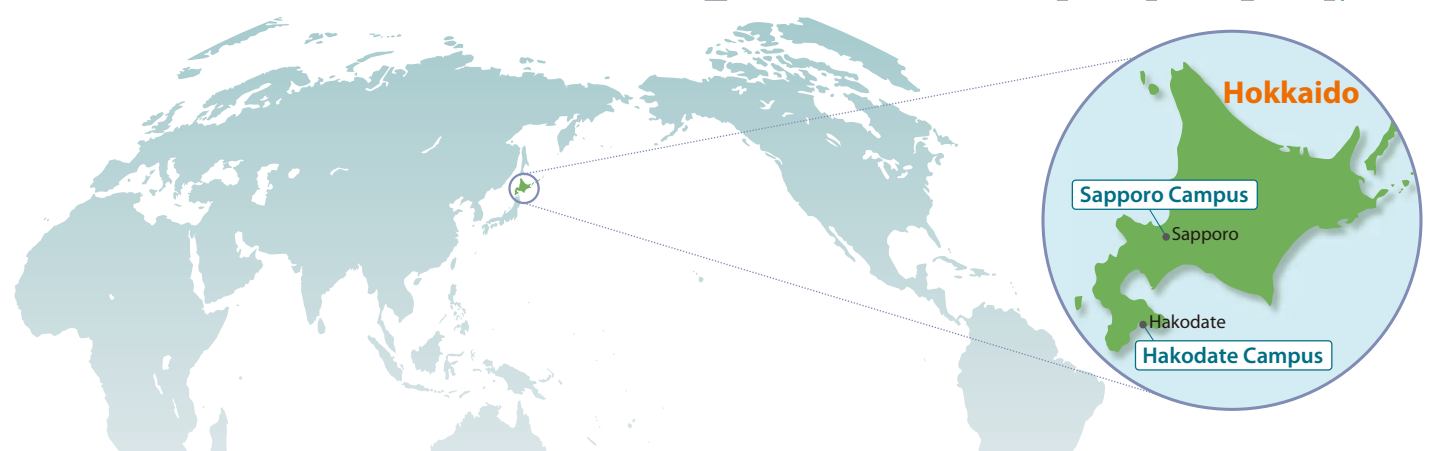


# Hokkaido University Overview of the Sapporo Campus

HU has campuses in the Hokkaido cities of Sapporo and Hakodate. Covering an area of around 1.77 million square meters, the Sapporo site is one of the nation's largest urban campuses. HU has engaged in a variety of initiatives using the campus as a living laboratory as part of its efforts to create a sustainable society. Here, an overview of the Sapporo Campus and its notable facilities are shown.



## Major indicators

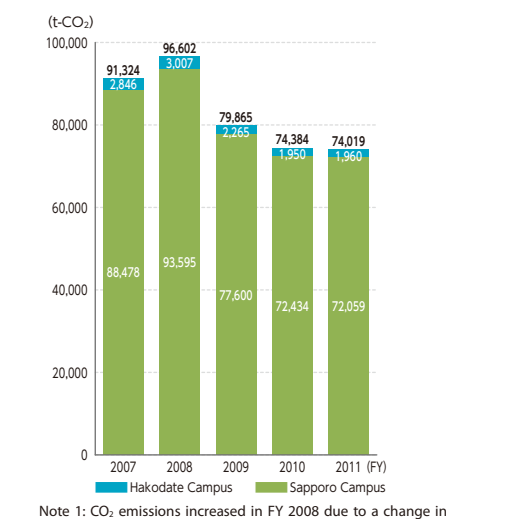
◆Energy consumption on the Sapporo Campus (crude oil equivalent in liters per square meter of total floor area)



◆Energy consumption on the Hakodate Campus (crude oil equivalent in liters per square meter of total floor area)

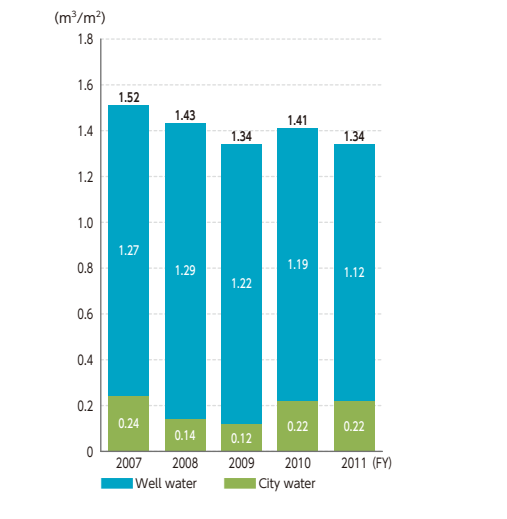


◆Greenhouse gas emissions (t-CO<sub>2</sub>)

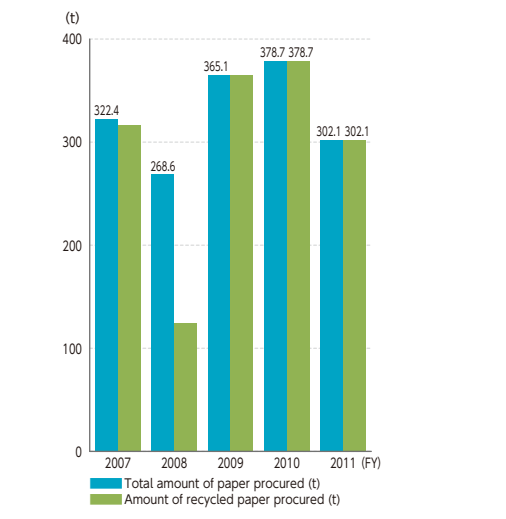


Note 1: CO<sub>2</sub> emissions increased in FY 2008 due to a change in the CO<sub>2</sub> emission intensity of electric power generation.  
 Note 2: The CO<sub>2</sub> emission intensity values (kg/kWh) used for calculation were as follows:  
 FY 2007: 0.517; FY 2008: 0.588; FY 2009: 0.433; FY 2010: 0.353; FY 2011: 0.353  
 (The value for FY 2011 will be announced around January 2013.)

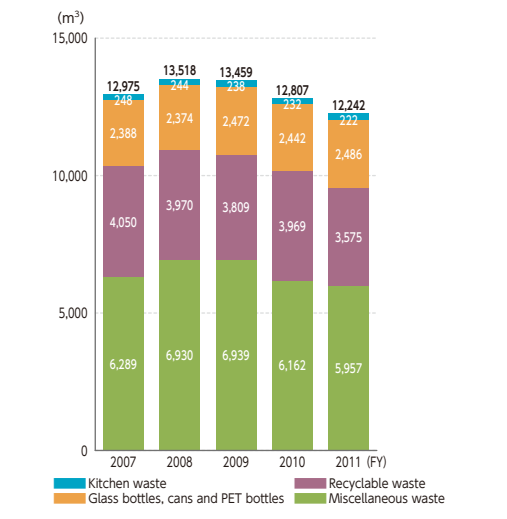
◆Water consumption on the Sapporo Campus (per square meter of total floor area)



◆Amount of paper procured (t)

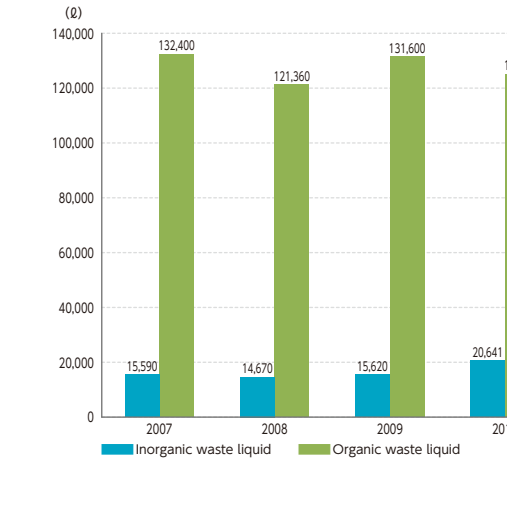


◆Amount of general waste disposal (Sapporo Campus) (m<sup>3</sup>)



Note: Kitchen waste is discharged from university hospital catering facilities.

◆Amount of waste liquid treated (collected) (t)



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# FY 2011 Environmental Report

## Abridged version



## Message from the President

### A mission to bring the fruits of our sustainable-campus philosophy to society



Hokkaido University (HU) was founded in 1876 as Sapporo Agricultural College - the first institute of higher education in the country to award bachelor's degrees. Throughout its 136-year history, the establishment has upheld the concepts of Frontier Spirit, Global Perspective All-round Education and Practical Learning, as its basic philosophies.

Frontier Spirit - the first of the basic philosophies codified in 2003 - is described as follows: "The frontier spirit of the 21st century stands for ceaseless studies dealing with problems constantly challenging humankind, and Hokkaido University aims to promote world-class research to solve problems confronting humankind through remarkable developments in its research and education functions." Dr. William S. Clark, the establishment's first vice president, is credited with having advocated the concept of lofty ambition at the opening ceremony for Sapporo Agricultural College. This spirit serves as the foundation for HU's sustainable-campus initiatives.

The Sapporo Sustainability Declaration adopted at the 2008 G8 University Summit held in Sapporo affirmed the commitment of universities to serve as a driving force behind the development of a sustainable society. HU has hosted the annual Sustainability Weeks (SW) event since 2007 as an intensive program encompassing a variety of events, including symposiums, forums and public lectures, to help create a sustainable society. In 2005, HU developed its Environmental Policy, expressing a commitment for the establishment of a sustainable society through activities to protect global and local environments, assuming its role as a national university supporting the development of Japanese knowledge in the 21st century.

To advance toward the fulfillment of these commitments, HU established Office for a Sustainable Campus in November 2010 and formulated Action Plan 2012 for a sustainable campus in March 2012 to serve as a basic plan and a program of action. In this way, HU's initiatives for the creation of a sustainable campus evolved in 2011 from the planning phase of building on the philosophy and developing plans to the next phase of taking concrete action and making accomplishments.

The fourth HU basic philosophy is Practical Learning, which is defined as including "research for the creation of universal learning in the real world and emphasis on returning the fruits of research to society by placing importance not only on basic research but also on the application and practical use of research." If HU's mission based on its philosophies is to provide education and research in order to promote sustainability, it must also bring the fruits of such education and research to society.

I hope the FY 2011 Hokkaido University Environmental Report will serve as an aid to achieving these missions.

**Hiroshi Saeki**  
 President, Hokkaido University



## HU initiatives to promote campus sustainability

In 2011, HU developed Action Plan 2012 for a sustainable campus as a way of clarifying its specific course of action to achieve the goals of the 2008 Sapporo Sustainability Declaration.

### Action Plan 2012 for a sustainable campus

HU is committed to making its campuses greener and more advanced in accordance with the second phase of its Medium-term Goals to support world-class research and education. To achieve this aim, the institution developed Action Plan 2012 for a sustainable campus approved March 2012, defining specific goals under three policy guidelines 1) conserving the global environment through research and education and placing emphasis on environmental considerations, 2) making a social contribution through the dissemination of environmental information, and 3) minimizing environmental impacts in university administration. Based on this plan, HU aims to achieve zero emissions on its campuses by harnessing natural and renewable energy sources in its role as a leading university committed to helping create a sustainable society.



Sustainable Campus Expert Conference (October 27, 2011)

communities, governments and private enterprises, and to establish networks in collaboration with universities in the United States/Europe and other institutions.

#### Minimizing environmental impacts in university administration

This policy guideline involves 10 considerations to minimize environmental impacts: the conservation of ecological environments; the Northern Forest Project; green building initiatives; energy; promotion of the three Rs (reduction, reuse and recycling) for waste; water; food; transportation planning; space conservation; and purchasing. Specific initiatives include efforts to conserve ecological environments, promotion of the Northern Forest Project, thorough implementation of energy conservation design, introduction of green products and renewable energy sources, recycling of organic waste, purchase of environmentally friendly food, reduction of the number of vehicles on campus, and improvement of conditions for bicycle usage.

#### Conserving the global environment through research and education and placing emphasis on environmental considerations

Initiatives under this policy guideline include efforts to provide education on sustainability, develop related campus activities for students and to promote research on environmental impact reduction in relation to campus operation.

#### Making a social contribution through the dissemination of environmental information

Endeavors implemented under this policy guideline include efforts to raise awareness of environmental impact reduction initiatives and results on campus and elsewhere, to promote collaboration for sustainability among local

### Office for a Sustainable Campus

Office for a Sustainable Campus was established in 2010 as a core organization to promote campus sustainability. It acts as a management organization supporting comprehensive initiatives for building sustainable campuses in order to help to realize a sustainable society. The office consists of three sections: the Campus Assessment Division, the Environmental Impact Reduction Division and the Environmental Preservation Center.

## International collaboration and inter-university networking

HU endeavors to establish domestic and international networks. One example of such efforts is the hosting of the October 2011 Sustainable Campus International Symposium attended by representatives from a variety of institutions at the forefront of campus sustainability in the U.S. and Japan.

### Sustainable Campus International Symposium 2011

On October 26, 2011, HU hosted the 2011 Sustainable Campus International Symposium. At the event, specialists in charge of promoting campus sustainability at eight universities leading the field in the U.S. and Japan were invited to exchange related information and discuss future initiatives.



Speakers

The U.S. establishments were Portland State University, University of Oregon, University of California, Berkeley, and Stanford University, and the Japanese ones were Kogakuin University, Chiba University, Nagoya University and Kyushu University. All of them are leaders in the field in their respective countries.

The symposium featured reports by university representatives on related initiatives followed by a panel discussion at which participants agreed on the need to develop efforts beyond existing frameworks in order to make their campuses sustainable.

The next day, the Sustainable Campus Expert Conference was held, at which participants outlined the current status of implementation of basic plans and action programs on their campuses. The attendees examined HU's draft Action Plan 2012 for a sustainable campus as a case study, and the discussions were reflected in the official version of Action Plan approved in March 2012.

### Participation in the STARS International Pilot program

The Association for the Advancement of Sustainability in Higher Education (AASHE) is a network to promote sustainability, consisting of around 2,000 North American higher education institutions. The organization is known as the operating body for the Sustainability Tracking, Assessment & Rating System (STARS) - a framework by which colleges and universities can evaluate their sustainability performance. AASHE is currently working to make STARS a global index, and HU has been part of the program since January 2012.



Presentation of HU initiatives at the AASHE 2011 Conference (October 2011)

## Personnel training and education to support sustainability initiatives

To create a sustainable society, human resource development is essential in order to foster individuals with the knowledge and ability to lead related initiatives. HU established Center for Sustainability Science to meet the needs of the present time, The Center offers enriched graduate programs related to sustainability.

### Center for Sustainability Science



Project of the Center for Sustainability Science (CENSUS) - Science and Technology Research Partnership for Sustainable Development (SATREPS)

This center was established in 2008 to create a campus-wide cross-disciplinary platform for education and research in the field of sustainability science. In relation to HU's role as a member of the Sustainability Science Consortium (SSC), the center offers lectures in common graduate course subjects and provides its own graduate-level education. It also runs the Special Coordinated Training Program for Sustainability Leaders and Sustainability Meisters (StraSS) to support the development of international leaders in the field of sustainability.

### Graduate School of Environmental Science/Faculty of Environmental Earth Science

This graduate school promotes research and education oriented to elucidate and resolve global environmental problems and to develop researchers and highly specialized professionals who will tackle these challenges. It welcomes students and researchers from all over the world and provides a solid program of interdisciplinary education in environmental science. The school thus plays an essential role in HU's research in the field of sustainability science.



### Sustainability Weeks 2011



Clark Theater 2011

HU launched the Sustainability Weeks program in 2007 with the aim of opening its campus to the public in order to bring the fruits of research and education to society and promote regional collaboration for sustainable-society creation. Symposia, lectures, workshops, exhibitions and other events focusing on challenges facing humanity are held during the two-week program, and researchers, students and the general public discuss issues for the securement of a brighter future. The Sustainability Weeks 2011 program included 47 events on the theme of *Reconsidering Visions for a Sustainable Future*.

## HU environmental impact reduction initiatives

Japan faced unprecedented difficulties in 2011, including the 3/11 earthquake, tsunami and subsequent blackouts. The government called on companies, schools and other organizations to reduce their electricity consumption by 15 percent. In response, HU made special arrangements to voluntarily cut its power consumption by even more than this.

### Summer 2011 power-saving initiative and results

HU set the goal of reducing power consumption by 10 percent compared to the previous year over the whole Sapporo Campus from July to September 2011. To achieve this, faculties, departments and institutes had to carefully follow 15 power-saving recommendations, including setting air-conditioner thermostats to a certain temperature, being lightly dressed and turning off the lights not in use.

When the target limit of electricity consumption was likely to be exceeded, the university also took additional measures to ask heavy power users a patrol of their faculties to note the target limit. Consequently, the limit was exceeded only in three days in July and two days in August, while power consumption was 1,507,722 Kwh lower than in the corresponding period for 2010.

### Energy efficient buildings

As buildings are generally the main users of energy and the largest sources of on-campus greenhouse gas emissions, it is essential to construct energy efficient buildings to reduce CO<sub>2</sub> emissions, it is vital to implement related energy saving measures in order to sustainability.

HU created guidelines for energy efficient buildings in 2008, the guideline should be applied for new construction and renovation.



University Library Annex (newly built)

Information Initiative Center North Building (renovated)

### 7th Hokkaido University Stakeholder Meeting

HU has hosted the Stakeholder Meeting every year since 2006 to support assessment of its environmental performance. In the 7th HU stakeholder meeting, participants mentioned various issues of sustainable campus; garbage separation rules, information distributions, etc. The meeting showed the importance to get faculties, students, and staffs involved in development of campus sustainability.

