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Environmental Conservation  
Connecting from Iwate University  
to the World

# Environmental Report 2022



**Together with land and people in Iwate**

## Iwate University Environmental Policy

### <Basic Principles>

Iwate University considers environmental conservation and revitalization to be one of the most important challenges of the 21st century. Our university is working proactively on environmental conservation and revitalization education and research, and making contributions toward the achievement of a sustainable society in light of the Sustainable Development Goals (SDGs). As part of these efforts, members of our university and its affiliated schools as well as resident university-related parties are working together to be environmentally friendly in all activities taking place at the university, making efforts to reduce our environmental footprint, prevent pollution, and improve our campus environment as the social responsibility of the university.

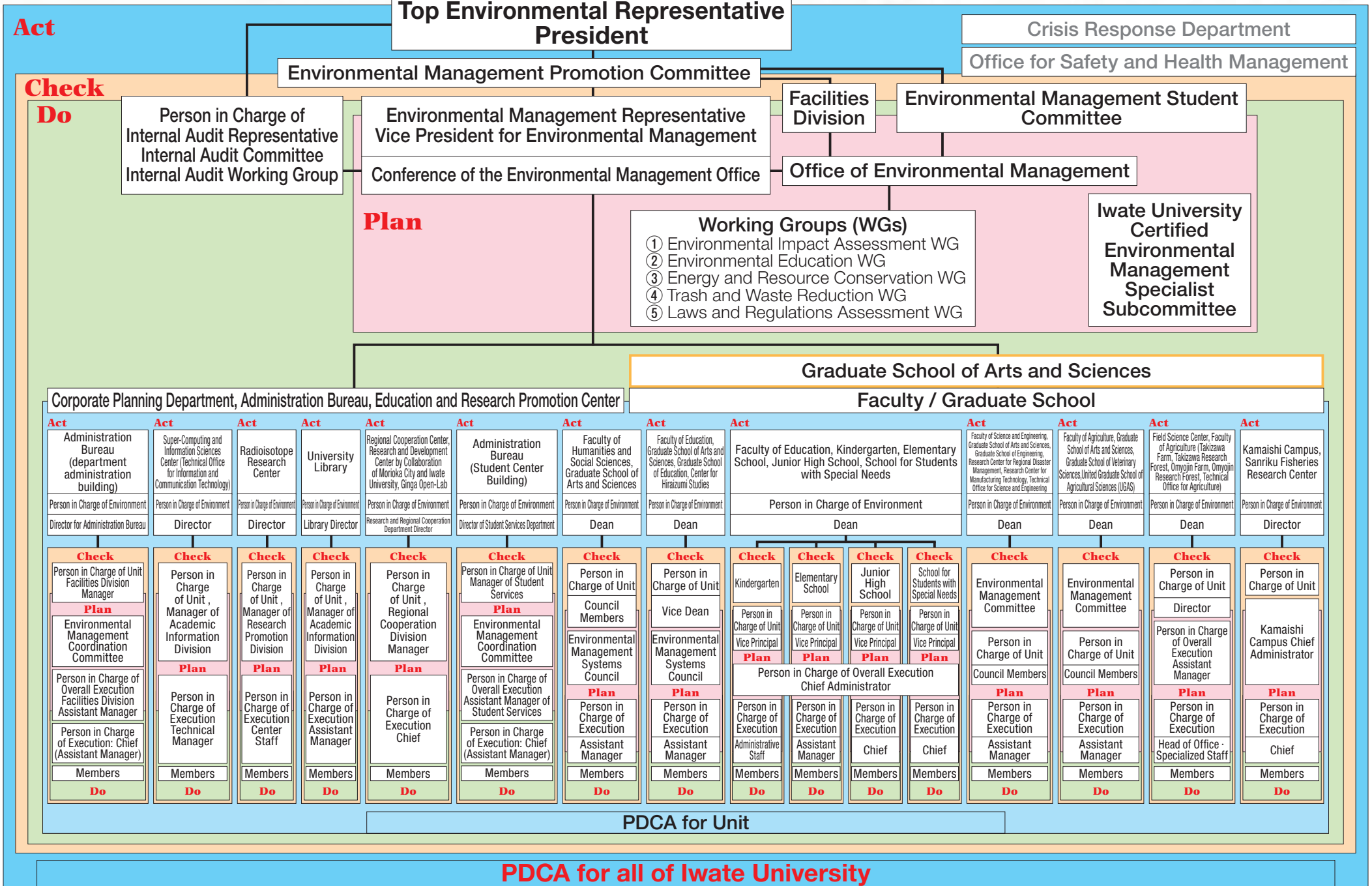
### <Basic Policies>

Iwate University actively engages in the following activities based on a medium-term plan under Iwate University Vision 2030 in order to achieve its basic principles.

1. Enthusiastically expand on education and research related to environmental conservation and revitalization, and develop the environmentally-conscious human resources that society requires.
2. Engage in education, awareness, and outreach, and other such activities geared toward all types of people, including those in local communities, based on the findings of education and research related to the environment.
3. Collaborate with community NPOs, government, and other such entities, to be proactively involved in initiatives for environmental conservation and revitalization, and the preservation of biodiversity in the community.
4. Seek continuous improvements to the on-campus environment through environmental management systems, while complying with environmental laws and environmental requirements which Iwate University agrees to.
5. Set annual targets based on the goals of these policies, and work diligently on initiatives such as saving energy and resources, reducing waste, recycling, and green purchasing.
6. Make environmental policies known to all members of the university, and while carrying out these policies also widely publish their results to the general public in writing and on the internet.

# Iwate University Environmental Management

## Environmental Management System Governance Structure





# Important Issues in Environmental Management

The Office of Environmental Management is working to establish, implement, and maintain environmental management system as part of the environment-conscious activities of Iwate University.

The Office of Environmental Management conducts activities with five working groups that help execute specialized operations. Among the working groups, members of the Environmental Management Student Committee actively participate in Environmental Impact Assessment, Environmental Education, Energy and Resource Conservation, and Trash and Waste Reduction working groups.

During the 2021 academic year, the following issues were raised and have been acted upon based on the review by the Environmental Management Promotion Committee and the Office of Environmental Management:

## 1. Environmental Impact Assessment WG

- (1) Assessing the results of monitoring and measuring environmental objectives, targets, and activities plans
- (2) Operational management of environmental objectives, targets, and activities plans (Understanding the action plans and operational standards and procedures in each unit, and monitoring/measuring them for the first semester)
- (3) Base energy studies through separate calculations of energy and water usage, and CO<sub>2</sub> emissions, in each department.

## 2. Environmental Education WG

- (1) Editing environmental report
- (2) Formulating environmental education training plans and checking the results
- (3) Collaboration with the subject, "Practical Exercises in Regional Environmental Management"
- (4) Continuing lectures for the subject, "Practical Environmental Management"
- (5) Studies to facilitate effective environmental education and training (including ensuring that students/trainees watch the environmental education video)



## 3. Energy and Resource Conservation WG

- (1) Monitoring and measurements for initiatives to conserve energy and resources
- (2) Working on implementation plans, and monitoring and measuring energy and resources usage amounts
- (3) Review how environmental objectives, targets, and action plans are consistent with energy management standards based on the Energy Conservation Act.
- (4) Setting demand alerts and discussing methods of spreading information

## 4. Trash and Waste Reduction WG

- (1) Following up to ensure separation and collection of trash (setting "criteria" which form the levels of separation)
- (2) Investigations on the processing and management of waste (Collaborative efforts with the Environmental Management Student Committee and sharing information about efforts within each unit)
- (3) Working on reducing trash
- (4) Monitoring and measuring the operational status of each unit

## 5. Laws and Regulations Assessment WG

- (1) Review evaluation methods for environment-related rules and regulations at Iwate University
- (2) Gathering information on rules and regulations to be revised



A congress at the Office of Environmental Management

# Initiatives to Reduce Environmental Footprint



## Total Energy Inputs

Efforts to reduce heat and energy use



### Purposes/Objectives

Purpose : Reduce energy use and CO<sub>2</sub> emissions.

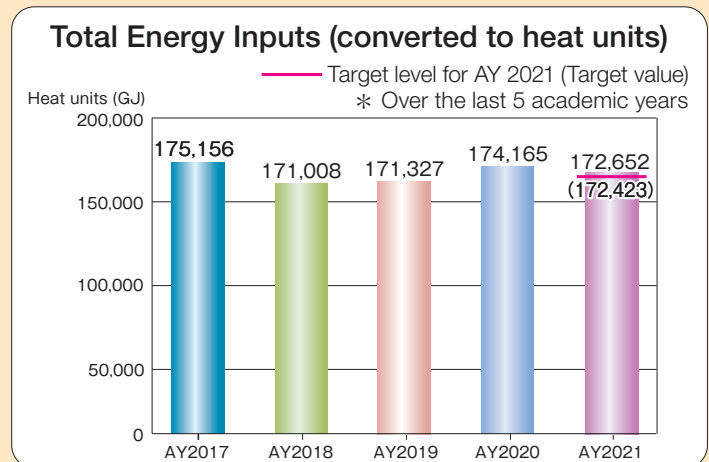
Objective : Reduce energy use and review the baseline of annual usage by energy source.

### Initiatives

- Recorded monthly usage of seven energy sources (electricity, fuel oil A, kerosene, gasoline, diesel, city gas, and LPG), compared the results with the previous month or the same quarter in the previous year and reported at the meeting of the Office of Environmental Management. The electricity consumption was also calculated for each departmental unit.
- Examined the change in monthly usage over the past 10 years by energy source.
- Examined the excess contract demand for the past three years, and changed the demand alarm settings and the contract demand.
- Lighting equipment was properly maintained by cleaning and making replacements when necessary.

### Outcome

Among the seven energy sources (electricity, city gas, LPG, fuel oil A, kerosene, diesel, and gasoline), energy consumption was reduced by 10.8% for kerosene, 3.5% for city gas, 2.8% for gasoline, 1.8% for LPG, and 0.1% for electricity in AY (Academic Year) 2021 compared to AY 2020. However, the consumption of diesel and fuel oil A increased by 16.3% and 8.6% respectively. Electricity consumption, which accounted for 74% of energy consumption, was about the same level as in the previous year. As a result, in terms of calorific value, the energy consumption decreased by 0.9% from 174,165GJ in AY 2020 to 172,652GJ in AY 2021.



## Emissions of Greenhouse Gases, etc.

Efforts to reduce CO<sub>2</sub> emissions



### Purposes/Objectives

Purpose : Reduce energy use and CO<sub>2</sub> emissions.

Objective : Reduce energy use and review the baseline of annual usage by energy source.

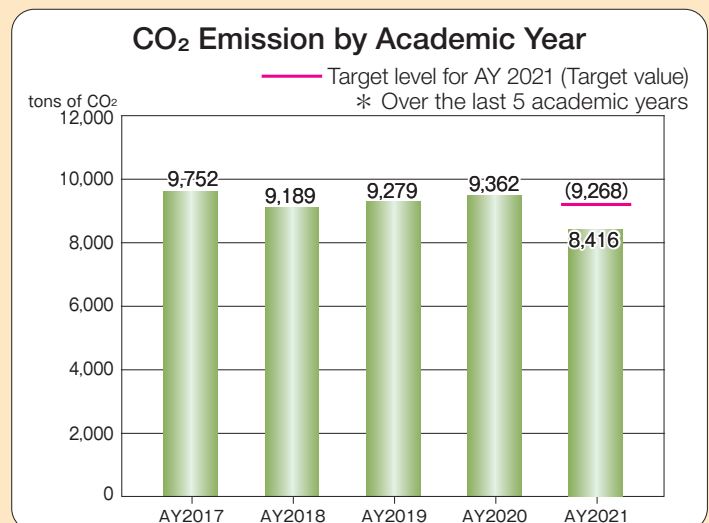
### Initiatives

- Calculated the CO<sub>2</sub> emissions based on the monthly usage of seven energy sources (electricity, fuel oil A, kerosene, city gas, gasoline, diesel, and LPG), compared the results with the previous month or the same quarter in the previous year and reported the results at the meeting of the Office of Environmental Management.
- Calculated the CO<sub>2</sub> emissions based on the electric power consumption for each unit every month. The results obtained were compared to the same time period of the previous year and the preceding month.
- Room temperature was kept around 28 degrees Celsius in the summer and 20 degrees Celsius in the winter when air conditioners were used. Rooms were ventilated at regular intervals as well.
- Participated in the University Coalition for Carbon Neutrality and collected information.

### Outcome

CO<sub>2</sub> emissions were reduced by 10.1% from 9,362t-CO<sub>2</sub> in AY 2020 to 8,416t-CO<sub>2</sub> in AY 2021. Among seven energy sources (electricity, city gas, LPG, fuel oil A, kerosene, diesel, and gasoline), emissions were reduced by 12.5% for electricity (the adjusted emission factor was 0.457 for AY 2021 and 0.522 for AY 2020), 10.8% for kerosene, 3.5% for city gas, 2.8% for gasoline, and 1.8% for LPG in AY 2021 compared to AY 2020. However emissions from diesel and fuel oil A increased by 16.3% and 8.6% respectively.

Used Tohoku Electric Power's adjusted emission factor of 0.457t-CO<sub>2</sub>/1000kwh





# Input Usage and External Emissions

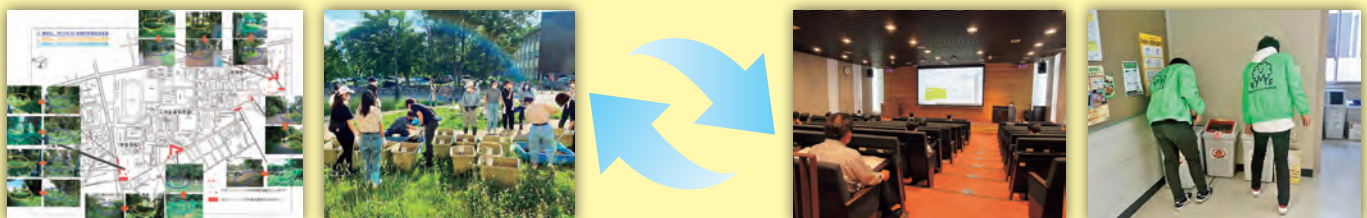
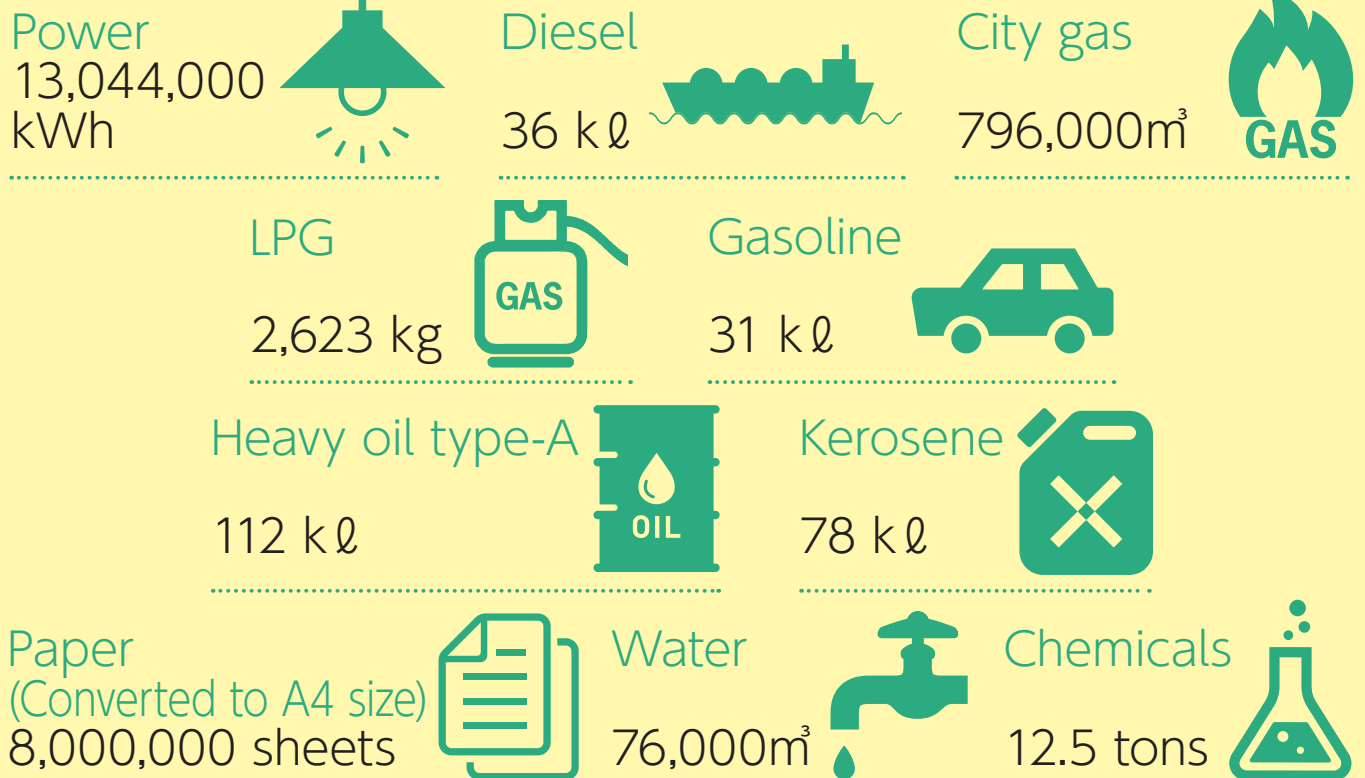
Material Balance



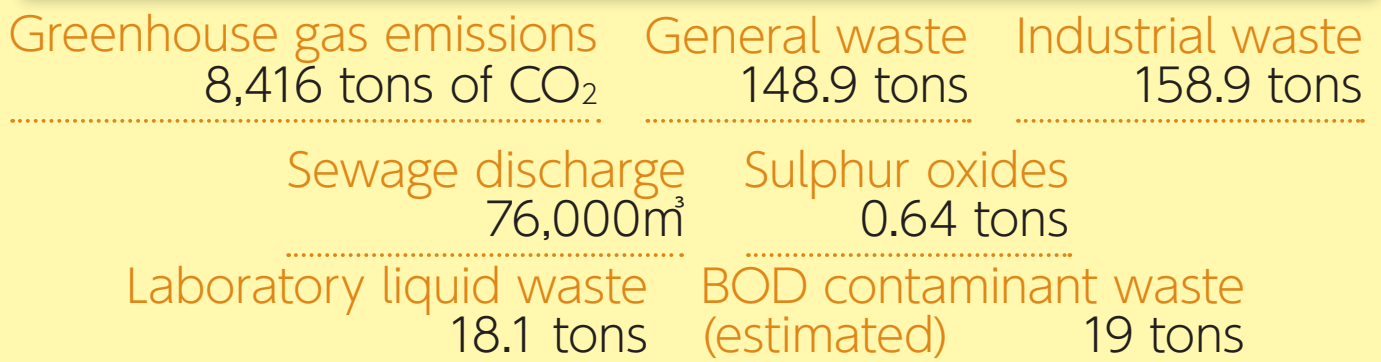
## <Material Balance Data>

### I N P U T

#### Energy Usage



### O U T P U T



### External Emission

Tohoku Electric Power greenhouse gas emission factor (adjusted):  
Tohoku Electric Power 0.000457t-CO<sub>2</sub>/kWh

# Topics for the 2021 academic year



## Participation in the online exchange program with the 2021 fiscal year (FY) China Youth Public Utilities Exchange Delegation



Environmental Management Student Committee : Chairperson

Kano AIKAWA Faculty of Humanities and Social Sciences, third year

On February 28, 2022, the Iwate University Environmental Management Student Committee (EMSC) participated in an online exchange program with the "FY 2021 China Youth Public Utilities Exchange Delegation" organized by the Japan-China Friendship Center.

This program consists of thematic online exchange activities for the youth in public utilities and volunteer work at Chinese government agencies, companies, and universities with Japanese counterparts in the same fields under the themes of "sports," "environmental protection," and "volunteer." During the thematic seminar and exchange programs with other participants, two of the EMSC members participated in a program on "Environmental Protection" to exchange opinions with other Japanese university students.

Under the overarching theme of "What we can do to tackle climate change," university student representatives from Japan and China introduced their activities, followed by group discussions on three topics based on the overarching theme.

Through this exchange, students were reassured of the need for cooperation and information sharing between countries on climate change, and learned the importance of taking a broader perspective in their activities.

The exchange was inspiring to students who come from the same generation that have different backgrounds and perspectives, but share a common interest in environmental protection. We will continue to value various opportunities for exchange domestically and internationally.



Presentation by Chinese student representatives



Group discussion



Group photo



## Iwate University students and graduates were asked for their opinions on the Iwate University Program for Developing Environmental Leadership off-campus training.



In December 2021, Iwate University students and graduates were asked in an online meeting for their opinions on the off-campus training of the Iwate University Program for Developing Environmental Leadership (Program for Developing  $\pi$ -type Environmental Leadership by Environmental Management and Industry-University-Government-Citizen Collaboration).

The two students who were asked for their opinions had participated in the off-campus training "Environmental Activities in Bali, Indonesia" in September 2019. They planned and organized environmental workshops for Indonesian high school and university students, and planted trees in a park.

During the listening session, the students expressed how they were motivated by their interest in foreign countries in addition to environmental activities to participate in the off-campus training, where they learned the damage done by ocean garbage and the differences in assumptions in the environmental field among students in both countries.

Five graduates obtained the "Iwate University Environmental Management Practitioner" certification, which is accredited by the Iwate University Program for Developing Environmental Leadership and includes participation in off-campus practical training. They were also actively representing students' perspectives on the Iwate University EMSC that is part of the Iwate University environmental management system operation.

In addition to the environmental field, the participants also mentioned that they were able to get a real sense of the situation in the earthquake and disaster-stricken areas, and improved their general skills such as giving explanations and presentations.

This was a great occasion for us to realize that the students were given opportunities to utilize their experiences from their volunteer activities and internships off-campus in the environmental field.



Students and graduates of Iwate University expressing their opinions on off-campus training of the Iwate University Program for Developing Environmental Leadership

# Environmental Activities of Young Children and Students

## Affiliated Kindergarten

4 QUALITY EDUCATION



Middle kindergarteners sowing seed balls

## Affiliated Primary School

4 QUALITY EDUCATION



Investigating the beauty of the Nakatsugawa River by collecting aquatic organisms

## Affiliated Junior High School

4 QUALITY EDUCATION



Raising ground gutters

## Affiliated Special Needs School

4 QUALITY EDUCATION



Recycling activity

## Environmental Activities of Student Circles

15 LIFE THE PLANET



Iwate University Asian Black Bear Research Group  
The first field research in 2021 Academic Year

## Environmental Management Student Committee

4 QUALITY EDUCATION



Co-organized by Morioka City Office  
Explaining ocean pollution

### About the cover

Reina KUMADA (EMSC), Faculty of Agriculture, third year  
I drew a picture of the Japanese tree frog, which Japanese people are familiar with, and the green curtains that the EMSC has installed, to create a campus in harmony with nature and to conserve energy.

While frogs utilize both land and water environments and feed on a variety of insects, both tadpoles and adults fall prey to carnivorous insects, snakes, and birds. They are intricately connected to other organisms as part of the ecosystem and are indicators of a healthy waterside environment. However, their number is now decreasing due to habitat changes caused by maintenance of farms and other factors. I expressed the importance of acting as a part of the ecosystem so that we can coexist with a rich diversity of living creatures.



Mori-chan

Symbolic character of the Iwate University  
Environmental Management Student  
Committee (EMSC)