

# Kanazawa University Carbon Neutrality Initiative Plan (Summary)

~Kanazawa E<sup>4</sup>-CAMPUS for Carbon Neutrality~

University wide policy

Kanazawa University is based on the pillars of "Research", "Social Contribution", "Education", and the realization of Carbon Neutrality (CN) "Campus". In order to lead the development of society by realizing CN through "future intelligence," the entire Kanazawa University will contribute to society by promoting human resource development and research and development as a front-runner.

## Four specific initiatives

### Research

Technology Development

Realization of SDGs x CN

Advancement of Research Based on Comprehensive Knowledge

International collaboration between industry, academia and government

Promote research aimed at solving technical issues in order to achieve CN, and pursue basic research that can generate innovations that contribute to problem solving using the university's "comprehensive knowledge," and deepen the integration of the humanities, sciences, and medicine.

### Kanazawa E<sup>4</sup>-CAMPUS for Carbon Neutrality

Realization of SDGs x CN

E4-CAMPUS embodies the university's mission and ambition to achieve CN, and as a knowledge base in East Asia, it aims to achieve CN and the SDGs through universal education, research, medical care, and social contributions related to the environment, energy, and ecosystems.

### Education

Promoting global environment-related courses

Realization of SDGs x CN

Promoting interdisciplinary education

Promoting awareness-raising activities

Through education on global environmental issues, we aim to cultivate human resources who can contribute to the realization of a decarbonized society at both regional and global levels, and to achieve a sustainable society that includes CN.

### Social Contribution

Industry-academia-government-financial collaboration

Realization of SDGs x CN

Cooperation with local governments

Social implementation of research results

By advancing the social implementation of the University's research through policy recommendations to local governments and collaborative partnerships with industry, we aspire to help realize a sustainable society, including the achievement of CN.

### Towards achieving the SDGs

Kanazawa university's action plan will promote efforts that contribute to the achievement of the Sustainable Development Goals (SDGs) adopted at the United Nations Summit in 2015.

### Campus

Energy Saving

Realization of SDGs x CN

Energy Creation

Carbon offset

Through initiatives such as energy saving, energy creation, the use of renewable energy, and the preservation of forest environments, we aim to achieve CN on campus.

### Greenhouse gas (GHG) reduction targets

**Mid-term target**

By 2030, compared to 2013  
Aiming for a **reduction of 51% or more**

**Long-term target**

Aiming to achieve **Carbon Neutral by 2050**

Year	Total GHG	Change from 2013
2013	47,947	0%
2020	32,134	-33%
2025	37,563	-22%
2030	23,503	-51%
2040	9,114	-79%
2050	1,115	-98%

Carbon Neutral

**2025 results compared to 2013**  
Achieved a **22% reduction!**

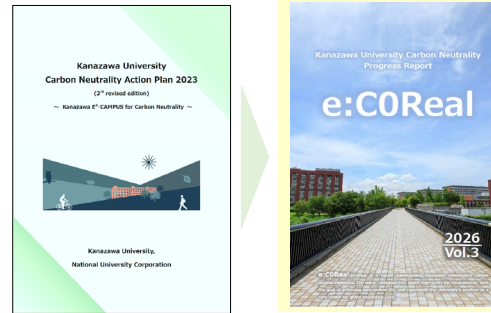
Item	Details of the initiative	CY2020 ▶	CY2030 ▶	CY2040 ▶	CY2050
Research, Social Contribution initiatives	Green Energy	Expanding the use of organic solar cell modules (for agriculture, etc.) and scaling them up	Establishment of a circulation system for solar cell resources by introducing recycling technology		
	Material Creation	Development of next-generation electricity storage and energy storage technologies and construction and implementation of power grids to make renewable energy the main power source			
	Resource circulation	Breaking away from dependence on fossil fuels Utilization of biomass and development of advanced resource circulation technology			
	Social Systems	Development of highly efficient carbon and metal recycling technology			
	Social Contribution	Social implementation of autonomous driving technology in urban areas	Multi-regional deployment of autonomous driving technology		
		Demonstration experiments of cutting-edge environmental technologies on campus through the MIRAICHI Research Center	Introduction of environmental policies and systems in the Hokuriku region and social implementation of cutting-edge environmental technologies		

Educational initiatives	Education that contributes to CN	Enhancing CN-related subjects
		Visualization of CN-related subjects in the syllabus
		Development of high school-university collaboration and reskilling education
		Enhancing CN-related international student programs
		Establishment and development of new minors and degree programs

Initiatives Toward Carbon Neutrality on Campus	Energy Saving	Planned equipment upgrades
	Energy Creation	Installation of renewable energy facilities
	ZEB building	Achieving Nearly ZEB or better when newly built and ZEB Ready or better when renovated
	Use of clean energy	Procurement of electricity from renewable energy sources
	Securing forest absorption capacity	Planned maintenance and preservation
	Operational Initiatives	Daily energy saving, introduction of BEMS, etc.
	Experimental equipment updates	Planned equipment upgrades

All members and diverse organizations must transcend their respective positions, and we must also work with a wide range of outside organizations. Deepening collaboration with stakeholders to **co-create world-class innovations**.

It is estimated that the social implementation of the results of our research will result in a **reduction of hundreds of millions of tons per year**, far exceeding the greenhouse gas emissions on campus (approximately 35,000 tons). The ripple effects are expected to have **not only a national impact, but also to the entire planet**.



- ① Outcomes of Initiatives in Research, Social Contribution
- ② Outcomes of Educational Initiatives
- ③ Outcomes of Campus Initiatives

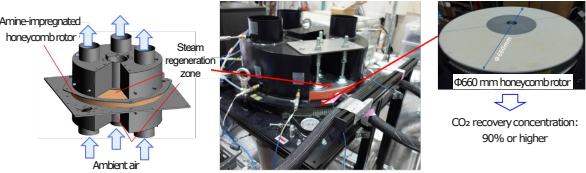
...Structure the plan by separating the core policies and initiatives that remain largely unchanged from the annually updated outcomes, with a focus on the results for FY2025.

[Explanation] "e:COReal" combines "environment (Eco)" and the "realization (Real)" of "Carbon Zero (0)" with the added meaning of serving as a core hub for green innovation.

## Research Topic

### ■ Initiatives in the resource circulation field

**Capture CO<sub>2</sub> from air by concentrating it to over 90%**  
Under the NEDO Moonshot Program, develop a steam-regenerated honeycomb rotary DAC process to achieve high-concentration CO<sub>2</sub> capture using a 1,000 m<sup>3</sup>/h-scale system and conduct demonstration tests with incineration exhaust gas.



Experimental setup of the steam-regenerated honeycomb rotary DAC system (1,000 m<sup>3</sup>/h scale)

### ■ Initiatives in the Field of Social Systems

#### Social Implementation of Autonomous Driving Technology

Collaborate with government and industry to develop perception technologies and safety evaluation for Level 3 and 4 automated driving, and advance social implementation. Through programs such as the Cabinet Office's SIP, accelerate automated driving by developing LiDAR perception, conducting public-road and high-speed (up to 60 km/h) demonstrations, including in snowy conditions, and establishing remote monitoring systems.

## Social Contribution Topic

### ■ Activities of the MIRAICHI Research Center

Accelerate the social implementation and commercialization of research seeds through showcases, PoC development, and industry-academia collaboration based at the MIRAICHI Research Center. After facility completion, begin full-scale operations and promote interdisciplinary research, demonstration projects, and startup creation using shared laboratories.



Group photograph of participants at the MIRAICHI Research Center completion event

## Campus Topic

### ■ Operational Results of the Kakuma North District Solar Park

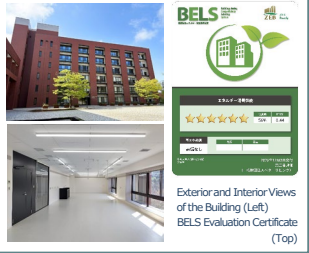
As the university's first large-scale renewable energy project, a 755kW solar PV system under a PPA model began operation in April 2024. In the second year, electricity generation reached 1,019 million kWh/year (102.5% of the projected output), reducing greenhouse gas emissions by 552 t-CO<sub>2</sub>/year (1.5% of total university emissions).



All View of the Solar Park

### ■ Renovation of Human and Social Sciences Hall 1, Kakuma District

In FY2025, Phase I renovation achieved a 56% energy reduction (BEI: 0.44) and obtained ZEB Ready certification. Phase II is underway in FY2026, with completion scheduled for Spring 2027.



Exterior and Interior Views of the Building (Left) BELS Evaluation Certificate (Top)