Kobe University
Environmental Report 2025

Environmental report 2025

abridged version

KOBE UNIVERSITY

Message from the president

FUJISAWA Masato, president

April 2005: Professor, Graduate School of Medicine, Kobe University
February 2014: Director, Kobe University Hospital
February 2018: Executive assistant to the president, Kobe University
April 2019: Dean, School and Graduate School of Medicine, Kobe University
April 2021: President of Kobe University

Kobe University is located in the port city of Kobe, surrounded by the natural beauty of the Rokko mountain range and the sparkling Seto Inland Sea. It is a leading comprehensive research university founded in 1902, with a long history and tradition. Since its establishment, the university has been committed to its mission of creating knowledge of universal value that sows "harmony between theory and practice" and cultivates leading human resources with a rich sense of humanity through a spirit of "integrity, freedom and cooperation."

Recently, artificial intelligence and the digitalization of education has been rapidly advancing. Use of generative AI in particular is spreading rapidly throughout society, affecting the foundations and systems of all fields, including the state, government, industry and medicine, as well as university education. As a university, we will continue to thoroughly evaluate the advantages and disadvantages of generative AI and consider issues regarding how to ensure its safe use. In view of legal and social issues such as ethics, transparency and information management, we will consider the appropriate use of generative AI and information at the university, and we hope to improve the quality and functionality of education and research while also building trust with our stakeholders.

Furthermore, environmental issues such as global warming and climate change have been attracting worldwide attention for some time now, and in order to solve these issues, research and development of various measures and basic technologies, such as carbon neutrality, as well as the design and implementation of systems, are being carried out at various levels.

Of course, global efforts are necessary to address these environmental issues, but it is also essential that each individual does what they can to act. In order to do that, first we must understand these issues and concepts accurately.

In light of these circumstances, Kobe University established its Carbon Neutral Promotion Headquarters in October 2022. As we move toward carbon neutrality, we will work together as a university to consider what we can and should do, and we will promote initiatives and activities to put this into practice, with all faculty, staff and students coming together.

Finally, as a seat of learning, we will firmly ensure a free educational and research environment, bring together the potential of various universities in basic and applied scientific research to create a new foundation for growth, strengthen our function as a hub for solving regional and societal issues and innovation, and develop into a sustainable, locally rooted research university that we can be proud of on a global scale. We appreciate your continued support and cooperation.

Message from the director of the Center for Environmental Management

UCHINO Takashi, director of the Center for Environmental Management

Affiliation: Director, Kobe University Center for Environmental Management(2024 academic year)
Professor, Department of Chemistry, Graduate School of Science, Kobe University
Specialization: Synthesis and property research of semiconductors, magnetic materials, superconductors and their composites

Environmental and climate issues and global conflicts

As if waiting for the number of COVID-19 infections to decrease, there has been a rise in the number of conflicts and armed clashes around the world. I was a graduate student when the Berlin Wall fell in 1989, and I had vague hopes that this would mean the end of war and conflict around the world and lead to a long period of peace. But those hopes were extinguished by the Sept. 11, 2001 terrorist attacks in the U.S.

Not only were there the subsequent U.S. military actions in Iraq and Afghanistan, but in recent years, there have been hardly any days when we do not hear or see news about the devastation caused by war, such as Russia's invasion of Ukraine, the Gaza-Israel conflict or the civil war in Myanmar. French historian Emmanuel Todd has asserted that "World War 3 has already started."

These global conflicts are the result of a complex mix of historical, religious and economic factors, and identifying and resolving their causes is not easy. However, if conflicts and wars are caused by the fear that one's own country (oneself) is in danger, then perhaps the recent food crises and frequent natural disasters caused by climate change are also indirectly triggering conflicts. There is currently a split of opinion among experts about the correlation between climate change and conflict, but some reports suggest that a 4°C rise in temperature could lead to an increase in conflict with a 10 to 50 percent probability (K. J. Mach, Climate as a risk factor for armed conflict, Nature (2019) 571, 193).

Regardless of whether climate change is a trigger for conflict, it goes without saying that war causes environmental destruction. In addition to the direct damage caused by war to buildings and the natural environment, enormous amounts of energy are expended in the development and manufacture of weapons. Without producing anything, war simply takes lives and destroys things. It leaves behind huge amounts of rubble and waste in its wake, along with indelible emotional pain. I sincerely hope that the steady efforts we are making every day to conserve energy and achieve zero carbon emissions will not be suddenly overturned by a global conflict.

Charter on the environment

Kobe University established a "Charter on the environment" on September 26, 2006 and carries out various environmental conservation activities based on its basic philosophy and policies. The environmental and energy saving efforts of the university are summarized in an annually publicized environmental report.

•Basic philosophy

As a world-class center for research and education, Kobe University endeavors to advance initiatives that address two crucial issues of our time: environmental conservation and the creation of a sustainable society.
This university is committed to building pathways towards the realization of a sustainable society, something that remains a shared goal for humanity. To do this, we are utilizing the local environment enclosed by mountains and oceans to cultivate capable individuals with an environmental awareness. We regularly publicize academic information from the cosmopolitan city of Kobe to the rest of the world and we are leading the way in environmental conservation efforts.

•Basic policies

1. **Cultivation and support of individuals with a strong environmental awareness**
   A university's greatest obligation is the cultivation of people. We continuously revise our educational programs in order to foster the development of individuals who are always conscious of the global environment and the impact of their behavior. By combining knowledge of the humanities, social sciences and natural sciences, and collaborating with global and local society, we strive to cultivate highly compassionate individuals who possess a thorough understanding of the environment.
2. **Promotion of research to preserve and manage the global environment**
   It is necessary to consolidate the results of numerous research studies in order to overcome the various challenges facing the world, conserve the Earth's environment and create sustainable societies. We promote research into environmental problems in individual fields as well as interdisciplinary research that combines related fields and strive to disseminate the results both locally and globally.
   We also support efforts to produce research results that are strongly connected to advancing international society and local communities.
3. **Taking a leading role in the promotion of environmental conservation activities**
   Each individual's behavior is crucial for conserving the Earth's environment. Through our daily activities, we protect the environment, make efficient use of energy and natural resources and rigorously manage dangerous substances, thus setting an example as an environmentally conscious campus. Furthermore, we disclose information about our environmental conservation activities, continuing to make improvements through communication with those involved.

Environment-related education, research and topics

Topics

FULL P.8

Environmental education based on the environmental report

Since 2014, some coursework has been based on environmental reports during classes in the subject "Introduction of Environmentology."

"Introduction of Environmentology"

Global environmental issues have become some of the biggest global challenges of this century. As such, the Environmental Conservation Promotion Center offers Introduction of Environmentology A and B every year as a university-wide course.

Topics

FULL P.9

The activities of the Kobe University environment club "Ecofull"

ONO Takashi, environmental planning coordinator, Office of Safety and Health/Environmental Management

1. On-site lessons at children's centers
2. Eco-bag design
3. Collaborative research activities to promote ethical consumption
4. Poster presentation at the Environmental Conservation Promotion Center's university-wide report meeting
5. Environmental Month (June) poster creation

Topics

FULL P.10

About the flea market organized by the Co-op Student Committee

KUROIWA Shusei, student, Co-op Student Committee, Faculty of Economics

A flea market was held with the goal of providing Kobe University students with an opportunity to get rid of clothes, books and accessories they no longer need, and to buy clothes cheaply, with the philosophy of helping students reaffirm the importance of recycling.

Calling out to potential customers

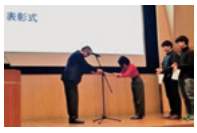
Topics

FULL P.11

Reports of the Carbon Neutral Promotion Headquarters

KITA Takashi, director, Carbon Neutral Promotion Headquarters

The Carbon Neutral Promotion Headquarters held a symposium titled "Let's Try It: Carbon Neutrality Project."
NISHIOKA Hidezo of the Institute for Global Environmental Strategies delivered the keynote speech. A student-led "ideathon" called "Trying Carbon Neutrality at University" was held, and Team TIF was recognized as the outstanding team with its proposal for an "Available Classroom Information App." A panel discussion was held with NISHIOKA Hidezo and AOI Sora of the Kobe City Environment Bureau.



Announcement and Award ceremony for Ideathon Winners

*For more information, see the full Japanese language environmental report 2025 on the Kobe University website. (Page numbers at the top indicate the page number in the full version.)

Environment-related education, research and topics

Education

FULL P.12

Lecture series "Towards a zero-carbon society: Considering the present and future of energy" held in collaboration with Kansai Electric Power

DOI Sachiko, associate professor of practice, Office for Promoting SDGs

The program was held as a series of five sessions with the aim of providing students with an opportunity to gain as comprehensive and systematic an understanding of energy as possible, to grasp the challenges of realizing a zero-carbon society not only from a technical aspects but also by considering the broader social context, and to explore desirable future societal models from the standpoint of energy.

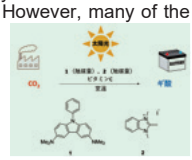
Research

FULL P.13

Development of a new catalytic system that enables the photoreduction of carbon dioxide

MATSUBARA Ryosuke, professor, Graduate School of Science

Currently, the negative impact of human activities far exceeds the capacity of plant photosynthesis. As a result, artificial photosynthesis has attracted attention and is being researched around the world. However, many of the reported cases involve reactions that involve expensive and rare metals as catalyst components, and there are major concerns about the sustainability of operating such a system on a global scale. In recent years, we have developed a CO_2 photoreduction reaction that uses sunlight as an energy source without using any rare metals, such as transition metals.



Research

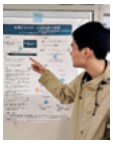
FULL P.14

Research related to environment issues in the Kobe Project

Kobe University Secondary School
13th grade student: FUKUDA Kousei
14th grade student: TANIGUCHI Aya
Teacher: TAKAGI Suguru

At Kobe University Secondary School, students will be working on the Kobe Port Intelligence Project (Kobe Project) during Period for Inquiry-Based Cross-Disciplinary Study. In the "Cooperative Seminar" course, which is made up of around a dozen students from 9th to 12th grade, students deepen their research through discussions with each other.

Presentation by Taniguchi at the Hyogo Geographical Society/December Special Meeting



Research poster by Fukuda

Research

FULL P.15

Measurement of marine carbon dioxide in the Seto Inland Sea and construction of an estimation model using machine learning

HAYASHI Mitsuru, associate professor, Research Center for Inland Seas

In recent years, carbon dioxide research in coastal waters has increased in relation to ocean acidification and blue carbon. Using a dataset of measurements taken over a 15-year period in the Seto Inland Sea, we developed a machine learning model that estimates the partial pressure of carbon dioxide in seawater from water temperature, salinity, pH and dissolved oxygen.

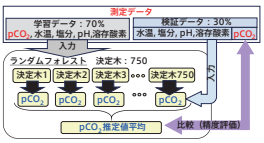


Figure 2: Concept of building a machine learning model

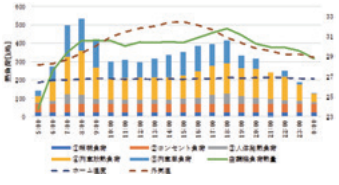
Research

FULL P.16

Research on energy conservation planning for subway stations

TAKEBAYASHI Hideki, associate professor, Graduate School of Engineering

In collaboration with the Kobe City Transportation Bureau, we analyzed the cooling loads of subway stations and considered energy conservation plans. We investigated the main heat loads (factors that require air conditioning) at subway stations: lighting load, outlet load, human body heat load, train heat dissipation load and train wind load.



Hourly heat load on a typical weekday in summer at Sannomiya Station

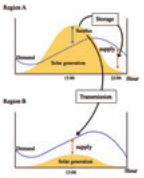
Research

FULL P.17

Research on energy storage and inter-regional transmission to compensate for the intermittency of photovoltaic power generation

YAGI Chihiro, doctoral student, Graduate School of Economics

Large-scale adoption of renewable energy is essential to achieving carbon neutrality by 2050.
Solar power generation in particular is characterized by its intermittent nature, meaning that the amount of power it generates is dependent on the weather, and we need to pay close attention to the impact this has on the electricity market.



Research / other

FULL P.18

Exploring sustainable management methods that contribute to environmental conservation

KAMBAYASHI Norio, professor, Graduate School of Business Administration

Sustainability has become an important keyword that indicates trends in modern society. Research into sustainable management is underway. The United Nations has set goals that we should work together to achieve by 2030, such as Goal 12 "Responsible Consumption and Production" and Goal 13 "Climate Action," which are aimed at contributing to environmental conservation on a global scale, and Goal 2 "Zero Hunger" and Goal 3 "Good Health and Well-Being for All," which are aimed at protecting basic human rights and creating a society where everyone can live comfortably.

Education / research / conservation activities

FULL P.19

Universal science challenge: Using DNA to identify fish species in the Suma Sea with children, regardless of whether they have disabilities or not

SAGA Tatsuya, assistant professor, Graduate School of Human Development and Environment

At Suma Beach, we held a two-day "Environmental DNA experiment class" in collaboration with the Suma Universal Beach Project ("Suma UBP"), a non-profit organization that provides beach activity support for people with disabilities.
[Day 1 of practical training] We welcomed 37 participants who collected environmental water samples at Suma Beach and conducted experiments with others at Suma Hall.
[Day 2 of practical training] 34 participants were introduced to the results of environmental DNA analysis and participated in a practical training session on biodiversity at Kobe University's Tsurukabuto 2nd Campus.

Other

FULL P.20

Chemical substance management at universities

MIZUHATA Minoru, professor, Graduate School of Engineering

Our university, reflecting the chemical substance management requirements resulting from legal revisions, is working to further improve safety guidance for undergraduate students in experiments and health checkups for faculty and staff. We also continue to work every day to create a safer and more secure research environment by organizing and sharing information in a manner that is easy for students to understand.

On creating the environmental report

This environmental report summarizes the results of environment-related activities at this university between April 2024 and March 2025 and is published as the "Kobe University environmental report 2025."
The environmental report is predominately aimed at our students and faculties, with the objective of promoting communication about the environment both within and outside Kobe University. We introduce education, research and projects carried out at the university, in addition to highlighting efforts to promote environmental management, etc. as a way of measuring our environmental performance.

Guidelines used as references

"Environmental report guidelines, 2018 edition"
(Published in June 2018 by the Ministry of the Environment)
"Manual for writing environmental reports: For the environmental report guidelines, 2018 edition"
(Published in March 2019 by the Ministry of the Environment)

*For more information, see the full Japanese language environmental report 2025 on the Kobe University website. (Page numbers at the top indicate the page number in the full version.)

Kobe University environmental performance

Environmental management

■Environmental management policy

Conservation of the global environment and the creation of sustainable societies are the most important issues of our time. In working toward the "Kobe University vision," we will do our utmost, as an institute for education and research which meets the highest international standards, to tackle these issues through all our activities at the university. In March 2022, we established the "Basic policy to encourage environmental management during the fourth mid-term goal period (FY2022 to FY2027)," which was based on the "Kobe University environmental charter" and the "Kobe University basic policy on environmental and facility management." Our environmental conservation activities are based on this policy.

Basic policy to encourage environmental management during the fourth mid-term goal period

I. Promoting the three Rs
By promoting the three Rs (reduce, reuse, and recycle) among all university members, we will take assertive action to reduce waste while simultaneously reducing consumption of resources.

II. Initiatives for rationalization of energy usage
We aim to reduce greenhouse gas emissions by 46% from 2013 levels by 2030, as set by the government, by promoting more efficient use of energy, and we are committed to reducing university-wide greenhouse gas emissions to become carbon neutral by 2050.

III. Implementation and continuation of environmental management cycles
To encourage environmental management, we will continue to develop an ongoing action plan and implement our PDCA cycle.

IV. Strengthen environmental activities during "environment month" (June)
We will conduct environment-related educational activities that focus on energy conservation as we enter the summer season when air conditioning is used more frequently.

■Initiatives for paper waste reduction

The results of an investigation into waste bin garbage and garbage collection sites by a group of environment surveyors found that the amount of recyclable paper mixed in with trash had decreased, and garbage was being sorted appropriately for the most part.
We are continuing our activities to encourage environmental management. Posters on garbage separation and recycling are put up in each department in order to spread awareness on proper separation and disposal of recyclables (cans, glass, PET bottles), combustible and non-combustible waste, recyclable paper, and confidential documents, etc. In addition, we designed standardized stickers for garbage bins. These stickers are attached to separated bins in areas such as hallways to promote the three Rs with regards to paper usage and waste.


Separate garbage bins (indoors)


Garbage investigation (indoors)


Containers for recyclable paper (indoors)


Garbage investigation (outdoors)

Material balance

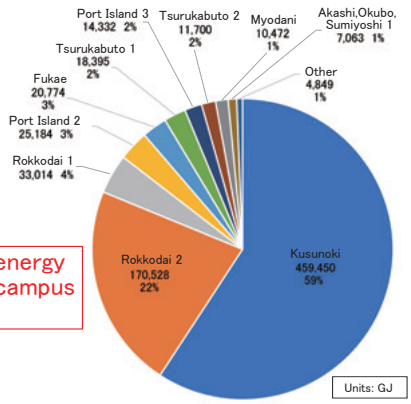
Material balance is the amount of energy and resources used for conducting business activities ("input") and the environmental load generated by those activities ("output").
As our basic policy for environmental management, Kobe University promotes activities related to the three Rs (reduce, reuse, recycle) activities, the streamlining of energy usage and the continued implementation of the environmental management cycle. We are actively working to conserve the environment based on this policy.

Input		FY 2024
Total energy	GJ	775,761
Electricity consumption	Mwh	72,509
Gas consumption	1,000m^3	3,306
City and other water usage	1,000m^3	346.6
Miscellaneous water usage	1,000m^3	56.8
Paper usage	t	131.29

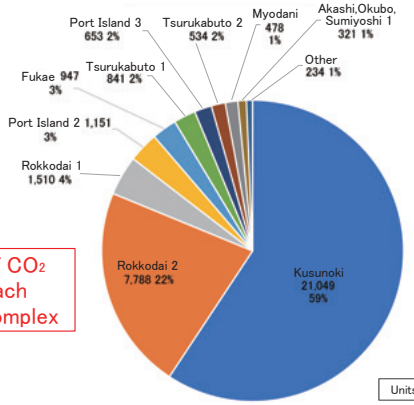
University overview		FY 2024
Student body (undergraduate)	People	11,460
Student body (graduate)	People	4,539
Study body (affiliated institutions)	People	1,287
Foreign student body	People	1,307
Students on academic scholarships	People	3,752
Teaching faculty	People	5,919
Foreign exchange programs with overseas universities	Institutions	382

Output		FY 2024
CO_2 output volume	t-CO_2	35,507
Wastewater	1,000m^3	403.4
Waste material (printer paper, newspaper, cardboard, confidential documents, etc.)	t	296.4
Waste material (raw garbage)	t	4.6
Waste material (combustible waste)	t	652.2
Waste material (large items)	t	89.5
Waste material (non-combustible waste)	t	0.0

Proportion of energy used by each campus or complex



Proportion of CO_2 emitted by each campus or complex



Energy conservation and climate change prevention

■Energy consumption

The amount of electricity and gas energy used in fiscal 2024 will be approximately 776,000 GJ. Energy consumption has increased by 1.4% compared with fiscal 2023, and energy consumption per unit area (energy consumption per unit), calculated by dividing energy consumption by the total floor area of the building, has also increased by 0.8% compared with fiscal year 2023. Compared with fiscal 2019, before COVID-19, the basic unit decreased by 13.5%. We believe that the increase in fiscal 2024 compared with fiscal 2023 was due to the continued high temperatures from spring to autumn and the low temperatures in winter.

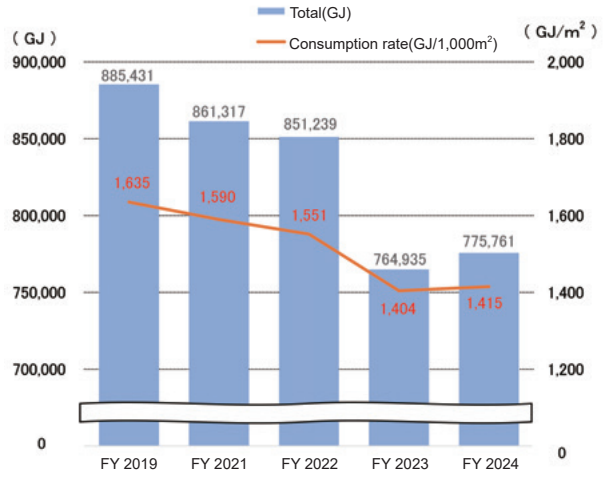


Figure 1: Energy consumption

FY 2023		FY 2024
1,404 GJ/1,000m²	0.8% increase	1,415 GJ/1,000m²

■CO_2 Emissions

CO_2 emissions per total floor area in fiscal 2024 (35,508t-CO_2) are expected to decrease by 6.7% compared with the previous fiscal year. This is believed to be due to the change in air conditioning equipment from gas to electric.

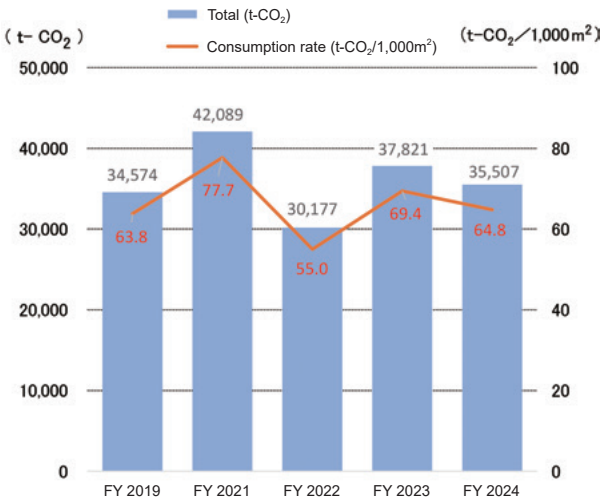


Figure 2: CO_2 emissions

FY 2023		FY 2024
69.4 t-CO_2/1,000m²	6.7% decrease	64.8 t-CO_2/1,000m²

■Electricity consumption

Electricity consumption per unit of production for fiscal 2024 will increase by 3.8% compared with the previous fiscal year. Compared with fiscal 2019, before the COVID-19 pandemic, this is an increase of 0.6%.

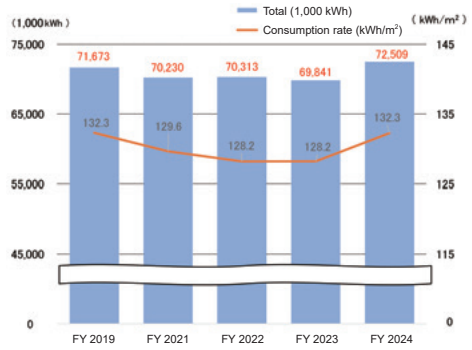


Figure 3: Electricity consumption

FY 2023		FY 2024
128.2 kWh/m²	3.2% increase	132.3 kWh/m²

*Initiatives to reduce electricity consumption

Base electricity consumption is said to account for approximately two-thirds of electricity consumption, regardless of whether it is the faculty is humanities or science. Since base electricity consumption measures are effective in reducing CO_2 emissions from university buildings, we have improved and reviewed the operation of refrigerators and experimental refrigerators installed in each research laboratory. As a result, electricity consumption was reduced by approximately 163,000 kWh per year (6.3%).

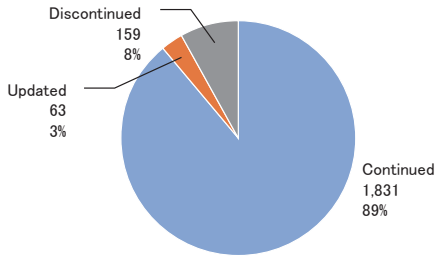


Figure 4: Refrigerator review status

■City gas consumption

City gas consumption in fiscal 2024 will decrease by 7.5% on a per-unit basis compared with the previous fiscal year. Compared with fiscal 2019, before the COVID-19 pandemic, this is a decrease of 20.8%.

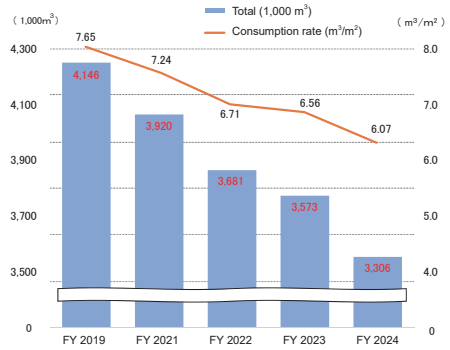


Figure 5: Gas consumption

FY 2023		FY 2024
6.56 m³/m²	7.5% decrease	6.07 m³/m²

Resource conservation and recycling

■Water usage

Water usage in fiscal 2024 is expected to increase by 34,000m^3 (9.2%) from the previous fiscal year. Usage is down 30,000m^3 (6.8%) from fiscal 2019, before the COVID-19 pandemic. In the Rokkodai area, we are working to conserve resources by using river water from Mount Rokko for general purposes such as toilet flushing and laboratory water.

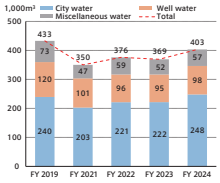


Figure 6: Water usage

We will continue working on ways to use water resources efficiently.

■Waste

Figure 7 shows the amount of general waste generated in 2019 and from fiscal 2021 to 2024. The amount of waste generated in fiscal 2024 will be 1,042.6 metric tons, a decrease of 4.9% from fiscal 2023 and a decrease of 12.3% from fiscal 2019, before the COVID-19 pandemic. Furthermore, the resource recycling rate for fiscal 2024 will be 27.0%, an increase of 2.3% from fiscal 2023.

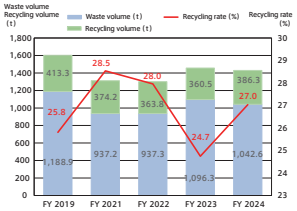


Figure 7: Amount of waste generated

Figure 8 shows the resource recycling rates by waste type for fiscal 2024. This figure shows that the resource recycling rates for office paper, newspapers, magazines, and cardboard are not progressing. If we could recycle 90% of this paper, the overall resource recycling rate for waste would rise from 27.0% to 37.9% (calculated based on fiscal 2024 emissions). Kobe University will continue to strive to further improve its resource recycling rate in accordance with its basic policy for promoting environmental management.

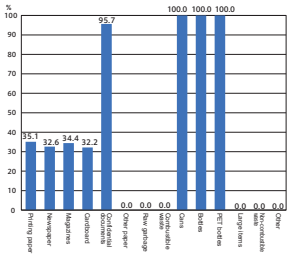


Figure 8: FY 2024 recycling rate by waste type

■University-wide office paper consumption

The table below shows the trends in office paper usage from fiscal 2019 and from fiscal 2021 to fiscal 2024.

In fiscal 2024, usage will decrease by 8.5% (12.2 metric tons) compared with the previous year, and by 30.3% compared with before the COVID-19 pandemic (fiscal 2019). We will continue to work to reduce usage by promoting paperless printing, double-sided printing, consolidated printing, and using the back side of used copy paper.

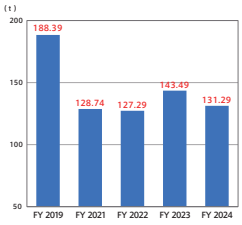
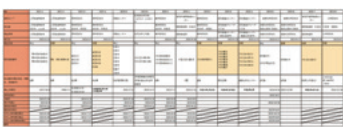


Figure 9: University-wide paper usage

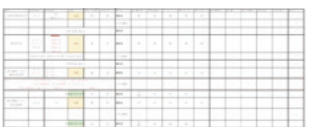
■Improving the management of specified facility notifications

Specified facilities under the Water Pollution Prevention Act primarily include washing sinks and draft chambers used in experimental research, as well as kitchens, cleaning, and bathing facilities in hospitals. In addition to the Water Pollution Prevention Act, there are numerous other laws governing specified facilities, including the Sewerage Act, the Soil Contamination Countermeasures Act and other related regulations. There are over 2,000 such specified facilities on campus, and pre- and post-construction notification to the government is required for each new construction, equipment upgrade, location change, change of use and closure. The notification documents contain a wide range of information, many of which are interrelated. In addition to knowledge of the relevant laws, they also require knowledge of chemical substance management, the installation and operation status of equipment and facilities, and the condition and history of the land and buildings. Furthermore, for new construction, the documents must be received from the government 60 days prior to construction.

Due to the above circumstances, the preparation of notification documents is extremely complicated. Therefore, to efficiently carry out the procedures for designated facilities, we have created and manage a designated facility reception book and a list of notification response statuses. When a request is received, a reference number is assigned and recorded in the reception book, and the reference number is also used in email correspondence with departments and in the names of management folders. In addition to this, to ensure that designated facility notification management is carried out without any omissions, we have decided to hold monthly meetings with relevant parties to share information and check progress.



Specific facility reception log



Specific facility registration status list

Green purchasing and procurement and environmentally friendly contracts

■Green purchasing and procurement

The Act on Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities (Green Purchasing Law) was implemented in April 2001. This law stipulates the necessary procedures for the promotion of environmentally friendly goods procurement, etc. by the national government, providing information on increasing the demand for such goods, and aims to realize a society capable of sustainable development with less impact on the environment. It was established with the aim of contributing to people's health and cultural life both now and in the future, with the government and other organizations taking the initiative in stimulating the purchase of environmentally friendly goods.

Based on this act, Kobe University creates a policy for procuring eco-friendly materials every year. It procures materials based on this policy, publicizes the results, and provides reports to the Ministry of Environment and Ministry of Education, Culture, Sports, Science and Technology.

The university conducted a study on procurement results for 287 items across 22 fields. A selection of these results for eight major fields are shown in table 12. In FY 2024, we achieved a 100% procurement rate for the designated items.

We will continue to create procurement policies based on the Green Purchasing Law, and proactively work to procure eco-friendly materials.

Table 12: Achievements in green purchasing and procurement in FY 2024

Category	Item	Total procurement volume	Procurement rate for specific items
Paper	Printing paper	130,853kg	100%
	Toilet paper	45,586kg	100%
	Other	1,513kg	100%
Stationery	Ballpoint pens	4,381	100%
	Envelopes (paper)	203,141	100%
	Other	53,182	100%
Office furniture, etc.	Chairs, desks, etc.	3,133	100%
Printing equipment	Copy machines, printers, etc.	4,120	100%
Interior	Curtains	63	100%
Work gloves		3,274	100%
Other textile products	Blue tarpaulins	104	100%
Services	Printing	431	100%
Average			100%

■Current status of environmentally friendly contracts

Under the Act on Promotion of Contracts of the State and Other Entities, Which Show Consideration for Reduction of Emissions of Greenhouse Gases, etc. (hereinafter referred to as the "Act on Contracts with Consideration for the Environment"), efforts must be made to develop contracts that give consideration to the reduction of greenhouse gases, etc. for the following eight categories: "procurement of electricity," "purchase and lease of automobiles," "procurement of ships," "building design," "building maintenance," "energy conservation improvement projects (ESCO projects)," "energy conservation improvement projects other than ESCO projects" and "disposal of industrial waste."

When procuring design work for the construction and renovation of buildings in FY 2024, Kobe University requested that the contractor submit proposals that effectively reduce environmental impact by taking into account the characteristics of the design work, thereby reducing the emission of greenhouse gases and other emissions.

The eight environmentally-friendly contracts for high-voltage and special high-voltage electricity supply in the Rokkodai, Kusunoki and Fukae areas, etc. are two-year contracts that cover FY 2024 and FY 2025, and they were implemented as shown in Table 13.

Table 13: Electricity supply in each area

	Amount of power contracted	Planned amount of power to be used	Successful bidder
Rokkodai area	6,680kW	22,857,000kWh/year	U-POWER Co., Ltd.
Tsurukabuto 2nd Campus (Graduate School of Human Development and Environment)	700kW	1,314,000kWh/year	U-POWER Co., Ltd.
Fukae area (Graduate School of Maritime Sciences)	842kW	2,162,000kWh/year	U-POWER Co., Ltd.
Myodani area (Graduate School of Health Sciences)	413kW	1,127,000kWh/year	U-POWER Co., Ltd.
Port Island area	Integrated Research Center 249kw Integrated Research Center Annex 355kW Incubation Center 128kW	2,983,000kWh/year	U-POWER Co., Ltd.
Other four areas	Kobe University Secondary School 316kW Kobe University Elementary School 162kW Kobe University School for Special Needs Education 80kW Food Resources and Education Research Center 88kW	890,800kWh/year	U-POWER Co., Ltd.
Kusunoki area	7,655kW	39,590,000kWh/year	U-POWER Co., Ltd.
International Clinical Cancer Research Center	680kW	2,140,100kWh/year	U-POWER Co., Ltd.

Outside opinions

More recently, a new panel, the Intergovernmental Science-Policy Panel on Chemicals, Waste and Pollution (ISP-CWP), was established at an intergovernmental meeting held in Punta del Este, Oriental Republic of Uruguay, on June 19 and 20, 2025. The ISP-CWP has become a new intergovernmental science-policy panel in the fields of chemicals, waste and pollution, following the Intergovernmental Panel on Climate Change (IPCC) in the field of climate change and, in the field of biodiversity, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). The ISP-CWP aims to reflect scientific knowledge on the sound management of chemicals and waste and the prevention of pollution in policy, and is an international organization that provides a scientific basis for policymaking by producing and disseminating the latest scientific and technical assessments in these fields. Its main functions are expected to be: ① identifying issues and presenting countermeasures (horizon scanning), ② evaluating current issues, ③ identifying gaps in scientific research and facilitating collaboration between scientists and policymakers, ④ sharing information with developing countries seeking scientific information and ⑤ capacity building (*1 Ministry of the Environment). There is no clear vision for how the newly established ISP-CWP will tackle related issues in the future, or how universities and scientists from Japan and abroad will actively participate in the panel.

However, it is believed that in the near future, universities and related scientists will be required to provide relevant knowledge and to collaborate with the academic community. At Kobe University, initiatives related to the Sustainable Development Goals (SDGs) and carbon neutrality are being widely implemented within the university organization and with stakeholders in the surrounding area. In particular, the "SDGs Future Business Student Contest 2024" by students has produced a variety of ideas to solve social issues, and it is hoped that even a portion of these ideas will be brought to a practical level with the involvement of industry. Certain successful experiences during student life will surely lead to the creation of new possibilities for the next generation, so active support from universities and industry is essential. On the other hand, it may be time to reconsider whether environmental reports have become a mere formality, merely outlining efforts to conserve energy and resources.

If we shift our focus to the provision of relevant knowledge required of universities and scientists and collaboration between universities and the academic community, as mentioned in relation to the ISP-CWP, it seems that the items listed in the Kobe University environmental report 2025 contain a considerable amount of information that would be useful for the ISP-CWP. The roles expected of universities and the nature of collaboration have not yet been determined, but it is hoped that from next year onwards we will see the publication of environmental reports that are not bound by traditional frameworks.

Regarding specific matters, I'm interested in chemical substance management at universities, as this is the field I specialize in.

In recent years, risk assessments have become mandatory under the Industrial Safety and Health Act, and both risks based on the dangers of chemical substances, such as explosions and fires in facilities and equipment, and risks based on the harmfulness of chemical substances related to adverse effects on workers' health, are now subject to this. Proper risk management across the entire university is an urgent issue, but the lack of detailed risk assessment methods suggests that adequate risk management is not being carried out. For example, if exposure assessment is performed using only a simple mathematical model to evaluate the risk based on the harmfulness of chemical substances, it is possible that the actual working conditions will be underestimated. Conducting risk assessments that also incorporate personal exposure measurements would be useful for refining exposure assessments, but due to technical issues and cost burdens, it cannot be said that this approach has been widely adopted. At the very least, we should be able to share technical issues with other universities, so we hope that collaboration between universities will progress even at the practical level.

*1 About the establishment of the Ministry of the Environment, Intergovernmental Science-Policy Panel on Chemicals, Waste and Pollution (ISP-CWP)
https://www.env.go.jp/press/press_00022.html

Name: MIYAKE Yuichi
Current position: Yokohama National University
Graduate School of Environment and Information Sciences
Professor

Profile

2005 - AIST postdoctoral researcher, National Institute of Advanced Industrial Science and Technology
2007 - Specially appointed research professor, Center for Scientific Research and Education on Safety and Security, Yokohama National University
2010 - Assistant professor, Institute of Environmental Science, University of Shizuoka
2021 - Associate professor, Graduate School of Environmental Information Sciences, Yokohama National University

■ Awards received
June 2017 - Japan Society on Water Environment, Paper Encouragement Award (Hirose Award)
September 2018 - Society of Environmental Science, SES Young Environmental Scientist Award
September 2021 - Society of Environmental Science, SES Distinguished, Paper Award
September 2024 - Society of Environmental Science, SES Distinguished, Paper Award

■ Research field : Chemical substance management, environmental chemistry, environmental analytical chemistry, environmental dynamics analysis, risk assessment
■ Affiliations : International Society of Indoor Air Quality and Climate Japan Society for Environmental Chemistry, Society of Indoor Environment, Japan, Japan Society on Water Environment, Society of Environmental Science, Japan, Japan Society for Atmospheric Environment

About the cover

In order to further publicize this environmental report to our students (who comprise the majority of the university population), we created the cover by requesting photos and illustrations from undergraduate and graduate students at the university, as well as from students at our affiliated schools. The cover photo was selected by the Environmental Planning and Assessment Committee, with the photo below receiving the grand prize.
From the many works submitted, we also selected two photos for Excellence Awards as shown below. We would like to take this opportunity to express our thanks to all those who submitted photos and illustrations.

Grand prize (Cover photo or illustration)

Work by OSHINO Chisa, 4th year, Faculty of Agriculture, Kobe University
Shooting location: Courtyard at the Faculty of Letters
Photographer's comment:
The Faculty of Letters courtyard is filled with nature, and every time I visit I can see different seasonal views. In spring, it's my favorite place, with a carpet of cherry blossoms spreading out before me.

Excellence awards (Cover photo or illustration)

Work by MASUKAWA Yuki 4th year student, School of Business Administration, Kobe University
Shooting location: Rokkodai 1st Campus Main Building

Work by ARAKI Kaho 1st year master's student, Graduate School of Human Development and Environment, Kobe University
Shooting location: In front of the Library for Social Sciences

■ Date of issue: September 2025
■ Created by the Center for Environmental Management
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