



Chiba University
Environmental Report 2008

Digest Edition

National University Corporation
Chiba University

Contents

1. Introduction to the Main Campuses...1
2. Environmental Policy...2
3. Environmental Management System Organizational Structure...2
4. Topics for 2007...3
5. Environmental Objectives & Targets and Levels of Achievement...5
6. Mass Balance...9
7. Environmental Accounting...10
8. Glossary...10

Regarding the front cover

This is a large camphor tree on the Nishi-Chiba campus. There are many camphor trees on the Nishi-Chiba campus.



Introduction to the Main Campuses

Chiba University is comprised of four main campuses, Nishi-Chiba, Matsudo, Kashiwanoha, and Inohana (Existing campuses as of April 2008 unless otherwise noted).

Nishi-Chiba Campus

The Nishi-Chiba campus is located away from the Chiba City center, in the Bunkyo area. The campus is very large (390,000 m), and there are many zelkova and camphor trees. Thus, the campus is known as a green campus.

In addition to the university headquarters, the campus also houses the six faculties of Letters, Education, Law and Economics, Science, Pharmaceutical Sciences and Engineering, and has an attached kindergarten, elementary, and junior high schools. There are also a variety of research institutions, such as the Advanced Integration Science and the Social Sciences and Humanities graduate schools, which are conducting instruction and research.

This campus is used by over 10,000 people including teaching staff and students, and serves as the main campus for Chiba University (1-33 Yayoi-cho, Inage-ku, Chiba-shi, Chiba Prefecture, 263-8522, Japan).



General Studies Complex and Courtyard

Matsudo Campus

This campus is located in a hilly area of Matsudo City and surrounded by a natural forest. It houses the faculty of Horticulture and graduate school, and conducts research on a great number of subjects relating to food and plants, such as urban horticultural agriculture and the conservation of green spaces. We endeavour to interact positively with the local community, aiming to share the knowledge gained through research and to construct a better community (648 Matsudo, Matsudo-shi, Chiba Prefecture, 271-8510, Japan).



French Garden

Kashiwanoha Campus

This campus houses the Center for Environment, Health and Field Sciences, where Environment, Health and Field Sciences are cultivated and developed with the aim of contributing to a healthy lifestyle for humanity. Including the Chemiless Town Project undertaken in the Environmental Report for 2007, the framework for the Kashiwanoha International Campus Town is advancing. The characteristics and function of the town as an international property and a university add to cooperation between industry, the university, and the bureaucracy. In addition, the Kashiwanoha Clinic opened at the Center, and examination and treatment are carried out with an emphasis on Eastern medicine (6-2-1 Kashiwanoha, Kashiwa-shi, Chiba Prefecture, 277-0882, Japan).



Management and Research Building

Inohana Campus

This campus consists of the Schools of Medicine and Nursing and the Faculty of Pharmaceutical Sciences, along with several graduate schools in those fields. It also houses research facilities, such as the Medical Mycology Research Center, which is a national inter-university facility, and the University Hospital. Furthermore, in order to foster understanding of research topics among as many people as possible, we hold public and web courses and we make an effort to contribute to public and community medical care (1-8-1 Inohana, Chuo-ku, Chiba-shi, Chiba Prefecture, 260-8670(Medicine), 260-8672 (Nursing), Japan).



The Main Building for the Faculty of Medicine

Chiba University's Environmental Policy

At Chiba University, environmental policy is based on the Chiba University Charter and Chiba University Code of Conduct, and we implement and operate environmental activities according to this policy.

Since the Industrial Revolution, we, humankind, have developed our activities with abundant energy resources. As a result, we are now faced with various environmental problems, such as global warming, pollution by chemical substances and loss of biodiversity of living things.

The environment, which is the ground of our subsistence, is just threatened by environmental loads produced by human activities. At the beginning of this new millennium we should mobilize our wisdom and think seriously what we should do to sustain our present civilization over a span of a thousand years from now on.

Chiba University has a duty to contribute to forming, accumulating and practicing this wisdom as a comprehensive institution of education and research in a broad field of natural and social sciences. To this end we will take the following actions:

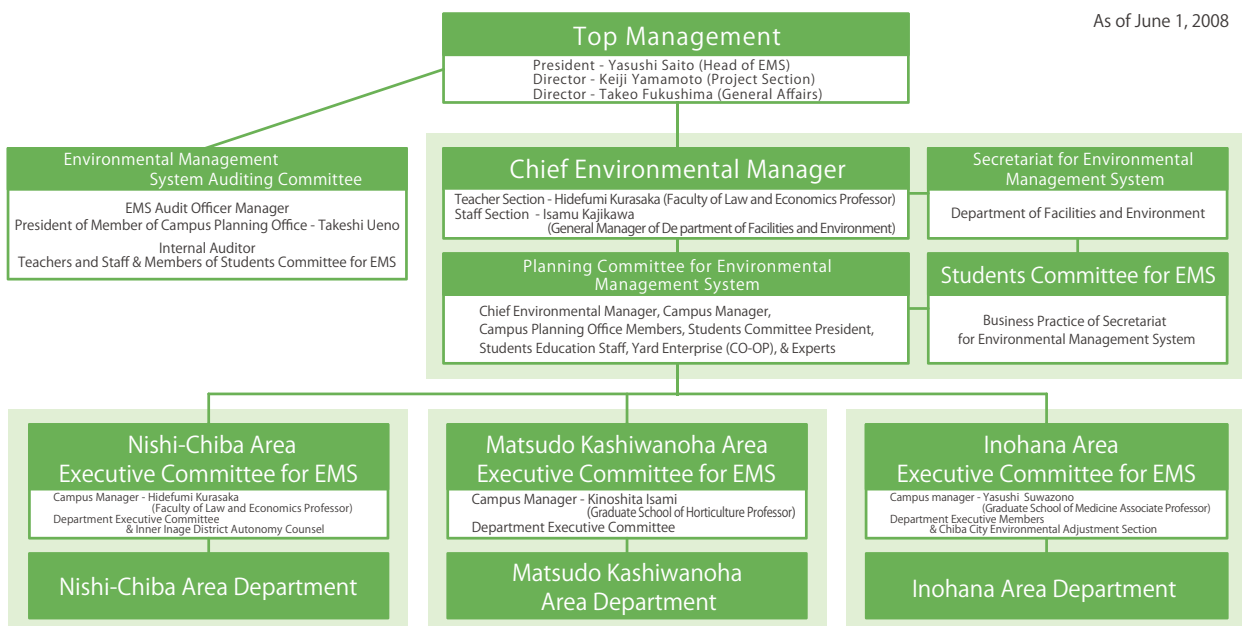
1. Accumulating the wisdom of the natural and social sciences, we advance practice of environmental education and research, taking advantage of the characteristics as a university in cooperation with the attached schools.
2. We promote energy and resource saving measures, cycling use of resources and buying goods considering the environment, and manage the safety use of chemical substances. We also protect vegetation in our campus and realize a campus with a small environmental load and abundant green leaves. Above all we understand and comply with legal and other requirements about the environment which Chiba University agrees with.
3. The environmental management system is constructed and operated by the students as the main constituents. We also encourage voluntary activities by the students, aiming at a campus where a variety of environmental programs are put into practice.
4. We practice the environmental management system open to the local community with reflection of their opinions.

Standing on this policy, we establish the targets, take actions to realize them, and think better of the environmental management system, auditing the actions. Then, we continually improve the system to prevent pollution. This environmental policy is documented and communicated to the people concerned, including the teachers, officials and students of Chiba University and relative businesses who are usually stationed there, and released to the public in a document and on website.

April 1, 2008 Yasushi Saito President of Chiba University

Chiba University's Environmental Management System

Chiba University's Environmental Management System is comprised of the following : teaching staff of main campus (excluding part-time teachers), Yard Enterprise (including part-timers), the members of Students Committee for EMS, graduate students of the second doctor course (only registered member). Currently, other graduate and undergraduate students are included, but are targeted for operation of Basic Training as Sub Members.



Topics for 2007

Chiba University Environmental Management received a high evaluation.

- The 6th Japan Environmental Management Award
— “Prize for Excellence in Environmental Management”

The Chiba University Environmental Management System received the “Prize for Excellence in Environmental Management” for its Environmental Management section at the 6th Japan Environmental Management Awards (Under the auspices of the Japan Environmental Management Award Committee•Mie Prefecture). We were the first university environmental management system to receive a prize for excellence in environmental management.



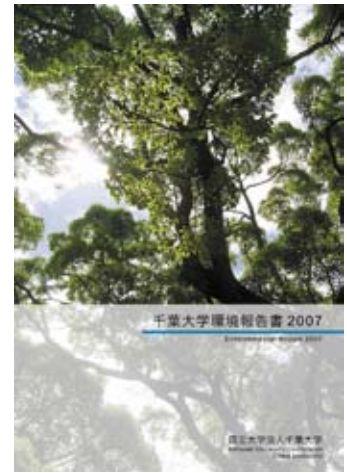
Awards Received

- “Chiba University Environmental Report 2007”

“The 11th Environmental Report Award•Sustainability Report Award”
(Toyo Keizai Shinpo-sha corp. / Green Reporting•Forum)
— “Public Section Prize”

.....

“The 11th Environmental Communication Award”
(Ministry of Environment/ Earth & Human Environmental Forum Foundation)
Environmental Report section
— “Excellent Prize
(Promoting Environmental Consideration law specific businesses prize)”



Chiba University Environmental Report 2007

The Chiba University Environmental Report 2007 received two major environmental awards in Japan. At Chiba University, students draft and design the report in cooperation with teachers and staff, a rare system in Japan. Also from now on, based on a commitment made by the Top Management, Chiba University will sincerely publish environmental information through the voluntary participation of students drafting the Environmental Report.

Practical Training III of the Environmental Management System (Internship Programme) has begun.

Chiba University regards implementation and operation of the Environmental Management System (EMS) as an opportunity to provide practical education on the environment (training talented people who can implement and operate EMS), so we introduced a programme that allows student EMS activities to count for course credits.

- New Seminar (Environmental Management System – Practical Training III)

From 2007, Chiba University started offering a new course called “Environmental Management System course called “Environmental Management System – Practical Training III”.

【Environmental Management System – Practical Training I】
In this course, students are expected to acquire basic knowledge regarding the Environmental Management System, and participate in activities regarding Environmental Objectives, Targets, and Management Programmes on campus, and implement Basic Training.



【Environmental Management System – Practical Training II】
In this course, students are expected to acquire the skills to become an instructor for Basic Training, to join the internal audit team, are to be in charge of activities regarding Environmental Objectives, Targets, and Management Programmes, and to make up drafts for various documents. Thus, students will be engaged in all fields of work related to Environmental Management Systems.



【Environmental Management System – Practical Training III】
This new course is for the students who have finished Environmental Management System – Practical Training II. In Practical Training III, the experience gained through practical training at Chiba University is put into the practice at external organizations. This internship programme intends to boost the educational effect of technical subjects. In addition, trainees gain experience that gives them more options for their future careers. Last year, 13 students have attended this programme. They respectively went to external organizations that obtained ISO 14001 certification in the Kanto area and conducted internal audits, inspections, and presentations on the environment. They also made comments on the Environmental Report, supported international conferences, and implemented EMS-related jobs.



【Environmental Management Practitioner】
Students, who have been involved in Environmental Management System activities for 3 years, are qualified to be a “Chiba University Environmental Management Practitioner”. By the 2007 academic year, 69 students were qualified.



Certificate for Environmental Management Practitioner

Charge system for plastic shopping bags on campus

In 2006, we started imposing an extra charge on plastic shopping bags on the Nishi-Chiba campus (5 yen for each). The following year, we expanded this system to the Matsudo and Inohana Campuses. Currently, 5 shops (3 shops on the Nishi-Chiba campus) implement this system.

■Rejibu-kikin Savings (Plastic Shopping Bag Fund)

「Rejibu-kikin」(plastic shopping bag fund) = actual amount raised, 105,070 yen + contribution (300,000 yen per year)

※Actual Amount Raised :The sum of the fund actually raised by the extra charge on plastic shopping bags.

※Contribution :The sum of money that each co-op shop can save from reducing the use of plastic shopping bags.

In 2007, the average rate of usage for plastic shopping bags was 2.0% for all 3 campuses. The savings from Rejibu-kikin was 405,070 yen. This information is available on the Chiba University's CO-OP Website. Rejibu-kikin will be used in a manner that reflects the customers' opinions, while trying to improve the environment on campus.

Transition of the number of customers and use rate of plastic shopping bags at the 4 shops on all 3 campuses.



Out of 1,053,584 customers, 21,014 plastic shopping bags were used.

■Use of Rejibu-kikin for the development of environmental activities.

In 2007, we utilized Rejibu-kikin for the following activities.

Selling eco-friendly goods at the Chiba University CO-OP

- Designing and selling eco-bags and "My Hashi" -

Students Committee designed eco-bags and "My Hashi" and sold them at Chiba University's CO-OP. The designs printed on those goods were ideas collected from the students during the first round of sales on the Nishi-Chiba Campus in 2006, and focused on designs that would be easily accepted by the students. Rejibu-kikin covered a part of the cost for these goods and they are sold at a very affordable price.



- Campaign for products that conform with Green Purchase standards -

Students Committee ran a discount campaign that compensated for 20% of the cost for stationary sold that conformed to Green Purchase standards.



Environmental Improvement on Campus

- Bicycle Collection Campaign -

To reduce the number of illegally parked bicycles on campus, we collect unwanted bicycles for free, mainly from students who are graduating. Rejibu-kikin covered the commissioning cost for collecting bicycles. The bicycles collected are used as rental cycles on campus after appropriate maintenance has been carried out.

- Flower Bed Making -

Flowerbed making, which started in 2006, was continued this year as well. Part of the Rejibu-kikin was used to pay for planting the flowers. This is the project for continual campus greening.



■Expansion of Rejibu-kikin Activities

As we expand the charge system for plastic shopping bags, our activities for environmental improvement will expand to all the campuses. While hoping for more cooperation and understanding from the customers, we will positively use Rejibu-kikin for environmental improvement from the perspective of the customers.

Environmental Objectives, Environmental Targets, and their Levels of Achievement

Based on Chiba University's Environmental Policy, Environmental Objectives, Environmental Targets and Management Programmes for each campus have been devised with regard to items that have a particular or potential influence on the environment.

Environmental Objectives are set based on a mid-to-long term point of view (3 years as a general rule), and Environmental Targets are based on the short-term (within one year). Implementation programmes are structured to set out the manner in which achievement of those objectives and targets will be tackled.

A comprehensive list of achievement levels for Environmental Objectives and Targets in each area for 2007 appears below (The University Hospital in the Inohana area is not included). A comprehensive list of achievement levels appears below.

Evaluation Standard for Levels of Achievement

- Items that have achieved their Targets
- △ Items that have mostly achieved their Targets, but require further effort
- ▲ Items that have not achieved their Targets
- ※ Items for which it is difficult to discern the level of achievement of the Targets

No.	Environmental Policy Aspect	Environmental Objectives	Environmental Targets for 2007	Area	Main Activities	Level of Achievement	
1	Features of the University Used for Environmental Education and Research	Environmental Education	To advance environmental education and research for the undergraduate and graduate programmes, and to enrich education and environment-related research within the university.	To maintain and increase opportunities for education and research regarding the environment.	Nishi-Chiba	<ul style="list-style-type: none"> •340 environment-related courses held. •168 researchers enrolled in environment-related research. •61 new environment-related publications purchased (Nishi-Chiba Main Attached Library). 	※
					Inohana	<ul style="list-style-type: none"> •34 environment-related courses held. •16 researchers enrolled in environment-related research (Secular change is carried out from now on). •8 new environment-related publications purchased (Inohana Attached Library). 	※
					Matsudo/Kashiwanoha	<ul style="list-style-type: none"> •201 environment-related courses held. •95 researchers enrolled in environment-related research (Secular change is carried out from now on). •41 new environment-related publications purchased (Matsudo Attached Library). 	※
						<ul style="list-style-type: none"> •95 researchers enrolled in environment-related research (Secular change is carried out from now on). 	※
2		To establish a voluntary environmental education programme for the University Attached Junior High School, Elementary School, and Kindergarten.	To implement the voluntary environmental education programme for the University Attached Junior High School, Elementary School, and Kindergarten.	Nishi-Chiba	<ul style="list-style-type: none"> •Implement environmental education for the University Attached Junior High School, Elementary School, and Kindergarten. (Junior High School) Education on electricity conservation and collection of disposable wooden chopsticks. (Elementary School) Making used paper/recycled paper and environment-friendly cleaners, the introduction of Enloop (rechargeable batteries), and education on water and electricity conservation. (Kindergarten) Picking up waste in the kindergarten, show picture stories, start a composting activity on the kindergarten grounds, and feed beetles. 	○	
3	Creation of a Green Campus with a Low Environmental Burden	Paper Usage	To reduce paper consumption on annually by more than 1% over the next 3 years.	To reduce paper consumption by more than 1% compared to the previous year.	Nishi-Chiba	<ul style="list-style-type: none"> •The amount of paper purchased increased by 16.4% compared to the previous year. •The amount of toilet paper purchased decreased by 17.8% compared to the previous year. 	▲
					Matsudo/Kashiwanoha	<ul style="list-style-type: none"> •The amount of paper purchased decreased by 23.5% compared to the previous year. •The amount of toilet paper purchased decreased by 44.7% compared to the previous year. 	○
					Inohana	<ul style="list-style-type: none"> •The amount of paper purchase decreased by 3.3% compared to the previous year. •The amount of toilet paper purchase decreased by 16.4% compared to the previous year. 	○
4		To promote appropriate re-use and collection of paper.	To establish and publicize a paper re-use and recycling system.	Nishi-Chiba	<ul style="list-style-type: none"> •The recycle rate of paper waste increased from 21.7% to 43.5% compared to the previous year through the introduction of mixed paper collection. 	○	
				Inohana	<ul style="list-style-type: none"> •Introduction of mixed paper collection. •Implement education by displaying posters on collection of paper by type. 	○	
				Matsudo/Kashiwanoha	<ul style="list-style-type: none"> •Carried out a laboratory visit survey and discuss improvement of the mixed paper collection system. 	○	
5		Energy Conservation	To reduce energy consumption on annually by more than 1% over the next 3 years (Comparisons based on faculty contents in 2007, except for extension and additional equipment etc.).	To reduce energy consumption by more than 1% compared to the previous year.	Nishi-Chiba	<ul style="list-style-type: none"> •The total energy charge for Nishi-Chiba increased 2.5% compared to the previous year (Electricity: 101.3%, Town Gas: 110.9%, Heavy Oil: no use). •Along with continuing the project to reduce lighting and heating expenses, educational activities such as an Energy Conservation Event and the consideration of energy conservation for facility construction were implemented. 	▲
					Matsudo/Kashiwanoha	<ul style="list-style-type: none"> •The total energy charge for Matsudo increased by 10.0% compared to the previous year (Electricity: 109.8%, Town gas: 111.2%, Heavy oil: no use). •The total energy charge for Kashiwanoha increased by 16.1% compared to the previous year (Electricity: 113.4%, Town Gas: 107.8%, Heavy Oil: 177.1%). •Along with continuing the project to reduce lighting and heating expenses, educational activities such as an Energy Conservation Event and the consideration of energy conservation for facility construction were implemented. 	▲
					Inohana	<ul style="list-style-type: none"> •The total energy charge decreased by 1.3% compared to the previous year (Electricity: 98.0% Town Gas: 105.0% A Heavy Oil: 70.0%). •The project to reduce lighting and heating expenses continued. •Educational activities such as an Energy Conservation Event and the consideration of energy conservation for facility construction were implemented. 	○

No.	Environmental Policy Aspect	Environmental Objectives	Environmental Targets for 2007	Area	Main Activities	Level of Achievement	
6	Water Conservation	To reduce water consumption on annually by more than 1% over the next 3 years (Comparisons based on faculty contents in 2007, except for extension and additional equipment etc.).	To reduce water consumption by more than 1% compared to the previous year.	Nishi-Chiba	<ul style="list-style-type: none"> Water consumption (clean water/groundwater) decreased by 0.5% (clean water 0.4%, groundwater 0.5%) compared to the previous year. Setting of the water conservation valve continued. 	△	
				Matsudo/Kashiwanoha	<ul style="list-style-type: none"> Water consumption (clean water/groundwater) decreased by 11.7% (clean water 0.7%, groundwater 34.0%) compared to the previous year at the Matsudo Campus. Water consumption (clean water/groundwater) decreased by 16.3% (clean water 3.4%, groundwater 18.5%) compared to the previous year at the Kashiwanoha Campus. Setting of the water conservation valve continued and educational activities were implemented. Discuss promoting the effective use of rainwater. 	○	
				Inohana	<ul style="list-style-type: none"> Water consumption (clean water/groundwater) decreased by 12.3% (clean water 3.8%, groundwater 18.6%) compared to the previous year at the Kashiwanoha campus. Educational stickers on water conservation checked and posted. 	○	
7	Waste Emission	To separate waste thoroughly, to suppress the creation of waste, and to promote re-use and recycling.	Promoting the 3Rs(Reduce, Re-use, Recycle), to reduce general waste by more than 5% and industrial waste by more than 1% compared to the previous year (comparison except for Recycling and accompanying facility repair).	Nishi-Chiba	<ul style="list-style-type: none"> Municipal solid waste emissions decreased by 2.1% compared to the previous year. Industrial waste emissions increased by 22.7% compared to the previous year. The recycle rate improved because the collection of mixed paper was introduced. An event for waste classification was held and collection of plastic bottle caps at the Attached Kindergarten was introduced. Infectious waste was discharged by mistake. 	▲	
				Inohana	<ul style="list-style-type: none"> Municipal solid waste emissions decreased by 36.3% compared to the previous year. Industrial waste emissions increased by 63.1% compared to the previous year. The recycle rate improved because the collection of mixed paper was introduced. The confirmation and publication of the waste classification display. A charge system for plastic shopping bags was introduced. 	▲	
				Matsudo/Kashiwanoha	<ul style="list-style-type: none"> Municipal solid waste emissions decreased by 12.4% compared to the previous year in Matsudo. Industrial waste emissions increased by 47.0% compared to the previous year in Matsudo. Municipal solid waste emissions increased by 27.3% compared to the previous year in Kashiwanoha. Promote thorough waste classification to the members and sub-members through the implementation of classification posters and events. A charge system for plastic shopping bags was introduced. 	△	
8	Purchase of Products	To promote "Green Purchase", the purchase of environment-friendly products.	To procure supplies based on the Chiba University Green Procurement Policy.	Nishi-Chiba	<ul style="list-style-type: none"> The procurement targets for applicable goods based on this policy were achieved. 	○	
				Matsudo/Kashiwanoha		○	
				Inohana		○	
9	Appropriate Management of Water Discharge	To reduce the concentration of toxic substances in water discharge to a constantly low level.	To create a system that unflinchingly observes laws and regulations 100% [in particular for the disposal of nitrogen, hexane extracts, mercury, etc.].	Matsudo/Kashiwanoha	<ul style="list-style-type: none"> Observance of the standard for nitrogen and phosphorus, which was a problem in Matsudo last year. The standard for n-hexane extracts and mercury was exceeded. 	▲	
10	The Use of Chemical Substances	To promote appropriate management of Chemical Substances.	To carry out painstakingly appropriate management of Chemical Substances and maintain it.	Nishi-Chiba	<ul style="list-style-type: none"> To introduce the bar code control system for Chemical Substances (CUCRIS). 	○	
				Inohana		○	
				Matsudo/Kashiwanoha		○	
11	Discharge of Wastewater	To promote the purification of wastewater.	To implement and operate a system for the purification of waste water.	Nishi-Chiba	<ul style="list-style-type: none"> Through continual setting and regular cleaning of Grease Traps (grease interception equipment), appropriate management of wastewater was implemented. The standard for n-hexane extracts was exceeded. 	▲	
				Matsudo/Kashiwanoha		▲	
12	Discharge of Food Waste	To control the discharge of food waste.	To discern quantity of food waste produced, and discuss the system to control the discharge.	Nishi-Chiba	<ul style="list-style-type: none"> To grasp the quantity of food waste produced through entries on record list. Implementation of a small portion menu in the cafeteria (Co-op/Restaurant Koruza). 	○	
				Matsudo/Kashiwanoha		<ul style="list-style-type: none"> To grasp the amount of food waste produced. Study of ways to reduce the quantity of food waste produced. 	○
				Inohana		<ul style="list-style-type: none"> Measure the quantity of food waste produced and introduce Smorgasbord-style dining. 	○

No.	Environmental Policy	Environmental Aspect	Environmental Objectives	Environmental Targets for 2007	Area	Main Activities	Level of Achievement
13		Discharge of Waste Oil	To control the amount of waste oil produced and to guarantee appropriate disposal.	To implement and operate a system to control the amount of waste oil produced and to guarantee appropriate disposal.	Nishi-Chiba	<ul style="list-style-type: none"> •Store request slips to the supplier and grasp the number of requests and the quantity requested. •E-plates, minus ion equipment that controls the degradation of oil, was used (School Welfare Association). 	○
				To get a grasp on the present disposal system and to discuss methods to improve the system.	Matsudo /Kashiwanoha	<ul style="list-style-type: none"> •Grasp the amount of waste oil produced and the disposal method, and study methods of improvement. 	○
				To implement and operate a system to control the amount of waste oil produced and to guarantee appropriate disposal.	Inohana	<ul style="list-style-type: none"> •Introduction of e-plates. 	○
14		Sale of Environment-friendly Products by Campus Businesses	To spread Green Purchase products.	To improve the range of products which conform with the Green Purchase standard and to encourage active selection of such products through the provision of information.	Nishi-Chiba	<ul style="list-style-type: none"> •Special marks on the price cards indicating Green Purchase products (Co-op). •Educational campaigns implemented through discounts on Green Purchase products (Co-op). 	○
				To improve the range of products which conform with the Green Purchase standard and to provide information regarding such products.	Matsudo /Kashiwanoha	<ul style="list-style-type: none"> •Special marks on the price cards indicating Green Purchase products (Co-op). 	○
				To promote Green Purchase initiatives.	Inohana	<ul style="list-style-type: none"> •Clearly specify Green Purchase marked products. 	○
15		Promote Reduction and Recycling of Product Packaging Waste from Yard Enterprises	To promote the reduction and recycling of product packaging waste.	To promote the reduction and recycling of product packaging waste.	Nishi-Chiba	<ul style="list-style-type: none"> •Use of "Re-Re-Packs" continued (Co-op). •Charge system for plastic shopping bags continued(Co-op). •Collection of watch batteries and ink cartridges continued (Co-op /Yamato shop). 	○
				To promote concrete measures for the reduction and recycling of product packaging waste.	Matsudo /Kashiwanoha	<ul style="list-style-type: none"> •Re-Re-Packs used. •Charge system for plastic shopping bags introduced. •Collection of watch batteries and ink cartridges continued. 	○
				To promote the reduction and recycling of product packaging waste.	Inohana	<ul style="list-style-type: none"> •Re-Re-Packs used. •Charge system for plastic shopping bags introduced. •Collection of watch batteries and ink cartridges continued. 	○
16		Appropriate Management of the Campus' Natural Environment	To promote the composting of fallen leaves and branches.	To continue the trial project of composting fallen leaves and branches.	Nishi-Chiba	<ul style="list-style-type: none"> •Production of "Keyaki-no-Ko" brand compost using fallen leaves from the campus. 1,728kg of that compost was distributed to local area. 	○
				To get a grasp on the state of the disposal of fallen leaves and branches, and continue the trial composting and recycling project.	Matsudo /Kashiwanoha	<ul style="list-style-type: none"> •Obtained a license for the manufacturing and sale of composted fallen leaves. •Continued operation of the composting pit. 	○
				To discuss the expansion of the pre-planned managed green area on the Nishi-Chiba campus and to set aside a unique preservation area at Chiba University.	Nishi-Chiba	<ul style="list-style-type: none"> •Implementation of environmental maintenance and enhancement activities. •Study of the preservation area. •Creation and management of flower garden. 	○
				In addition to the management of trees in practical training, discuss and execute an appropriate tree management system.	Matsudo /Kashiwanoha	<ul style="list-style-type: none"> •Examine the state of tree management, and pigeonhole problems for the realization of an effective and practical management system. 	○
				To enhance, clean, and maintain an appropriate campus environment.	Inohana	<ul style="list-style-type: none"> •Implementation of environmental maintenance and enhancement activities. 	○
				To regularly enhance and clean the campus.	Inohana	<ul style="list-style-type: none"> •Implementation of environmental maintenance and enhancement activities. 	○

No.	Environmental Policy Aspect	Environmental Objectives	Environmental Targets for 2007	Area	Main Activities	Level of Achievement	
17	Creation of a Green Campus with a Low Environmental Burden	Existence of Abandoned Bicycles	To reduce abandoned bicycles and create an effective bicycle management system.	Along with the removal of abandoned bicycles, in order to reduce illegal bicycle parking on campus and in the surrounding areas, investigate the nature of on-campus bicycles and traffic.	Nishi-Chiba	<ul style="list-style-type: none"> Continuation of the parking sticker system and removal of 1044 abandoned bicycles. Implementation of an educational event on parking manners and the collection of bicycles from graduating students (35 bicycles collected). 	○
					Matsudo/Kashiwanoha	<ul style="list-style-type: none"> Circulation of QR code parking stickers for to manage bicycles and motorcycles and clarification of bicycle parking spaces. 	○
18	Smoking	To prevent passive smoking by maintaining separate smoking and non-smoking areas and by having facility users thoroughly informed about these separate environments.	Along with reflecting the opinion of facility users, try to thoroughly inform everyone of the policy against smoking on campus.	Nishi-Chiba	<ul style="list-style-type: none"> Continuation of the no-smoking policy in all indoor areas. Promoted decreasing the number of smoking areas. Prevent smoking while walking through the use of educational posters. 	○	
			To observe the "Smoking Policy Guidelines at Chiba University".	Matsudo/Kashiwanoha	<ul style="list-style-type: none"> Smoking areas reduced to 6 places through the removal of smoking areas near doors. 	○	
			Try to thoroughly inform everyone of the policy against smoking on campus, and to maintain a separate smoking environment.	Inohana	<ul style="list-style-type: none"> Displayed posters on separate smoking areas and implemented a questionnaire about the state of separate smoking areas. 	○	
19	Implementation and Operation of Environmental Management Systems	Student-lead Environment Management Systems	To maintain and develop Students Committee for Environmental Management System.	To increase the number of Members/Sub Members of the Students Committee for Environmental Management System and promote internal communication.	Nishi-Chiba	<ul style="list-style-type: none"> Call for participation in Students Committee through the guidance at the beginning of the new academic year and through Basic Training. A total of 183 people from all the campuses participated in 2007 (As of January 2008). 	○
					Matsudo/Kashiwanoha	<ul style="list-style-type: none"> Call for participation in Students Committee through the guidance at the beginning of the new academic year and through Basic Training and increase the number of Members/Sub Members of Students Committee for Environmental Management System. 	○
				To increase the number of Members/Sub Members of the Students Committee for Environmental Management System.	Inohana	<ul style="list-style-type: none"> Call for participation in Students Committee through the guidance at the beginning of the new academic year and through Basic Training. Total increase of 4 people in the Inohana Area Students Committee (2 first-year students/2 third-year students). 	△
20	Promotion of Voluntary Student Activities	To promote voluntary environmental activities by students.	To promote voluntary environmental activities by students through internal and external transmission of information and support of student proposals.	Nishi-Chiba	<ul style="list-style-type: none"> Information dispatched mainly through Students Committee Website. Promotion of voluntary student environmental activities, such as implementation of environmental measures at the university festival. 	○	
				Matsudo/Kashiwanoha		○	
			To recognize multiple voluntary environmental activities proposed by the students and to support them through publicizing these activities inside and outside the university.	Inohana	<ul style="list-style-type: none"> Waste station established and waste classification promoted at the Inohana festival. 	○	
21	Operation of Environmental Management System Open to the Local Community	Proactive Participation of the Local Community	To have the local community proactively participate in the operation of Environmental Management Systems.	Nishi-Chiba	<ul style="list-style-type: none"> Area council chairman participated in the Nishi Chiba Area Executive Committee for Environmental Management System. 	○	
			To have the local community proactively.	Matsudo/Kashiwanoha	<ul style="list-style-type: none"> Ran events and provided entertainment at the Tojo Festival. Carried out active exchange with the local community (Green Project, Course about insects, etc.). 	○	
			To have the local community proactively participate in the operation of Environmental Management Systems.	Inohana	<ul style="list-style-type: none"> Chiba City employees participated in the Inohana Area Executive Committee for Environmental Management System. 	○	
22	Disclosure of Information to the Local Community	To make information available to the local community.	To make announcements to the local community concerning Chiba University's environmental initiatives.	Nishi-Chiba	<ul style="list-style-type: none"> Environmental reports officially published. "Environmental News" continually published on a bi-annual basis and distributed to families in the district through the attached kindergarten, elementary, and junior high schools. 	○	
			To make announcements to the local community concerning environmental initiatives of the Matsudo/Kashiwanoha Students Committee for EMS.	Matsudo/Kashiwanoha	<ul style="list-style-type: none"> Made information available to the local community by publishing it on a website. Trial operation of Web-GIS. 	△	
			To make announcements to the local community concerning Chiba University's environmental initiatives.	Inohana	<ul style="list-style-type: none"> Environmental Report officially published. Inohana area information added to the website of Secretariat for EMS. 	○	
23	Local Community	To propagate Environmental Management System at Chiba University and pursue active exchange with the local community.	To actively participate in local community events, etc.	Nishi-Chiba	<ul style="list-style-type: none"> Various symposiums held at Chiba University. Activities by Students Committee for EMS, such as the Development Project for "Returnable Bottles", and the Hattokenshi 3R Students Summit Project. 	○	

Mass Balance

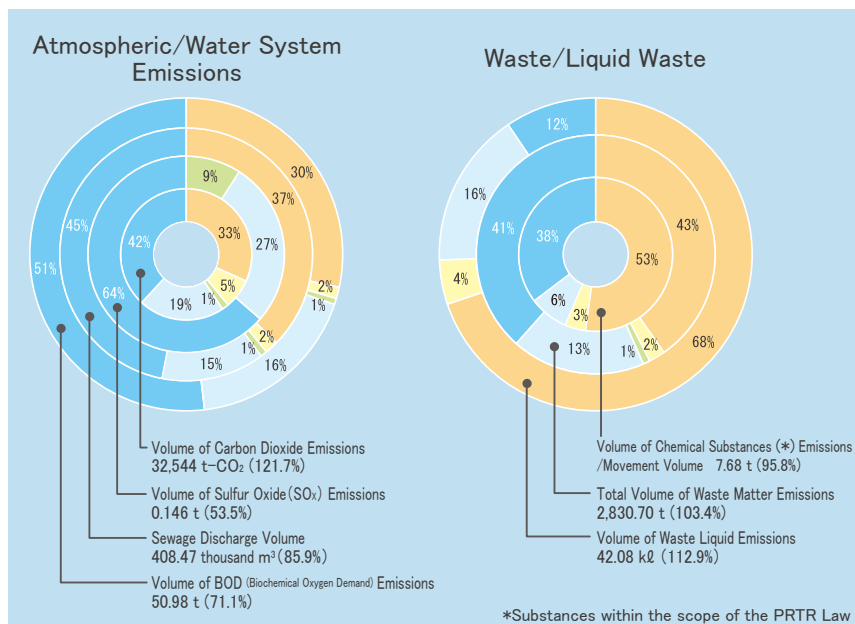
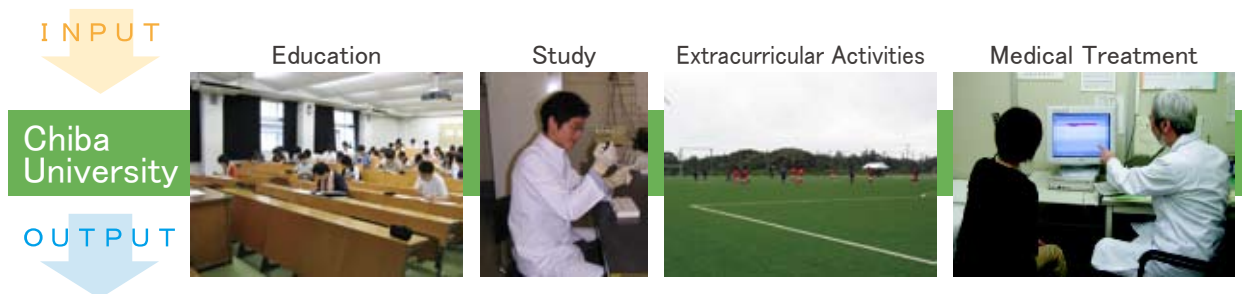
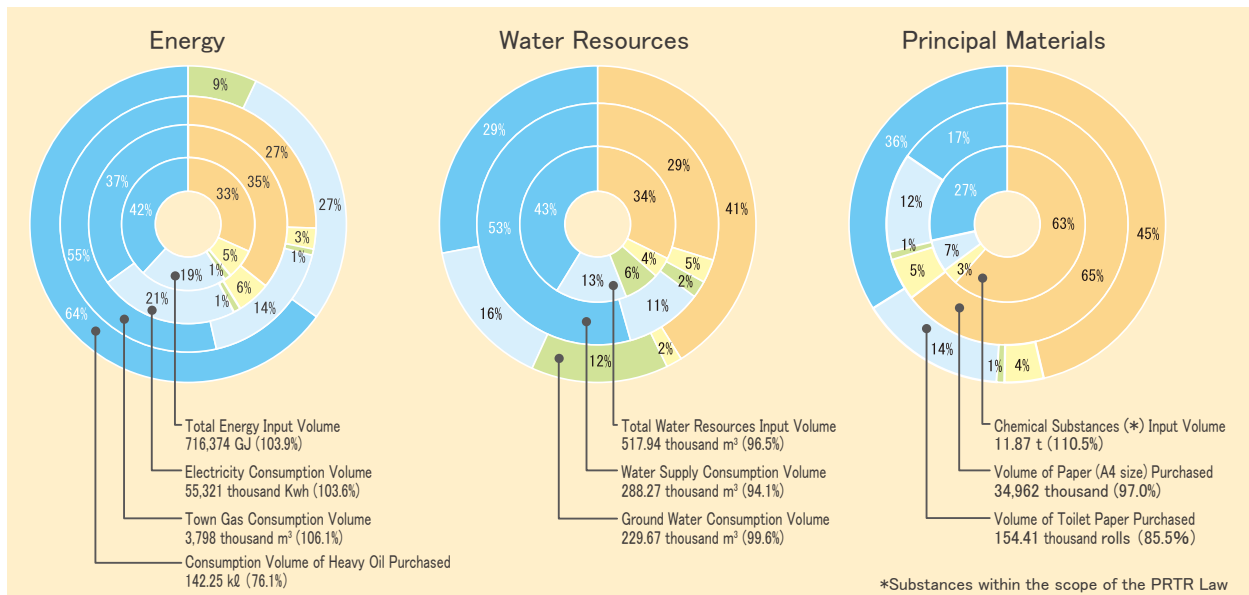
Use of all types of energy such as electricity used in education and research, the consumption of resources, such as paper, and the emission of waste and carbon dioxide that results from this consumption, are prevalent in the environmental impact caused by the execution of educational and research activities. Chiba University is making an effort to appropriately manage such an impact on the environment and is actively tackling reduction in these fields.

The mass balance for 2007 has been reduced from that of the previous year in many categories as shown below. The 3.9% increase in Total Energy Input Volume has been acknowledged as an issue. For detailed data, please see the original version.

Mass Balance at Chiba University (2007)

〈 The figures in parentheses are from the previous year. 〈
The pie graph represents the rate of each area. 〉

■ Nishi-Chiba ■ Matsudo ■ Kashiwanoha ■ Inohana ■ University Hospital



[Method for Totalling Data]

● Time Period

1st April, 2007 – 31st March, 2008

● Total Coverage

Chiba University
Nishi-Chiba, Matsudo, Kashiwanoha, and Inohana Areas

● Reference Guidelines

Ministry of the Environment – “Environmental Report Guidelines 2007 Edition”
Ministry of the Environment – “Environmental Accounting Guidelines 2005 Edition”

● Calculation Method

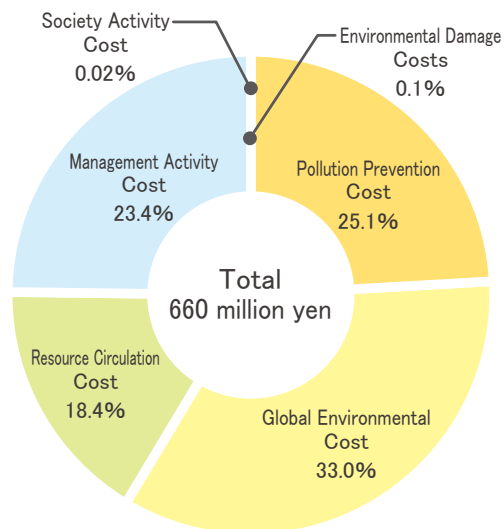
Mass Balance is calculated based on the “Environmental Report Guidelines 2007 Edition”. However, the emission of CO₂ that results from electricity is calculated, using the emission factor from the Tokyo Electricity Power Company.
(2004: 0.381kg/kwh, 2005: 0.368kg/kwh, 2006: 0.339kg/kwh, 2007: 0.425kg/kwh)
BOD is calculated in reference to the annual average for each area.

Environmental Accounting

In 2007, the cost for environmental measures at Chiba University was approximately 660 million yen (Amount Invested: 310 million yen/Costs: 350 million yen). Further, economic results incurred by environment conservation measures were approximately 31 million yen because lighting and heating expenses increased.

[Method for Totaling Data]

- Time Period
1st April, 2007 – 31st March, 2008
- Total Coverage
Chiba University
Nishi-Chiba, Matsudo, Kashiwanoha, and Inohana Areas
- Reference Guidelines
Ministry of the Environment – “Environmental Accounting Guidelines 2005 Edition”
- Calculation Method
(1) Environmental Conservation Costs (Constitution ratio)
 - The costs for input/output, and research and development were not calculated.
 - The cost did not include depreciation.
 - Lighting and heating expenses for Environmental Conservation Measures were not calculated.
- (2) Economic Results incurred by Environmental Conservation Measures (Constitution ratio)
 - According to the calculation method for mass balance data.
- (3) Cost of environmental conservation in business activities and the effects obtained through these activities.
 - Measured as effectively as possible based on reliable evidence (monetary denomination and amount of material resources).
- Points of medication from the “2007 Edition”
 - Calculated and classified by the amount of investment and cost.
 - Personnel cost was calculated following the Environment Conservation Measures.



Environment Conservation Costs (Constitution Ratio)

Glossary

Terms	Explanation
Chiba University Students Committee for Environmental Management System	A student organization formed by students who take a class on the Environmental Management System and/or have the intention to get involved in EMS activities at Chiba University.
Planning Committee for Environmental Management System	A decision-making committee related to EMS at Chiba University.
Secretariat for Environmental Management System	An organization run by the Department of Facilities and Environment. It establishes, carries out, and maintains EMS to satisfy ISO14001 requirements.
Executive Committee for Environmental Management System	EMS committees are located on each Chiba University campus. A committee is organized by representatives from each department and aims to exchange information with each department.
Environmental Aspect	Element of an organization's activities, products, or services that can interact with the environment.
Environmental News	Chiba University Students Committee for Environmental Management System issues a letter for attached kindergarten, elementary school, and junior high school students and their parents to promote cooperation among the schools and the community, and to activate information sharing at the Nishi-Chiba campus as a whole.
Environmental Management Systems (EMS)	Part of an organization's management system used to develop and implement its environmental policy and manage its environmental aspects. A management system is a set of interrelated elements used to establish policies and objectives, and to achieve those objectives. This also includes organisational structure, planning activities, responsibilities, practices procedures, processes, and resources.
Basic Training	A training that is held for all members and sub-members, implemented by the Students Committee members and University staff. It aims to improve the knowledge of Environmental Management Systems at Chiba University.
Grease Traps	Devices that intercept grease and solid wastes. Law demands that grease traps be set in food service kitchens at Chiba University. These devices intercept grease and solid wastes in wastewater and store the waste temporarily, preventing it from directly entering the sanitation system.
Chemiless Town Project	A research project to create a comfortable living environment that excludes germs, including sick house syndrome, etc. It is run by the Center for Environment, Health, and Field Science at Chiba University.
Yard Enterprises	Companies that run business on the Chiba University campus, such as the University COOP and Welfare Association.
Internal Audit	A regular evaluation of the operational status of the Environmental Management System. It is implemented systematically, empirically, and objectively by an internal organization with auditing criteria.
Collection of Mixed Paper	A method for the classification of waste paper. Chiba University classifies and collects clean package waste separately as Mixed Used Paper.
CUCURIS	A chemical management system implemented at Chiba University. A barcode is used to control input and output. This system was originally developed as a Chemical Registration Information System by the Shimadzu System Development Corporation.
ISO14001	An international standard about Environmental Management Systems established by the International Organization for Standardization.

Basic Requirements

The “Chiba University Environmental Report 2008 Digest Edition” is created in reference to the “Chiba University Environmental Report 2008 Edition”

Coverage: Business activities and education and research activities at Chiba University' s Nishi-Chiba, Matsudo, Kashiwanoha and Inohana campuses and in-campus business activities conducted by businesses commissioned by the university.

Time Period: 1st April, 2007– 31st March, 2008

Including past achievement: (Description provided when the report exceeds the time period).

Created by: Chiba University Department of Facilities and Environment (Secretariat for Environmental Management System)

Issue Date: July 2008

This Digest Edition report is based on a draft created by Chiba University Students Committee for Environmental Management System and is published by Chiba University.

Inquiry



National University Corporation
Chiba University



Logo of Kankyo ISO at Chiba University Logo of Students Committee for EMS

Chiba University Department of Facilities and Environment (Secretariat for Environmental Management System)
1-33 Yayoi-cho, Inage-ku, Chiba-shi, Chiba Prefecture, 263-8522, Japan
TEL : 043-290-2139
FAX : 043-290-2144
E-mail : kankyo-iso@office.chiba-u.jp
URL : <http://kankyo-iso.chiba-u.jp/>



“The Chiba University Environmental Report 2008 Edition” and “The Chiba University Environmental Report 2008 Digest Edition” are open to the public on the Chiba University Website. Please enter through the item labeled “環境への取り組み” at the top of the page.