



# Environmental Report 2013

Abridged Edition

Kobe University 

## Message from the President

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The world we now live in is confronted with various challenges. Environmental issues caused by global warming, and the intensification of international competition over access to resources, energy and food place the international economy and politics on an unstable footing. These issues cannot be solved by a single nation; rather, each country must work together for global solutions to tackle these environmental issues.

In this regard Kobe University is committed to fostering global competencies among its students through interdisciplinary research and education in order to equip them with the skills necessary to play an active role on the international stage.

### ● World-Class Research

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Cutting-edge environmental research is underway at the Integrated Research Center (established in 2011) on Port Island. One of the highest profile projects is the Integrated Bio-refinery Research Project which produces bio-fuels, bio-plastics, and bio-refined chemicals from biomass resources. Another notable piece of research is the Research Project for Membrane and Film Technology. This project aims to solve water shortages and pollution through purification treatment using sludge separation films. It also aims to achieve energy-efficient carbon dioxide capture and storage (CCS\*<sup>1</sup>) through CO<sub>2</sub> treatment with carbon dioxide separation films.

The research on membrane and film technology in particular is at the leading edge of world research and is expected to contribute to the treatment of the radioactive materials that pose a huge threat to humans and the environment after the Fukushima nuclear accident caused by the Great East Japan Earthquake. A facility to research membrane and film technology is under construction to further accelerate research in this area.

Kobe University is committed to undertaking world-leading research. In this respect the University pledges to undertake the development of technology and systems that improve the global environment.

### ● Global Education

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In order for us to tackle global environmental issues, it is necessary not only to possess an in-depth knowledge of the scientific issues, also required is an understanding of the various human perspectives involved. Kobe University offers a number of learning opportunities such as the global education program in collaboration with several graduate schools as well as outbound programs for Japanese students with our partner universities overseas. Through these educational programs including the environmental courses such as Introduction to Environment\*<sup>2</sup> or ESD\*<sup>3</sup>, we furnish our students with the educational resources to acquire a first-class knowledge on important issues, all the while keeping relevant environmental matters to the fore.

### ● Power of Individual Members

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The students who attended the second Environmental Report Workshop, one of the initiatives of the Environmental Report Working Group, went on to form the Kobe University Students Environmental Research Team. This team is officially recognized by the Environment and Facility Management Committee which is responsible for the University's environmental management. The team joined the Working Group this year and we now have an institutional system under which faculty members, staff members



and students work together on environmental conservation activities. In order to solve environmental problems and promote environmental conservation activities, involvement of all university members is essential. The University will consider providing incentives and support to those who actively engage in conservation activities through their research, education, or in other ways during their university lives. We expect our students in particular to play an active role both on and off campus in working to secure a better environment for the global society.

FUKUDA Hideki  
President, Kobe University

- \*<sup>1</sup> CCS (Carbon dioxide Capture and Storage) is a technology that separates, collects, and stores greenhouse gases (mainly CO<sub>2</sub>) that are generated from thermal power plants (mainly coal-fired thermal power plants) or factories before they are released to the atmosphere.
- \*<sup>2</sup> The course Introduction to Environment is offered to all students at Kobe University by the Center for Environmental Management in the hope of sparking their interest in environmental studies through studying issues in-depth.
- \*<sup>3</sup> ESD (Education for Sustainable Development) is an educational program jointly held by the seven faculties and schools (Faculty of Human Development, Faculty of Letters, Faculty of Economics, Faculty of Agriculture, Faculty of Intercultural Studies, Faculty of Engineering, and School of Medicine) under the banner of education for sustainable development including environmental issues.

# Kobe University Charter on the Environment

## Environmental Philosophy

As a world-class research and educational institution, Kobe University pledges, through all of the University's activities, to preserve the global environment and to create a sustainable society; the two most important challenges the world faces today.

Sandwiched by the Pacific Ocean and the Rokko Mountains, Kobe University enjoys a rare natural diversity in its surroundings which it uses to increase the number of ecologically-minded students and to disseminate knowledge gained from academic research throughout the world. Kobe University pledges to pave a path toward a sustainable global society which must be a common goal of humanity, through these efforts and by setting an example in the preservation and conservation of the environment.

## Environmental Principles

1. To foster and support ecologically-minded students.
2. To promote research on sustainability of the global environment.
3. To promote environmental preservation and conservation activities that set an example for others to follow.

Enacted on September 26, 2006

## Third-Party Review

As one of Japan's leading universities, Kobe University has created the Environmental Report 2013 which clearly details the University's contribution to the environment through their advanced interdisciplinary research and environmental education. The University's efforts are highly rated because it offers students a number of environmental education programs, specifically Introduction to Environment and ESD which allow them to acquire an extensive knowledge on environmental issues, particularly those with a global reach. In addition, through the Environmental Report Workshop and the formation of the Kobe University Students' Environmental Research Team, the University is making efforts instill in students the ability to play an active role in the global society. One of the unique activities performed by the University is the manner in which it proactively obtains opinions from students which are then reflected in any environmental preservation activities and future Reports. Moving forward, the University is expected to use the Report to promulgate the manner in which environmental management is implemented, as well as to delineate environmental targets and plans and, in subsequent editions, its success in these respects to stakeholders on and off campus.

The following are my comments on the preparation of the Environmental Report for future reference.

1. Various environment-related laws have been applied to the universities in Japan. I suggest that the Report includes information on environmental laws that are relevant to Kobe University regarding energy, water, atmosphere and waste. It is also advisable to state each division's responsibility and the status of compliance with such regulations. This will make it easier for readers to understand the significance of environmental performance, leading them to take more proactive stance with respect to improving the environment.
2. In the section on environmental performance the Report states that "during the second term of the Mid-term Plan, Kobe University aims to reduce CO<sub>2</sub> emissions by 15%, setting FY2004 as the base for measurement". However, how the goal was formed is not stated. It is recommended that the Report includes the mandatory reduction set by such laws as the Energy Saving Act and a concrete plan for achieving any goals set. As Kobe University actively engages in the reduction of greenhouse gases through its innovative technology, it is expected to provide an advanced and concrete plan for energy management to achieve this goal. For other items such as waste management, more concrete efforts, e.g., goal setting, are expected.

3. It is advisable to create a new section for the Achievement with Respect to Environmental Goals and Plan, in which the University's numerical targets, e.g., energy consumption, to be listed, so that progress can be understood quantitatively.
4. In the Environmental Education, Research and Topics section, some research projects are introduced. I understand that many more environmental research projects are underway at Kobe University. The listing of all those research projects on the Report would facilitate the dissemination of the University's research activities to society.
5. Communication in- and outside of the University also plays an integral part in disseminating progress. I suggest that the Report include activities with external stakeholders such as local residents regarding environmental issues.

Professor YAMADA Etsu

Center for Environmental Science  
Kyoto Institute of Technology



Professor Yamada has been a professor at the Center for Environmental Science at the Kyoto Institute of Technology since 2006. She received her B.A. from the Division of Chemistry, Faculty of Science at Kyoto University and was awarded Doctor of Science from the Graduate School of Science at Kyoto University. In 1993, she started working at Kyoto Institute of Technology as a lecturer and in 1998 she became Associate Professor. Since 1993, she has also served as a Deputy Director for the Center for Environmental Science at the Kyoto Institute of Technology. She is President for the Academic Consociation of Environmental Safety and Waste Management, member of the Kyoto Environment Council, and member of the Environment Committees in Kyoto Pref., Kyoto City, and Hyogo Pref. She specializes in research on the resolution of causes for increased persistent organic material in closed water zones, such as Lake Biwa, the dynamic analysis of cross-border pollution by air pollutants, and the analysis and treatment of difficult-to-dispose-of waste.

# Environmental Agenda: A Dialogue Between 3 Students and the President

Three students from the Kobe University Students' Environmental Research Team, **IMAHASHI Ryo**, **OHIRA Kenji**, and **FUKUDA Yusuke**, conducted an interview with Kobe University President, **FUKUDA Hideki**, on August 5, 2013 in order to learn about the various ways Kobe University is engaged in environmental conservation activities.



Interview scene (from left: Fukuda, Ohira, Imahashi, President Fukuda)

## Imahashi

Today, we are here to learn about the various environmental conservation activities Kobe University engages in, as well as the President's message to the students, who compose the majority of the University's members.

## Ohira

There are three basic policies in the Kobe University Charter on the Environment: education, research, and conservation activities. Could you please give us specific details on each aspect?

## President

Environmental education covers a wide variety of topics. Kobe University, having 11 faculties and 14 graduate schools from arts to sciences, is able to offer an education that provides students with a fundamental knowledge of the global environmental agenda whether their major be in the humanities or sciences. The University also focuses on interdisciplinary environmental research.

As mentioned in the Environmental Report 2013, the Introduction to Environment or ESD courses provide fundamental knowledge on the environment to students across all faculties.

As you all know, Kobe University established the Integrated Research Center in 2011 on Kobe Port Island. The center is pursuing interdisciplinary research projects and promoting new research projects that integrate different academic fields including the humanities and sciences.

Some examples of environmental conservation activities pursued by Kobe University include standardizing the sorted trash bins across all campuses and replacing energy-inefficient equipment. In the meantime, we need more active participation from each member of the University to further accelerate environmental conservation activities.

## Fukuda

The University has set a goal to reduce CO<sub>2</sub> emissions by 15% compared to FY2004. Could you provide us with some specific policies designed to help achieve this target?

## President

Efforts have been made to reduce energy usage and CO<sub>2</sub> emissions through upgrading facilities to energy-efficient ones in a systematic manner. However, due to the Great East Japan Earthquake and the subsequent accident at the Fukushima Nuclear Power Plant, the electric power companies have seen a drastic change in the operational status of their nuclear power plants, and the CO<sub>2</sub> conversion coefficient of electricity has changed as well. As a result, we are actually in a difficult situation with respect to meeting this target.

CO<sub>2</sub> emission will increase if Japan stops using nuclear power and instead relies more on fossil fuels such as thermal power for its electricity. While solar and wind power generators are eventually expected to replace nuclear and thermal power plants, their capacity to produce electricity is not yet sufficient to meet current demand.

It is still absolutely necessary for us to secure ample cleaner energy for the continuous technological development and so scientists have an important responsibility to develop new technologies that do not produce CO<sub>2</sub> or that can capture and store any CO<sub>2</sub> emissions.

Kobe University will continue our initiative for energy saving through the adoption of energy-efficient equipment in our facilities as well as awareness-raising activities. At the same time we will persist in our efforts to develop new scientific technologies that can have significant impact in the future.

## Imahashi

On May 24, 2013, Kobe University concluded a partnership agreement with the City of Kobe, one of the model environmental cities in Japan. With the partnership, would it be possible for the two parties closely collaborate in solving environmental problems?

## President

Kobe University and the City of Kobe entered the partnership agreement after discussing various topics such as regional development, science and technology, and disaster prevention. One of the projects is the membrane and film technology used for water treatment. The technology enables us to produce high-quality water as well as saving energy, space, and costs involved in sewage treatment.

The membrane technology at Kobe University, which is at the cutting-edge of global research, is garnering worldwide attention due to its potential for reversing global warming through the treatment of CO<sub>2</sub> or radioactive contamination created in nuclear accidents.

The University is committed to further promoting technology or system development that can solve environmental issues around the globe.

## Ohira

We students account for the vast majority of university members. Is there any ongoing effort to motivate students to actively get themselves involved in conservation activities? In addition, what kind of role can students play in such conservation activities?

## President

In recent years, the University has been making efforts to gain the attention of students with respect to environmental issues. For instance, the Environmental Reporting Working Group has held meetings to go through the Environmental Report, which provides students with a good opportunity to participate in discussions on the environment.

Last year, the students who attended the meeting conducted an interview with me, and they also formed the Kobe University Students' Environmental Research Team which you have also joined. The team now plays a role in the related working group as an official member of the Environment and Facility Management Committee.

Essentially, what I would like students to do is to investigate the related educational programs, research projects, and efforts that are being implemented on and off campus, and provide feedback to the University about what they learned through their experiences. Students can also propose environmental conservation activities. Through such interaction, I believe students will be able to gain the ability to more readily identify problem areas with respect to the environment. I view students' voluntary work in this area as a key part of their educational program.

## Fukuda

In order to provide incentives to students and also stimulate their interest in environmental issues, what do you think about providing more courses on the environment or implementing a certification program?

## President

If we were to offer more courses on the environment, it would be as a part of general education, not as a specialized area. If we were to adopt certification program, the curriculum would require modification. We need to first closely examine its effectiveness in other universities which have already adopted such a system.

## Imahashi

We also would like to propose having a presentation competition based on the environment and conservation activities. We believe that it will help students gain the ability to identify problems, which you have already identified as a key skill. Moreover, if the University can help facilitate the implementation of certain proposals contained within the presentations then students will become conscious that they themselves can improve the environment.

## President

I think that is a very promising idea. Students may think of new ideas which can be put into action quickly in their familiar surroundings. In order for students to increase their awareness, students should take the initiative with respect to holding the competition and encourage as many students

as possible to participate. Of course, you will have the full support of the University.

## Ohira

I think promulgation of students' efforts may work as a way of providing incentives to students. For example, the Environment Caravan Team randomly checks once a year if air conditioners are set at an appropriate temperature and if lights are turned off in classrooms. We can make the results of those surveys more visible by converting them into scores. In addition, the faculty that achieves the highest score will receive awards, for instance a free copy machine.

## President

It might be a good idea although the survey requires quite a long time and significant efforts if it is to cover all of the campuses. The details about how the survey results are to be announced also require further discussion. The idea could be presented at the presentation competition that you proposed earlier.

## Imahashi

Finally, do you have a message for the students of Kobe University?

## President

Environmental issues cannot be solved solely by work in a single academic field; it requires a well-balanced knowledge of liberal arts and science. I would like our students to receive an environmental education regardless of their major and to engage in the most-advanced environmental research and projects that integrate humanities and science, as well as other fields. To each student I say: I hope you will become a person who can play a significant role in our society with regard to solving the global environmental challenges that lie ahead.



OHIRA, Kenji  
(Faculty of Business Administration, 3rd year)



FUKUDA, Yusuke  
(Faculty of Business Administration, 3rd year)



IMAHASHI, Ryo  
(Faculty of Business Administration, 3rd year)

# Environmental Education, Research and Topics

## The Third Workshop to Read the Environmental Report

In order to disseminate information about the annually published Environmental Report throughout the campuses, and to have an opportunity to obtain students' opinion and reflect them in future versions of the Environmental Report as well as environmental preservation activities, a third Environmental Report Workshop was held on June 26, 2013 in a meeting room of the Takikawa Memorial Hall.

The meeting was chaired by Professor KOKUBU Katsuhiko at the Graduate School of Business Administration, who is also chairperson of the Environmental Reporting Working Group. Participating in the lively discussion were seven students, one co-op staff member, and 13 faculty members including SHIMAMURA Takeshi, Professor of the Graduate School of Law and Chairperson of the Environmental Management Review Working Group, and SETSUNE Jun-ichiro, Professor of the Graduate School of Science and Director of the Center for Environmental Management.

A summary of discussion is as follows:

- The Environmental Report uploaded to the website is difficult to locate. We might want to consider analyzing the website traffic and then consider where best to upload it next time.
- Efforts should be made to increase students' awareness of the Environmental Report, especially those who do not take courses on the environment or have interest in environmental issues.
- How about generating the Environmental Report with students in mind as the main readership?
- Another university's environmental report included an article contributed by students which was very reader-friendly. Can we include some articles from students in the Kobe University

Environmental Report, too?

- How about revising the design and contents to attract the interest of more students?
- Regarding environmental performance, would it be possible to conduct a piece of comparative research against the national average?
- It is difficult to understand how the emission of CO<sub>2</sub> is affecting our own lives.
- By disseminating the University's concept on the environment to students, more students will become mindful of environmental issues and as a result try to reduce their use of electricity.
- We should make efforts to increase the number of participants to the Environmental Report Workshop.

We want to make every effort to see that those opinions are reflected not only in generating the Environmental Report, but also in environmental conservation activities in general.

(Related website)

<http://www.kobe-u.ac.jp/en/about-kobe-university/introduction/environmental-report/index.htm>



Students speaking their opinions



A snapshot of the meeting

### Details of Actions Taken in Response to Opinions from Last Year's Environmental Report Workshop

Opinion	Action Taken
Some of the text, such as that on the images, is illegible.	We created PDF from the Web data, which made it difficult to read the text on the images. From the Environmental Report 2013, PDF data was created first, followed by the WEB data. Additionally, the text font was resized from 9 to 10 point for easier reading.
The PDF data placed on the website is large, and so took a long time to download. Would it be possible to make it downloadable in sections?	Starting from last year, the size of PDF data was optimized for faster download.
In order to make the energy reduction volume in the Environmental Activity at Kobe University more understandable, how about presenting the figures compared to the case of a typical households?	Since the Report last year, we added the information of the figures corresponding to the number of typical households. (Refer to Environmental Activity at Kobe University—Saving Energy and Preventing Global Warming)
How about creating a portal site to share information on the University's environmental activities and provide a link to the student groups' websites?	The link to Our Actions in Environment and Saving Energy was added on the right side of the top page of the Kobe University Japanese website. Additional links to encourage information sharing are to be discussed.
How about including in the Environmental Report the University's actions taken in response to the feedback received during the Environmental Report Workshop?	From the last year's report, the university's responses to the main opinions were added.
In terms of energy conservation, removing some light bulbs seems more effective and more tangible than some other potential energy-saving policies.	All departments and units themselves examined this suggestion before going on to implement it.
If there were environmental conservation activities that include incentives for students, more students would probably take part.	Further consultation will be made with Kobe University Students' Environmental Research Team.
How about promulgating how the actions taken by students are connected to environmental policies?	Further consultation will be made with Kobe University Students' Environmental Research Team.

# Environmental Performance at Kobe University

## Saving Energy and Preventing Global Warming

### 1. Environmental Goal

During the second term of the Mid-term Plan (fiscal year 2010 to 2015), Kobe University aims to reduce CO<sub>2</sub> emissions by 15%, setting FY2004 as the base for measurement.

### 2. Energy Flow

Our efforts to save energy have concentrated on educational activities that involve faculties, administrative staff members and students, as well as on replacement of outdated equipment with more efficient versions. In addition, for heating boilers in the Kusunoki area, we changed from ones that use fuel oil to city gas, which has lower CO<sub>2</sub> emissions. It was also followed by the change of the cooling and heating boilers in the Fukae area from fuel oil to electricity.

As a result, the usage of electricity, city gas and fuel oil displayed a decreasing trend in FY2012, while the total amount of CO<sub>2</sub> emitted in the same year increased by 13.6% (1,658 CO<sub>2</sub> tons) over FY2011\*.

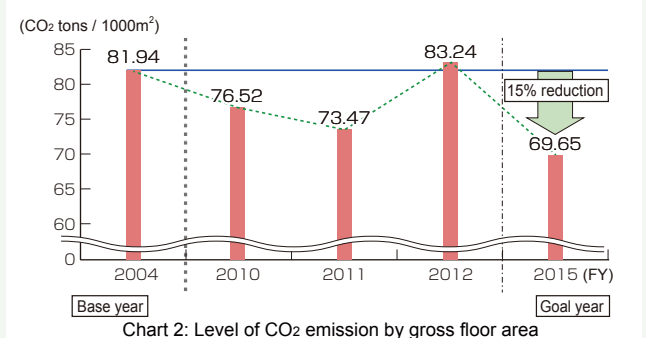
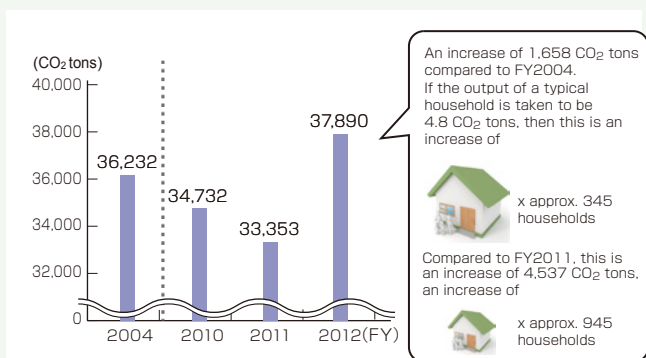
The amount of CO<sub>2</sub> emissions by gross floor area increased by 1.6% (1.3 CO<sub>2</sub> tons/1000m<sup>2</sup>) from the base fiscal year (FY2004).

Kobe University will continue its energy conservation activities, and make efforts to achieve its goal, which is to reduce CO<sub>2</sub> emissions by 15% in basic units during the second term of the Mid-term Plan (FY2010 to FY2015).

\*The increase in the amount of CO<sub>2</sub> emitted reflects the CO<sub>2</sub> conversion coefficient (officially published figure) of the electricity purchased. Especially, the coefficient was changed from 0.281 (CO<sub>2</sub> ton/1000 kWh) to 0.414 (CO<sub>2</sub> ton/1000 kWh) in the Tsurukabuto 2 campus, Kusunoki area, Myodani area and Fukae area as they have contracts with Kansai Electric Power Co., Inc. which relies on nuclear power generation for much of its operation.

Table 1: Level of CO<sub>2</sub> Emission (CO<sub>2</sub> tons)

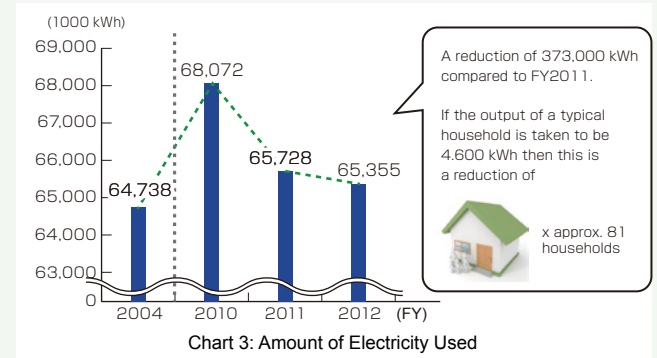
	FY2004	FY2010	FY2011	FY2012
Rokkodai 1 campus	2,029	2,026	1,826	1,765
Rokkodai 2 campus	12,318	12,155	10,857	10,743
Tsurukabuto 1 campus	1,426	1,270	1,169	1,143
Tsurukabuto 2 campus	482	519	517	775
Kusunoki area	18,494	17,220	17,518	21,626
Myodani area	479	521	472	580
Fukae area	1,004	1,021	994	1,258
<b>Total</b>	<b>36,232</b>	<b>34,732</b>	<b>33,353</b>	<b>37,890</b>



### 3. Amount of Electricity Used

The total amount of electricity used in FY2012 was almost at the same level as the previous year (a decrease of 374,000 kWh, representing 0.6% reduction).

All departments will make a concerted effort with their energy-saving activities and awareness-raising programs. Future building renovations will continue to include the introduction of more efficient equipment, with the goal of further reducing energy consumption.

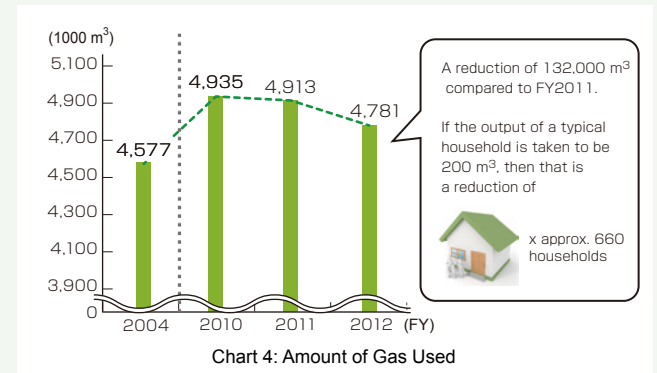


### 4. Amount of City Gas Used

The total amount of gas used in FY2012 decreased from the previous year (a decrease of 132,000 m<sup>3</sup>, representing 2.7% reduction).

The reduction was mainly due to less operational time of the gas generator in the Kusunoki area during the planned electricity cuts at times of peak usage.

All departments will make a concerted effort with their energy-saving activities and awareness-raising programs. Future building renovations will include the introduction of more efficient equipment, working to further reduce energy consumption.

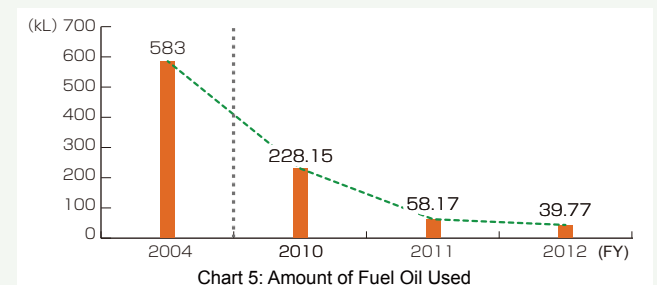


### 5. Amount of Fuel Oil Used

The total amount of fuel oil used in FY2012 decreased by 18.4 kl (31.6%) from the previous year.

This was mainly due to the building renovation in the Fukae area which decreased the operating time of the cooling and heating boilers.

The Rokkodai 1 and Tsurukabuto 1 campuses, and Kusunoki area stopped using the heating boilers, so the level of usage dropped to zero. The Rokkodai 2 campus uses a negligible amount of fuel oil for emergency generators. Fuel oil is not used on the Tsurukabuto 2 campus.



# Conserving Resources and Recycling

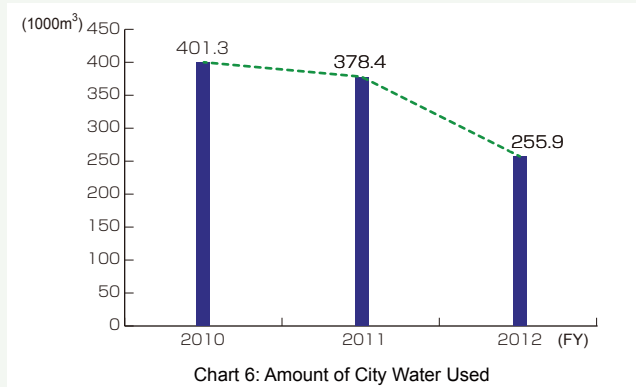
## City Water/General Service Water

### 1. City Water

The total amount of city water used in FY2012 decreased by 122,000 m<sup>3</sup> (32.4%) from the previous year.

This was mainly due to the Kusunoki area using well water from Feb. 2012 which dramatically reduced reliance on city water.

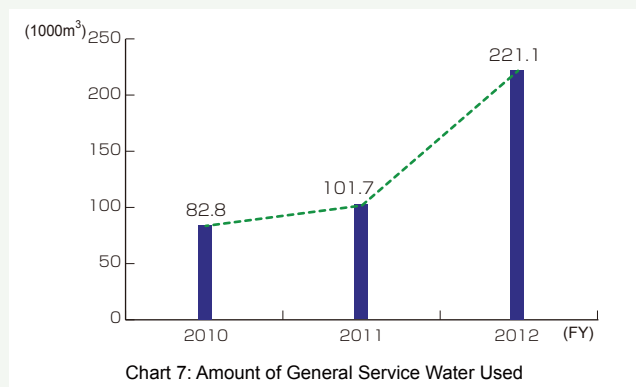
In addition, in the Rokkodai area general service water is being used in order to conserve water resources.



### 2. General Service Water

In the Rokkodai area, water resources have been conserved by using Rokko Mountain river water as general service water for flushing toilets and in laboratories, etc. In addition, Kusunoki area started using well water from Feb. 2012.

The use of general service water increased by 119,000 m<sup>3</sup> (117.3%). Efforts aimed at the efficient use of water resources will continue.



## General waste

Chart 8 shows the amount of general waste produced from FY2009 to FY2012. Volume recycled indicates the volume of waste that was able to be converted back into resources, and the numbers inside the chart itself show the exact values for 2012. Bulk waste slightly decreased from 2009 to 2011, however, it increased by roughly 15% in 2012 due to building renovations and the relocation of laboratories within the University. In addition, the amount of incombustible and combustible waste was almost the same as the previous year, while that of other paper related waste experienced a slight increase. This was mainly due to the increased use of packaging, envelopes, and flyers. Efforts to decrease waste should be made by recycling this material. In 2012 the volume of office waste paper increased, but almost all of the increased amount was successfully recycled. Recycling for all other waste remained in line with the previous year.

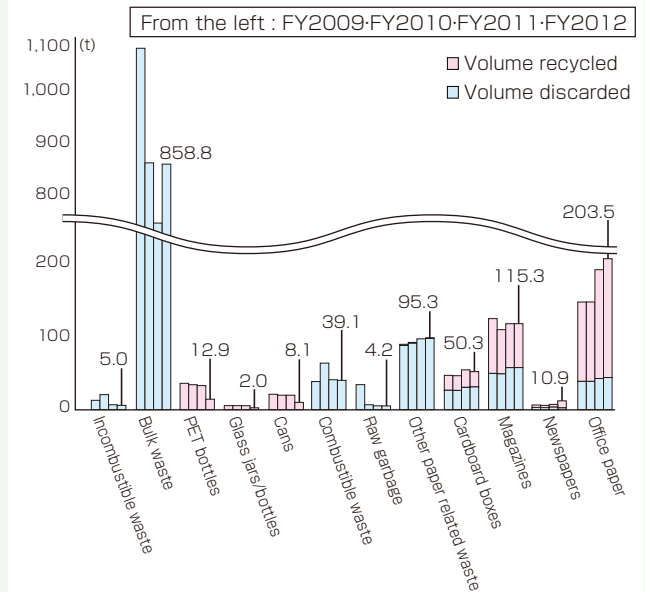


Chart 8: Amount of Solid Waste Produced by Types for FY2009 - FY2012

The total amount of solid waste produced in FY2012 increased by about 8% from that in FY2011. This was mainly due to the increase in the amount of bulk waste produced. The recycling rate decreased by 2% in FY2011, which represented 20% of total waste in FY2012 (See chart 9).

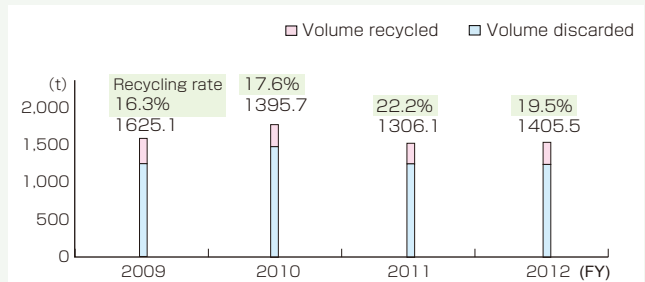


Chart 9: Changes in the Total Amount of Solid Waste Produced from FY2009 Through FY2012

## Trends of Usage in Office Paper

Chart 10 shows trends in the amount of office paper used from FY2010 to FY2012.

The volume of office paper used increased by 16.03 tons (approx. 7.6%) from FY2011.

We need to continue our efforts to reduce office paper usage by making it a common practice to have paperless meetings and lectures, to make copies using both sides of the paper, and to use the blank side of paper that has been used on only one side.

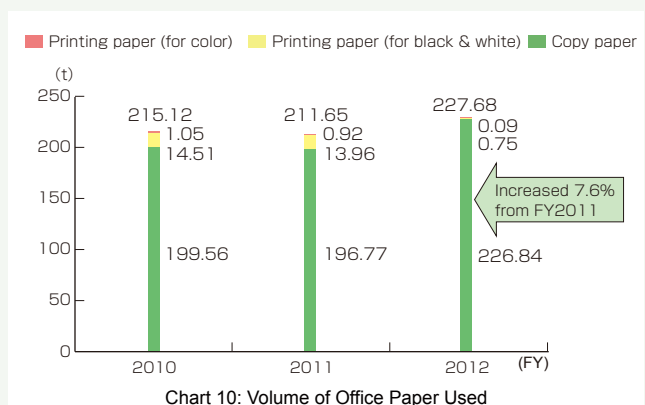


Chart 10: Volume of Office Paper Used



## How this Environmental Report was Compiled

This environmental report summarizes the work accomplished in our environmental activities over the past year (April, 2012 to March, 2013) on the main campuses of our university. It is published under the title Kobe University Environmental Report 2013.

While the intended readers of this report are the members of our university, including students, faculty and administrative staff members, the report also serves as a tool for stimulating discussion regarding the environment both on and off campus. It also details the environmental research, education, and other activities that Kobe University has conducted, and scrutinizes our efforts with respect to strengthening environmental management systems under Environmental Performance.

Prior to publishing the Environmental Report 2013 we held the third Environmental Report Workshop, and the following improvements were reflected in the Report based on the feedback received through the discussion session:

(1) Until last year's report, the PDF was generated from the Web data, and as a result some of the text was difficult to read due to its limited image size. Starting this year, in order to improve the reader experience, the PDF data was generated first, followed by the Web data, and the font size was changed from 9 to 10 points.

(Note) In 2006, the Environmental Report started to be published on the Web. In 2007, a PDF version was also generated based on the Web version for those who require hard copies.

(2) In order to stimulate interest in environmental issues among our student body we asked the Kobe University Students' Environmental Research Team to design the cover page and edit articles contributed by students (these articles are also available in unabridged versions).

Reference Guidelines ●	Environmental Reporting Guidelines, Fiscal Year 2012 Version (Ministry of the Environment, April 2012) Guidelines for items to be mentioned in environmental reports, second edition (Ministry of the Environment, November 2007)
Survey locations ●	Rokkodai Area: Rokkodai 1 campus (main departments: Faculty of Law, Faculty of Economics, School of Business Administration, Graduate School of Law, Graduate School of Economics, Graduate School of Business Administration, Graduate School of International Cooperation Studies, Research Institute for Economics & Business Administration)  Rokkodai 2 campus (main departments: Administrative offices, Faculty of Letters, Faculty of Science, Faculty of Engineering, Faculty of Agriculture, Graduate School of Humanities, Graduate School of Science, Graduate School of Engineering, Graduate School of System Informatics, Graduate School of Agricultural Science, Organization of Advanced Science and Technology)  Tsurukabuto 1 campus (main departments: Faculty of Intercultural Studies, Graduate School of Intercultural Studies, and Institute for Promotion of Higher Education)  Tsurukabuto 2 campus (main departments: Faculty of Human Development, Graduate School of Human Development and Environment)  Kusunoki area (main departments: School of Medicine, Graduate School of Medicine, and University Hospital)  Myodani area (main departments: Faculty of Health Sciences and Graduate School of Health Sciences)  Fukae area (main departments: Faculty of Maritime Sciences and Graduate School of Maritime Sciences)
Fiscal Year of Project ●	FY2012 (April, 2012 through March, 2013)
Date of Issue ●	September 30, 2013
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Departments in Charge of Publication ●	Environment and Facilities Management Committee (Chairperson: SHIMOBAYASHI Masami, Executive Vice President in charge of General Affairs and Facilities) Environmental Management Subcommittee (Head: SHIMOBAYASHI Masami, Executive Vice President in charge of General Affairs and Facilities) Environmental Reporting Working Group (Chairperson: Professor KOKUBU Katsuhiko, Graduate School of Business Administration)
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URL ●	<a href="http://www.kobe-u.ac.jp/report/environmental/2013/">http://www.kobe-u.ac.jp/report/environmental/2013/</a>

### Cover



Kobe University Students Environmental Research Team joined the Environmental Reporting Working Group from 2013, and took responsibility for designing the cover page for the Environmental Report 2013.

In order to raise awareness and interest in the Environmental Report among members of Kobe University, the research team invited Kobe University members, including those in affiliated schools, to submit photographs for the cover page. 10 photographs were submitted.

The selection process took place among the representatives of the University's environmental groups, including Kobe University Students' Environmental Research Team, Environmental Circle ECORO, and NPO GOMI-Japan. After an hour-long discussion, the photograph to the left was selected for the cover page.

In the selection meeting, the best shot was evaluated thus: "Nature and the building are well-balanced. A bright and clear image" and "The growing image of the young tree overlaps with that of the environmental situation at Kobe University."

Kobe University Students' Environmental Research Team is grateful to everyone who kindly submitted photos.



Second Place

NEKOMOTO Minami,  
Faculty of Intercultural Studies, 4th year

HORIE Atsushi, Department of Human Expression, Faculty of Human Development, 3rd year  
Location: An open space in front of Building B of the Faculty of Human Development