

Environmental Report 2021



National University
Corporation,
Iwate University

**Creating the future with our glocal students!
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 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.



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 2020 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 CO₂ 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



Objectives

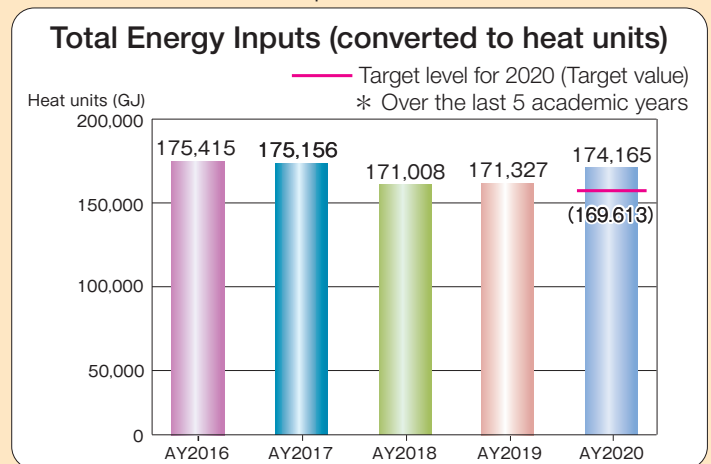
- ① Decreased energy use by 1% compared to the 2019 academic year.

Initiatives

- ① 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.
- ② Strictly enforced the no overtime rule, turned off the lights during lunch break (with the exclusion of the clerks' desks), and minimized the lighting used during periods of unavoidable overtime.
- ③ Promoted the use of stairs and regulated the operation of elevators.
- ④ Optimized air conditioner operation timings and indoor temperature settings to appropriately manage energy.
- ⑤ 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 13.8% for gasoline and 15.1% for LPG in 2020 compared to 2019. However, the consumption of electricity, diesel, city gas, fuel oil A, and kerosene increased by 0.3%, 1.4%, 4.6%, 14.4%, and 19.2%, respectively. Electricity consumption, which accounted for 73% of energy consumption, did not decrease in comparison with the previous year. In terms of calorific value, it increased by 1.7% from 171,327GJ in 2019 to 174,165GJ in 2020. Although the same efforts were made as in the previous year to reduce energy use, the response to COVID-19 had to continue from the beginning of the year without knowing the effects. While energy use was reduced in the first half of the year (April to September), the use of kerosene, fuel oil A, etc. increased significantly in the second half (October to March) because both ventilation and heating were necessary during that period.



Emissions of Greenhouse Gases, etc.

Efforts to reduce CO₂ emissions



Objectives

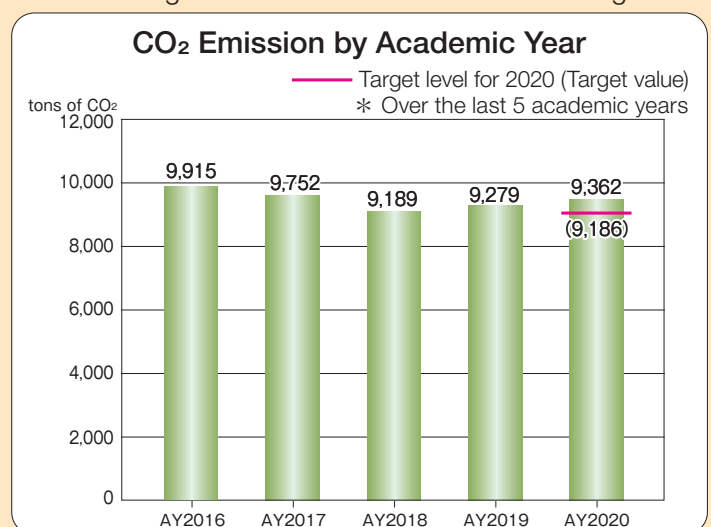
- ① Work to reduce energy use and reduce CO₂ emission by at least 1% from the previous academic year.

Initiatives

- ① Calculated the CO₂ 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.
- ② Calculated the CO₂ 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.
- ③ 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.
- ④ Summarized the use of electricity, gas, and water for each faculty management building on a monthly basis. We attempted to conserve energy in a reasonable manner by sharing the results of such utilities.
- ⑤ Notified a person in charge via automated messaging when a peak demand alert is set off, and notified the members by email.

Outcome

CO₂ emissions increased by 0.9% from 9,279t-CO₂ in 2019 to 9,362t-CO₂ in 2020. Among seven energy sources (electricity, city gas, LPG, fuel oil A, kerosene, diesel, and gasoline), emissions were reduced by 15.1% for LPG, 13.8% for gasoline, and 0.9% for electricity (the adjusted emission factor was 0.522 for 2020 and 0.528 for 2019) in 2020 compared to 2019. However, the emissions from diesel, city gas, fuel oil A, and kerosene increased by 1.4%, 4.6%, 14.4%, and 19.2%, respectively.



Input Usage and External Emissions

Material Balance



<Material Balance Data>

I N P U T

Energy Usage

Power
13,055,000 kWh



Diesel
31 kℓ



City gas
825,000m³



LPG

2,671 kg



Gasoline

32 kℓ



Heavy oil type-A

103 kℓ



Kerosene

87 kℓ



Paper
(Converted to A4 size)
7,610,000 sheets



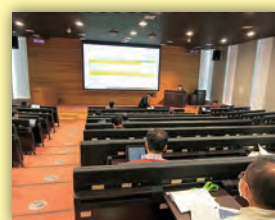
Water

73,000m³



Chemicals

13.0 tons



O U T P U T

Greenhouse gas emissions
9,362 tons of CO₂

General waste
137 tons

Industrial waste
154 tons

Sewage discharge
73,000m³

Sulphur oxides
0.19 tons

Laboratory liquid waste
19.6 tons

BOD contaminant waste
(estimated) 20 tons

External Emission

Tohoku Electric Power greenhouse gas emission factor (adjusted):
Tohoku Electric Power 0.000522t-CO₂/kWh

Topics for the 2020 academic year



Iwate University received the Gold Certification in the Sustainable Campus Assessment System (ASSC) from the Campus Sustainability Network in Japan (CAS-Net JAPAN).



On March 5, 2021, a certification awarding ceremony was held for CAS-Net JAPAN's Sustainable Campus Assessment System (ASSC: a system for assessing and certifying university campuses that contribute to the creation of a sustainable and environmentally friendly society).

As a 2020 ASSC certified university, Iwate University received the Gold Certification, which is the second highest certification (for details, visit the "Information" page on the Iwate University website for a news article on March 5, 2021).

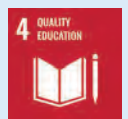
According to a report on the results, the score percentage was about 94% for the Local Community category (68 points), 87% for the Education and Research category (32 points), and 83% for the Management category (86 points), all of which were above or close to the 85% overall score percentage for the highest Platinum certification, while the score percentage for the Environment category, which had the most points (154), was about 54%. It also revealed some of the challenges that Iwate University faces in its sustainable campus initiative, including the availability and scale of facilities, equipment, and organizational structures, as well as the fact that there is a lot more room for improvement.



CAS-Net JAPAN ASSC certification awarding ceremony



Iwate University Environmental Management Student Committee (EMSC) was on TV



Publicity/Web Team : Leader **Kaito SHINDO** Faculty of Agriculture, third year
Reina KUMADA Faculty of Agriculture, second year

The Iwate University Environmental Management Student Committee (EMSC) appeared on an NHK program called "Miraio 2030" (King of the Future 2030) that aired on February 23, 2021. In this TV program, 100 participants between the ages of 13 and 24 appeared as avatars (characters that represent them on a computer network) and participated in a quiz competition in the venue's virtual reality space. The quiz topic covered environmental issues including global warming, the water and food crisis, and plastic pollution.

Seven members participated on behalf of the EMSC. In preparation for the program, the EMSC held a study session on environmental issues. Each of the participants researched the changing global environment and the history of global warming, as well as international initiatives and policies, and shared knowledge with each other before participating in the program.

"Miraio 2030" gave us opportunities to gain new knowledge on environmental issues and provoked a lot of thought. We also realized that many people in our generation confront environmental issues and each of them has a solid knowledge base and real passion for resolving them, which renewed our commitment to our work.



Environmental Activities of Young Children and Students

Affiliated Kindergarten



Older kindergarteners holding hanging baskets that they made with plastic bottles



Affiliated Primary School



Designing a trash can that is easy for everyone to use



Affiliated Junior High School



Cleaning activities



Affiliated Special Needs School



Tending the flowerbed



Environmental Activities of Student Circles



WILD — Wildlife Study Group
On-site guiding at the Morioka City Zoological Park



Environmental Management Student Committee



“Odense” Camp (newcomers spring Camp)



About the cover

Riko HAYASAKA (EMSC), Faculty of Humanities and Social Sciences, third year
The “Temperance” tarot card was the motif for this picture. An upright Temperance tarot card signifies the concepts of “balance” and “cycle.” Balancing human activities with the natural environment and creating a circular society are two things that we emphasize in our efforts to protect the environment. And we believe that these two are essential elements for our environment. I hope that through our activities we can get closer to our ideal environment. Also, tarot cards are used to divine the immediate future. I wished that the meaning of the card would become a reality in the near future.



Mori-chan

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