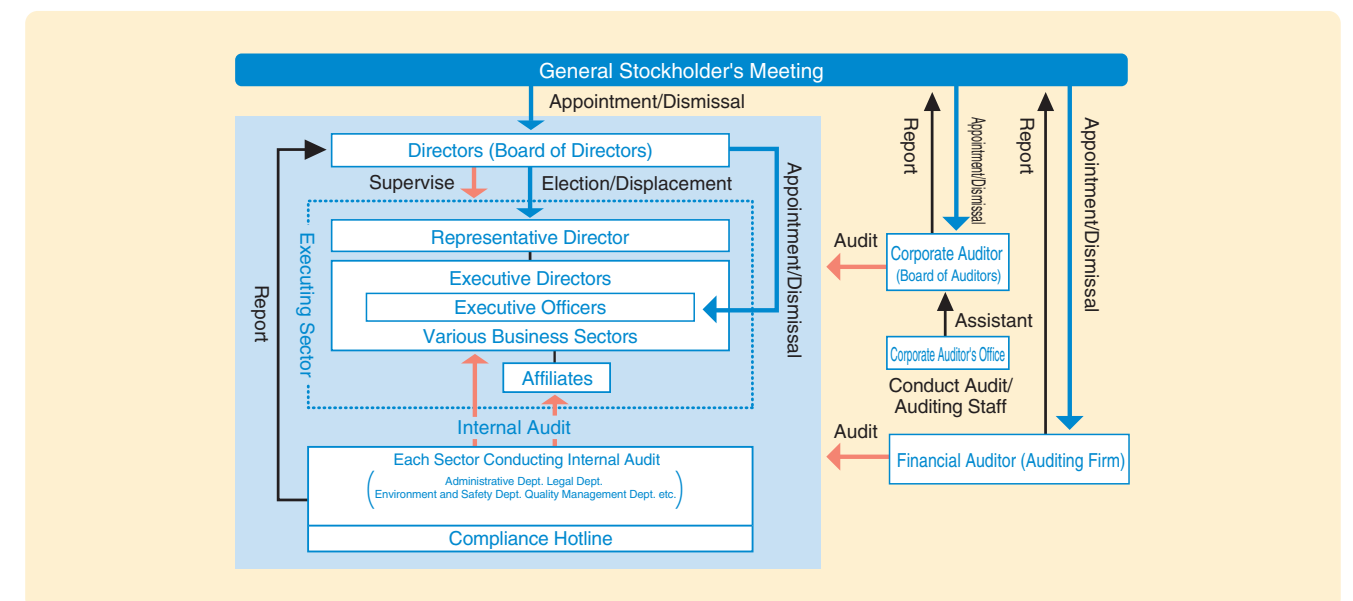
Corporate Governance

Corporate governance requires us to satisfy the expectations and respect of our stakeholders such as stockholders, customers, local community and employees. We are also convinced that this is the foundation of business for an enterprise to remain to be respected and supported by society. For this reason, we take serious efforts to energize our board of directors, strengthen our audit system, create an efficient management organization and strengthen the compliance system.

Governance System

DENKA adopts the Corporate Auditor System at the foundation of the Corporate Governance System. This board of Auditors, including 2 independent outside Auditors operates in the interest of stakeholders to audit business activities, as well as management and administration, to monitor suitable business operations. The chart below shows our corporate governance system including the internal Audit system.

Corporate Governance System



Internal Control

We believe it is important to organize an appropriate Internal Control System, since this is the basic condition to meet to the respect and expectation of society. Thus, every effort will continue to sustain and improve the system according to the basic policies decided at the board of directors meeting. The specifics are described below.

① Board of Directors/Executive Officers

The Executive Officers System was implemented from June 2007 to optimize the decision-making process of the board of directors, and to separate execution of business from supervision. As a result, the number of board of directors has been cut by half from 16 to 8 directors. As a general rule, a board of directors meeting is conducted once a month, with the attendance of all auditors including outside auditors.

② Internal Audit System

An internal audit is conducted mainly by the governing sectors centralized around the management sector, and various other committees including the RC committee, for audit to take place according to function. Each sector and committee collaborates to educate about various legislations and audit operational statuses. Then the results are accordingly reported to the directors. Compliance Hotline System has also been introduced to supplement the internal audit described above, to ensure early discovery, detection and correction of violations.

Corporate Governance

Compliance

We are convinced that compliance is the basic policy for an enterprise to maintain sustainable growth. As a result, we have abided by legislation and internal regulations, as well as thoroughly refrain from acts that violate social morals and ethics. These have been clearly defined as the action standard for the entire group companies. In 2002, this was issued as the "DENKA Group Ethics Policy".

An "Ethics Committee" was also organized, with the President heading the committee as the chairman, to thoroughly and strictly enforce the "DENKA Group Ethics Policy". The role of this organization is to comprehensively direct and supervise the compliance system. Thorough measures are also enforced to ensure compliance in each sector of the Legal Dept., Environmental and Safety Dept., Intellectual Property Dept. etc. Effort is also focused on educating the staff on corporate compliance through in-house programs lead mainly by the Human Resources Development Center.

Compliance Hotline System

The purpose of this system is to cover the areas that fall through the cracks with regular internal control systems and compliance systems. Its role is to self-check the organization as well as self-correct the organization when necessary. The Compliance Hotline was organized and put in operation to do this in accordance with the "DENKA Group Ethics Policy".

The scope of the "Compliance Hotline" is to listen to reporting on actions that violate the "DENKA Group Ethics Policy". When there is reporting, the "Ethics Committee" chaired by the President will take swift and appropriate corrective measures.

The compliance hotline is mandated to remain fair and swift. The compliance hotline is setup to receive report at the Corporate Auditors' Office and Labor Union that are independent from the corporate organization, as well as the Legal Dept. and other Dept. that are operating sectors of General Affairs and the Ethics Committee of each plant. There is also an exclusive e-mail address for internal reporting.

Further, DENKA also protects the whistle blowers from discrimination or disadvantages with the clause for fair handling strictly defined in the "DENKA Group Ethics Policy", to maintain the integrity and effectiveness of the system.

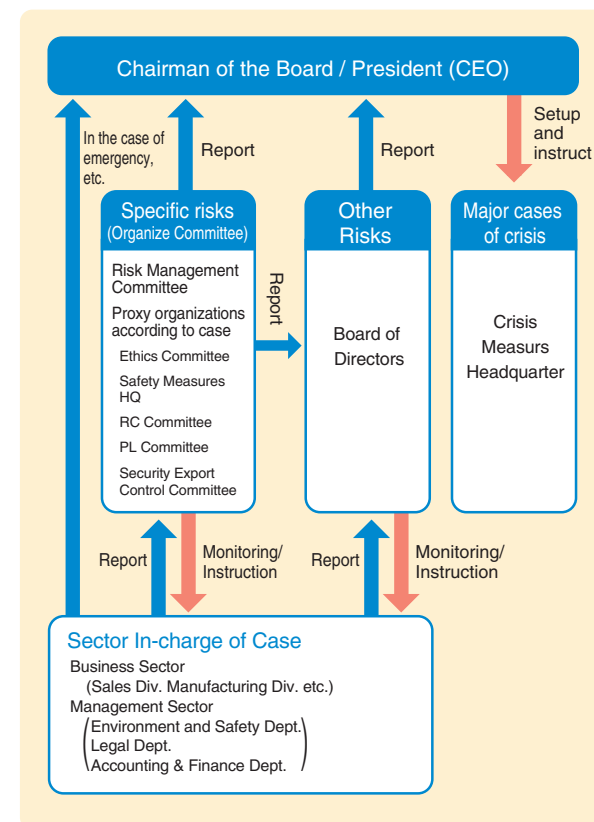
Risk Management

There is a need to appropriately understand the diverse and numerous risks accompanying various corporate activities. We are aware that risk control is an extremely important aspect of this.

As a rule, each business sector is respectively responsible in identifying and understanding the risks unique to each of their operations. And is also responsible in taking appropriate measures. However, environmental and safety issues concern the entire corporate activities. Product Liability (PL) and Export Control are also vital issues for DENKA, as a while. For these areas that concern the entire company, risk management and control is enforced through an organization such a specialized department or permanent committee.

Risk Management Guideline was also defined as policy to comprehensively attend incidents that have a major effect on corporate activities. "Crisis Measures Headquarter" has also been organized as an organization mutually attending risk management along with the permanent "Risk Management Committee".

Overview of Risk Management



Human Resource Development

In-house education and training programs

Desired characteristics

- (1) Constantly maintain the spirit to better oneself through business and social activities. (high goals and self-enlightenment)
- (2) Always respect others and maintain a humble, positive-minded attitude. (humble and honest)
- (3) Never be selfish. (cooperative)
- (4) Remain active in actualizing change through teamwork and organizational activities. (motivation)
- (5) Possess insight from a broad perspective, superior problem-solving skills and the power to execute those potentials. (foresight)
- (6) Remain cost conscious and maintain cost awareness. (profit consciousness)

Effect to Expect

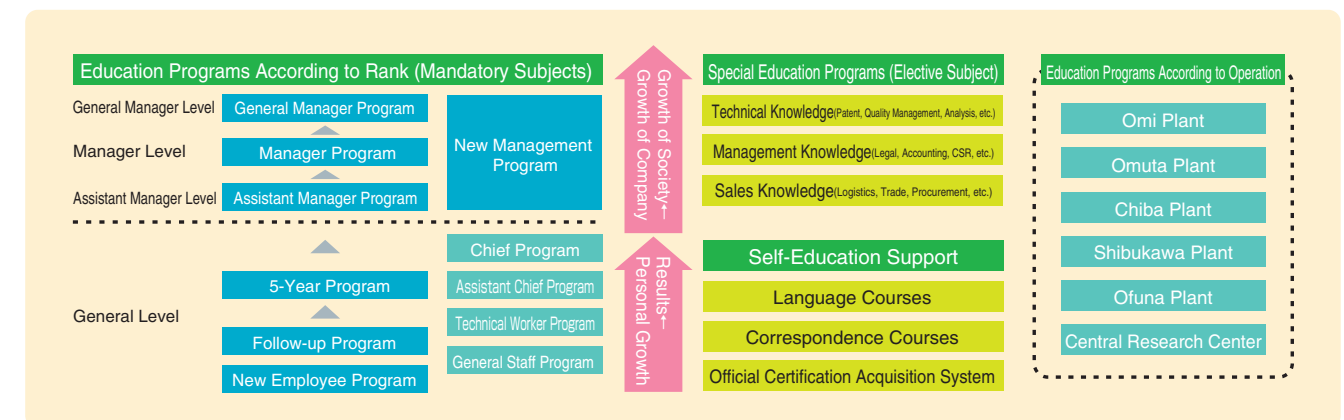
- (1) Personal Growth: Action in which better skills, knowledge, technology and performance leads to profits.
- (2) Organizational Growth: Better team performance through close cooperation within and between sectors.
- (3) Corporate Growth: Further growth of the DENKA brand and company. (profitability, brand and status)

Programs

① Education Programs According to Rank

The goal is to learn and acquire knowledge and skills necessary to perform the duties concerned and to act and behave

Human Resource Development Programs



according to the role of each rank. The program is designed with focus on education on legal aspects, compliance and safety measures that are at the root of corporate business.

② Special Education Programs

Numerous training programs and curricular themes are available to learn about intellectual property, engineering, quality management, accounting, practical foreign trade tasks, and the systems sector.

③ Career Up Programs (Support)

Language programs and correspondence courses are provided for career improvement opportunities. The company also supports employees acquiring legal/official certification according to the company's designated the Standard for the official certification Acquisition, that are standards to support employees acquiring legal/official certification.

④ Education Programs According to Operation

Firstly, various enforcement items are clarified through education and training programs conducted at each operation. Then effort is constantly focused on establishing, planning and executing original educational/training programs according to each operation to help improve the knowledge and skills of each individual employee.



Scene of in-house education and training programs

Practicing CSR

Community Dialogue

Responsible Care Chiba District/Community Dialogue

DENKA Chiba Plant participated in the "Responsible Care Chiba /community dialogue" taking place in February 2007, as a representative of corporate operations.

This dialogue takes place every two years to serve as a place of communication and exchange between corporate members of Responsible Care and the representative of the community, in hope to promote mutual understanding and support.

At the request of the civic community, the activity report provides corporate information on activities and measures by chemical enterprises to prevent disaster and fire. DENKA also provides information on safety and disaster prevention measures by their chemical plants, and has gained understanding of the community. During discussions taking place during the second half of the session, we found that the community were highly interested in environmental conservation measures. We thereby discussed CSR-related topics including mistakes taking place during business operations, concealment of accident, and disclosure of data. During the session, DENKA also shared details of DENKA GCP Activities.



Scene from the RC Chiba/Community Dialogue

Youth Science Fair

The DENKA Omi Plant participated as an exhibitor at the "Niigata Youth Science Fair" taking place at the Nagaoka City (Niigata) Gymnasium over the two days on November 25 and 26, 2006. The event was for children to find interest in sciences.

The DENKA booth provided a session under the title "make original key holders using shrinking plastic sheets". The "DENKA Thermosheet OPS" manufactured by the Chiba

Plant was used to make key holders. This event was successful over both days, with a total of 1,400 children visiting the booth. The children created their own original key holders under instruction of DENKA employees and happily took home their new masterpiece.

Needless to say, the children were able to indulge in the mysteries of "science" through this trade fair. We hope that these children will seek to become scientists in the future.



Children making key holders at the DENKA booth

Festival

DENKA actively participates in local festivals as part of the company's effort to maintain good communications with the communities.

The Goi Rinkai Festival takes place every year in Ichihara City, Chiba, where the Chiba Plant is located. DENKA participated in the event as a member of the enterprises at Goi coast with a refreshment booth to enjoy communications with the local residents.

At the Ofuna Plant, we offered the plant premises to celebrate the eve of the Shiogama Shrine Summer Festival. The event was a great success, excited children and parents enjoyed our snack booths, and kiddy entertainment shops.



Goi Rinkai Festival

Emergency Drill

DENKA makes every effort to maintain safe plant operations on a daily basis. Work and workplace safety is also taken very seriously with diverse measures enforced to prevent major accidents and disaster. Each and every plant and research center also trains through emergency fire drills that are periodically conducted to always be prepared. The general emergency drill is especially a serious training drill that takes place with local fire brigade and the local government. The drill covers the realm from emergency measures upon first contact, reporting drills, fire extinguishing and various other serious drills. The fire fighters also directly supervise us to improve our skills. Through these programs we intend to boost our awareness and improve our skills to prevent fire and disaster.

We similarly participate in general emergency drills organized by the local government and entities of the industrial complex because we are fully aware of the importance to enforce fire-fighting measures in collaboration with the entire community.



Omi Plant general emergency Drill



Chiba Plant

Participate in Traffic Safety Council

DENKA uses vehicles throughout the workflow to transport and move products inside and outside the plant, as well as make sales rounds with sales vehicles to the main office and branch offices. Therefore, we always take safe driving on a daily basis. We invite traffic manager from the local police office to our plants to constantly improve our knowledge and skills. We learn from past traffic casualties and accidents, study the cause of traffic accidents, then assess the causes to define measures that prevent traffic accident.

During the Traffic Safety Week, we help to emphasize the importance of safe driving in cooperation with the local police office. We also participate in other campaigns such as the traffic safety and seatbelt campaign to prevent traffic accidents.

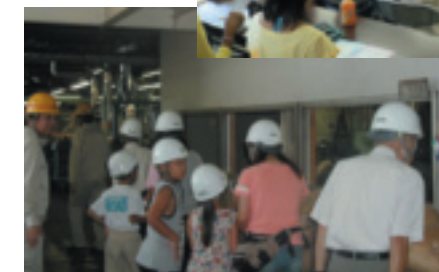


Traffic Safety Activities

Tour Around the Plant

DENKA offers a tour around DENKA plants for members of the local government, as well as students from elementary school, junior high school and high school. During these tours, DENKA briefs the group on business operations, as well as explain the plant's measures on environmental-friendliness, and safety. The group is also guided on a tour around the production facilities.

The session always ends to deepen mutual understanding between DENKA and the touring party through explanations, and Q&A after the tour, as well as hearing about requests and expectations they may have toward DENKA.



Scene of Tour Around the Plant

Practicing CSR

■ Planting Hydrangea

A total of 8,000 hydrangea was planted on the road divider of National Highway No. 17 in November 1999. This was a project that took place in collaboration with the Ministry of Construction (currently the Ministry of Land, Infrastructure and Transport) and Shibukawa City, and the local Nakamura Self-Government Council was appointed to manage and maintain the project. The Shibukawa Plant was requested to cooperate in this program from the planning stages, and readily accepted the proposal to fully cooperate. Every year from April to November, the hydrangea grounds are plucked of weeds and pruned. The flowers beautifully bloomed in 2006, as well, and successfully entertained the eyes of passers-by.

In 2005, we were recognized with a certificate of appropriation for our meritorious participation in this activity as awarded by the "Environment and Health Promotion Council" of Shibukawa City. Activities will be continued on.



Deweeding/Pruning Activities

■ Cleaning Programs

DENKA promotes programs to clean roads, parks and their neighboring environment. The company works in collaboration with local residents to pickup empty bottles and cans, scrap paper, cigarette buds, etc., as well as cut the grass along the road. The volume of trash has been on a downward trend over the years, thus, hinting that the resident's awareness toward the environment has heightened.

As members of the community, we will continue to help make a healthy and beautiful environment for the communities.



The Himekawa River cleaning programs

Investor

■ IR Activities

DENKA sponsors an orientation to institutional investors like financial analysts and fund managers and individual investors as part of DENKA's activities of investor relations.

In FY2006, orientations were provided to institutional investors in May during the annual financial results and November upon semiannual financial results, to offer corporate management. The details are provided on the DENKA homepage. We also provided information on our "Environmental Measures" and "Functional Ceramics Business" at the same time. In addition were top meetings, individual discussions and numerous other activities.

Corporate orientations were provided in Kumamoto, Kobe and Toyama for individual investors. Here, we explained DENKA's business activities and the operations of our plants and research center. Description was also provided on lime/calcium carbide business, petrochemical business, etc. This was followed by feedbacks and Q&A session on DENKA business. We believe this became an instant for the public to gain further understanding of DENKA efforts.

DENKA will continue to actively offer information to institutional and individual investors in the future.



Scene from Investor Orientation

Contribution Programs

■ Mitsui Public Relations Committee

The Mitsui Public Relations Committee promotes international exchange and revitalizes the local community through consolidated effort by the Mitsui Group companies for various cultural and public affairs activities. Mitsui Group also strives to make society more prosperous and contribute to social welfare to further boost the corporate image. Many programs take place backed by this action principle, including the "Fureai Trio" that is designed to support "culture" and "education", the "Mitsui Golden Glove Award" as an activity to support professional baseball, and "Fureai Market" that is a social activity contribution to society.

DENKA participates as a member of this committee to mainly support activities of "Fureai Trio".



Fureai Concert



Fureai Program

■ Donated Chemical Fire Truck to the Kingdom of Bhutan

In June 2006, DENKA offered the Kingdom of Bhutan a chemical fire truck of the Chiba Plant, through "The Society for Promotion of Japanese Diplomacy (SPJD)". To ensure safe and effective utilization of the equipment, we dispatched technical specialist. Instruction was provided on the structure, mechanism and equipment of the truck, as well as its function. Training and education also extended to maintenance, repair and inspection methods, as well as actual drills to spray water.

This chemical fire truck is expected to service the private Civil Aviation Bureau (Paro International Airport) under the jurisdiction of the Ministry of Information & Communication of the Kingdom of Bhutan. The truck is expected to remain in service to fight fire and accidents in

the airport and around it. We look forward to this new device adding to the safety of Bhutan.



Fire Drill

Airport Fire Fighting Personnel

Others

■ DENKA Scholarship System

(activities celebrating the 90th anniversary of the company)

DENKA celebrated its 90th anniversary in 2005. In commemoration of this celebration, the company founded the "DENKA Scholarship System" (rent assistance scholarship) as a token of appreciation to the communities.

The scope of this scholarship is for high school students seeking admissions to a college/university where a DENKA plant is located. Entry is open to the public and then candidates are chosen. Successful scholarship winners will receive a one-room apartment designated by DENKA and a cash scholarship to partially assist the rent (30,000 yen/month) throughout the entire period of university studies accomplished within the normal number of years. There is no need to reimburse the scholarship, nor is the scholarship winner obligated to seek employment with the company.

There are currently 5 scholarship winners of this program. With this system, DENKA strives to nurture human resources to become persons that support the communities.

■ Permanent Member Awarding

The Tokyo Chamber of Commerce and Industry acknowledges contributions made by members to develop the community and promote the industry, with the "Permanent Member Awarding" system that was implemented in FY2005. DENKA was proudly awarded permanent membership in FY06, which marks the 60th year of DENKA's membership. Every effort will be made to continue to contribute to the development of the communities and promotion of industries.

Contribution to a Recycling/Reusing Society

DENKA Cement Recycling System

It is important to reduce the volume of waste buried, as well as establish a 3R (Reduce, Reuse and Recycle) system to ensure a society that promotes recycling and reusing of resources. With this in mind, DENKA helps create a recycling/reusing society by recycling industrial waste and by-products to manufacture cement.

Cement is manufactured using natural raw materials and fossil fuel at the cement plant. However, it is possible to effectively utilize some of the massively output industrial waste and by-products as some raw materials and fuel.

The major characteristic of the cement recycling system is that all input waste is output as cement, and that there are no secondary waste generated. It can be said that the waste recycling system is an ideal one.



Cement Kiln

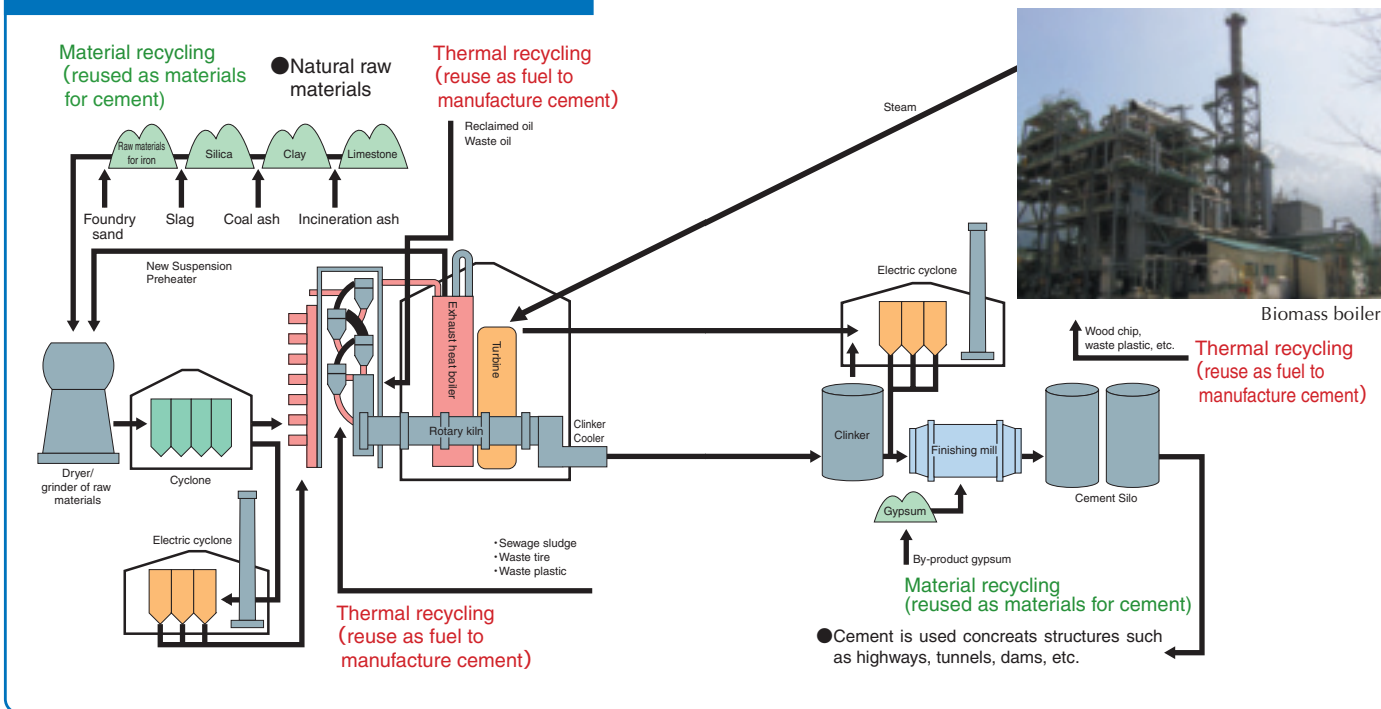
Recycling Efforts

At the cement plant of Omi Plant, all by-products generated in the plant and industrial waste from outside the plant are used as raw materials and fuel to manufacture cement.

In FY2006, DENKA's cement production amounted to roughly 2,460,000 tons. Of this, roughly 260,000 tons of by-products from within the plant were used as alternative raw materials. Today, this has become the business foundation for the Omi Plant to smoothly operate as a chemical plant.

A grand total of 733,000 tons of industrial waste was recycled. In terms of external industry waste there was 280,000 tons of coal ash from the coal fired power plant of the electric power company, 140,000 tons of slug generated from the blast-furnace of iron manufacturing company, 53,000 tons of foundry sand generated at the founding plant,

DENKA Cement Recycling System Flow of Waste/By-product Acceptance



as well as 29,000 tons of wood scrap/chips, 8,000 tons of sewage sludge, waste plastic, waste tire, reclaimed oil, etc.



Waste Tire Processing Facility

Efficacy of Cement Recycling System

As mentioned earlier, the cement plant at Omi Plant recycles various industrial waste. Therefore, the final waste disposal (buried volume disposed) has been reduced and thus, contribute to reducing the environmental load. The plant also accepts sewage sludge and waste carbide at the request of neighboring local autonomous bodies. As a result, it can be said that the entity has grown into an indispensable presence in creating a recycling/reusing society in the Hokuriku district.

The plant also contributes to global environmental conservation with focus on alleviating global warming. This is done by recycling wood scrap, waste plastic and alternative fuel waste, which thereby reduces the crude unit of fossil fuel used.

Sewage Sludge Accepting Facilities

Implementations in FY2003 included a biomass boiler power generator, and in FY05 a kiln accepting facility for waste plastic, etc. In 2006, a facility to accept dewatered sewage sludge generated upon the neighboring local government's sewage sludge plant. Future plans include the discussion to newly accept sewage sludge from other local governments in hope to create a circulator society and contribute to global environmental conservation.

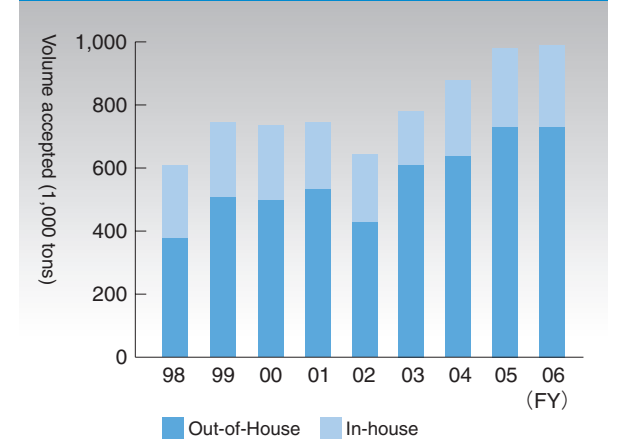


Warehouse to accept sewage sludge

Waste/By-products volume accepted

As a result of aggressively accepting out-of-house waste, the volume of waste/by-products accepted and processed/treated in FY2006 amounted to 993,000 tons on the overall, which was a 10,000 ton increase over FY05.

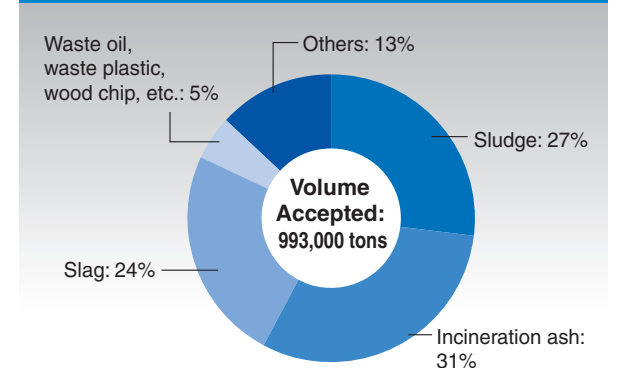
Progress of waste/by-products volume accepted



Breakdown of volume accepted

Waste and by-products from sludge, incineration ash, slag and other alternative raw materials was 90% or higher for the overall. The waste and by-products from alternative fuel was approximately 5%. This trend is almost the same as that marked in FY2005. What's more, we also continued to process and treat meat-and-bone-meal sewage sludge, incineration ash, etc. at the request of the government.

Ratio of volume processed/treated by type (FY06)



Environmental Consideration in Products and Technologies

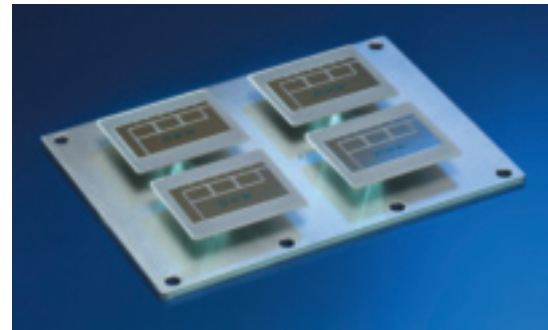
Thermal management products [Electronic Products Dept.]

DENKA's thermal management products are made from a combination of organic and inorganic materials.

Product-making is promoted by effectively utilizing the properties of them. DENKA's PCB and heat-sink meet with wide range fields of commercial devices, industrial devices and automotive devices.

These products contribute to product design on environmental friendliness such as making more compact and lightweight equipment, promoting energy saving specifications, reducing emission of warming gas, etc.

Thermally conductive sheet/spacer and other thermal interface materials are used as radiation/insulation materials for various electronic parts and contribute to downsizing and weight saving.

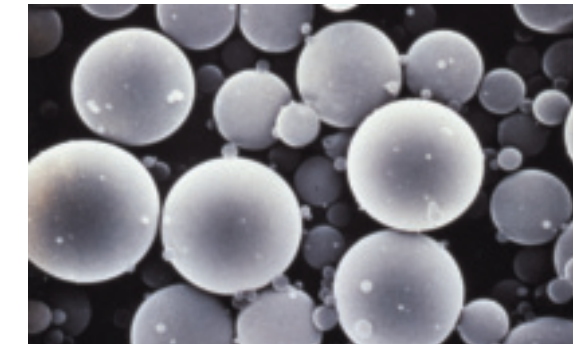


DENKA AN Plate and DENKA ALSINK

Product	Characteristics	Purpose/Properties
DENKA HITT Plate (High Thermally Conductive Metal Substrate)	Energy Saving	Energy saving power control parts for air conditioners Contributed to improving fuel economy for automobile power steering systems.
	Compact/Lightweight	Compact and lightweight with high density mounting of electronic parts.
DENKA AN Plate (High Thermally Conductive Aluminum Nitride Ceramic Substrate)	Energy Saving	Energy saving for industrial, railway and HEV power control parts.
DENKA ALSINK (Metal Matrix Composite formed with aluminum and silicon carbide)	Energy Saving	Energy saving for industrial and railway power control parts
	Reduce emission level of warming gas	Module to recover energy generated by wind power generation
Thermally Conductive Sheet, Thermally Conductive Spacer, Elethermal	Compact/Lightweight	Contribute to compact and lightweight specifications using high density mounting electronic parts

Fused silica contributes to less use of halogen and lead [Functional Ceramics Dept.]

DENKA's fused silica is used as fillers for epoxy molding compounds used for semiconductor packages. The product has shifted from conventional crushed fillers to spherical fillers. Recently the market requests to reduce use of substances that burden on the environment such as halogen-base flame retardants and lead. To meet this demand, DENKA has been developing high flowable spherical silica fillers by our exclusive technology, contributing to making new types of molding compounds that are environmentfriendly.



Spherical fused silica photographed under electron microscope

Lineup of products to make up for shortcomings of concrete [Special Cement Additives Div.]

DENKA's special cement additives are acknowledged as materials to make up for the defects of concrete. The materials are designed according to the following keywords: higher durability, lower environmental load, energy saving, and safety. Special cement additive technologies and products contribute to build the "foundation of modern cities", "infrastructure of transportation system", and make "comfort in daily living".

Product Lineup

Category	Product	Scope
Energy Saving	Σ2000 ΣPC	◇Strength Enhancing Additives Reduce CO ₂ emission by reducing volume of cement used.
Energy Saving, Resource Saving	NATMIC, HIGHPRETASCON Supercement, Cosmic, F-dak	◇Quick Hardening, Quick Setting and Quick demoulding Agent The construction period is shortened and the total cost is reduced as a result of using quick hardening, setting and demoulding agent. Fuel for curing is also reduced.
Thin/Lightweight (Resource Saving)	SUQCEM Σ2000, Σ80N	◇Super High-Strength Fiber Reinforced Concrete The thickness of the materials can be made thin to the ultimate limit (thin and lightweight materials/parts) due to high compressive strength and because there is no need for reinforcing bar.
Reduce Output of Environmental load Substance	ES	◇Quick Setting Materials for Soil Stabilization Alleviate elution of hexavalent chromium(Cr ⁶⁺)by stabilizing it.
	Darlex recovery	◇Water Refreshing Agent for Ready-mixed Concrete The water used to wash ready-mixed concrete doesn't have to be changed in property upon reuse by using it.
Safety	HARDLOC II	◇Acrylic based adhesives ① Don't contain carcinogenic substances. ② Minimal environmental load with no generating toxic gas during combustion. ③ Minimal irritation during handle it.

"Temploc" Eco-Friendly temporary fixing adhesives [Electronic Products Dept.]

Turpentine and paraffin-base thermoplastic waxes are used as temporary fixing adhesives to ensure high precision processing of optical elements for lenses and prisms and various ceramic elements.

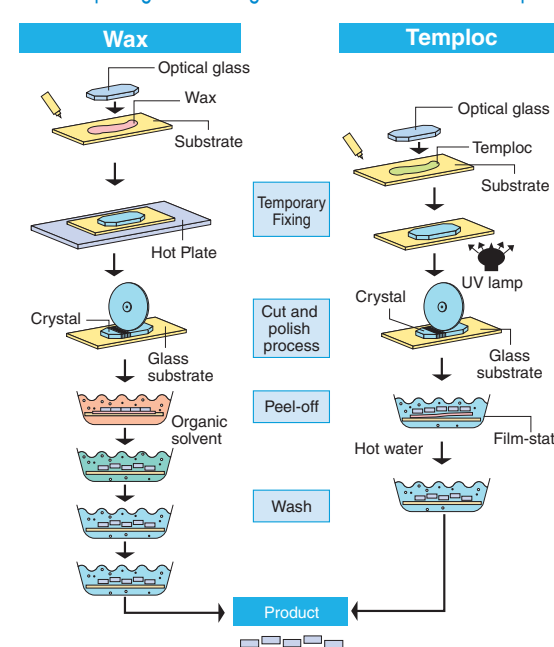
"Temploc" temporary fixing adhesive developed by DENKA provides the following results:

- ① Hardens and sets by short UV exposure at room temperature. Since there is no need for heating, it minimizes damages to the elements, and the process also becomes energy saving.
- ② Environment-friendly since there are no organic solvents used.
- ③ Peel-off in film-form, therefore, there is no glue residue and less need for washing.

The characteristics of this temporary fixing adhesive is that it is not only environment-friendly, but that it also greatly contributes to reducing cost since it hardens/sets in short time without using heat, and it can reduce the washing process greatly.

"Temploc" can be used to sawing, slicing and polishing. Furthermore, the purpose has been broadening for temporary use to protect the surface, as well as prevent burring upon grinding and cutting.

Comparing the Sawing Process of "Wax" and "Temploc"



Environmental Consideration in Products and Technologies

Contribute to environment-friendly agriculture that conserves the environment with multifunctional fertilizers and agricultural chemicals. [Fertilizer Div.]

Major products we supply include calcium cyanamide, a nitrogen fertilizer that is environmentally friendly yet is as effective as agricultural chemicals; calcium cyanamide, a phosphate fertilizer suited to comprehensive soil improvement in rice paddies, orchards, and fields; Azumin, a humic acid magnesia fertilizer designated under the Soil Improvement Law as containing roughly 50% humic acid - a major constituent of compost, among others; as well as multifunctional environmentally friendly materials, such as a new type of silicate fertilizer Toretaro and HIT-alpha (liquid cyanamide chemicals), which is a stabilized agricultural chemical made by extracting cyanamide - one of the effective components of calcium cyanamide among others, thus contributing to the revitalization of agriculture and improving productivity.



Farm Fields Using Calcium Cyanamide

Reduce waste with lighter containers [DENKA Polymer Co., Ltd.]

DENKA Polymer observes the revisions of the "Containers and Packaging Recycling Law". Efforts are undertaken by trying to reduce disposal and generation of these types of waste. As a result, the policy defined was to researched and developed lightweight and durable packing materials that meet society's needs. In accordance with this policy, we have made containers lighter in weight with high foaming and thinning technologies, and thereby reduce waste.

Various materials are also constantly researched and developed to reduce environmental load, as well.

R&D with Consideration to Environment

1. Reduce Waste

- Development on thin containers by improving molding technology
- Development on lighter PSP food trays with high foaming technology
- Shifting to lower specific gravity materials such as OPS (biaxially-oriented polystyrene), etc.

2. Reduce Environmental Load

- Development on low fuel calorie containers that don't generate toxic gas
- Reduce environmental load through LCA base using lighter weight products

Developmental Example

"QX-R" (Super Light PSP Food Tray)

- ① These are foamed polystyrene (PSP) food containers that are 20% lighter than conventional DENKA products.
- ② We prevented drop in strength through research and development and improvement of the processing procedures from raw materials to the processing stages, in cooperation with the parent company DENKA.
- ③ We contribute to reducing waste with lighter containers.



"OPC-R" (OPS Container)

- ① The rib design and the overall design was reviewed for conventional "OPC" to satisfy both lightweight and strength. As a result, the weight is lighter by 12%.
- ② We developed a transparent food tray that is the lightest in the industry for fresh fish, fresh meat, ready-made dishes, etc.



"SOFLIGHT" (OPS Container)

- ① Soft and crack-resistant OPS sheet was formed for the body and cover of the container, to make containers roughly 40% lighter than A-PET containers.
- ② This is easier to fit than OPS and yields 30°C higher heat-resistance compared to A-PET.



Contribute to daily living with various rubber products [CRK Corporation]

Anti-exposure fire resistant rubber products

Buildings and housing complexes require measures to prevent fire from spreading. As a result, cables and piping through the building layout are required to be prevented from being exposed to fire. Fire resistant fillers are also used to fill the gaps between the spaces in which cables and pipes are setup.

CRK supply fire-resistant rubber by effectively applying thermal expansion properties of fire-resistant fillers. What's more, there are also new applications for this including substitute of asbestos. DENKA's original fire resistant sponges can be recycled and is therefore, materials that are extremely environmentally-friendly.

Water cut-off rubber products

Butyl-base adhesive tape and water expanding rubber products are used to cut-off water in U-shape gutters, sewages, tunnels, etc. It not only prevent polluted water from soaking underground, but also prevent underground water from entering.



Example of using fire-resistant rubber to prevent conflagration

Provides waste water treatment and air pollution preventing environmental devices [DENKA Consultant & Engineering Co., Ltd.]

DENKA Construct & Engineering provides industrial waste water treatment, air pollution and other environmental devices to the industry.

BIO-DYNACTOR

Three-phase fluidized bed-style biological treatment systems

An innovative wastewater treatment system that utilizes the organic decomposing ability of microorganisms based on the fundamental technologies of bio-immobilized carriers and three-phase fluidized bed-style methods. Performs 5 to 10 times better than conventional activated sludge processes.



BIO-DYNACTOR

LONG LIFE, BIO-AC

Biological activated carbon adsorption systems

An innovative adsorption system that does not require heat regeneration, and uses the excellent physical adsorptivity of activated carbon directly, in addition to using bio-activated carbon recycling. It is a relatively simple mechanism that delivers the solution to an activated carbon adsorption column through a bio-incubator.



LONG LIFE, BIO-AC

BIO-DEOR

Biological deodorizing systems

An innovative bio-deodorizing system developed through research on bio-immobilized carriers. High-performance, low-cost. Ideal for removal of odorous substances such as hydrogen sulfide, ammonium, and methyl mercaptan.



BIO-DEOR

Responsible Care

Mid-Term Environment Plan

The Second Mid-Term Environmental Plan was created as a 3 year plan from FY2005, backed by the FY04 results. The major themes are to promote energy conservation, reduce discharge of chemical substances, and reduce waste. In FY06, the goals to conserve energy and reduce waste were attained. However, the goal to reduce discharge of chemical substances remained unattained due to delay in shifting raw materials. The goal for FY07 is to completely shift the raw materials, as well as seek to attain the statistical goal to reduce discharge of chemical substances.

Mid-Term Environment Plan		Secondary Plan			
Item		FY2005	FY2006		FY2007
		Results	Target	Results	Target
Promotion of Energy Saving	Energy Consumption rate (compared to 1990)	91.0%	91.9%	90.4%	89.1%
Reduce discharge of chemical substances	PRTR emissions	233 tons	174 tons	221 tons	163 tons
Reduce waste	Final waste disposal	4,920 tons	4,160 tons	3,600 tons	3,780 tons

Management System

ISO14001

Endeavor continued to abide by legislation, sustain the environment and promote sustainable improvement. A PDCA Cycle is promoted to plan, execute, evaluate and improve business according to the Environmental Management System (ISO14001). All in-house plants have been ISO14001 certified.

ISO9001

Appropriate product design takes place to buy/sell raw materials, manufacture items, inspect and establish the best handing over system. It is also vital to sustain measures, as well as continuously improve sustainable measures. Plan, execution of plan, evaluation and improvement PDCA cycle is promoted according to the Quality Management Systems (ISO9001). Almost all in-house products are ISO9001 certified.

	ISO14001		ISO9001		Product Acquired
	Year/ Month Acquired	Registration/ Certification Number	Year/ Month Acquired	Registration/ Certification Number	
Omi Plant	October 16, 1999	187071/A (BVQI)	August 19, 1994	148577 (BVQI)	Chloroprene, PVA, ASR, SAKNOHOL, special cement additives, cement, ALCEN, BUTYRAL.
Omuta Plant	December 28, 2000	143162 (BVQI)	November 7, 1998	170090 (BVQI)	Fused silica filler, special cement additives, nitride powder, ceramics substrate, steel refining agent, acetylene black, alumina cement, FIRELEN, boron based molded products, B4C powder, thermally conductive materials, heat sink.
Chiba Plant	May 31, 1999	180943 (BVQI)	March 22, 1995	343593 (BVQI)	Polystyrene filler, SAN, MS resin, MBS resin, MABS resin, ABS resin, styrene-N-phenylmaleimide copolymer and SB copolymer, vinyl acetate monomer, ethylene vinyl acetate copolymer, acryl-base synthetic rubber, polystyrene sheet, acetic acid, styrene monomer, toluene, ethylbenzene rain gutter, vinyl tape, corrugated pipe, duct hose, piping cove (wall duct), PVC.
Shibukawa Plant	May 21, 2001	156003 (BVQI)	December 23, 1996	170106 (BVQI)	Metal circuit board, thermally conductive spacer, ELESIELD, adhesives, emitter, Elegrip tape, vinyl chloride compound.
Ofuna Plant	November 9, 2001	JQA-EM1895 (JQA)	December 25, 1996	JQA-1429 (JQA)	Packaging tape, synthetic resin film, PVC compound, PVC-based synthetic fiber, embossed carrier tape for taping.
Central Research Laboratory	July 5, 2004	155948 (BVQI)	—	—	

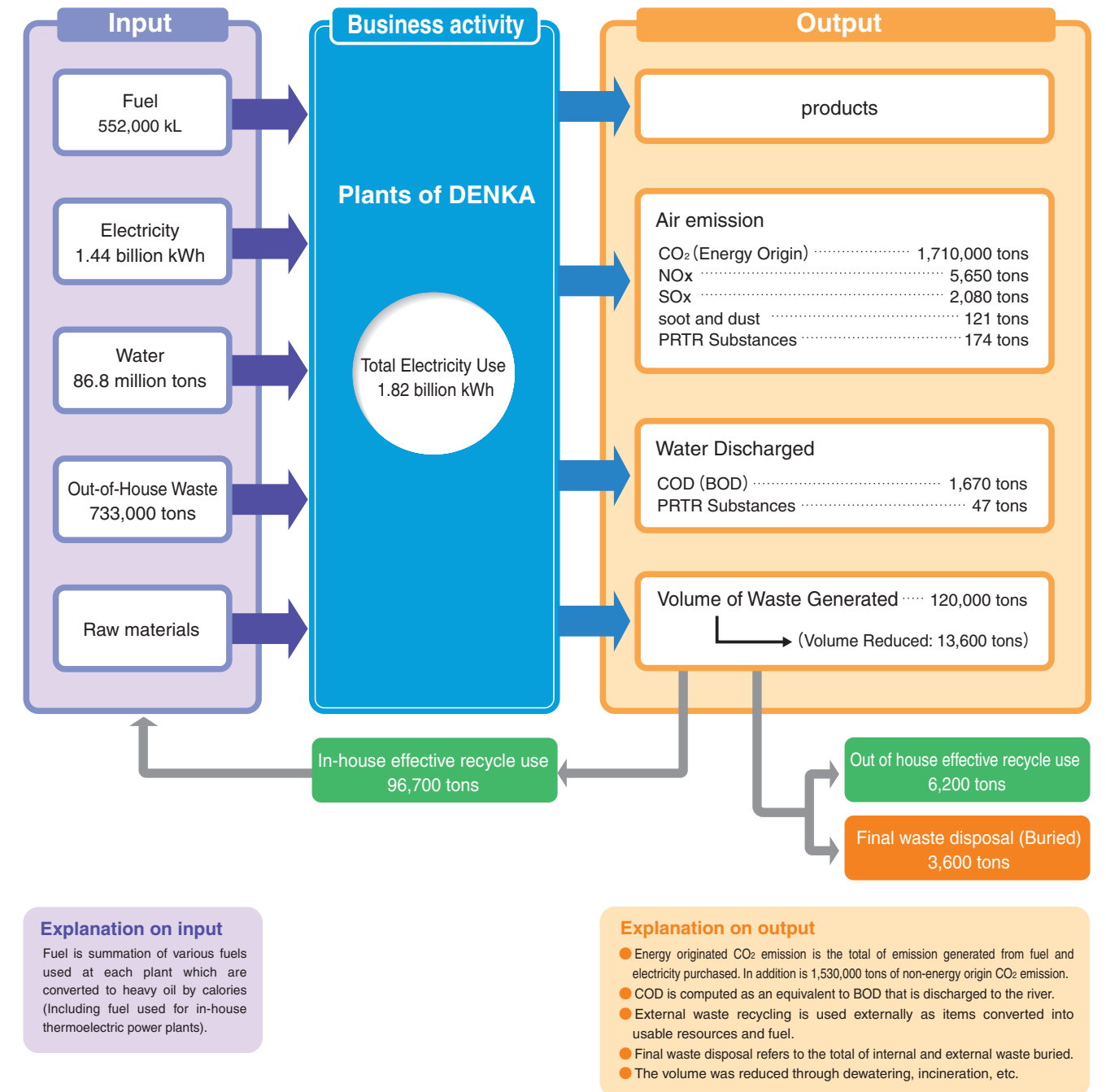
GMP* (Good Manufacturing Practice)

This is the standards to manage manufacture and quality of pharmaceuticals. Among DENKA's products, "SUVENYL", a pharmaceutical of Hyaluronic acid, is applicable to the standards.

*GMP: This is the standards defined by law to manufacture pharmaceuticals and quasi-drugs, as well as quality management standards. It also identifies the items to strictly observe and manage upon manufacture to supply safe and high quality pharmaceuticals and medical equipment.

FY2006 Environmental Load Summary

The major statistics of environmental load for all plants and research laboratories marked in FY2006 are indicated below.



The following affiliates located in the following plants are within scope of this environmental load data.

Affiliates	Omi Plant	Chiba Plant
	• Denal Silane • Denak • Juzen Chemical	• Chiba Styrene Monomer • TOYO Styrene • Taiyo PVC

Overview of RC Activities

DENKA highly considers "Environmental Conservation", "Product Safety", "Labor Safety and Hygiene" and "Prevention Disaster/Accident" to the environment, security and safety.

The FY2006 targets and results are indicated below.

Judgment ○: Target Attained, △: Target Partially Unattained, ×: Target Unattained

Major Item	Details of measures and final fiscal targets	FY2006			Related page		
		Targets	Overview of execution results	Judgment			
Middle-Term Environment Plan	Execution of Second Mid-Term Environmental Plan (FY2005~FY2007)	Review plan every 3 years	Attain Environmental Load Target	The Second Mid-Term Environmental Plan is currently undertaken with FY2005 as the first fiscal year. Though we failed to reach the target PRTR emission volume, we did successfully reduce waste and save energy.	△	P22	
Environmental Conservation	Promote to prevent global warming and energy saving	The target is to reduce the Energy Consumption rate of FY2010 to 90% and below of FY1990	Energy Consumption rate: 91.9%	Energy Consumption rate 90.4% The efficiency has been improved at major plants. As a result, the Energy Consumption rate amounted to 90.4% of the rate over FY1990. This means we attained a 91.9% mark compared to FY1990, which was the goal for FY2006. The energy origin CO ₂ emissions amounted to 1,710,000 tons/year, which was a 4% drop from FY05.	○	P26-28	
	Prevent air and water pollution	Second Mid-Term Environmental Plan	NOx : 5,730 tons SOx : 2,290 tons soot and dust : 150 tons COD (BOD) : 1,290 tons	NOx : 5,650 tons SOx : 2,080 tons soot and dust : 121 tons COD (BOD) : 1,670 tons The level of COD (BOD) worsened with increase in production of some products.	△	P29	
	Reduce Waste (Zero Emission)	Suppress and reduce generation			The level of waste generated amounted to 12,000 tons, which was a 4,000 tons reduction over FY2005.	○	P30
		Promote recycling of resources		In-house/Out-of-House Resource Recycling Level: 101,000 tons and above	By promoting recycling of fuel in the cement plant, we surpassed the planned value of 102,900 tons.	○	P16-17
		Reduce Final waste disposal (3,000 tons or less in 2010)		Final waste disposal: 4,160 tons and below	By improving yield, recycling in-house raw materials, and use for soil improvement, we marked 3,600 tons and thus, reached the target.	○	P30
	Effective Utilization of Resources	By 2010, boost the waste/by-product usage level (cement unit) of per ton cement up to 400kg and contribute to establish a circulatory system in society.	Further boost level from FY2005 cement unit (389kg/ton) level	Crude cement unit 404 kg/ton In FY2006 we started to newly accept sewage sludge generated from neighboring local autonomous bodies. The total use of waste-by-products thereby increased 10,000 tons over FY05.	○	P16-17	
Product Safety	Appropriate measures for chemical substances management	Measures for GHS*1 ((amended Industrial Safety and Health Law/2006)) RoHS*2 (EU/2006) measures	Keep product safety records for all products and thoroughly manage minute content ingredients contained in the products	Currently promoted at all plants and research center.	○	P31	
	Appropriately control chemical substances and reduce emission/transfer	Emission of PRTR substances volume of 152 tons or less (FY2007)	Emission of PRTR substances volume of 174 tons and below	The target is to enforce tank airing measures for volatile raw materials. It is also important to strengthen management of combustion facilities and waste water microorganism treatment facilities. By doing so the level was reduced approximately 5% over FY2005 (233 tons → 221 tons). However, we were not successful to attain the target due to delay in converting raw materials.	△	P30	
	Secure transport-related safety	Fulfill the collateral responsibility for safe transport of goods, as the owner of goods shipped	Zero Self-Responsible Logistics Accident Thoroughly practice the action index for safety transport as the owner of goods shipped	We reviewed the yellow card system, and container yellow card (label) system. We also promoted re-education programs. Effort also focused on understanding the current state, analyzing the actual situation and enforcing corrective measures to ensure safe transport.	○	P31	
Labor Safety and Hygiene	Eradication of labor accidents	Eradicate labor accidents with Education and Safety Management System	Eliminate unsafe activities identified by risk management	Work Accident: DENKA : 4 cases (5 cases) directly under DENKA operations. Frequency Rate: 0.756 (0.911) Affiliate companies: 4 cases (5 cases). Frequency Rate: 0.673 (1.005) *Data in the parenthesis () reflect FY2005 results.	×	P32	
	Promotion of Employee Health Management	Promote comfortable work environment and re-energize communications	Sustain normal business environment (concentration)	Normal environment was sustained through environment measurement activities and individual exposure measurement results.	○	P32	
Preservation Disaster/Accident	Zero occurrence of Major Accidents		Refine system for preliminary safety assessment/evaluation Sustain Safety Standards	There were no major accidents. However, there were incidents of minor trouble due to change in operating conditions. Thus, we believe there is a need to further strengthen management system when any modifications are enforced.	○	P33	
Communication Relations	Maintain a relationship of respect with the communities		Participate in local activities	Tours around the plant are offered at each plant. We also participate in local volunteer activities, etc. to maintain good exchange with the communities.	○	P12-14	

*1 GHS: This is a short for "Globally Harmonized System (GHS) for Classification and Labeling of Chemicals". It categorizes and labels toxic chemical substances to provide information on the Material Safety Data Sheet (MSDS), as a world uniform standardized system.

*2 RoHS: This is a regulation on specific toxic substances enforced by the EU (European Union) on July 1, 2006. It stands for "Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment" and restricts specific hazardous substances from being contained in electric and electronic equipment. There are 6 substances regulated including heavy metals like lead, cadmium, hexavalent chromium, and mercury, and bromide flame retardants (PBB, PBDE).

Environmental Conservation

Measures to Prevent Global Warming

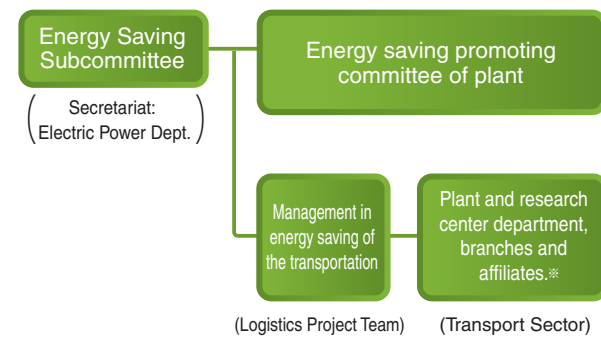
The Kyoto Protocol*¹ was agreed upon on February 16, 2005. The target was to reduce the greenhouse gas*² emission level by 6% during the first promised period (2008 to 2012). As a result, the chemical product industry introduced numerous self action plan to enforce the following target, in hope to promote energy saving activities.

DENKA also participated in the same plan in promoting energy saving activities toward the target. Measures included clean energy use, etc. to reduce CO₂ emissions.

Target

The target is to reduce the Energy Consumption rate of FY2010 to 90% and below of FY1990.

To save energy related to transport, we organized a logistics rationalization project team. This team then enforced measures to boost transport efficiency by pursuing suitable logistics.



* The scope of affiliates indicated here include Denka Kako, Denka Azumin, Kyushu Plastic Kogyo.

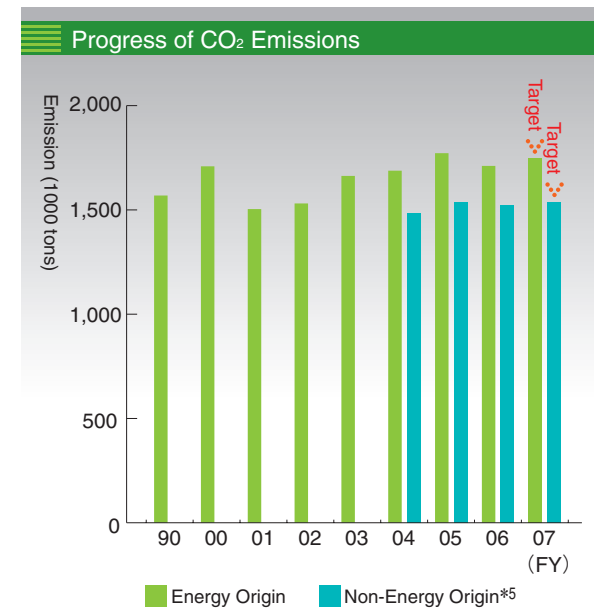
CO₂ Emission

(Energy origin CO₂ according to "Concerning the Rational Use of Energy"³)

A total of 5 DENKA plants applied as specific greenhouse gas emission operations (higher than 3000 tons/year) according to "The Promotion of Measures to Tackle Global Warming"⁴ enforced on April 1, 2006. Thus, measures are being enforced to lower the emission level and attain the goals set according to the Mid-Term Environment Plan.

Effort will focus on improving the crude energy unit of each manufacturing plant. This will be done by switching the fuel for self-generated thermoelectric power from heavy oils to natural gas, as well as increase the rate of waste used for cement fuel (waste plastic, etc.) to reduce the CO₂ emissions.

The energy origin CO₂ emissions amounted to 1.71 million tons/year. This was roughly 4% less than FY2005. The non-energy origin CO₂ emissions (using waste and raw materials) maintained a sideways trend over FY05.



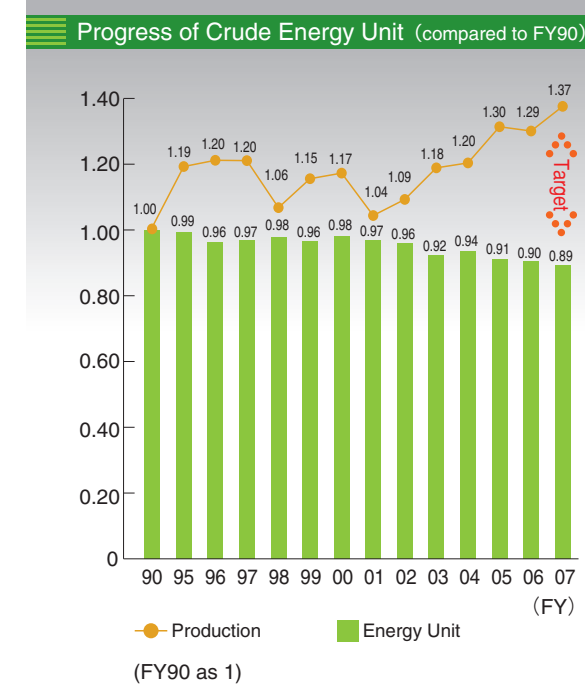
From 2004, we added CO₂ emission from non-energy origins.

Energy Saving Measures

DENKA has 5 plants designated as a "Type1 designated energy management factory". The Committee to Promote Energy Saving at each plant and research center is aggressively promoting energy saving activities.

In FY2006, the company-wide crude energy unit was improved to 90.4% (99.3% the previous year) compared to the level in FY1990, as a result of improving cement, chloroprene and other substance efficiency at major production plants.

Future efforts will include implementation of high efficiency equipment such as the high efficiency gas turbine cogeneration facility. We will also improve work efficiency by correcting the manufacturing process. Through these measures and more, we seek to attain the goal of reducing the crude energy unit to 90% and below compared to FY1990, by FY 2010.



*RO-RO Vessel: This cargo ship comes with a ramp like a ferry boat to load trailers and vehicles. It also has a vehicle deck to park trailers and other vehicles. The other unique structure of this cargo ship is that it is designed for mobile load/unload operations.

Energy saving and measures concerning transport

The goal is to ensure sustainable transport efficiency and energy saving measures. To do this, a Logistics Project Team was organized to enforce company-wide activities. Up to now, the target was to ensure safety and stable results, by observing the rules, regulations and legislation. Effort was sustained in actualizing highly efficient transport by pursuing optimal logistics and shifting toward logistics that was environment-friendly. This in specific includes wholesale from several locations and transport of products of different cargo appearance. This has improved loading efficiency.

A 3-axis trailer was also actively implemented meeting deregulation in 2003. Transport trucks were also increased in size. Modal shift was also promoted toward RO-RO vessels* and 20 ton trailers. Neighboring local ports were also effectively utilized to import/export foreign cargo containers.

In FY06, the total emission of CO₂ through transport amounted to roughly 50,000 tons (Volume of total cargo transport = 864 million ton•km). DENKA practices sustainable energy saving as a specific cargo handler, in accordance with the revision in the concerning the Rational Use of Energy enforced in April 2006.



27.5 ton capacity cement lorry truck



27 tons capacity flat body truck

Environmental Conservation

Hydroelectricity as a clean energy source

Along the Himekawa River area in Niigata Prefecture, DENKA owns 10 hydroelectric power generation facilities, and 5 semi-private hydroelectric power generation facilities which are jointly owned with the Hokuriku Power Company. As a result, the total power generation capacity amounts to 110,000kW. These hydroelectric power generation facilities cover 36% of the power consumed (equivalent to 160,000kL of crude oil) by DENKA. It also greatly contributes to reducing CO₂ emissions since it is a clean energy source that doesn't generate greenhouse gases.



1 Omigawa Power Plant (3,300kw)	9 Umigawa Power Plant No.3 (2,600kw)
2 Kotakigawa Power Plant (4,200kw)	10 Umigawa Power Plant No.4 (900kw)
3 Oami Power Plant (24,500kw)	11 Himekawa Power Plant No.6 (semi-private use = 26,000kw)
4 Otokorogawa Power Plant (8,400kw)	12 Takigami Power Plant (semi-private use = 15,000kw)
5 Yokokawa Power Plant No.1 (10,000kw)	13 Nagatsuga Power Plant (semi-private use = 5,000kw)
6 Yokokawa Power Plant No.2 (16,000kw)	14 Sasakura Power Plant No.2 (semi-private use = 10,200kw)
7 Umigawa Power Plant No.1 (3,800kw)	15 Kita-otari Power Plant (semi-private use = 10,500kw)
8 Umigawa Power Plant No.2 (4,400kw)	



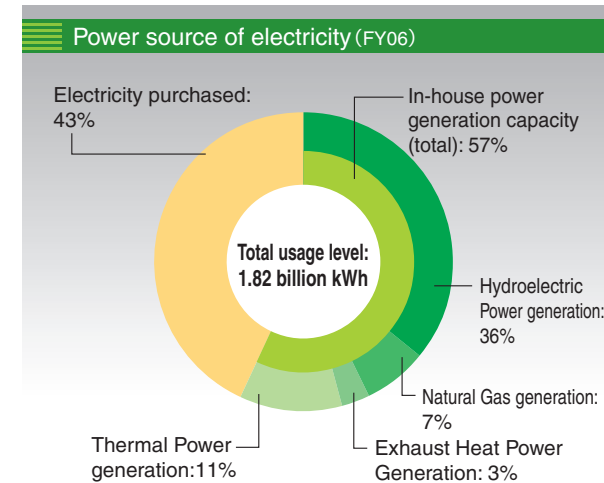
Oami Power Plant

*1 Cogeneration: power generation facility using exhaust heat from industrial furnaces, etc.
 *2 Exhaust Heat Power Generation: power generation facility using exhaust heat from industrial furnaces, etc.

Power source of electricity

DENKA operates with power from 5 different channels including the company's hydroelectric power plants, thermal power plants (3 stations), a natural gas cogeneration*¹ facility, and an exhaust heat power generation*² facility, as well as electricity purchased from power companies. The total volume of use in FY2006 amounted to 1.82 billion kWh.

The power ratio in FY06 was as follows. The total use of clean energy such as hydroelectric power, natural gas, exhaust heat power amounted to roughly 46%. The goal is to further shift the fuel source of the thermoelectric power plant from heavy oils to natural gas. Upon doing so, a new gas turbine cogeneration facility using natural gas was implemented. The overall goal is to improve the rate of clean energy use.

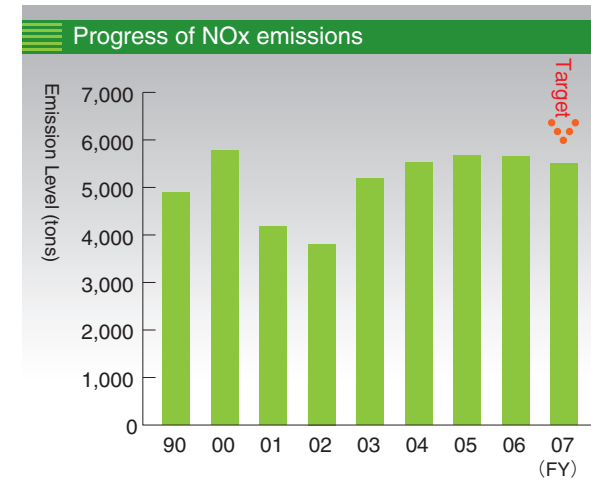


Cogeneration facility

Air and Water Environment

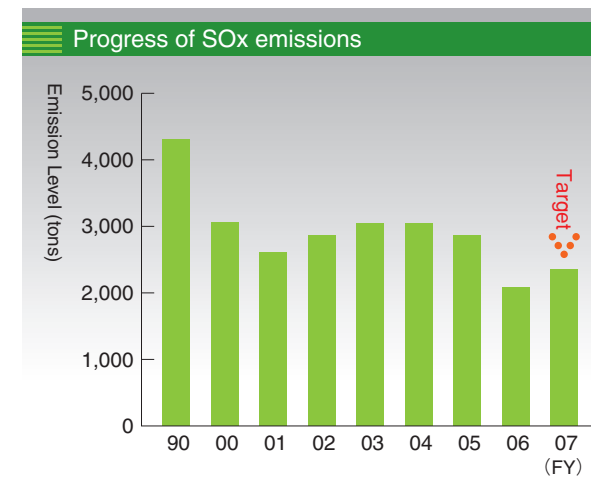
NOx*¹

In FY2006 the volume of cement production increased, however, we successfully suppressed the NOx emissions to that of FY05 by taking effective NOx reduction measures.



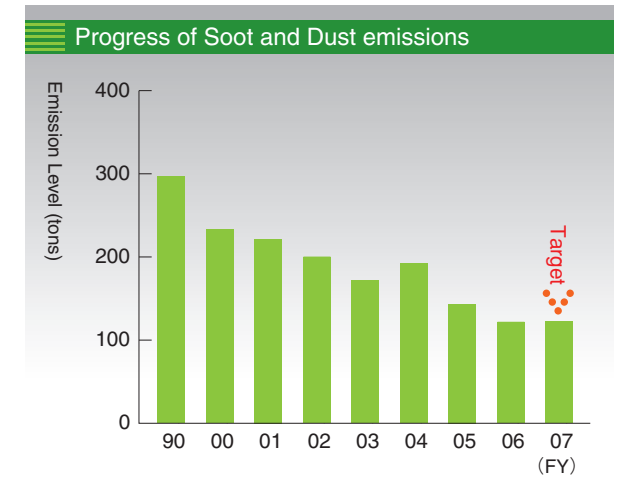
SOx*²

It was possible to drastically reduce the SOx emissions by switching fuel from heavy oils to natural gas with lower sulfur contents. Effort will continue to sustain the same volume in FY2007.



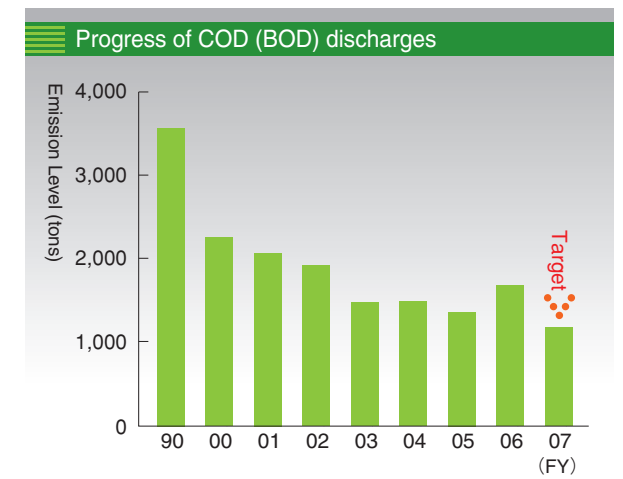
Soot and Dust*³

In FY2006 we sustained a good state and further improved the results. We will exert effort in managing facilities to continue to maintain the soot and dust emissions at this rate in FY07.



COD*⁴ (BOD*⁵)

In FY2006, the production volume at the Omi plant increased, thus, the load of waste water increased. In FY07, effort will continue to reduce COD(BOD) through various construction and policy measures.



*1 NOx: This is the general term for nitrogen oxides. It is a substance that causes petrochemical oxidants. It is also the cause of acid rain.
 *2 SOx: This is the general term for sulfur oxides. It is emitted when burning fossil fuels like petroleum and coal, as well as hydrosulfide minerals like pyrite and chalcopyrite. It is also the cause of acid rain, along with NOx.
 *3 Soot and Dust: It refers to the solid particle substances remaining from soot and dust.
 *4 COD: This stands for Chemical Oxygen Demand. It is commonly used to indirectly measure the amount of organic compounds in water. It indicates the mass of oxygen consumed when organic compounds are decomposed with oxidants. COD is a measure to determine the amount of organic pollutants found in the ocean, lakes and rivers.
 *5 BOD: This stands for Biochemical Oxygen Demand. It is a measure to determine the amount of oxygen consumed in decomposition, by microorganism, of organics contained in water and is an indication for the quality of the water.

Environmental Conservation

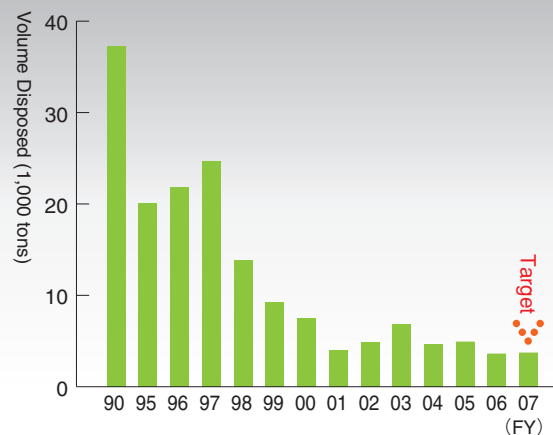
Final Waste Disposal

The amount of waste generated in FY2006 was 120,000 tons. This was roughly a 4,000 tons drop over FY05. The level of final waste disposal was 3,600 tons which was a 1,320 tons drop over FY05 as a result of various measures. As a result, the emission ratio of DENKA in FY06 became 3% which was one point improvement. The target for FY07 seeks for zero emission by improving both internal and external recycling rate of the crude unit.

DENKA's definition of Zero Emission

$$\frac{\text{Final Waste Disposal}}{\text{Volume of Waste Generated}} \times 100 < 1$$

Progress of Final Waste Disposal

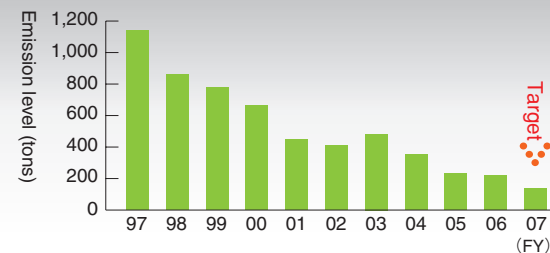


PRTR*1

(Pollutant Release and Transfer Register)

In FY2006, DENKA aimed to reduce 5% by airing measure of the tanks containing volatile raw materials, and strengthening management of the microorganism treatment facilities of waste water and incineration facilities. However, the goal remained unattained due to delay in scheduled shifting raw materials. In FY07, effort will continue to reduce toluene, etc. by shifting raw materials. The goal is set at 163 tons which is roughly a 25% reduction.

Progress of Emission Level



Emission and transfer volume by substances

PRTR Substance	Emission Volume					Transfer volume
	Air	Water	Soil	Buried	Total	
Ethyl Acrylate	1	0	0	0	1	0
Acrylonitrile	7	0	0	0	7	23
Adipic Acid bis (2-Ethyl Hexyl)	0	0	0	0	0	1
Acetaldehyde	3	16	0	0	19	0
Aniline	0	0	0	0	0	3
Ethyl benzene	13	0	0	0	13	35
Ethylene Glycol	0	13	0	0	13	6
Xylene	0	0	0	0	0	1
Vinyl Acetate	26	2	0	0	28	0
Dimethyl Formamide	0	0	0	0	0	24
Styrene	41	0	0	0	41	72
Water Soluble Copper Salt	0	3	0	0	3	7
Trichloroethylene	1	0	0	0	1	0
Toluene	68	1	0	0	69	73
Secondary Carbon Sulfide	0	1	0	0	1	0
Hydroquinone	0	1	0	0	1	0
Butadiene	10	0	0	0	10	0
Phthalic Acid bis (2-Ethyl Hexyl)	0	0	0	0	0	1
Hydrogen Fluoride	1	0	0	0	1	17
Benzene	1	0	0	0	1	0
Boron and Boron Compounds	0	11	0	0	11	7
Methacrylic Acid 2-Ethyl Hexyl	0	0	0	0	0	1
Methyl Methacrylate (MMA)	3	0	0	0	3	19
Total (tons)	174	47	0	0	221	292
Dioxins*2 (mg-TEQ)	367	24	0	0	391	1

Unit: tons (excluding dioxins)

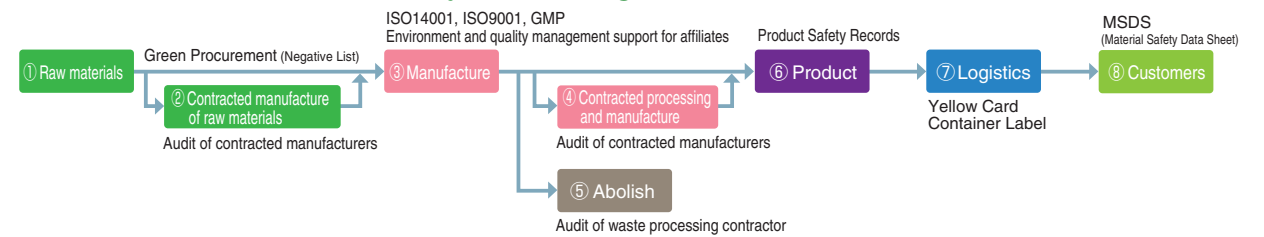
*1 PRTR: This is the framework to statistically assess, analyze and disclose data on various hazardous chemical substances in terms of where they originated and how much was discharged in the environment, as well as how much was contained in the waste that was transported out of the plant and research laboratory.

*2 Dioxins: This is the common name for organic chlorinated compounds that are classified as polychlorinated dibenzodioxins (PCDDs). It may be expressed as dioxins and is used to generally call toxic substances that closely resemble actual dioxins that are generated when chlorinated substances are burned.

Product Safety

DENKA observes various legislation throughout the entire workflow from raw materials procurement, R&D, manufacture, logistics, consumption and abolishment. DENKA also set self-standards and closely observes them, as well as operate and audit numerous management systems. This and more takes effect to alleviate the product's effect on the environment, as well as ensure work safety. These measures are also constantly reviewed and updated for betterment.

Flowchart of Material Safety and Management



Product Safety Management of Supply Chain

- 1 Green Procurement** DENKA has prepared a "Negative List". This defines all substances that apply to domestic and international environment management regulations and danger/toxicity regulations. Effort focuses on abolishing these regulated substances throughout the entire work process from raw material to manufacturing process of the product. This is backed by the target to control use of the substances indicated in the "Negative List" to maintain quality products.
- 2,4 Audit of Contracted Manufacturers** At DENKA, some of the raw materials are manufactured and semi-products are processed by other companies specializing in these areas. We believe that quality management is vital, as well as logistics, environment and product safety measures. Thus, DENKA conduct periodical audit along the standards designated.
- 3 Support Environment and Quality Management of Affiliates** DENKA operates with numerous affiliates that the company invests in as part of business development. The affiliates introduced on pages 43 to 45 are supported for management to share information. We do this because we believe there is a need to manage quality, environment and safety according to DENKA standards.
- 5 Audit of Waste Processing Companies** There are numerous waste processing, Waste Management and Public Cleaning Law*. When waste is treated outside the company, a waste treatment company must be chosen and an agreement must be endorsed with that company. The company is also responsible to publish a manifesto and check after recovery, as well. In addition to legislation, DENKA periodically audits the processing plant site, as well as check their business details and financial records.

- 6 Product Safety Records** DENKA records all incidents of impurities and hazardous substances contained in final products in the "Product Safety Records". Effort is maintained to ensure product quality and safety, as well as reduce environmental load.
- 7 Yellow Card/Container Label** Depending on the material properties, transport of materials may have a major effect on the environment in the case of accident. DENKA has introduced numerous guidelines in case of an accident. The driver is required to keep a "Yellow Card" that overview the measures in the case of an accident. Product containers are also "labeled with indications", so swift and proper measures can be taken in case of an accident. What's more, Yellow Card Drills are also conducted at each plant and research laboratory on emergency first aid, properly reporting through proper chain of command, and preventing spread of fire/disaster.
- 8 MSDS (Material Safety Data Sheet)** There is a need to properly handle chemical material according to its physical and chemical risk of danger and health and environment hazard properties. DENKA creates an MSDS for all products. This is used to disclose information to customers and educate the employees. It is important to constantly review and update MDSS according to the changes in chemical substance regulations and vital to fully distribute the information to customers. DENKA periodically checks the state of these operations to ensure whether the operations are properly managed.

Joint measures by the chemical industry

HPV (High Production Volume) Program

The HPV program mainly by International Council of Chemical Associations (ICCA) evaluates and assesses safety of substances specified by Organization for Economic Co-operation and Development (OECD) counts up to roughly 1,000 substances. DENKA also participates in this program.

Japan Challenge Programs

With the cooperation between industrial sector and the national government (Ministry of Health, Labour and Welfare; Ministry of Economy, Trade and Industry; Ministry of the Environment), this program was designed to promote and collect safety information on chemical

substances. Approximately 700 chemicals are selected. DENKA also participates in this program in terms of the substances that concerns DENKA.

LRI (Long range Research Initiative)

This is a program promoted through chemical industries (Japan Chemical Industry Association/JCIA, American Chemistry Council/ACC, European Chemical Industry Council/CEFIC) in Japan, North America and Europe. Long-term basic research is undertaken to study carcinogenicity and endocrine sensitivity to chemical substances. DENKA also cooperates with this program.

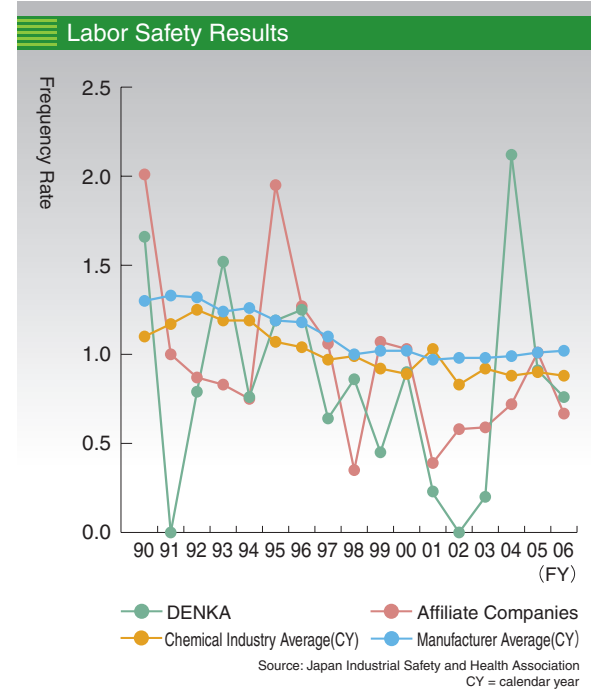
*1 Negative List: This is a list of chemical substances that cannot be contained in a product and chemical substances that are restricted in use.

*2 Waste Management and Public Cleaning Law: Law on how to treat and clean waste. Law that defines waste, requires the address of the treatment manager and description of how the substances are treated.

Labor Safety and Hygiene, Safety and Disaster Prevention

Measures for Labor Safety and Hygiene

Labor Safety Results



Disaster Frequency Rate = Number of deaths and injuries / Total number of working hours * 1,000,000

Labor Safety Activities

● Create Safety Management System

The Chiba Plant was reviewed for OHSAS18001 certification in November 2006, and acquired certification in February 2007.

Measures will be enforced to strengthen the system to promote certification for other plants, as well.

● Risk Assessment Measures

Effort focuses on activities that prevent accidents before they happen by identifying latent risks of the facilities and activities.

We not only study in-house accident cases, but also assess risk of case studies of other companies.

● Workplace Safety Exchange Program

An exchange program for worksite operators was held at the Omuta plant to discuss characteristic safety

activities of plants.

Opportunity to communicate with other worksite operators made the sharing of safety measures effective. Effort focuses on heightening awareness toward safety on a company basis, by communicating not only with the members of the management but between plants of different levels.

Hygiene Activities

● Environment Measurement Activities

Environment measurement activities concerning the health of our employees are taken safety. Thus, we implement and manage self-management standards at a level higher than defined by the Labor Safety and Hygiene Act. Management activities are especially strengthened with individual exposure measurement conducted in workplaces handling benzene, and other carcinogenic and/or hazardous substances.

● Mental Health

We believe that a healthy state of mental health is vital for operators. We enforce a company-wide mental health measure, including mental health education programs (mechanism of the mind and body, risk communication, prevention, early detection, measures, etc.) to managers.



Scene of mental health seminar conducted at the Omuta Plant.

Safety Measures

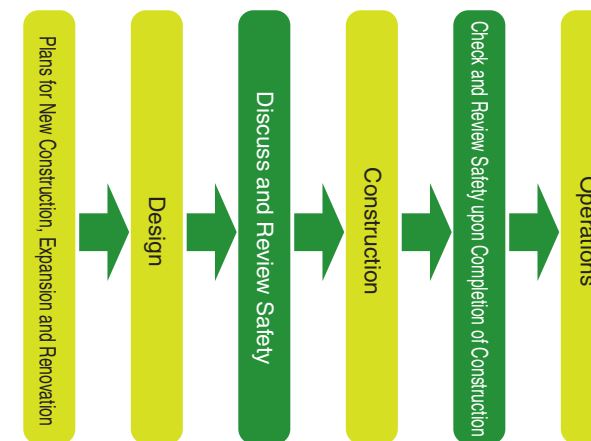
Preliminary Safety Evaluation

We reviewed past cases of accident and found that we encountered unconventional incidents and even experienced dangerous incidents when changing the conditions of raw materials, facilities and operational conditions.

In FY2006, the manufacturing, engineering and environmental protection sectors worked in collaboration to promote activities that eradicate facility accident, change management guidelines for betterment and polish preliminary evaluation measures.

As a result, the number of accidents cases in FY06 was reduced to roughly half of the market compared to FY05. Activities will be sustained to stabilize good results for FY07 and thereafter.

Flow of Preliminary Safety Evaluation



Safety Management Conference

Ensuring Safety becomes the foremost priority at plants at risk of fire or explosion and operating at high temperature. For this reason, a Safety Management Conference organized by in-house specialists is periodically conducted in hope to ensure safety and security.

In FY2006, at the Omi plant, the cement plant using massive volumes of fuel was in scope, in addition to the chloroprene, mono-silane, ML/MCA, PVA and electric furnace plants.

Further in FY07, the Safety Management Conference is also scheduled to take place at the Chiba Plant which uses massive volumes of organic solvents and reactivity monomers.



Scene of Safety Management Conference

Fire Drill

It is vital to prevent safety problems from turning into major disaster. This is why we believe routine fire drills and accident drills are important.

Each plant and research center works in collaboration with local fire-fighting organizations from the very early stages. General fire drills are also conducted by the plant and research center. Periodical and systematic training and drills are constantly repeated to be prepared.

Programs to Study Labour Safety and Sanitation Law

Every effort is exerted to prevent work related accidents by improving employee skills and knowledge. To ensure this we conduct lecture and discussion on the "role of the plant supervisor", namely for the assistant chief and other supervisors at the forefront of the job flow, in accordance with the Labour Safety and Sanitation Law. Participants of this program emphasized that they strongly felt that "communication was vital for work safety and that the assistant chief leading the job made the difference in work safety".

Simulation Programs

The process has been changed to ensure safe operations and management during the workflow. What's more, automated facilities have also reduced the risk of employees, especially inexperienced employees, from getting involved in an accident. Though these advancements may be successful in securing safety in the manufacture site, there is a concern that workers may be desensitized toward latent dangers in the chemical plant. Thus, model devices are used in the actual workplace to simulate possible work accidents and to learn from those simulated experiences.

Environmental Accounting

Environmental Accounting

To understand and analyze the effects of environmental investments, an aggregate on the investment, expenses, environmental conservation effect and economic effect was calculated to learn the results on environmental conservation effects from FY2006.

Scope of Aggregate: Plants and research center
Target Period: April 1, 2006 to March 31, 2007.

1. Environmental Conservation Costs (FY2006)

A little over 60% of environmental investments were spent on preventing pollution.

Category	Details of Effect	Environmental conservation Costs (¥million)	
		Investments	Expenses
1) Costs within business area		608	2,733
Items	①Pollution Prevention	297	1,930
	②Global Environment conservation	145	0
	③Resource, recycling	166	803
2) Upstream/Downstream Costs	Change raw materials	220	13
3) Administrative costs	Environmental Education	2	43
4) R&D Costs	Environmental Conservation	0	231
5) Society Activity Costs	Communication Relations	0	9
6) Environmental damage costs		0	10
7) Others		0	0
Grand Total		830	3,039

2. Effects of Environmental Conservation

Statistics on environmental load was computed.

Environmental Load	Unit	FY2005 Results	FY2006 Results	Effect
CO ₂ emissions (Energy Origin)	ten thousand tons	177	171	6
PRTR emissions	tons	233	221	12
NOx emissions	tons	5,680	5,650	30
SOx emissions	tons	2,870	2,080	790
Soot and Dust emissions	tons	143	121	22
Water Volume Used	ten thousand tons	8,940	8,680	260
COD (BOD) discharges	tons	1,350	1,670	▲ 320
Volume of Waste Generated	thousand tons	124	120	4
Final waste disposal	tons	4,920	3,600	1,320

3. Economical Effects related to Environmental Measures

The actual results presented profit/loss on sale of valuables, energy conservation, reduction of waste processing/treatment cost, and improved profits.

Category	Item	Details	Effects (Unit : ¥million)
Profit	Business income from recycling waste generated from major business activities and recycling waste products	Profit on selling valuables	699
Cost Saving	Reduce energy cost by saving energy	Energy Saving Effect	325
	Reduce waste treatment/processing cost by saving and recycling resources	Effective Utilization of Resources	4
	Improved Yield		43
Total			1,071

Environment Performance Data

Environment Performance Data

The performance data of each environmental conservation item enforced at our 5 plants (excluding the central research center) is indicated below.

Plants	Item	Unit	FY2005 Results	FY2006 Results	FY2007 Target
Omi Plant	Energy Consumption rate	compared to FY1990	0.92	0.92	0.94
	CO ₂ emissions (Energy Origin)	ten thousand tons	102	102	104
	PRTR emissions	tons	45	36	22
	NOx emissions	tons	3,890	4,010	3,720
	SOx emissions	tons	2,470	1,725	1,695
	Soot and Dust emissions	tons	124	102	101
	Water Volume Used	ten thousand tons	7,300	7,170	—
	COD (BOD) discharges	tons	1,293	1,593	1,483
	Volume of Waste Generated	thousand tons	92	89	93
	Final waste disposal	tons	1,703	1,188	1,599
Omuta Plant	Energy Consumption rate	compared to FY1990	0.98	0.96	0.93
	CO ₂ emissions (Energy Origin)	ten thousand tons	12	11	12
	PRTR emissions	tons	6	6	7
	NOx emissions	tons	1,220	1,144	1,342
	SOx emissions	tons	1	1	1
	Soot and Dust emissions	tons	5	5	4
	Water Volume Used	ten thousand tons	123	120	—
	COD (BOD) discharges	tons	1	1	3
	Volume of Waste Generated	thousand tons	7	7	7
	Final waste disposal	tons	2,974	2,178	1,938
Chiba Plant	Energy Consumption rate	compared to FY1990	0.89	0.88	0.83
	CO ₂ emissions (Energy Origin)	ten thousand tons	61	56	57
	PRTR emissions	tons	174	171	127
	NOx emissions	tons	539	485	540
	SOx emissions	tons	364	326	356
	Soot and Dust emissions	tons	12	14	16
	Water Volume Used	ten thousand tons	981	986	—
	COD (BOD) discharges	tons	45	68	37
	Volume of Waste Generated	thousand tons	23	23	24
	Final waste disposal	tons	171	206	215
Shibukawa Plant	Energy Consumption rate	compared to FY1990	1.33	1.18	1.15
	CO ₂ emissions (Energy Origin)	ten thousand tons	1	1	1
	PRTR emissions	tons	5	6	6
	NOx emissions	tons	29	10	11
	SOx emissions	tons	35	27	29
	Soot and Dust emissions	tons	0	1	1
	Water Volume Used	ten thousand tons	527	392	—
	COD (BOD) discharges	tons	11	9	9
	Volume of Waste Generated	thousand tons	1	0	0
	Final waste disposal	tons	44	19	15
Ofuna Plant	Energy Consumption rate	compared to FY2002	0.93	0.84	0.77
	CO ₂ emissions (Energy Origin)	ten thousand tons	1	1	1
	PRTR emissions	tons	2	1	1
	NOx emissions	tons	5	3	3
	SOx emissions	tons	0	0	0
	Soot and Dust emissions	tons	2	0	0
	Water Volume Used	ten thousand tons	6	7	—
	COD (BOD) discharges	tons	0	0	0
	Volume of Waste Generated	thousand tons	0	0	0
	Final waste disposal	tons	31	13	12

* The total values of each operation may vary with the values on p. 34 since the rounded off to the nearest whole number.

Company Overview

Overview

Name: DENKI KAGAKU KOGYO KABUSHIKI KAISHA
Established: May 1, 1915
Capital: ¥36,998 million (as of March 31, 2007)
Head Office: Nihonbashi Mitsui Tower, 1-1, Nihonbashi-Muromachi 2-chome, Chuo-ku, Tokyo 103-8338, JAPAN
Branches and Sales Offices
 Osaka, Nagoya, Fukuoka, Niigata, Toyama, Sapporo, Sendai, Nagano, Takasaki, Shizuoka, Hiroshima, Takamatsu, Akita, Ageo

Plants
 Omi (Niigata), Omuta (Fukuoka), Chiba, Shibukawa (Gunma), Ofuna (Kanagawa)

Research Center
 Machida (Tokyo)

Overseas Subsidiaries
 New York, Dusseldorf, Singapore, Shanghai, Shuzhou

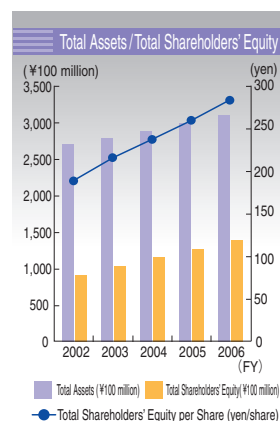
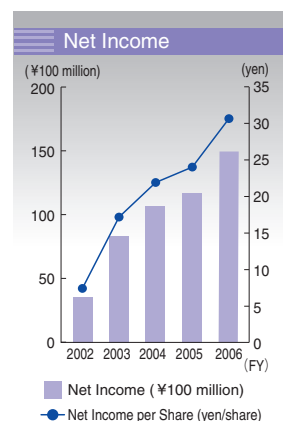
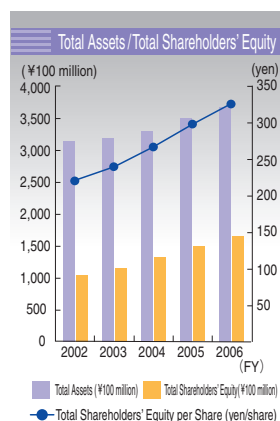
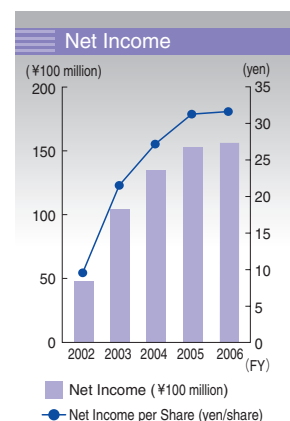
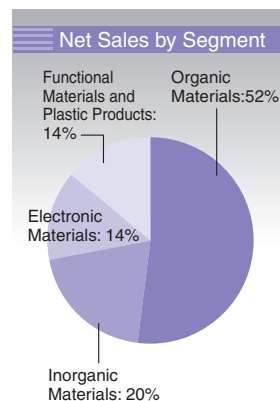
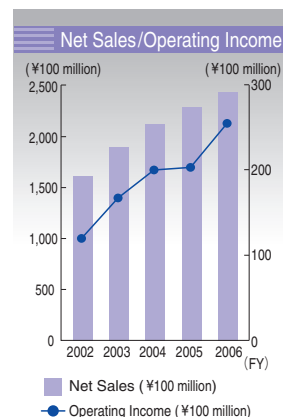
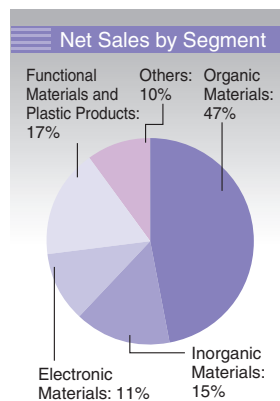
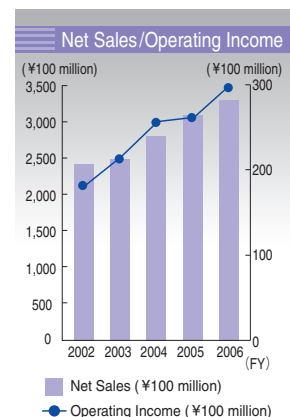
Data

Consolidated Financial Highlights (FY 2006)

Net Sales: ¥329,262 million
Operating Income: ¥29,877 million
Employees: 4,696 (as of March 31, 2007)

Non-consolidated Financial Highlights (FY 2006)

Net Sales: ¥244,152 million
Operating Income: ¥25,444 million
Employees: 2,635 (as of March 31, 2007)



Major Products and Affiliates by Segment

Segment	Sales (¥100 million)	Major Products	Affiliates
Organic Materials 	1,536	Styrene monomer, polystyrene resin, ABS resin, "CLEAREN", heat-resistant/transparent resins, acetic acid, vinyl acetate monomer, PVA, chloroprene rubber, acetylene black, etc.	Chiba Styrene Monomer, TOYO Styrene, CRK, Denak, Shonan Sekisui Kogyo, DENKA Singapore, etc.
Inorganic Materials 	496	Fertilizers, calcium carbide, refractories, cement, special cement additives, etc.	Hinode Kagaku Kogyo, DENKA Azumin, Nishi-Nihon Koatsu Gas, DENKA Renotec, etc.
Electronic Materials 	376	Spherical fused silica filler, fine ceramics, electronic circuit board, thermally conductive sheet, adhesives, coating materials, electronic component packaging materials, adhesive film, etc.	TOYO Adtec, Denal Silane, DENKA Advantech, etc.
Functional Materials and Plastic Products 	567	Food packaging materials, vaccine, drugs to improve joint functions, diagnostic reagent, construction materials, industrial materials, etc.	DENKA Polymer, DENKA Kako, Nakagawa Techno Industry, DENKA SEIKEN, Juzen Chemical, etc.
Others	317	Plant & engineering, etc.	DENKA Consultant & Engineering, Yamatomi Trading, Hissan Trading, etc.

※ Affiliate companies includes some non-consolidated companies.

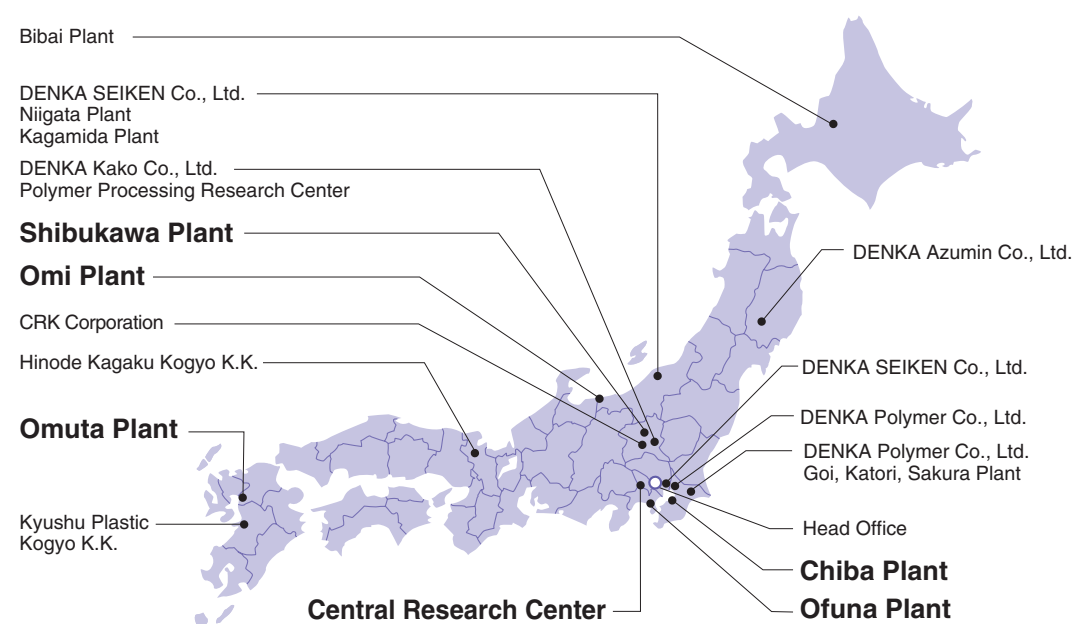
Economy

Society

Environment

Company Overview

Domestic Productions



Plants and Research Centers

Omi Plant

It is estimated that the total reserve of limestone at Kurohime-yama amounts to 5 billion tons. Highly exclusive lime and calcium carbide businesses are focally promoted backed by the company extensive resources and 160,000kW independent power generation capability.

◆ Address	2209 Oaza Omi, Itoigawa-City, Niigata
◆ Employees	1,059
◆ Major Products	Inorganic Materials : Cement, special cement additives, calcium carbide, calcium cyanamide, alumina fiber, etc. Organic Materials : Chloroprene rubber, PVA, etc. Electronic Materials : Monosilane Functional materials : Hyaluronic acid
◆ Research Center	<input type="radio"/> Organic Materials Research Center <input type="radio"/> Inorganic Materials Research Center



Omuta Plant

Since the first plant of DENKA was established, developments have been made in the advanced field of ceramics, based on original electrical furnace technologies, high temperature technologies, and nitride technologies, as base of inorganic chemistry products. There has also been major expansion to fine ceramics, and areas of electronics materials, as well.

◆ Address	Shinkai-cho, Omuta-City, Fukuoka
◆ Employees	449
◆ Major Products	Inorganic Materials : Calcium carbide, calcium cyanamide, alumina cement FIRELEN, special cement additives, etc. Organic Materials : Acetylene black Electronic Materials : Fused silica filler, silicon nitride, boron nitride, ceramics substrate, thermally conductive sheet, etc.
◆ Research Center	<input type="radio"/> Ceramics Research Center



Chiba Plant

We are proudly leading the pack domestically, by developing our polystyrene, ABS resin and other styrene-based resin businesses, using the resources of the styrene monomer plant. Strengthening has also been carried out on transparent resin, CLEAREN and other functional resins, as well as ER rubber, resin-processing businesses and petrochemical businesses.

◆ Address	6, Goi-Minamikaigan, Ichihara-City, Chiba Bibai Plant: 1-1 Higashi-Gojo-kita, 10-chome, Bibai City, Hokkaido
◆ Employees	503
◆ Major Products	Organic Materials : Styrene monomer, polystyrene, ABS resin, transparent resin, heat resistance resin, SBC resin "CLEAREN", vinyl acetate monomer, ER rubber, etc. Plastic Products : Food packaging materials, construction materials, VINI-TAPE, etc.
◆ Research Center	<input type="radio"/> Process Research Center <input type="radio"/> Polymer Research Center



Shibukawa Plant

We started manufacturing fine products after the plant was launched to manufacture general-purpose chemical products. Currently, we are operating as a core production base of organic-based electronic materials business, with focus on electronic circuit boards, emitters and structural adhesives.

◆ Address	1135 Nakamura, Shibukawa-City, Gunma
◆ Employees	231
◆ Major Products	Electronic Materials : High thermally conductive metal substrate "HITT plate", thermally conductive spacer, adhesive film, adhesives, electron & ion emitters, etc. Organic Materials : PVC compound
◆ Research Center	<input type="radio"/> Electronic Materials Research Center



Ofuna Plant

We develop and manufacture products such as synthetic fibers and packing tape, based on ejection molding technologies and adhesion coating technologies. High function films have newly been added to the lineup, to develop into a core production base for resin-processing business.

◆ Address	13-1 Dai, 2-chome, Kamakura-City, Kanagawa
◆ Employees	164
◆ Major Products	Plastic Products: Synthetic fiber "TOYOKALON", packaging materials, functional film.
◆ Research Center	<input type="radio"/> R&D Department



Central Research Center

The focus remains on R&D of high function products specializing in exclusive deep plowing technologies and peripheral technological areas. However, this is also the core R&D facility of the DENKA Group striving to enforce new endeavors to attain "DENKA 100".

◆ Address	5-1 Asahi-cho, 3-chome, Machida-City, Tokyo
◆ Employees	75
◆ Research Center	<input type="radio"/> Biochemistry Research Center <input type="radio"/> Materials Research Center <input type="radio"/> Chemical & Numerical Analysis Research Center



Overseas Production and Marketing Bases

Sales



Europe
DENKA Chemicals GmbH
(Düsseldorf)



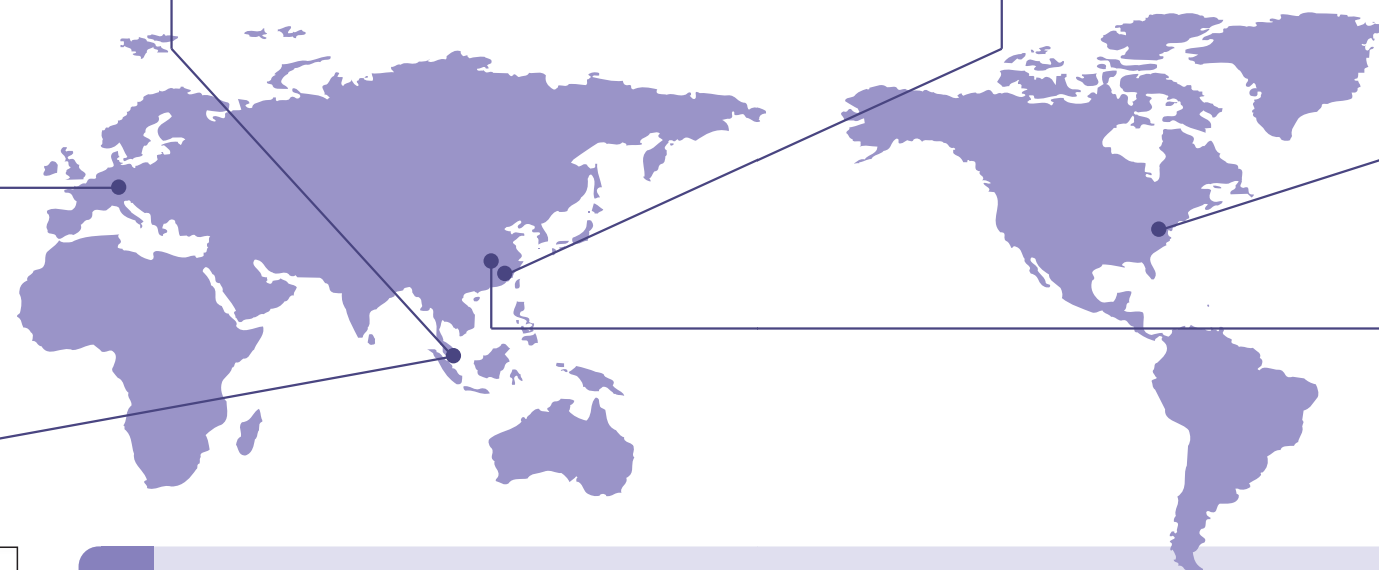
Asia
DENKA Singapore Pte. Ltd.
DENKA Advantech Pte. Ltd.
(Singapore)



China
DENKA Chemicals Shanghai Co., Ltd.
(Shanghai)



North America
DENKA Corporation
(New York)



Manufacture



DENKA Singapore/Seraya Plant
(Singapore)

Styrene-base resin facilities have been newly implemented in 2006. The plant is the world's largest scale styrene-based resin production base. The plant prides in a high share of "MW Grade" (GPPS). It also manufactures SBC resin "CLEAREN" for label films for PET bottles, and transparent resins (MS resins) suiting optical needs. Today, this is a major operation of the DENKA Group to globally supply products to the Chinese, Asian, European, North American markets.



DENKA Singapore/Merbau Plant
(Singapore)

The plant manufactures acetylene black that is a conductive special carbon black which is indispensable to conductive products. This is the first plant of the DENKA Group constructed in Singapore, backed by the demands increasing in Southeast Asia. Today, it enjoys a growth in power cables with delivery to Asia, Europe, North America and various countries around the world.



DENKA Advantech/Tuas Plant
(Singapore)

This plant prides in maintaining the world's highest share in manufacturing spherical fused silica fillers. Effort constantly focuses on manufacturing environment-friendly products, upon meeting increasing demands for spherical fused silica fillers used in epoxy molding compound for semiconductor packages. As a result, the production capacity was reinforced in 2006. A full-scale system was established in Omuta and Singapore to aggressively develop business according to the global market, with focus on the growing Asian market.



DENKA Advanced Materials (Shuzhou) Co., Ltd.
(China)

This plant was founded in 2006, and operations were kicked-off as a production base of electronic component packaging materials, and heat-resistant insulation tape for automobile wire harnesses. Effort focuses on swiftly meeting customer needs with quick delivery, as well as strengthening and expanding business.

Economy

Society

Environment

Company Overview

Overseas Production and Marketing Bases

DENKA Singapore Group

RC Activities

DENKA Singapore Group operates in Singapore with 3 plants: DENKA SINGAPORE Merbau Plant, Seraya Plant, and DENKA Advantech Tuas Plant. Each plant exerts daily effort in maintaining safe production bases upon manufacture, as well as environmental-friendliness by effectively utilizing resources and reducing waste. Operational efficiency was reviewed and the safety management system was re-organized in parallel with the growth in the production scale of styrene-based resin and fused silica filler.

DENKA Singapore/Merbau Plant (acetylene black)

◆ RC Activities	Reduce paper bag loss. Abide by air and water environmental regulations. Prevent soil pollution.
◆ ISO14001	Updated to 2004 version.



DENKA Singapore/Seraya Plant (styrene-based resins)

◆ RC Activities	Promote effective utilization waste oil coming from resources, by reusing it as boiler fuel. Prevent environmental pollution and abide by air and water environment regulations Introduce closed shipment inspection sampling system. Reduce use of package materials via built transport of item.
◆ ISO14001	Updated to 2004 version.



DENKA Advantech/Tuas Plant (fused silica filler)

◆ RC Activities	Improve crude unit of raw materials. Abide by air and noise environmental regulations. Abolish and manage toxic waste for proper waste management. Promote recycling. Secure safety of new plant constructed.
◆ ISO14001	Updated to 2004 version.



RC Results

Notable environmental activities enforced at the 3 plants are described as follows.

	Item	Target	2004	2005	2006	Details of Measures in 2007
Merbau Plant	Waste Management	Paper bag loss 0.5% or lower	0.2	0.3	0.3	Boost usage rate of excellent bag manufacturers
Seraya Plant	Effective Utilization of Resources (use waste oil as boiler fuel)	2007: 320 liter/hour	—	80	260	Promote reuse of waste oil
Tuas Plant	Waste Management	2% or lower	1.4	1.2	2.4	Improve crude unit of raw materials

Affiliate Companies

DENKA Polymer Co., Ltd.

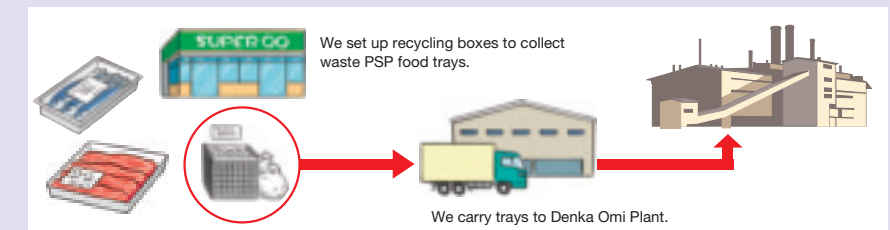
Address	Head Office: 12-8 Kiba, 5-chome, Koto-ku, Tokyo Plants: 3 in Chiba Prefecture (Sakura, Goi, Katori)
Employees	425
Major Products	OPS products, PSP food trays, food containers, stretch film.
RC Activities and Results	



The Containers and Packaging Recycling Law was enacted in June 2006. In line with its basic idea, we promoted consolidate effort by the entire DENKA Group to control discharge of packaging waste and reduce recycling cost.

- ① We developed and sold the lightest PSP food tray in the industry by consolidating our technological expertise from raw materials to processing technology to reduce discharge.
- ② Recycling cost was reduced by gaining further cooperation by retailers to recover food trays at the store, recycling raw materials and fuel of cement.

Food Tray Recycling System



DENKA Kako Co., Ltd.

Address	Head Office: 245, Nishigawara, Naganuma-cho, Isesaki City, Gunma Ojima Plant: 3015, Serada-cho, Ota City, Gunma
Employees	243
Major Products	Electronic component packaging materials, food packaging materials.
RC Activities	① Strengthen the system to manage work safety and hygiene. ② Labor accident measures. ③ Reduce industrial waste. ④ Improve the level of facilities and equipment quality (safe machines and equipment). ⑤ Individual plan and practice each item defined for promotion for suitable work place (5S, Health, Mental health, etc.).
Results	① A system of workplace-safety leader was newly appointed to train, and announce Labor Safety and Hygiene policies. ② In FY06, there were no absences due to accident, though there were 7 incidents of minor accidents without any injury.
Communication Relations	● There was a tour around the Isesaki Plant by the Sawa-Isesaki District Industrial Education Promotion Organization (roughly 30 participated).



※ DENKA Kako become Isesaki Plant of DENKA in October, 2007.

Affiliate Companies

DENKA SEIKEN Co., Ltd.

Address Head Office: 4-2 Kayaba-cho, 3-chome, Nihonbashi, Chuo-ku, Tokyo
Plant: Gosen City, Niigata (Niigata Plant, Kagamida Plant)

Employees 452

Major Products Influenza vaccines, virological diagnostic reagents, bacteriological diagnostic reagents, immunological diagnostic reagents, clinical chemistry diagnostic reagents, and general biological diagnostic reagents.

RC Activities ① Setup waste water treatment device to treat BOD.
② Communication with local residents.

Results ● The energy saving goal of each department was almost attained.
● BOD waste water treatment device was setup at the Kagamida Plant in 2006.
● CO₂ emissions at the Kagamida Plant rose by 25% due to expanding the plant facilities.

Communication Relations

● Communications with the local community was also aggressively maintained through exchange programs.



Hinode Kagaku Kogyo

Address 660 Aza Kuratani, Maizuru City, Kyoto

Employees 50

Major Products "YORIN" (Fused magnesium phosphate)
"TORETARO" (Fused silicate phosphate fertilizer)

RC Activities ● Environmental legislation and prevent accidents and disasters by boosting employee awareness through education and training programs.
● Save energy and resources, reduce discharge of substances.
● Actively participate to the environmental conservation activities by the community.

Results We actively participated in cleaning activities.

Communication Relations

● Sponsored a tour around the plant for elementary school students.
● Participated in the cleaning activities for the "Maizuru River and Ocean Beautification Month".
● Participated in the "Maizuru Clean Campaign".

Others One employee was awarded the excellent employee : Kyoto Prefecture Safety and Disaster Prevention Reference.



CRK Corporation

Address 306-banchi, Koyagi-cho, Takasaki City, Gunma

Employees 78

Major Products Various rubber compounds, industrial rubber products, fire resistant rubber products, etc.

RC Activities and Results

● To prevent generation of waste from the origin, we are aggressively undertaken to improve yield, prevent defects and enforce recycling.
● Effort is constantly exerted to identify and eradicate hazardous and dangerous factors to ensure employee safety and hygiene.

Communication Relations

● We actively participate in events that take place in the industrial park to communicate with the local community.
● Monthly cleaning and beautification activities inside and outside the plant premises are constantly on the agenda.

Others ● Our expertise in fire resistant technologies to manufacture fire resistant products has also been acknowledged by winning the Nakagawa Takeo Technical Prize.
● The Company has been acknowledged by winning the "Association President Award" from the Gunma Work Standards Association. Our company has been certified with the Promoting Project of Comfortable workplace promoted by the Ministry of Health, Labour and Welfare.



DENKA Azumin Co., Ltd.

Address 118, 5 Chiwari, Nimai-bashi, Hanamaki City, Iwate

Employees 23

Major Products "AZUMIN" (Magnesia Humate)

RC Activities ① Review rules and regulations in the workplace.
② Promote activities to ensure zero accident and zero disaster/fire as a continual goal under the supervision of the KY/HH Committee, Safety Patrol Committee and Environment Committee. The target is also to thoroughly control and manage NO_x emissions, reinforce measures to prevent soot and dust, and other measures to prevent polluting the environment.

Results ① Continued to mark zero accident and zero disaster/fire in FY2006.
② Participated in joint training with Hanamaki Fire Department for a nitric acid leakage training drill, and gained mutual understanding.
③ The Anti-Pollution Council of the Town Association acknowledged our efforts in reducing soot and dust emissions.

Communication Relations

● We accept plant patrol by "Anti Pollution measure Council" of Nimai-bashi district. Q&A and information exchange conducted after patrol.
● We exchanged information with director and chairman of the town association.



Third-Party Audit



Third-party Verification Opinions on DENKA CSR Report 2007

September 14, 2007

レスポンス・フォー・ケア
Mr. Seiki Kasabata
President
Denki Kagaku Kogyo Kabushiki Kaisha

Akio Yamamoto
Chairman, Verification Advisory Committee
Japan Responsible Care Council

Yasuo Tanaka
Chief Director,
Responsible Care Verification Center

■ Purpose of Verification
The purpose of Responsible Care Report Verification is to express, as a specialist in the chemical industry, opinions concerning the items listed below with respect to the "CSR Report 2007" compiled by Denki Kagaku Kogyo K. K. (hereinafter referred to as "the Report").

- 1) Rationality of methods for calculating and collecting data for performance indicators (numerical values) and the accuracy of such figures
- 2) Consistency between the information included in the Report other than performance indicators (numerical values) and evidentiary materials and articles
- 3) Evaluation of Responsible Care activities.
- 4) Characteristics of the Report

■ Verification Procedures

- At the Head Office, regarding the reports from each site (operations plants and research center), a survey to verify the rationality of methods of aggregation and editing of performance indices and a process to confirm the consistency of information recorded in the Report with evidentiary documents were implemented, through interviews of persons responsible for each task and persons responsible for compilation and through documents submission and receiving explanations.
- At the Chiba plant, regarding the reports made to the head office, a survey to verify the rationality of calculation and aggregation methods and accuracy of numerical values of performance indices and a process to confirm the consistency of information recorded in the Report with evidentiary documents and exhibits were implemented, through interviews of persons responsible for each task and persons responsible for compilation and through documents submission and receiving explanations.
- Sampling method was used for the verification of performance indices and recorded information.

■ Opinions

- 1) Rationality of methods for calculating and collecting data for performance indicators and the accuracy of such figures
 - Both the Head Office and the Chiba Plant use rational methods of calculation and aggregation of performance indices.
 - Within the scope of the survey, numerical values are accurately calculated and aggregated.
- 2) Consistency between the information included in the Report other than performance indicators and evidentiary materials and articles
 - It was confirmed that information recorded in the Report was consistent with the evidentiary documents and exhibits surveyed.
 - While the inappropriateness of expressions and unclear sentences were pointed out at the draft stage, the actual report has been amended and therefore no major items requiring correction remain.
- 3) Evaluation of Responsible Care (hereinafter referred to as "RC") activities
 - The organization ensures the implementation of undertakings for the positive promotion of CSR activities both within and outside the company through efforts including the establishment of a new "CSR Promoting Dept." to work in tandem with relevant departments and sections to organize standing committees previously set up to address themes relating to the environment, society and the economy, as well as to summarize and adjust CSR-related topics.
 - The organization has been streamlined to ensure thorough implementation of movements to eliminate equipment-related accidents, management of modifications and pre-evaluations and this undertaking has been largely successful in suppressing occurrence of malfunctions and accidents.
 - The Chiba Plant has acquired accreditation in 3 standards (ISO14000, ISO9001, OHSAS18001) and has applied these standards to the development of RC activities. Also there has been successful results in lowering environmental impact through measures such as reduction of PRRR substances, reduction in the volume of phosphorous waste and maintenance of a zero-emissions level.
 - Although annual targets for undertakings pertaining to environmental conservation are quantified as numerical values, it is expected that in future, annual targets relating to material safety, labor safety and hygiene, safety and disaster prevention and interaction with local communities will also be quantified as numerical values.
- 4) Characteristics of the Report
 - Although items recorded cover a wide scope and information is properly disclosed, it is expected that in future, measures will be taken to better streamline the information recorded to make the Report even easier to read for the readers.

Progress of DENKA CSR

- 1985 Canadian Chemical Producers' Association proclaims Responsible Care (RC) to self-control and self-manage chemical substances.
- 1990 Found International Council of Chemical Association (ICCA).
- 1995 Found Japan Responsible Care Council (JRCC); DENKA endorses membership.
Define (announce) basic policy on DENKA Responsible Care.
Organize RC Committee.
- 1997 Start RC Audit.
Create basic manual to promote Product Liability (PL) measures and organize PL Committee.
- 1998 Organize Energy Saving Subcommittee.
- 1999 Chiba Plant acquires ISO14001 certification (all plants acquired certification by 2004)
- 2000 Publish 1st Environment Report published.
Discover that acetylene was generated (previously not known) and dioxin was generated at alumina fiber production plant. Report the state to the governmental agency concerned. (2002: specified as designated facility of "Dioxin Special Measures Act").
- 2001 Start operation of natural gas cogeneration facilities at Chiba Plant.
- 2002 Omi Mine wins Gold Kanban Award for "Good Mining Results".
Start indicating affiliates in Environment Report. (3rd)
- 2003 Start operations of biomass boiler power generation.
Create negative list.
M&A with TOYO KAGAKU Co., Ltd
Define Middle-Term Environment Plan and start activities.
- 2004 Start Good Company Program (GCP).
- 2005 Define Second Middle-Term Environmental Plan according to 2003 and 2004 results, and start activities.
- 2006 Start third-party audit at Omuta Plant.
Start accepting sewage sludge.
- 2007 Publish CSR Report

Editorial Afterword

Thank you for reading our "CSR Report 2007".

It was back in 2000 when we first published our "Environment Report" that documented our measures on the environment, safety and hygiene. Since then, we have published this in form of an annual report. However, this year, we published the "CSR Report" to document our extensive activities and measures in terms of our CSR efforts.

We will continue to listen to the opinions of as many stakeholders as possible, and reflect their feedback in our CSR activities.

We would be most obliged if you would gain understanding of DENKA's activities and efforts through this report.

Higashi Ito, Representative Director, Senior Managing Director



DENKA CSR REPORT 2007

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



From the standpoint of environmental considerations, this report is printed on FSC-certified paper, paper made from well-managed forests and other controlled sources. Also the report is printed with VOC-free soy inks and waterless planographic process printing method is used that does not output harmful waste water.